This Preliminary Official Statement and the information contained herein are subject to completion or amendment. Under no circumstances shall this Preliminary Official Statement constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of these securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration, qualification or filing under the securities laws of any such jurisdiction.

PRELIMINARY OFFICIAL STATEMENT DATED MAY 30, 2023

NEW ISSUE- FULL BOOK-ENTRY **Ratings: See "RATINGS" herein**

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to SMUD, based upon an analysis of existing laws, regulations, rulings and court decisions and, assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the 2023D Subordinated Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 and is exempt from State of California personal income taxes. In the further opinion of Bond Counsel, interest on the 2023D Subordinated Bonds is not a specific preference item for purposes of the federal individual alternative minimum tax. Bond Counsel observes that, for tax years beginning after December 31, 2022, interest on the 2023D Subordinated Bonds included in adjusted financial statement income of certain corporations is not excluded from the federal corporate alternative minimum tax. Bond Counsel expresses no opinion regarding any other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the 2023D Subordinated Bonds. See "TAX MATTERS."

$100,000,000*
SUBORDINATED ELECTRIC REVENUE REFUNDING BONDS
2023 SERIES D

Dated: Date of Delivery **Due: See "SUMMARY OF THE OFFERING" herein**

The Subordinated Electric Revenue Refunding Bonds, 2023 Series D (the "2023D Subordinated Bonds") will be issued pursuant to Resolution No. 85-11-1 of the Sacramento Municipal Utility District ("SMUD"), adopted November 7, 1985, as amended and restated pursuant to Resolution No. 01-06-10, adopted June 21, 2001, as supplemented and amended, and will be payable from the Net Subordinated Revenues of the Electric System of SMUD, as described herein. The 2023D Subordinated Bonds are being issued to (i) refund SMUD's Subordinated Electric Revenue Bonds, 2019 Series A, and (ii) pay certain costs associated with the issuance of the 2023D Subordinated Bonds. See "PLAN OF FINANCE."

The 2023D Subordinated Bonds will initially be issued in the Term Rate Mode and will mature on the date, bear interest initially at the initial Term Rate, for the initial Term Rate Period ending on the date and be subject to mandatory purchase on the initial scheduled Mandatory Purchase Date as described in the "SUMMARY OF THE OFFERING" following this cover page. The 2023D Subordinated Bonds may, under certain circumstances, be converted to a Daily Mode, Weekly Mode, Flexible Mode, Index Mode, Direct Purchase Index Mode or Fixed Rate Mode, and may be converted from one Term Rate Period to another Term Rate Period. The 2023D Subordinated Bonds are subject to mandatory tender in the event of any such conversion related thereto. See "THE 2023D SUBORDINATED BONDS – Conversion Between Modes" and "– Mandatory Purchase on the Mandatory Purchase Date". *This Official Statement provides information as of its date concerning the 2023D Subordinated Bonds while bearing interest in the Term Rate Mode in the initial Term Rate Period. Owners and prospective purchasers of the 2023D Subordinated Bonds should not rely on this Official Statement for information concerning the 2023D Subordinated Bonds in connection with any conversion of the 2023D Subordinated Bonds to an Interest Rate Mode other than the Term Rate Mode or to a new Term Rate Period, but should look solely to the offering document to be used in connection with any such conversion.*

The 2023D Subordinated Bonds are also subject to mandatory tender, and optional and mandatory redemption prior to maturity as set forth herein. See "THE 2023D SUBORDINATED BONDS – Mandatory Purchase on the Mandatory Purchase Date," "– Optional Redemption" and "– Mandatory Sinking Fund Redemption" herein.

While in the Term Rate Mode, interest on the 2023D Subordinated Bonds shall be payable semiannually on each February 15 and August 15, commencing on February 15, 2024, on any Mandatory Purchase Date therefor and on the maturity date thereof.

The 2023D Subordinated Bonds in the Term Rate Mode are being issued in denominations of $5,000 and any integral multiple thereof as fully registered bonds and, when issued, will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"). DTC will act as securities depository for the 2023D Subordinated Bonds, and individual purchases of the 2023D Subordinated Bonds will be made in book-entry form only. Principal or Redemption Price or Purchase Price of, and interest on the 2023D Subordinated Bonds will be payable by U.S. Bank Trust Company, National Association, as trustee (the "Trustee") to DTC, which is obligated in turn to remit such principal or Redemption Price or Purchase Price, and interest to its DTC Participants for subsequent disbursement to the beneficial owners of the 2023D Subordinated Bonds, as described herein.

The principal of and interest on the 2023D Subordinated Bonds, together with the debt service on other Subordinated Bonds and Parity Subordinated Debt (as defined herein), are payable exclusively from and secured by a pledge of the Net Subordinated Revenues of the Electric System of SMUD. Neither the credit nor the taxing power of SMUD or the State of California is pledged to the payment of the 2023D Subordinated Bonds. Payment of the principal of and interest on the Subordinated Bonds, including the 2023D Subordinated Bonds, is subordinated to the payment of principal and interest on SMUD's Electric Revenue Bonds and other Parity Bonds (as defined herein).

The information presented on this cover page is for general reference only and is qualified in its entirety by reference to the entire Official Statement and the documents summarized and described herein.

The 2023D Subordinated Bonds are offered when, as and if issued and received by the Underwriters, subject to the approval of the validity of the 2023D Subordinated Bonds and certain other legal matters by Orrick, Herrington & Sutcliffe LLP, Bond Counsel to SMUD. Certain legal matters will be passed on for the Underwriters by their counsel, Nixon Peabody LLP, San Francisco, California. It is expected that the 2023D Subordinated Bonds will be available for delivery through the facilities of DTC on or about June 29, 2023*.

Barclays
(as lead underwriter)

BofA Securities

June __, 2023

* Preliminary, subject to change.

SUMMARY OF THE OFFERING

$100,000,000*
Subordinated Electric Revenue Refunding Bonds
2023 Series D

Maturity Date:	August 15, 2049*
Initial Interest Rate Mode:	Term Rate Mode
End of Initial Term Rate Period:	_____
Initial Scheduled Mandatory Purchase Date:	_____
Call Protection Date for Initial Term Rate Period:	_____
Initial Interest Rate:	%
Price:	%
Yield for Initial Term Rate Period:	%
CUSIP†:	

* Preliminary, subject to change.

† CUSIP® is a registered trademark of the American Bankers Association. CUSIP® data herein is provided by CUSIP Global Services (CGS), which is managed on behalf of the American Bankers Association by FactSet Research Systems Inc. This data is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP® numbers have been assigned by an independent company not affiliated with SMUD or the Underwriters and are included solely for the convenience of the registered owners of the 2023D Subordinated Bonds. Neither SMUD nor the Underwriters are responsible for the selection or uses of these CUSIP® numbers, and no representation is made as to their correctness on the 2023D Subordinated Bonds or as included herein. The CUSIP® number for a specific maturity is subject to being changed after the execution and delivery of the 2023D Subordinated Bonds as a result of various subsequent actions including, but not limited to, a refunding in whole or in part or as a result of the procurement of secondary market portfolio insurance or other similar enhancement by investors that is applicable to all or a portion of the 2023D Subordinated Bonds.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
Sacramento, California

BOARD OF DIRECTORS

Heidi Sanborn, President
Rosanna Herber, Vice President
Brandon Rose
Nancy Bui-Thompson
Gregg Fishman
Rob Kerth
Dave Tamayo

OFFICERS AND EXECUTIVES

Paul Lau, Chief Executive Officer and General Manager
Frankie McDermott, Chief Operating Officer
Jennifer Davidson, Chief Financial Officer
Brandy Bolden, Chief Customer Officer
Suresh Kotha, Chief Information Officer
Jose Bodipo-Memba, Chief Diversity Officer
Scott Martin, Chief Strategy Officer
Laura Lewis, Chief Legal and Government Affairs Officer and General Counsel
Lora Anguay, Chief Zero Carbon Officer
Farres Everly, Chief Marketing & Communications Officer
Russell Mills, Treasurer
Lisa Limcaco, Controller

SPECIAL SERVICES

ORRICK, HERRINGTON & SUTCLIFFE LLP
Bond Counsel

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION
Trustee and Paying Agent

BAKER TILLY US, LLP, Madison, Wisconsin
Independent Accountants

PFM FINANCIAL ADVISORS LLC, Philadelphia, Pennsylvania
Municipal Advisor

No dealer, broker, salesperson or other person has been authorized by SMUD or the Underwriters to give any information or to make any representations with respect to the 2023D Subordinated Bonds other than those contained in this Official Statement and, if given or made, such information or representations must not be relied upon as having been authorized by any of the foregoing. This Official Statement does not constitute an offer to sell nor the solicitation of an offer to buy, nor shall there be any sale of the 2023D Subordinated Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale. The information set forth herein has been obtained from SMUD and other sources which are believed to be reliable, but it is not guaranteed as to accuracy or completeness by, and is not to be construed as a representation of, the Underwriters. The information and expressions of opinion stated herein are subject to change without notice. The delivery of this Official Statement shall not, under any circumstances, create any implication that there has been no change in the affairs of SMUD since the date hereof. The Underwriters have provided the following sentence for inclusion in this Official Statement: The Underwriters have reviewed the information in this Official Statement in accordance with and as part of their responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriters do not guarantee the accuracy or completeness of such information.

The 2023D Subordinated Bonds have not been registered under the Securities Act of 1933, as amended, in reliance upon an exemption from the registration requirements contained in such Act. The 2023D Subordinated Bonds have not been registered or qualified under the securities laws of any state.

CAUTIONARY STATEMENTS REGARDING FORWARD-LOOKING STATEMENTS IN THIS OFFICIAL STATEMENT

Certain statements included or incorporated by reference in this Official Statement constitute "forward-looking statements." Such statements generally are identifiable by the terminology used, such as "plan," "expect," "estimate," "budget" or other similar words.

The achievement of certain results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results, performance or achievements described to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. SMUD does not plan to issue any updates or revisions to those forward-looking statements if or when its expectations or events, conditions or circumstances on which such statements are based occur.

This Official Statement, including any supplement or amendment hereto, is intended to be deposited with the Municipal Securities Rulemaking Board through the Electronic Municipal Market Access website. SMUD maintains a website. However, the information presented therein is not part of this Official Statement and should not be relied upon in making investment decisions with respect to the 2023D Subordinated Bonds. The references to internet websites in this Official Statement are shown for reference and convenience only; unless explicitly stated to the contrary, the information contained within the websites is not incorporated herein by reference and does not constitute part of this Official Statement.

TABLE OF CONTENTS

INTRODUCTION 1

PLAN OF FINANCE 3

- Issuance of 2023D Subordinated Bonds and Refunding of 2019A Refunded Subordinated Bonds 3
- Issuance of 2023 Series K Bonds 3
- Issuance of 2023 Series L Bonds and Refunding of 2013B Refunded Bonds 4
- Issuance of 2023C Subordinated Bonds and Refunding of 2013A Refunded Bonds 4

ESTIMATED SOURCES AND USES OF FUNDS 5

THE 2023D SUBORDINATED BONDS 5

- General 5
- Conversion Between Modes 6
- Mandatory Purchase on the Mandatory Purchase Date 7
- Source of Funds for Purchase of 2023D Subordinated Bonds 7
- Inadequate Funds for Tenders 8
- Optional Redemption 8
- Mandatory Sinking Fund Redemption 8
- Selection of Bonds to be Redeemed; Notice of Redemption 9

DEBT SERVICE SCHEDULE 10

SECURITY FOR THE SUBORDINATED BONDS 10

- Limited Obligations; Pledge of Revenues 10
- Subordinate Pledge 11
- No Reserve Fund 11
- Rates and Charges 12
- Limitations on Additional Obligations Payable From Net Subordinated Revenues 12

SACRAMENTO MUNICIPAL UTILITY DISTRICT 14

ABSENCE OF LITIGATION REGARDING THE 2023D SUBORDINATED BONDS 14

UNDERWRITING 14

MUNICIPAL ADVISOR 15

APPROVAL OF LEGAL PROCEEDINGS 15

FINANCIAL STATEMENTS 15

TAX MATTERS 16

CONTINUING DISCLOSURE UNDERTAKING 18

RATINGS 18

MISCELLANEOUS 19

TABLE OF CONTENTS
(continued)

APPENDIX A INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT A-1

APPENDIX B 2022 AND 2021 CONSOLIDATED FINANCIAL STATEMENTS AND REPORT OF INDEPENDENT ACCOUNTANTS B-1

APPENDIX C BOOK-ENTRY SYSTEM C-1

APPENDIX D SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE RESOLUTION D-1

APPENDIX E SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR BOND RESOLUTION E-1

APPENDIX F PROPOSED FORM OF LEGAL OPINION FOR 2023D SUBORDINATED BONDS F-1

APPENDIX G FORM OF CONTINUING DISCLOSURE AGREEMENT G-1

OFFICIAL STATEMENT

Relating to

SACRAMENTO MUNICIPAL UTILITY DISTRICT

$100,000,000*
Subordinated Electric Revenue Refunding Bonds
2023 Series D

INTRODUCTION

This Official Statement, including the cover page and Appendices attached hereto, describes the Sacramento Municipal Utility District ("SMUD"), a political subdivision of the State of California (the "State"), its $100,000,000* Subordinated Electric Revenue Refunding Bonds, 2023 Series D (the "2023D Subordinated Bonds"), in connection with the sale by SMUD of the 2023D Subordinated Bonds. The 2023D Subordinated Bonds are being issued to (i) refund SMUD's Subordinated Electric Revenue Bonds, 2019 Series A (the "2019A Refunded Subordinated Bonds"), and (ii) pay certain costs associated with the issuance of the 2023D Subordinated Bonds. See "PLAN OF FINANCE."

The 2023D Subordinated Bonds are being issued pursuant to Resolution No. 85-11-1 of SMUD, adopted November 7, 1985, as amended and restated by Resolution No. 01-06-10 (the "Subordinate Master Resolution"), as supplemented and amended, and pursuant to applicable California law, including the Municipal Utility District Act (Public Utilities Code Sections 12850 to 12860) (the "Act"), the Revenue Bond Law of 1941 (Government Code Section 54300 *et seq*.) and Article 11 of Chapter 3 of Part 1 of Division 2 of Title 5 of the California Government Code (Government Code Section 53580 *et seq*.). The issuance of the 2023D Subordinated Bonds was authorized on May 18, 2023, by a resolution of the Board of Directors of SMUD (the "2023 Supplemental Resolution"). The Subordinate Master Resolution and all supplemental resolutions, including the 2023 Supplemental Resolution, are collectively referred to herein as the Subordinate Resolution. See APPENDIX D – "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE RESOLUTION."

U.S. Bank Trust Company, National Association serves as trustee and paying agent under the Subordinate Resolution (in such capacities, the "Trustee" and the "Paying Agent" respectively).

The 2023D Subordinated Bonds and other bonds issued on a parity therewith pursuant to the Subordinate Resolution are collectively referred to herein as the "Subordinated Bonds." As of May 1, 2023, Subordinated Bonds (including the 2019A Refunded Subordinated Bonds) in the aggregate principal amount of $200,000,000 were outstanding under the Subordinate Resolution.

The payment of the principal of and interest on the Subordinated Bonds, including the 2023D Subordinated Bonds, is subordinate to the payment of the principal of and interest on SMUD's Electric Revenue Bonds (the "Senior Bonds") and other Parity Bonds (as defined herein). As of May 1, 2023, Senior Bonds in the aggregate principal amount of $1,841,715,000 were outstanding. Senior Bonds are issued pursuant to Resolution No. 6649 (the "Senior Bond Resolution") adopted in 1971, as amended and supplemented. See APPENDIX E – "SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR BOND RESOLUTION."

---

* Preliminary, subject to change.

The issuance of the 2023D Subordinated Bonds and the refunding of the 2019A Refunded Subordinated Bonds are components of a plan of finance (the "Plan of Finance") that includes the issuance of SMUD's Electric Revenue Bonds, 2023 Series K (the "2023 Series K Bonds") to finance and refinance certain improvements and additions to SMUD's Electric System, including by paying the outstanding principal amount of SMUD's commercial paper notes at maturity, the issuance of SMUD's Electric Revenue Refunding Bonds, 2023 Series L (the "2023 Series L Bonds") to refund all of SMUD's Electric Revenue Refunding Bonds, 2013 Series B maturing after August 15, 2023 (the "2013B Refunded Bonds"), and the issuance of SMUD's Subordinated Electric Revenue Refunding Bonds, 2023 Series C (the "2023C Subordinated Bonds") to refund all of SMUD's Electric Revenue Refunding Bonds, 2013 Series A (the "2013A Refunded Bonds"). The issuance the 2023D Subordinated Bonds is not contingent upon the implementation of the other components of the Plan of Finance, and SMUD is not obligated to implement any of the components of the Plan of Finance. If the Plan of Finance is implemented in whole, then upon completion of the Plan of Finance, Senior Bonds in the aggregate principal amount of $1,895,910,000* and Subordinated Bonds in the aggregate principal amount of $332,020,000* are expected to be outstanding. See "PLAN OF FINANCE."

SMUD also issues commercial paper notes (the "Notes") from time to time. As of May 1, 2023, Notes in the principal amount of $200,000,000 were outstanding. Currently, Notes in the aggregate principal amount of $300,000,000 may be outstanding at any one time, but SMUD reserves the right to increase or decrease the aggregate principal amount of the Notes that may be outstanding at any one time in the future. The Notes are secured by letters of credit issued by commercial banks. The Notes (and SMUD's obligations to repay drawings under the letters of credit) are payable solely from available revenues of SMUD's Electric System and are subordinate in right of payment to the prior payment of principal of, premium if any, and interest on the Senior Bonds and the Subordinated Bonds (including the 2023D Subordinated Bonds). Drawings under the letters of credit, to the extent not repaid immediately from the proceeds of commercial paper or other available SMUD funds, are repayable with interest over a period of five years. The letters of credit currently expire in February and August of 2025. SMUD expects to pay all $200,000,000 of the outstanding principal amount of the Notes with a portion of the proceeds of the 2023 Series K Bonds. See "PLAN OF FINANCE."

SMUD has also previously issued its taxable and tax-exempt revolving notes pursuant to a revolving credit agreement with a commercial bank (collectively, the "Revolving Credit Facility"). As of May 1, 2023, no principal amount was outstanding under the Revolving Credit Facility. Currently, the aggregate principal amount that can be outstanding under the Revolving Credit Facility at any one time is limited to $100,000,000. However, SMUD reserves the right to increase or decrease the aggregate principal amount that can be outstanding at any one time under the Revolving Credit Facility in the future. SMUD's payment obligations under the Revolving Credit Facility are payable solely from available revenues of SMUD's Electric System and are subordinate in right of payment to the prior payment of principal of, premium if any, and interest on the Senior Bonds and the Subordinated Bonds (including the 2023D Subordinated Bonds). The current term of the Revolving Credit Facility expires in February 2026.

SMUD is responsible for the acquisition, generation, transmission and distribution of electric power to its service area, which includes most of Sacramento County and small portions of Placer and Yolo counties. For the year ended December 31, 2022, SMUD served a population of approximately 1.5 million with a total annual retail load of approximately 10,622 million kilowatt hours ("kWh"). SMUD owns and operates an electric system which, as of March 31, 2023, included generating facilities owned and operated by SMUD with an aggregate generating capacity of approximately 783 megawatts ("MW"), local gas-fired plants owned and operated by a joint powers authority and managed by SMUD with an aggregate generating capacity of approximately 1,081 MW, over which SMUD has exclusive control of dispatch, and purchased power with an aggregate generating capacity of approximately 1,314 MW and transmission and distribution

* Preliminary, subject to change.

facilities. SMUD's power requirements exceed its generating capacity and thus SMUD has agreements with others (including the Local Gas-Fired Plants as defined in APPENDIX A) for the purchase of a portion of its power requirements. See APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT – POWER SUPPLY AND TRANSMISSION – Power Supply Resources." Continuing development of SMUD's business strategy in response to changing environmental and regulatory requirements has had, and is expected to continue to have, a major effect on SMUD's power supply planning. See APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT – BUSINESS STRATEGY."

Pursuant to a Continuing Disclosure Agreement, dated the date of issuance of the 2023D Subordinated Bonds (the "Continuing Disclosure Agreement") between SMUD and the Trustee, SMUD will covenant for the benefit for the holders of the 2023D Subordinated Bonds and owners of beneficial interest in the 2023D Subordinated Bonds to provide certain financial information and operating data and to provide certain notices. See "CONTINUING DISCLOSURE UNDERTAKING" and APPENDIX G – "FORM OF CONTINUING DISCLOSURE AGREEMENT."

The information presented in this Introduction is qualified in its entirety by reference to this entire Official Statement and the documents summarized or described herein. This Official Statement, including the Appendices, summarizes the terms of the 2023D Subordinated Bonds, the Subordinate Resolution and certain agreements, contracts and other arrangements, some of which currently exist and others of which may exist in the future. The summaries of and references to all documents, statutes, regulations and other instruments referred to herein do not purport to be complete, comprehensive or definitive, and each such summary and reference is qualified in its entirety by reference to each such document, statute, regulation or instrument.

Capitalized terms not otherwise defined in this Official Statement shall have the meanings ascribed thereto in APPENDIX D – "SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE RESOLUTION – Certain Definitions" or in the Subordinate Resolution.

PLAN OF FINANCE

Issuance of 2023D Subordinated Bonds and Refunding of 2019A Refunded Subordinated Bonds

SMUD intends to use the proceeds of the 2023D Subordinated Bonds to (i) redeem the 2019A Refunded Subordinated Bonds, currently outstanding in the principal amount of $100,000,000, on the date of delivery of the 2023D Subordinated Bonds and (ii) pay certain costs associated with the issuance of the 2023D Subordinated Bonds.

The issuance of the 2023D Subordinated Bonds and the refunding of the 2019A Refunded Subordinated Bonds are components of the Plan of Finance, as further described below. The issuance of the 2023D Subordinated Bonds is not contingent upon the implementation of the other components of the Plan of Finance, and SMUD is not obligated to implement any of the components of the Plan of Finance.

Issuance of 2023 Series K Bonds

Concurrently with the issuance of the 2023D Subordinated Bonds, SMUD expects to issue $200,000,000* aggregate principal amount of the 2023 Series K Bonds. The proceeds of the 2023 Series K Bonds are expected to be used to finance and refinance certain improvements and additions to SMUD's

* Preliminary, subject to change.

Electric System, including by paying the outstanding principal amount of SMUD's commercial paper notes at maturity, and pay certain costs associated with the issuance of the 2023 Series K Bonds.

Issuance of 2023 Series L Bonds and Refunding of 2013B Refunded Bonds

Concurrently with the issuance of the 2023D Subordinated Bonds, SMUD expects to issue approximately $61,895,000* aggregate principal amount of the 2023 Series L Bonds. The proceeds of the 2023 Series L Bonds are expected to be used to refund the 2013B Refunded Bonds and pay certain costs associated with the issuance of the 2023 Series L Bonds. If the 2023 Series L Bonds are issued, then a portion of the proceeds of the 2023 Series L Bonds, together with other available funds, will be deposited in trust in an escrow fund (the "2013B Escrow Fund") established under an escrow agreement between SMUD and the Trustee. The moneys so deposited will in an amount sufficient to pay the interest on the 2013B Refunded Bonds due on August 15, 2023 (the "2013B Redemption Date") and to redeem the 2013B Refunded Bonds on the 2013B Redemption Date. The moneys deposit will be invested in direct obligations of the United States of America (the "Federal Securities"). Upon deposit, all liability of SMUD with respect to the 2013B Refunded Bonds (except for the obligation of SMUD to pay the interest on and redemption price of the 2013B Refunded Bonds from moneys on deposit in the 2013B Escrow Fund) will cease. The holders of the 2013B Refunded Bonds will be entitled to payment from SMUD solely from moneys or Federal Securities on deposit in the 2013B Escrow Fund, and the 2013B Refunded Bonds will no longer be outstanding under the Senior Bond Resolution. The Federal Securities and moneys in the 2013B Escrow Fund will not secure the 2023D Subordinated Bonds and will not be available to pay the principal of or interest on the 2023D Subordinated Bonds.

In connection with the refunding of the 2013B Refunded Bonds, SMUD expects to terminate a forward starting interest rate swap agreement that was executed in June 2020 to hedge potential interest rate exposure related to the future refunding of the 2013B Refunded Bonds. SMUD expects that it will receive a termination payment for the termination of such interest rate swap agreement. See APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT – CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS – Outstanding Indebtedness – *Interest Rate Swap Agreements*."

Issuance of 2023C Subordinated Bonds and Refunding of 2013A Refunded Bonds

Concurrently with the issuance of the 2023D Subordinated Bonds, SMUD expects to issue approximately $132,020,000* in principal amount of the 2023C Subordinated Bonds. The 2023C Subordinated Bonds are expected to be issued as variable rate demand bonds bearing interest at daily rates, and supported by a liquidity facility in the form of a standby bond purchase agreement between SMUD and a commercial bank. The proceeds of the 2023C Subordinated Bonds are expected to be used to refund the 2013A Refunded Bonds and pay certain costs associated with the issuance of the 2023C Subordinated Bonds. If the 2023C Subordinated Bonds are issued, a portion of the proceeds of the 2023C Subordinated Bonds, together with other available funds, will be deposited in trust in an escrow fund (the "2013A Escrow Fund") established under an escrow agreement between SMUD and the Trustee, in an amount sufficient to pay the interest on the 2013A Refunded Bonds due on August 15, 2023 (the "2013A Redemption Date") and to redeem the 2013A Refunded Bonds on the 2013A Redemption Date. The moneys so deposited will be invested in Federal Securities. The moneys and securities in the 2013A Escrow Fund will not secure the 2023D Subordinated Bonds and will not be available to pay the principal of or interest on the 2023D Subordinated Bonds.

In June 2020, SMUD entered into a forward starting interest rate swap agreement to hedge potential interest rate exposure related to the future refunding of the 2013A Refunded Senior Bonds. The swap will

* Preliminary, subject to change.

become effective on July 12, 2023. See APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT – CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS – Outstanding Indebtedness – *Interest Rate Swap Agreements*."

ESTIMATED SOURCES AND USES OF FUNDS

The estimated sources and uses of funds with respect to the 2023D Subordinated Bonds are as follows:

Sources of Funds:	
Principal Amount	$
Original Issue [Premium/Discount]	
SMUD Contribution	
Total Sources of Funds	$
Uses of Funds:	
Refunding of 2019A Refunded Subordinated Bonds	$
Costs of Issuance (including Underwriters' Discount)	
Total Uses of Funds	$

THE 2023D SUBORDINATED BONDS

The following is a summary of certain provisions of the 2023D Subordinated Bonds. Reference is made to the 2023D Subordinated Bonds for the complete text thereof and to the Subordinate Resolution for a more detailed description of such provisions. The discussion herein is qualified by such reference. *This Official Statement provides information as of its date with respect to 2023D Subordinated Bonds bearing interest in the Term Rate Mode for the initial Term Rate Period only. Owners and prospective purchasers of the 2023D Subordinated Bonds should not rely on this Official Statement for information concerning the 2023D Subordinated Bonds in connection with any conversion of the 2023D Subordinated Bonds to different Interest Rate Mode or to a new Term Rate Period, but should look solely to the offering document to be used in connection with any such conversion.*

General

The 2023D Subordinated Bonds are being issued in the principal amount shown on the cover of this Official Statement. The 2023D Subordinated Bonds will be issued under a book-entry only system, and will be registered in the name of Cede & Co., as nominee for The Depository Trust Company ("DTC"), New York, New York, which will act as bond depository for the 2023D Subordinated Bonds. Principal or Redemption Price of, and interest on the 2023D Subordinated Bonds or the Purchase Price thereof are payable by the Trustee to DTC, which is obligated in turn to remit such principal, Redemption Price, and interest or Purchase Price to its DTC Participants for subsequent disbursement to the beneficial owners of the 2023D Subordinated Bonds. See APPENDIX C – "BOOK-ENTRY SYSTEM".

The 2023D Subordinated Bonds will be dated the date of initial delivery. The 2023D Subordinated Bonds will initially be issued in the Term Rate Mode and will mature on the date, bear interest initially at the initial Term Rate, for the initial Term Rate Period ending on the date and be subject to mandatory purchase on the initial scheduled Mandatory Purchase Date as described in the "SUMMARY OF THE OFFERING" following the cover page of this Official Statement. The 2023D Subordinated Bonds will be issued initially only as fully registered 2023D Subordinated Bonds in the denominations of $5,000 or any integral multiple thereof (the "Authorized Denominations") while in the Term Rate Mode.

At the option of SMUD and upon certain conditions provided in the Subordinate Resolution, the 2023D Subordinated Bonds may be converted to the Daily Mode, Weekly Mode, Flexible Mode, Index Mode, Direct Purchase Index Mode or Fixed Rate Mode, or may be converted from one Term Rate Period

to another Term Rate Period. The 2023D Subordinated Bonds are subject to mandatory tender in the event of any such conversion related thereto. See "Conversion Between Modes" and "Mandatory Purchase on the Mandatory Purchase Date" herein.

While the 2023D Subordinated Bonds may, under certain circumstances, be converted to a Daily Mode, Weekly Mode, Flexible Mode, Index Mode, Direct Purchase Index Mode or Fixed Rate Mode, or from one Term Rate Period to another Term Rate Period, this Official Statement describes the 2023D Subordinated Bonds only during the period in which they bear interest in the Term Rate Mode in the initial Term Rate Period. The 2023D Subordinated Bonds are subject to mandatory tender in the event of any such conversion related thereto. See "Conversion Between Modes" and "Mandatory Purchase on the Mandatory Purchase Date" herein.

While in the Term Rate Mode, interest on the 2023D Subordinated Bonds shall be payable semiannually on each February 15 and August 15, commencing on February 15, 2024, on any Mandatory Purchase Date therefor and on the Maturity Date thereof. Interest on the 2023D Subordinated Bonds shall be computed on the basis of a 360-day year comprised of twelve 30-day months.

The Record Date for the payment of interest while a 2023D Subordinated Bond is in the Term Rate Mode is the fifteenth (15th) day (whether or not a Business Day) next preceding each Interest Payment Date.

Subject to the provisions discussed in APPENDIX C – "BOOK-ENTRY SYSTEM," Principal or Redemption Price will be payable upon surrender of the 2023D Subordinated Bonds at the principal corporate trust office of the Trustee. Interest on the 2023D Subordinated Bonds will be paid by wire transfer within the continental United States of immediately available funds from the Trustee to the registered owner, determined as of the close of business on the applicable Record Date, at its address as shown on the registration books maintained by the Trustee.

Conversion Between Modes

While the 2023D Subordinated Bonds are in the Term Rate Mode, conversions to any other Interest Rate Mode or from one Term Rate Period to another Term Rate Period may take place on (i) any day that 2023D Subordinated Bonds are subject to optional redemption if the conversion did not occur, or (ii) the day immediately following the last day of the then-current Term Rate Period, in each case upon not less than 10 days' prior written notice from the Trustee to the Holders of such 2023D Subordinated Bonds. However, the Trustee need not provide notice to Holders for a Conversion Date occurring on the Business Day following the last day of a Term Rate Period.

Upon such conversion, the 2023D Subordinated Bonds will be subject to mandatory purchase on the Mandatory Purchase Date as described herein under "Mandatory Purchase on the Mandatory Purchase Date." Each conversion of the 2023D Subordinated Bonds from one Interest Rate Mode to another Interest Rate Mode or from one Term Rate Period to a new Term Rate Period shall be subject to the conditions set forth in the Subordinate Resolution, including delivery of a Favorable Opinion of Bond Counsel. In addition, SMUD may rescind any election to convert to another Interest Rate Mode or from one Term Rate Period to another Term Rate Period up to 10:00 a.m., New York City time, on the Business Day preceding the proposed conversion date. In the event that the conditions for a proposed conversion to a new Interest Rate Mode or from one Term Rate Period to another Term Rate Period are not met or SMUD rescinds the direction to convert, (i) such new Interest Rate Mode or new Term Rate Period shall not take effect on the proposed conversion date, notwithstanding any prior notice to the registered owners of such conversion, (ii) the 2023D Subordinated Bonds shall remain in its prior Interest Rate Mode or Term Rate Period, and (iii) the 2023D Subordinated Bonds shall be subject to mandatory purchase on the Mandatory Purchase Date as described in the Subordinate Resolution if notice has been sent to the registered owners stating that

the 2023D Subordinated Bonds would be subject to mandatory purchase on such date. In no event shall the failure of the 2023D Subordinated Bonds to be converted to another Interest Rate Mode or to a new Term Rate Period be deemed to be a default or an Event of Default.

Mandatory Purchase on the Mandatory Purchase Date

While in the Term Rate Mode, the 2023D Subordinated Bonds are subject to mandatory purchase at the Purchase Price (as defined below) on (i) the first Business Day following the last day of the Term Rate Period applicable to the 2023D Subordinated Bonds and (ii) any Conversion Date applicable to the 2023D Subordinated Bonds or the date that otherwise would have been a Conversion Date for the 2023D Subordinated Bonds had one of the conditions precedent to such Conversion Date not failed to occur (each a "Mandatory Purchase Date").

"Purchase Price" means an amount equal to the principal amount of any 2023D Subordinated Bonds purchased on the applicable Mandatory Purchase Date, plus accrued interest to but excluding such Mandatory Purchase Date; provided, however, that (i) if the applicable Mandatory Purchase Date for any 2023D Subordinated Bond is an Interest Payment Date for such 2023D Subordinated Bond, then the Purchase Price thereof shall be the principal amount thereof, and interest on such 2023D Subordinated Bond shall be paid to the Holder of such 2023D Subordinated Bond in the normal course and (ii) in the case of a purchase on a Conversion Date or proposed Conversion Date which is preceded by a Term Rate Period and which occurs prior to the day originally established as the last day of such preceding Term Rate Period, the Purchase Price thereof shall be the Redemption Price which would have been applicable to such 2023D Subordinated Bond if the preceding Term Rate Period had continued to the day originally established as its last day, plus accrued interest, if any.

Notice of mandatory tender shall be given by the Trustee in writing to the Holders of such 2023D Subordinated Bonds subject to mandatory purchase no less than 10 days prior to the applicable Mandatory Purchase Date.

Source of Funds for Purchase of 2023D Subordinated Bonds

The Trustee shall purchase 2023D Subordinated Bonds subject to mandatory tender for purchase on each Mandatory Purchase Date pursuant to the Subordinate Resolution ("Tendered Bonds") from the tendering owners at the applicable Purchase Price by wire transfer in immediately available funds. Funds for the payment of such Purchase Price shall be derived solely from the following sources in the order of priority indicated and the Trustee shall not be obligated to provide funds from any other source:

(i) immediately available funds on deposit in the Remarketing Proceeds Account established for the 2023D Subordinated Bonds under the Subordinate Resolution; and

(ii) moneys of SMUD on deposit in the District Purchase Account established for the 2023D Subordinated Bonds under the Subordinate Resolution.

On each Mandatory Purchase Date for the 2023D Subordinated Bonds, if the Trustee has not received an amount of remarketing proceeds sufficient to pay the Purchase Price of the 2023D Subordinated Bonds by 12:00 noon, New York City time, on such Purchase Date, the Trustee shall request funds from SMUD in an amount equal to the Purchase Price of all 2023D Subordinated Bonds which have not been successfully remarketed.

Under the Subordinate Resolution, SMUD is obligated to deposit amounts into the District Purchase Account established for the 2023D Subordinated Bonds sufficient to pay the Purchase Price of the 2023D Subordinated Bonds to the extent that amounts on deposit in the Remarketing Proceeds Account

established for the 2023D Subordinated Bonds are insufficient therefor. The failure of SMUD to deposit amounts into the District Purchase Account established for the 2023D Subordinated Bonds when SMUD is obligated to deposit such amounts under the Subordinate Resolution will constitute an Event of Default under the Subordinate Resolution.

Inadequate Funds for Tenders

If moneys sufficient to pay the Purchase Price of all Tendered Bonds to be purchased on any Mandatory Purchase Date are not available (1) no purchase shall be consummated of Tendered Bonds on such Mandatory Purchase Date; (2) all Tendered Bonds shall be returned to the Holders thereof; and (3) all remarketing proceeds with respect to the 2023D Subordinated Bonds will be returned to the applicable remarketing agent for return to the Persons providing such moneys. All Tendered Bonds will bear interest at a rate of interest of 8.0% per annum during the period of time from and including the applicable Mandatory Purchase Date to (but not including) the date that all such Tendered Bonds are successfully remarketed, redeemed, purchased or paid (the "Delayed Remarketing Period").

During this period of time, SMUD may (1) direct the conversion of Tendered Bonds without complying with the applicable notice requirements for such conversion, and (2) upon five Business Days' notice, redeem Tendered Bonds as a whole or in part on any Business Day at a redemption price equal to the principal amount thereof, together with accrued interest thereon to the date fixed for redemption, without premium. During the Delayed Remarketing Period, interest on Tendered Bonds will be paid to the Holders thereof (i) on the first Business Day of each calendar month and (ii) on the last day of such Delayed Remarketing Period.

Optional Redemption

The 2023D Subordinated Bonds in the Term Rate Mode are subject to redemption at the option of SMUD in whole or in part (provided that no 2023D Subordinated Bonds shall remain Outstanding except in Authorized Denominations) on any date on or after the Call Protection Date for the Term Rate Period at a Redemption Price equal to the principal amount, or portions thereof, of the 2023D Subordinated Bonds to be redeemed, without premium, plus accrued interest, if any, to the Redemption Date.

Mandatory Sinking Fund Redemption*

The 2023D Subordinated Bonds are subject to mandatory redemption in part, by lot, on August 15 in the years shown in the following table, at a Redemption Price equal to the principal amount thereof, plus accrued interest, if any, to the date of redemption in an amount equal to the Sinking Fund Installments for such 2023D Subordinated Bonds for such date:

Years* (August 15)	Sinking Fund Installment*	Years* (August 15)	Sinking Fund Installment*
2042	$11,245,000	2046	$12,655,000
2043	11,585,000	2047	13,035,000
2044	11,930,000	2048	13,430,000
2045	12,290,000	2049†	13,830,000

† Stated Maturity

* Preliminary, subject to change.

Selection of Bonds to be Redeemed; Notice of Redemption

Whenever provision is made for the redemption of less than all of the 2023D Subordinated Bonds, the Trustee shall select the 2023D Subordinated Bonds to be redeemed, from the outstanding 2023D Subordinated Bonds not previously called for redemption, by lot in any manner which the Trustee deems fair.

Notice of redemption shall be mailed by first-class mail by the Trustee, not less than 20 nor more than 60 days prior to the redemption date, to the Holder of any 2023D Subordinated Bond called for redemption, but neither failure to receive such notice nor any defect in any notice so mailed shall affect the sufficiency of the proceedings for the redemption of any of the 2023D Subordinated Bonds. Each notice of redemption shall state the redemption date, the place of redemption, the principal amount to be redeemed, and shall also state that the interest on the 2023D Subordinated Bonds in such notice designated for redemption shall cease to accrue from and after such redemption date and that on said date there will become due and payable on each of said 2023D Subordinated Bonds the principal amount thereof to be redeemed, interest accrued thereon to the redemption date and the premium, if any, thereon (such premium to be specified). Each notice of optional redemption shall also state that redemption is conditioned upon receipt by the Trustee of sufficient funds on the applicable redemption date to pay the applicable redemption price of the 2023D Subordinated Bonds to be redeemed.

Any notice of optional redemption may be rescinded by written notice given to the Trustee by SMUD no later than two Business Days prior to the dated specified for redemption.

Notwithstanding the foregoing, notice of redemption shall not be required for 2023D Subordinated Bonds redeemed on a Mandatory Purchase Date.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

DEBT SERVICE SCHEDULE

The following table sets forth the debt service requirements with respect to the 2023D Subordinated Bonds assuming no early redemptions. See also APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT – CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS – Outstanding Indebtedness – *Debt Service Requirements*."

Calendar Year	Principal	Interest[1]	Total
	$	$	$
	$	$	$

[1] Based on an assumed interest rate of ___% per annum following the initial scheduled Mandatory Purchase Date.

SECURITY FOR THE SUBORDINATED BONDS

Limited Obligations; Pledge of Revenues

The Subordinated Bonds, including the 2023D Subordinated Bonds, are revenue bonds and are not secured by the taxing power of SMUD. The principal of and premium, if any, and interest on the Subordinated Bonds (including the 2023D Subordinated Bonds), together with other Parity Subordinated Debt, are payable exclusively from the Net Subordinated Revenues of the Electric System of SMUD. The Subordinated Bonds and all other Parity Subordinated Debt are secured by a pledge of Revenues, subject to the condition that out of Revenues:

First: There shall be applied all sums required for maintenance and operation costs of the Electric System and all Energy Payments not included in maintenance and operation costs.

Second: There shall be applied all sums required for the payment of the principal of (including any premium thereon) and interest on the Senior Bonds and all other Parity Bonds, together with any sinking fund or reserve fund payments on the Senior Bonds and all other Parity Bonds.

Third: There shall be applied all sums required for the payment of the principal of (including any premium thereon) and interest on the Subordinated Bonds and all other Parity Subordinated Debt, together with any sinking fund or reserve fund payments on the Subordinated Bonds and all other Parity Subordinated Debt.

All remaining Revenues, after making the foregoing allocations, will be available to SMUD for all lawful SMUD purposes.

From time to time, SMUD may deposit in the Rate Stabilization Fund from such remaining Revenues such amounts as SMUD shall determine, provided that deposits in the Rate Stabilization Fund from remaining Revenues in any fiscal year may be made until (but not after) the date 120 days after the end of such fiscal year. SMUD may withdraw amounts from the Rate Stabilization Fund only for inclusion in Revenues for any fiscal year, such withdrawals to be made until (but not after) 120 days after the end of such fiscal year. All interest or other earnings upon deposits in the Rate Stabilization Fund shall be withdrawn therefrom and accounted for as Revenues. No deposit of Revenues to the Rate Stabilization Fund may be made to the extent such Revenues were included in any certificate submitted in connection with the issuance of additional bonds and withdrawal of the Revenues from the Revenues employed in rendering said certificate would have caused noncompliance with the additional bond provisions. See APPENDIX A – "RATES AND CUSTOMER BASE – Rates and Charges" for a description of the balance in the Rate Stabilization Fund.

Neither the credit nor the taxing power of SMUD is pledged to the payment of the Subordinated Bonds and the general fund of SMUD is not liable for the payment thereof. The owners of the Subordinated Bonds cannot compel the exercise of any taxing power of SMUD or the forfeiture of any of its property. The Subordinated Bonds are not a legal or equitable pledge, charge, lien or encumbrance upon any of SMUD's property (including the Electric System) or upon any of its income, receipts or revenues except the Net Subordinated Revenues of the Electric System to the extent of the pledge thereof contained in the Subordinate Resolution.

Subordinate Pledge

The Subordinated Bonds are subordinate in right of payment to the Senior Bonds and other Parity Bonds. As of May 1, 2023, Senior Bonds in the aggregate principal amount of $1,841,715,000 were outstanding. If the Plan of Finance is implemented in whole, then upon completion of the Plan of Finance, Senior Bonds in the aggregate principal amount of $1,895,910,000* are expected to be outstanding. The Senior Bonds are issued pursuant to the Senior Bond Resolution. See APPENDIX E – "SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR BOND RESOLUTION" for a description of certain provisions of the Senior Bond Resolution.

No Reserve Fund

No reserve fund will be established or funded for the benefit of the 2023D Subordinated Bonds.

* Preliminary, subject to change.

Rates and Charges

SMUD has covenanted in the Subordinate Resolution to establish and at all times maintain and collect rates and charges for the sale or use of electric energy generated, transmitted, distributed or furnished by SMUD which, together with certain items of other income permitted under the Subordinate Resolution, will yield Revenues at least sufficient, with respect to the ensuing 12 months, to pay and provide for (1) all sums required for Maintenance and Operation Costs and Energy Payments not included in Maintenance and Operation Costs, (2) all payments with respect to Parity Bonds, and (3) the total amount required for the payment of principal and interest, together with any sinking fund or reserve fund payments, on the Subordinated Bonds and all Parity Subordinated Debt, in each case during such 12 months.

For purposes of the calculations of payments to be made pursuant to the Subordinate Resolution, the interest rates on Parity Bonds and Parity Subordinated Debt which bear a variable rate of interest or a rate subject to periodic adjustment or to being fixed at some date after issuance shall be, if such Parity Bonds and Parity Subordinated Debt bear a rate or rates of interest for a known period or periods of time, such rate or rates of interest for such period or periods and thereafter, for the portion of the calculation period not covered by such known period or periods, the Assumed Interest Rate.

For purposes of the above calculations of principal of and interest on Parity Bonds or Parity Subordinated Debt, if a Financial Products Agreement has been entered into by SMUD with respect to any Parity Bonds or Parity Subordinated Debt, interest on such Parity Bonds or Parity Subordinated Debt shall be included in the calculation of such principal and interest by including for each fiscal year or period an amount equal to the amount of interest payable on such Parity Bonds or Parity Subordinated Debt in such fiscal year or period at the rate or rates stated in such Parity Bonds or Parity Subordinated Debt plus any Financial Product Payments payable in such fiscal year or period minus any Financial Product Receipts receivable in such fiscal year or period; provided that in no event shall any calculation made pursuant to this clause result in a number less than zero being included in the calculation of such principal and interest.

For purposes of the above calculations of principal of and interest on Parity Bonds and Parity Subordinated Debt, Excluded Principal Payments shall be disregarded (but interest on the Parity Bonds and Parity Subordinated Debt to which such Excluded Principal Payments relate shall be included until but not after the stated due date when principal payments on such Parity Bonds and Parity Subordinated Debt are scheduled by their terms to commence) and Assumed Principal Payments and Assumed Interest Payments shall be included.

SMUD has full power to establish rates and charges for all SMUD services, and the levels of such rates are not subject to review or regulation by any other governmental agency, either federal or state.

See Appendix D hereto for the definitions of certain capitalized terms used in this section.

Limitations on Additional Obligations Payable From Net Subordinated Revenues

The Subordinate Resolution provides that SMUD will not, so long as any Subordinated Bonds are outstanding, issue any obligations payable in whole or in part from Net Subordinated Revenues except the following:

(a) Refunding Subordinated Bonds issued to refund all or part of the Parity Bonds or Subordinated Bonds;

(b) Additional Parity Subordinated Debt (including additional Subordinated Bonds under the Subordinate Resolution and additional Parity Subordinated Debt), with an equal lien and charge upon the Net Subordinated Revenues, but only subject to the following conditions:

(1) SMUD shall not then be in default under the Senior Bond Resolution, the Subordinate Resolution or other resolutions authorizing the issuance of Parity Bonds or Parity Subordinated Debt payable out of Revenues; and

(2) SMUD shall certify to the Trustee (i) that Net Revenues, after completion of any improvements proposed to be financed by such additional Parity Subordinated Debt, will be sufficient to pay the principal of and interest (and bond reserve fund requirements, if any) on all Parity Bonds and Parity Subordinated Debt then outstanding and on such additional Parity Subordinated Debt; and (ii) that Net Revenues, for a period of 12 consecutive months during the 24 months immediately preceding the date upon which such Parity Subordinated Debt shall become outstanding, shall have been at least equal to 1.10 times the sum of (i) the annual interest on Parity Bonds and Parity Subordinated Debt, (ii) the principal amount of Parity Bonds and Parity Subordinated Debt falling due, and (iii) the amount of minimum sinking fund payments falling due on Parity Bonds and Parity Subordinated Debt, all as computed for the year in which such sum shall then be a maximum, including both the then outstanding Parity Bonds and Parity Subordinated Debt and the Parity Subordinated Debt then proposed to be issued.

The calculation described above shall be made by taking the following into consideration:

(A) if rates and charges in effect on the date upon which such Parity Subordinated Debt will become outstanding will be greater than those in effect during the entire twelve months elected for the foregoing computation, then the Net Revenues for said period of twelve months may be augmented by the estimated increase in Net Revenues computed to accrue to the Electric System in the first twelve months during which such rates and charges shall be in effect;

(B) if such Parity Subordinated Debt or any portion thereof shall be issued for the purpose of acquiring an existing revenue-producing electric system, the estimated pro forma net revenues of such existing system (calculated on the basis of assumed SMUD ownership and operation during such period but otherwise on the basis of actual gross revenues of such existing system at the rates actually charged therefor) for the preceding twelve months may be added to the actual Net Revenues of the Electric System for the twelve months elected for said computation and treated as if actually received by the Electric System during those twelve months;

(C) for purposes of the above calculations of principal of and interest on Parity Subordinated Debt, Excluded Principal Payments shall be disregarded (but interest on the Parity Subordinated Debt to which such Excluded Principal Payments relate shall be included until but not after the stated due date when principal payments on such Parity Subordinated Debt are scheduled by their terms to commence) and Assumed Principal Payments and Assumed Interest Payments shall be included;

(D) for purposes of the above calculations, the interest rates on Parity Bonds and Parity Subordinated Debt which bear a variable rate of interest or a rate subject to periodic adjustment or to being fixed at some date after issuance shall be, if such Parity Bonds and Parity Subordinated Debt bear a rate or rates of interest for a known period or periods of time, such interest rate or rates for such period or periods, and thereafter, for the portion of the calculation period not covered by such known period or periods, the Assumed Interest Rate; and

(E) For purposes of the above calculations of principal of and interest on Parity Bonds and Parity Subordinated Debt, if a Financial Products Agreement has been or is being entered into by SMUD with respect to any Parity Bonds or Parity Subordinated Debt, interest on such Parity Bonds or Parity Subordinated Debt shall be included in the calculation of such principal and interest by including for each fiscal year or period an amount equal to the amount of interest payable on

such Parity Bonds or Parity Subordinated Debt in such fiscal year or period at the rate or rates stated in such Parity Bonds or Parity Subordinated Debt plus any Financial Product Payments payable in such fiscal year or period minus any Financial Product Receipts receivable in such fiscal year or period; provided that in no event shall any calculation made pursuant to this clause result in a number less than zero being included in the calculation of such principal and interest.

(c) Revenue bonds which are junior and subordinate to the payment of the principal, premium, interest and reserve fund requirements for the Subordinated Bonds and all Parity Subordinated Debt and which subordinated revenue bonds are payable as to principal, premium, and interest, and also reserve fund requirements, if any, only out of Net Subordinated Revenues after the prior payment of all amounts required to be paid under the Subordinate Resolution from Net Subordinated Revenues for principal, premium, interest and reserve fund requirements for the Subordinated Bonds and all Parity Subordinated Debt, as the same become due and payable.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

SMUD owns and operates an electric system that has provided retail electric service since 1946. SMUD's current service area is approximately 900 square miles, and includes the principal parts of Sacramento County and small portions of Placer and Yolo counties. For a full description of SMUD, its history, organization, operations, and financial performance, certain developments in the energy markets, certain factors affecting the electric utility industry, including impacts from the COVID-19 pandemic, and certain regulatory and other matters, see APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT."

ABSENCE OF LITIGATION REGARDING THE 2023D SUBORDINATED BONDS

SMUD is not aware of any action, suit or proceeding, threatened or pending, to restrain or enjoin the issuance, sale or delivery of the 2023D Subordinated Bonds, or in any way contesting or affecting the validity of the 2023D Subordinated Bonds or any of the proceedings of SMUD taken with respect to the 2023D Subordinated Bonds. SMUD is not aware of any action, suit or proceeding, threatened or pending, questioning the corporate existence of SMUD, or the title of the officers of SMUD to their respective offices, or the power and authority of SMUD to execute and deliver the 2023D Subordinated Bonds. For a description of certain litigation in which SMUD is involved, see APPENDIX A – "INFORMATION REGARDING SACRAMENTO MUNICIPAL UTILITY DISTRICT – LEGAL PROCEEDINGS."

UNDERWRITING

Barclays Capital Inc. ("Barclays") and BofA Securities, Inc. ("BofA" and, together with Barclays, the "Underwriters" and each an "Underwriter") have agreed, subject to certain customary conditions to closing, to purchase the 2023D Subordinated Bonds from SMUD at a purchase price of $_____ (being the aggregate principal amount of the 2023D Bonds, plus original issue premium of $_____, and less an underwriter's discount of $_____). The Underwriters will be obligated to purchase all 2023D Subordinated Bonds if any 2023D Subordinated Bonds are purchased. The Underwriters have agreed to make a public offering of the 2023D Subordinated Bonds at the initial offering price set forth on the cover page hereof. The 2023D Subordinated Bonds may be offered and sold to certain dealers (including underwriters and other dealers depositing such bonds into investment trusts) at prices lower than such public offering price, and such public offering price may be changed, from time to time, by the Underwriters.

BofA, an Underwriter, has entered into a distribution agreement with its affiliate Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S"). As part of this arrangement, BofA may distribute securities to MLPF&S, which may in turn distribute such securities to investors through the financial

advisor network of MLPF&S. As part of this arrangement, BofA may compensate MLPF&S as a dealer for its selling efforts with respect to the 2023D Subordinated Bonds.

The Underwriters and their respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. Certain of the Underwriters and their respective affiliates have, from time to time, performed, and may in the future perform, various investment banking services for SMUD for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Underwriters and their respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (which may include bank loans and/or credit default swaps) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and instruments of, or issued for the benefit of, SMUD.

BofA Securities, Inc. is an affiliate of Bank of America, N.A. which has extended credit in other transactions to SMUD.

MUNICIPAL ADVISOR

SMUD has retained PFM Financial Advisors LLC, as Municipal Advisor in connection with various matters relating to the delivery of the 2023D Subordinated Bonds. The Municipal Advisor assumes no responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. The Municipal Advisor is an independent advisory firm and is not engaged in underwriting or distribution of securities. The Municipal Advisor will receive compensation that is contingent upon the sale, issuance and delivery of the 2023D Subordinated Bonds.

APPROVAL OF LEGAL PROCEEDINGS

The validity of the 2023D Subordinated Bonds and certain other legal matters are subject to the approval of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to SMUD. The approving opinion of Bond Counsel will be delivered with the 2023D Subordinated Bonds in substantially the form appearing in APPENDIX F. Bond Counsel undertakes no responsibility for the accuracy, completeness or fairness of this Official Statement. Certain legal matters will be passed on for the Underwriters by Nixon Peabody LLP, San Francisco, California, counsel to the Underwriters.

FINANCIAL STATEMENTS

SMUD's audited, consolidated financial statements for the years ended December 31, 2022 and December 31, 2021 are included in APPENDIX B attached to this Official Statement. These financial statements have been audited by Baker Tilly US, LLP, Madison, Wisconsin (the "Auditor"), for the periods indicated and to the extent set forth in their report thereon and should be read in their entirety. SMUD has not requested nor did it obtain permission from the Auditor to include the audited, consolidated financial statements as an appendix to this Official Statement. Accordingly, the Auditor has not performed any procedures to review the financial condition or operations of SMUD subsequent to the date of its report included therein, nor has it reviewed any information contained in this Official Statement.

TAX MATTERS

In the opinion of Orrick, Herrington & Sutcliffe LLP, Bond Counsel to SMUD ("Bond Counsel"), based upon an analysis of existing laws, regulations, rulings and court decisions, and assuming, among other matters, the accuracy of certain representations and compliance with certain covenants, interest on the 2023D Subordinated Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 (the "Code") and is exempt from State of California personal income taxes. Bond Counsel is of the further opinion that interest on the 2023D Subordinated Bonds is not a specific preference item for purposes of the federal individual alternative minimum tax. Bond Counsel observes that, for tax years beginning after December 31, 2022, interest on the 2023D Subordinated Bonds included in adjusted financial statement income of certain corporations is not excluded from the federal corporate alternative minimum tax. Bond Counsel expresses no opinion regarding any other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the 2023D Subordinated Bonds. A complete copy of the proposed form of opinion of Bond Counsel is set forth in APPENDIX F hereto.

To the extent the issue price of any maturity of the 2023D Subordinated Bonds is less than the amount to be paid at maturity of such 2023D Subordinated Bonds (excluding amounts stated to be interest and payable at least annually over the term of such 2023D Subordinated Bonds), the difference constitutes "original issue discount," the accrual of which, to the extent properly allocable to each Beneficial Owner thereof, is treated as interest on the 2023D Subordinated Bonds which is excluded from gross income for federal income tax purposes and exempt from State of California personal income taxes. For this purpose, the issue price of a particular maturity of the 2023D Subordinated Bonds is the first price at which a substantial amount of such maturity of the 2023D Subordinated Bonds is sold to the public (excluding bond houses, brokers, or similar persons or organizations acting in the capacity of underwriters, placement agents or wholesalers). The original issue discount with respect to any maturity of the 2023D Subordinated Bonds accrues daily over the term to maturity of such 2023D Subordinated Bonds on the basis of a constant interest rate compounded semiannually (with straight-line interpolations between compounding dates). The accruing original issue discount is added to the adjusted basis of such 2023D Subordinated Bonds to determine taxable gain or loss upon disposition (including sale, redemption, or payment on maturity) of such 2023D Subordinated Bonds. Beneficial Owners of the 2023D Subordinated Bonds should consult their own tax advisors with respect to the tax consequences of ownership of 2023D Subordinated Bonds with original issue discount, including the treatment of Beneficial Owners who do not purchase such 2023D Subordinated Bonds in the original offering to the public at the first price at which a substantial amount of such 2023D Subordinated Bonds is sold to the public.

2023D Subordinated Bonds purchased, whether at original issuance or otherwise, for an amount higher than their principal amount payable at maturity (or, in some cases, at their earlier call date) ("Premium Bonds") will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of bonds, like the Premium Bonds, the interest on which is excluded from gross income for federal income tax purposes. However, the amount of tax-exempt interest received, and a Beneficial Owner's basis in a Premium Bond, will be reduced by the amount of amortizable bond premium properly allocable to such Beneficial Owner. Beneficial Owners of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the 2023D Subordinated Bonds. SMUD has made certain representations and covenanted to comply with certain restrictions, conditions and requirements designed to ensure that interest on the 2023D Subordinated Bonds will not be included in federal gross income. Inaccuracy of these representations or failure to comply with these covenants may result in interest on the 2023D Subordinated Bonds being included in gross income for

federal income tax purposes, possibly from the date of original issuance of the 2023D Subordinated Bonds. The opinion of Bond Counsel assumes the accuracy of these representations and compliance with these covenants. Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken), or events occurring (or not occurring), or any other matters coming to Bond Counsel's attention after the date of issuance of the 2023D Subordinated Bonds may adversely affect the value of, or the tax status of interest on, the 2023D Subordinated Bonds. Accordingly, the opinion of Bond Counsel is not intended to, and may not, be relied upon in connection with any such actions, events or matters.

Although Bond Counsel is of the opinion that interest on the 2023D Subordinated Bonds is excluded from gross income for federal income tax purposes and is exempt from State of California personal income taxes, the ownership or disposition of, or the accrual or receipt of amounts treated as interest on, the 2023D Subordinated Bonds may otherwise affect a Beneficial Owner's federal, state or local tax liability. The nature and extent of these other tax consequences depends upon the particular tax status of the Beneficial Owner or the Beneficial Owner's other items of income or deduction. Bond Counsel expresses no opinion regarding any such other tax consequences.

Current and future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the 2023D Subordinated Bonds to be subject, directly or indirectly, in whole or in part, to federal income taxation or to be subject to or exempted from state income taxation, or otherwise prevent Beneficial Owners from realizing the full current benefit of the tax status of such interest. The introduction or enactment of any such legislative proposals or clarification of the Code or court decisions may also affect, perhaps significantly, the market price for, or marketability of, the 2023D Subordinated Bonds. Prospective purchasers of the 2023D Subordinated Bonds should consult their own tax advisors regarding the potential impact of any pending or proposed federal or state tax legislation, regulations or litigation, as to which Bond Counsel expresses no opinion.

The opinion of Bond Counsel is based on current legal authority, covers certain matters not directly addressed by such authorities, and represents Bond Counsel's judgment as to the proper treatment of the 2023D Subordinated Bonds for federal income tax purposes. It is not binding on the Internal Revenue Service ("IRS") or the courts. Furthermore, Bond Counsel cannot give and has not given any opinion or assurance about the future activities of SMUD, or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the IRS. SMUD has covenanted, however, to comply with the requirements of the Code.

Bond Counsel's engagement with respect to the 2023D Subordinated Bonds ends with the issuance of the 2023D Subordinated Bonds, and, unless separately engaged, Bond Counsel is not obligated to defend SMUD or the Beneficial Owners regarding the tax-exempt status of the 2023D Subordinated Bonds in the event of an audit examination by the IRS. Under current procedures, Beneficial Owners would have little, if any, right to participate in the audit examination process. Moreover, because achieving judicial review in connection with an audit examination of tax-exempt bonds is difficult, obtaining an independent review of IRS positions with which SMUD legitimately disagrees may not be practicable. Any action of the IRS, including but not limited to selection of the 2023D Subordinated Bonds for audit, or the course or result of such audit, or an audit of bonds presenting similar tax issues may affect the market price for, or the marketability of, the 2023D Subordinated Bonds, and may cause SMUD or the Beneficial Owners to incur significant expense.

Payments on the 2023D Subordinated Bonds generally will be subject to U.S. information reporting and possibly to "backup withholding." Under Section 3406 of the Code and applicable U.S. Treasury Regulations issued thereunder, a non-corporate Beneficial Owner of 2023D Subordinated Bonds may be subject to backup withholding with respect to "reportable payments," which include interest paid on the 2023D Subordinated Bonds and the gross proceeds of a sale, exchange, redemption, retirement or other disposition of the 2023D Subordinated Bonds. The payor will be required to deduct and withhold the

prescribed amounts if (i) the payee fails to furnish a U.S. taxpayer identification number ("TIN") to the payor in the manner required, (ii) the IRS notifies the payor that the TIN furnished by the payee is incorrect, (iii) there has been a "notified payee underreporting" described in Section 3406(c) of the Code or (iv) the payee fails to certify under penalty of perjury that the payee is not subject to withholding under Section 3406(a)(1)(C) of the Code. Amounts withheld under the backup withholding rules may be refunded or credited against a Beneficial Owner's federal income tax liability, if any, provided that the required information is timely furnished to the IRS. Certain Beneficial Owners (including among others, corporations and certain tax-exempt organizations) are not subject to backup withholding. The failure to comply with the backup withholding rules may result in the imposition of penalties by the IRS.

CONTINUING DISCLOSURE UNDERTAKING

Pursuant to the Continuing Disclosure Agreement, SMUD will covenant for the benefit of the holders and the "Beneficial Owners" (as defined in the Continuing Disclosure Agreement) of the 2023D Subordinated Bonds to provide certain financial information and operating data relating to SMUD by not later than 180 days after the end of each of SMUD's fiscal years (presently, each December 31), commencing with the report for the year ending December 31, 2023 (the "Annual Report"), and to provide notices of the occurrence of certain listed events with respect to the 2023D Subordinated Bonds. The Annual Report will be filed by or on behalf of SMUD with the Municipal Securities Rulemaking Board (the "MSRB") through its Electronic Municipal Market Access system ("EMMA") and any notices of such listed events will be filed by or on behalf of SMUD with the MSRB through EMMA. The specific nature of the information to be contained in the Annual Report and the notices of listed events are set forth in the form of the Continuing Disclosure Agreement which is included in its entirety in APPENDIX G hereto. SMUD's covenant will be made in order to assist the Underwriters in complying with Securities and Exchange Commission Rule 15c2-12.

In a limited number of circumstances, certain of the annual reports, audited financial statements or listed event filings required to be made by SMUD during the last five years under its continuing disclosure undertakings were not connected to all of the CUSIP numbers of the bonds subject to the continuing disclosure undertakings. In addition, SMUD entered into two subordinated forward starting interest rate swaps in December 2019 and filed a notice of the interest rate swaps with the MSRB through EMMA in April 2020. A notice of rating upgrade on October 6, 2020, by Moody's Investors Service of the Northern California Gas Authority No. 1 Gas Project Revenue Bonds, Series 2007B, was also not filed until October 28, 2020.

RATINGS

Fitch Ratings, Inc. ("Fitch") and S&P Global Ratings ("S&P") have assigned ratings of "AA (stable outlook)" and "AA-(stable outlook)," respectively, to the 2023D Subordinated Bonds. Such ratings reflect only the views of such organizations and are not a recommendation to buy, sell or hold the 2023D Subordinated Bonds. Explanations of the significance of such ratings may be obtained only from the respective rating agencies. SMUD has furnished to Fitch and S&P certain information and materials concerning the 2023D Subordinated Bonds and itself. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance that such ratings will continue for any given period or that they will not be revised downward, suspended or withdrawn entirely by the respective rating agencies, if in the judgment of such rating agency, circumstances so warrant. SMUD has not, other than as described under "CONTINUING DISCLOSURE UNDERTAKING" above, and the Underwriters have not undertaken any responsibility either to bring to the attention of the holders or beneficial owners of the 2023D Subordinated Bonds any proposed revision, suspension or withdrawal of any rating on the 2023D Subordinated Bonds or to oppose any such proposed revision, suspension or withdrawal. Any such downward revision, suspension or

withdrawal of such ratings may have an adverse effect on the market price or marketability of the 2023D Subordinated Bonds.

MISCELLANEOUS

This Official Statement includes descriptions of the terms of the 2023D Subordinated Bonds, power purchase agreements with certain other parties, pooling and other agreements, the Subordinate Resolution and certain provisions of the Act. Such descriptions do not purport to be complete, and all such descriptions and references thereto are qualified in their entirety by reference to each such document.

Copies of the Subordinate Resolution, which forms a contract with the Holders of the 2023D Subordinated Bonds, will be made available upon request.

This Official Statement has been duly authorized by the Board of Directors of SMUD.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

By:_____
Chief Executive Officer and General Manager

APPENDIX A

INFORMATION REGARDING
SACRAMENTO MUNICIPAL UTILITY DISTRICT

TABLE OF CONTENTS

	Page
INTRODUCTION	A-1
General	A-1
Independent Governance	A-1
THE SERVICE AREA AND ELECTRIC SYSTEM	A-4
The Service Area	A-4
The Electric System	A-5
BUSINESS STRATEGY	A-5
General	A-5
Serving SMUD's Customers	A-6
Sustainable Power Supply and Transmission	A-8
Electricity, Natural Gas, and Related Hedging	A-13
Managing Risks	A-14
Competitive Challenges	A-14
Leveraging Core Competencies	A-15
FACTORS AFFECTING THE REGION	A-16
Precipitation Variability	A-16
Wildfires	A-17
August 2020 Heat Wave	A-19
September 2022 Heat Wave	A-19
Storm Damage	A-20
Cosumnes Power Plant Outage	A-20
Impacts from COVID-19 Pandemic	A-20
RATES AND CUSTOMER BASE	A-21
Rates and Charges	A-21
Rate Stabilization Funds	A-22
Low Income Discount	A-22
Rate Comparisons	A-24
Allocation of Revenue by Customer Class	A-26
Customer Base; Largest Customers	A-27
POWER SUPPLY AND TRANSMISSION	A-28
Power Supply Resources	A-28
Power Generation Facilities	A-29
Fuel Supply	A-32
Gas Transmission	A-34
Gas Storage	A-35
Power Purchase Agreements	A-35
Transmission Service Agreements	A-38
Projected Resources	A-40
Demand Side Management Programs	A-41
Balancing Authority Area Agreements	A-44
Power Pool and Other Agreements	A-44
Other Agreements with PG&E	A-45
SELECTED OPERATING DATA	A-46

TABLE OF CONTENTS
(continued)

Page

SELECTED FINANCIAL DATA A-46

SMUD Financial Information A-46
Financial Information of SMUD and the Authorities A-48
Management's Discussion of SMUD's Operating Results A-49

RANCHO SECO DECOMMISSIONING A-50

EMPLOYEE RELATIONS A-52

RETIREMENT BENEFITS AND POST-EMPLOYMENT MEDICAL BENEFITS A-52

Pension Plans A-52
Other Post-Employment Benefits A-54

CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS A-55

Estimated Capital Requirements A-55
Outstanding Indebtedness A-56

INSURANCE A-60

LEGAL PROCEEDINGS A-60

Environmental Litigation A-60
Claim for Accidental Death A-61
Proposition 26 Lawsuit A-61
Other Litigation Matters A-61
FERC Administrative Proceedings A-61
CPUC Administrative Proceedings A-62

DEVELOPMENTS IN THE ENERGY SECTOR A-62

Electric Market Deregulation A-62
Cybersecurity A-62
Physical Security A-63
Federal Legislation and Regulatory Proceedings A-63
State Legislation and Regulatory Proceedings A-67
Future Regulation A-75

OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY A-75

CAISO Market Initiatives A-75
Resource Adequacy Filing A-75
Western Energy Imbalance Market and Extended Day Ahead Market A-76
PG&E Bankruptcy A-77
Other Factors A-77

SACRAMENTO MUNICIPAL UTILITY DISTRICT
Sacramento, California

BOARD OF DIRECTORS

Heidi Sanborn, President
Rosanna Herber, Vice President
Brandon Rose
Nancy Bui-Thompson
Gregg Fishman
Rob Kerth
Dave Tamayo

OFFICERS AND EXECUTIVES

Paul Lau, Chief Executive Officer and General Manager
Frankie McDermott, Chief Operating Officer
Jennifer Davidson, Chief Financial Officer
Brandy Bolden, Chief Customer Officer
Suresh Kotha, Chief Information Officer
Jose Bodipo-Memba, Chief Diversity Officer
Scott Martin, Chief Strategy Officer
Laura Lewis, Chief Legal and Government Affairs Officer and General Counsel
Lora Anguay, Chief Zero Carbon Officer
Farres Everly, Chief Marketing & Communications Officer
Russell Mills, Treasurer
Lisa Limcaco, Controller

INTRODUCTION

General

The Sacramento Municipal Utility District ("SMUD") owns and operates an electric system that has provided retail electric service since 1946. SMUD's current service area is approximately 900 square miles, and includes the principal parts of Sacramento County and small portions of Placer and Yolo counties. See "THE SERVICE AREA AND ELECTRIC SYSTEM – The Service Area."

Independent Governance

SMUD is an independently run community-owned organization. SMUD is not required by law to transfer any portion of its collections from customers to any local government.

SMUD is governed by a Board of Directors (the "Board"), which consists of seven directors elected by ward for staggered four-year terms. The Board determines policy and appoints the Chief Executive Officer and General Manager, who is responsible for SMUD's overall management and day-to-day operations. The Chief Executive Officer and General Manager is responsible for the hiring and removal of all employees, other than the Chief Legal and Government Affairs Officer and General Counsel, the Internal Auditor and the Special Assistant to the Board, who are hired and may be removed only by the Board. The employment status of nearly all SMUD employees is governed by a civil service system administered by the Chief Executive Officer and General Manager.

The Board elects its President and Vice President annually to take office in January. The current members of the Board are as follows:

Name	Occupation	Ward	Term Expires
Brandon Rose	Air Pollution Specialist, California Environmental Protection Agency	Ward 1	December 31, 2024
Nancy Bui-Thompson	Chief Information Officer, Wellspace Health	Ward 2	December 31, 2024
Gregg Fishman	Communications Specialist	Ward 3	December 31, 2026
Rosanna Herber, Vice-President	Retired Utility Director	Ward 4	December 31, 2026
Rob Kerth	Business Owner	Ward 5	December 31, 2024
Dave Tamayo	Retired Environmental Specialist	Ward 6	December 31, 2026
Heidi Sanborn, President	Executive Director, National Stewardship Action Council	Ward 7	December 31, 2026

SMUD's senior management consists of the following executives:

Chief Executive Officer & General Manager. Paul Lau was named chief executive officer and general manager ("CEO & GM") of SMUD in October 2020. He reports to the SMUD Board of Directors. As CEO & GM, he leads the sixth largest community-owned electric utility in the nation, serving a population of approximately 1.5 million residents and managing a $2.1 billion budget. Mr. Lau previously served as SMUD's Chief Grid Strategy & Operations Officer and has held several other executive leadership positions during his 41-year career at SMUD. He serves on several national and local boards, including the Large Public Power Council, California Municipal Utilities Association, American Public Power Association, and Smart Electric Power Alliance, and as a Commissioner of the Balancing Authority of Northern California ("BANC"). A registered professional electrical engineer in the State of California

(the "State"), Mr. Lau received his bachelor's degree in electrical power engineering from California State University, Sacramento.

Chief Customer Officer. Brandy Bolden reports to the CEO & GM and oversees SMUD's Customer and Community Services business unit. She is responsible for customer experience delivery across our residential and commercial customer segments. She provides leadership and oversight of customer operations including customer care and revenue management, business intelligence, strategic account management, customer experience and segmentation strategy, channel management, customer program and service delivery, and special assistance. She is also responsible for commercial development and business attraction and oversees Community Energy Services, which provides services and support for community choice aggregators. Since joining SMUD in 2003, Brandy has demonstrated strong leadership and held a variety of senior leadership roles, including leading the Customer & Community Services project management office and the dual role of director of Customer Care and Revenue Operations. Ms. Bolden led the team responsible for implementing time-of-day rates, streamlining the meter-to-cash processes, delivering key billing and payment experience enhancements and recognizing operational efficiencies that resulted in sustained annual savings for SMUD. Ms. Bolden holds a Bachelor of Arts in Sociology from University of California, Davis.

Chief Information Officer. Suresh Kotha reports to the CEO & GM and is responsible for SMUD's information technology strategy, operations, infrastructure, IT Project Management Office, enterprise innovation process, and cybersecurity. More recently, Mr. Kotha has been leading many technology efforts that are integral to developing a grid of the future that will help us achieve our zero-carbon goal, including our Advanced Distribution Management System, the software platform that supports the full suite of distribution management and optimization, and next-generation network upgrades. Mr. Kotha joined SMUD in 2002 as a principal technical developer, with responsibility for designing and leading implementation and upgrades of multiple technology systems, including the SAP software platform and our meter-to-cash systems. He holds a Master of Technology in Computer Science from Jawaharlal Nehru Technology University and a Bachelor of Engineering in Electronics & Communications Engineering from Gulbarga University.

Chief Diversity Officer. Jose Bodipo-Memba reports to the CEO & GM and is responsible for human resources, workforce diversity and inclusion, workforce business planning and SMUD's Sustainable Communities program. Mr. Bodipo-Memba joined SMUD in 2010 as an environmental specialist and became manager of Environmental Services in 2016. He most recently served as SMUD's first director of Sustainable Communities. Mr. Bodipo-Memba holds a Bachelor of Arts degree in history from University of California, Berkley and Masters of Business Administration from Drexel University.

Chief Strategy Officer. Scott Martin reports to the CEO & GM and is responsible for looking holistically at all strategies across the company and driving prioritization including zero carbon, rates and pricing, enterprise strategic planning and enterprise prioritization. Mr. Martin is a seasoned executive with more than 30 years of experience. Prior to assuming this role, Mr. Martin was a director for resource planning and new business strategy. Previous experience also includes customer strategy planning supervisor. Mr. Martin joined SMUD in 1999 and holds a Bachelor of Arts degree in economics from the University of California, Berkeley and a master of arts degree in economics from the University of Nevada, Las Vegas.

Chief Legal & Government Affairs Officer and General Counsel. Laura Lewis was named general counsel for SMUD in April 2014. In this position she serves as chief lawyer and manages SMUD's legal office and its staff of eight attorneys. She also serves as the secretary to SMUD's elected board of directors. She reports to the Board and to the CEO & GM and has responsibility for all legal matters in which SMUD is a party to, or has an interest in. Ms. Lewis also oversees SMUD's government affairs and

reliability compliance department. In this capacity, she is responsible for management and coordination of all legislative matters and regulatory requirements affecting SMUD at the state and federal level, including the FERC-NERC electric reliability standards. Ms. Lewis joined SMUD in 1997 as a staff attorney, serving in that capacity through 1999, after which she moved to the San Francisco law firm Davis Wright Tremaine. In 2002, she returned to SMUD as a senior attorney. In 2010, she became assistant general counsel and in 2013 was appointed chief assistant general counsel. She holds a juris doctorate from McGeorge School of Law, where she won membership in the Order of the Coif honor society. She holds a bachelor's degree in political science from the University of California, San Diego and is a member of the American Bar Association, the Energy Bar Association, and the State Bar of California.

Chief Operating Officer. Frankie McDermott reports to the CEO & GM and is responsible for providing strategic leadership and tactical oversight related to the safe and reliable transmission and delivery of energy to customers, ensuring efficient planning, construction, operation and maintenance of transmission, and distribution facilities. This position has primary responsibility for the processes and functions related to system reliability and operations across SMUD. The Chief Operating Officer is also the safety leader for the enterprise, leader of operational efficiency and responsible for all non-IT capital investments. Prior to this role, Mr. McDermott served as Chief Energy Delivery Officer and Chief Customer Officer, responsible for SMUD's overall retail strategy. From 2010 to 2014, he served as customer services director, which included managing relationships with customer segments as SMUD moved forward with smart-grid technologies. Prior to that, he served as manager of enterprise performance and held positions in supply chain and in general services. Before joining SMUD in 2003, Mr. McDermott served in management roles in the semiconductor industry at NEC Electronics in Roseville, California and in Ireland. After engineering school in Ireland, he earned an MBA from Golden Gate University and completed the Advanced Management Program at the Haas School of Business at the University of California Berkeley.

Chief Zero Carbon Officer. Lora Anguay reports to the CEO & GM and is responsible for leadership oversight of SMUD's Energy Supply which includes Energy Trading and Contracts and SMUD's Power Generation Assets. This role is also responsible for the delivery of SMUD's plan to provide 100% carbon free energy resources by 2030. This includes obtaining new grants and partnerships, overseeing research and development, designing distributed energy resource programs, enabling processes to settle distributed energy transactions with SMUD's customers and transitioning SMUD's power generation assets and energy contracts to zero carbon resources. Prior to assuming this role, Ms. Anguay was the director of Distribution Operations & Maintenance and was responsible for the day-to-day operations of SMUD's electric distribution grid. Before that she was an engineering designer, process control supervisor, project manager for smart meter deployment, a senior project manager for smart grid distribution automation and supervisor in Grid Assets. Before SMUD, she worked for Oracle Corporation as a finance manager and is a veteran who served in the United States Coast Guard. Ms. Anguay joined SMUD in 2004 and holds a Bachelor of Science degree in business administration from California State University, Sacramento.

Chief Financial Officer. Jennifer Davidson reports to the CEO & GM and is responsible for corporate accounting, procurement, treasury operations, risk management, and planning and budgets functions as well as key corporate services, including facilities, security, emergency operations and warehouse and fleet. Ms. Davidson joined SMUD in 2006 and previously served as director of budget, enterprise performance and risk management. Before joining SMUD, Ms. Davidson held management positions with investor-owned utility Southern California Edison and software and services provider Amdocs. She holds a bachelor's degree in geography from the University of California, Los Angeles.

Chief Marketing & Communications Officer. Farres Everly reports to the CEO & GM and since 2009 has been responsible for oversight of the SMUD brand, all external and internal strategic marketing and communications activities and campaigns and SMUD's outreach efforts to the community and the

State's capital region, including volunteerism, events and sponsorships. He previously served as the Director Marketing and Communications. Prior to joining SMUD, Mr. Everly held marketing leadership positions at VSP Vision Care, The Money Store and the Sacramento Metropolitan Chamber of Commerce. He holds a bachelor's degree in Journalism from California State University, Chico.

Treasurer. Russell Mills reports to the CFO. He oversees all treasury operations, including debt and cash management, banking, financial planning and forecasting, enterprise and commodity risk management, property and casualty insurance, and is responsible for developing and implementing capital borrowing strategies. Mr. Mills also serves as treasurer for the Transmission Agency of Northern California ("TANC"), the Central Valley Financing Authority ("CVFA"), the Sacramento Cogeneration Authority ("SCA"), the Sacramento Municipal Utility District Financing Authority ("SFA"), the Sacramento Power Authority ("SPA"), the Northern California Gas Authority No. 1 ("NCGA"), the Northern California Energy Authority ("NCEA") and BANC. Before joining SMUD in 2018 as Treasurer, Mr. Mills served as Chief Financial Officer of Southern California Public Power Authority. He also served as the Chief Financial Officer of the Power Supply Program at the California Department of Water Resources. He holds an MBA from Loyola Marymount University, and a bachelor's degree in economics from Towson University in Baltimore, Maryland. Mr. Mills also holds the Energy Risk Professional (ERP) designation and is a CFA level II candidate.

Controller. Lisa Limcaco reports to the CFO and is responsible for accounting and financial reporting at SMUD. Prior to her appointment as controller in 2020, Ms. Limcaco served as an assistant controller, manager of customer value, performance and projects, senior energy commodity specialist and as principal accountant for SMUD's joint powers authorities. Ms. Limcaco also serves as controller for TANC, CVFA, SCA, SFA, SPA, NCGA, NCEA and BANC. Before joining SMUD in 2010 as a senior accountant, Ms. Limcaco had 12-years' experience as the Director of Accounting and controller for a food service provider in Sacramento and over 13-years' experience in public accounting including audit manager at Price Waterhouse LLP. Ms. Limcaco holds a bachelor's degree in accounting from the University of Hawaii, a Master of Business Administration from Sacramento State University and is a Certified Public Accountant in the State.

THE SERVICE AREA AND ELECTRIC SYSTEM

The Service Area

SMUD is the primary distributor of electric power within an area of approximately 900 square miles in central California. The service area includes the State Capital, Sacramento, the populous areas principally to the northeast and south of the City of Sacramento (the "City" or "Sacramento") and the agricultural areas to the north and south. The City is located 85 miles northeast of San Francisco.

SMUD's electric system supplies power to a population of approximately 1.5 million with a total annual retail load of approximately 10,622 million kilowatt-hours ("kWh") for the year ended December 31, 2022. As the capital of the nation's most populous state, Sacramento benefits from the historically stabilizing influence of a large government sector. Sacramento is home to the State government headquarters, the Sacramento County seat, the City government and various special districts that combine to make government the largest single employment sector in the Sacramento area. Information technology, transportation, education and health services, leisure and hospitality, and construction round out the other major sectors of employment and industry in the area.

SMUD's annual peak load has averaged 3,113 Megawatts ("MW") over the last three years, with SMUD's record peak load of 3,299 MW occurring on July 24, 2006. In 2022, SMUD recorded its second highest peak load of 3,292 MW. SMUD reviews its load forecast, at a minimum, on an annual basis.

The Electric System

SMUD owns and operates an integrated electric system that includes generation, transmission and distribution facilities.

SMUD supplies power to its bulk power substations through a 230 kilovolt ("kV") and 115 kV transmission system. This system transmits power from SMUD's generation plants and interconnects with Pacific Gas & Electric ("PG&E") and the Western Area Power Administration ("WAPA"). Power is distributed throughout Sacramento County via a 69 kV sub-transmission system with the exception of the City's downtown area, which is served from the 115 kV transmission system. The downtown area is served from 115/12 kV and 115/21 kV substations. The distribution system serving the remainder of SMUD's service territory is comprised of 69/12 kV substations with overhead and underground 12 kV distribution circuits.

BUSINESS STRATEGY

General

SMUD's Board of Directors has established the following purpose and vision statements: "SMUD's purpose is to enhance the quality of life for our customers and community by providing reliable and affordable electricity, and leading the transition to a clean energy future. SMUD's vision is to be a trusted and powerful partner in achieving an inclusive, zero carbon economy. SMUD will leverage its relationships to accelerate innovation, ensure energy affordability and reliability, protect the environment, eliminate greenhouse gas emissions, catalyze economic and workforce development, promote environmental justice, and enhance community vitality for all." The Board has adopted a set of Strategic Directions with related metrics, which it considers essential for the success of SMUD and for serving SMUD's customers. These include competitive rates, access to credit markets, reliability, customer relations, environmental leadership, resource planning, enterprise risk management and safety. Some of the general elements in SMUD's business strategy are:

- developing and maintaining a sustainable and reliable power supply to meet demand growth consistent with State mandates and the Board's directions for renewable energy and the reduction of carbon emissions to zero by 2030. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *2030 Zero Carbon Plan*";
- working closely with customers to provide the information, tools and incentives to assist them to more efficiently manage energy use, which will contribute to meeting greenhouse gas ("GHG") emission targets and managing needle peak demand requirements (those 40 or so hours of the year with extreme temperatures when customer demand surges by up to 400 additional MW);
- managing price, volumetric and credit risks associated with energy and natural gas procurement;
- attracting, developing and retaining a diverse, skilled and engaged workforce that reflects SMUD's values and is committed to achieving SMUD's mission;
- retaining local decision making authority and operational independence; and
- collaborating regionally to attract new businesses and grow existing business to diversify and strengthen the Sacramento economy.

SMUD's long-range business strategy focuses in part on ensuring financial stability by establishing rates that provide an acceptable fixed charge coverage ratio on a consolidated basis, taking into consideration the impact of capital expenditures and other factors on cash flow. SMUD's Board policy sets

a minimum fixed charge coverage ratio of 1.50 times for annual budgets, though it generally plans to meet a minimum fixed charge coverage ratio of 1.70 times. Over the past ten years, the actual fixed charge coverage ratio has averaged 2.06 times on a consolidated basis. SMUD also manages its liquidity position by planning for a minimum of 150 days cash on hand and planning to maintain at least $150 million of available capacity under its commercial paper and line of credit program. SMUD's commercial paper and line of credit program is currently authorized for $400 million aggregate principal amount outstanding at any one time. As of March 1, 2023, SMUD had $200 million aggregate principal amount of its commercial paper notes outstanding and $200 million of the authorized aggregate principal amount of its commercial paper and line of credit program available for use. SMUD uses cash on hand and commercial paper and a line of credit to fund capital expenditures, then issues debt to reimburse itself for cash expended for qualified capital expenditures and/or to pay down the outstanding principal amount of its commercial paper program and line of credit. Over the past ten years, the days cash on hand has averaged 222. The resolutions securing SMUD's Senior Bonds and Subordinated Bonds (each as defined under the caption "CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS" below) do not require SMUD to maintain a minimum fixed charge coverage ratio, minimum days cash on hand or minimum available capacity under its commercial paper program and line of credit.

In addition, SMUD's business strategy focuses on servicing its customers in a progressive, forward-looking manner, addressing current regulatory and legislative issues and potential competitive forces.

Serving SMUD's Customers

SMUD continually looks for ways to better serve and partner with its customers to further strengthen customer loyalty, while providing reasonable product pricing. SMUD also has a focused effort to assist and incentivize customers to manage energy use more efficiently, which will contribute to meeting GHG emission targets and managing peak demand requirements as noted below.

Digital Enhancements. Customers are increasingly turning to digital channels including SMUD's mobile application, SMUD.org, e-mail and social media to interact and do business with SMUD. SMUD has delivered many digital enhancements, including bill pay functionality; online payment arrangements; start/stop/transfer move service; view of energy usage, chat, an enhanced outage map including a newly launched meter test functionality; and the SMUD Energy Store, which is an online marketplace for energy-related products. SMUD plans to continue efforts to provide more personalized digital customer experiences.

Advanced Metering, Infrastructure and Rate Design. As a community-owned organization, SMUD is dedicated to providing the tools and transparency in customer energy usage to enable customers to easily and positively affect energy usage, energy cost, and climate change. In 2012 SMUD installed smart technology, including 617,000 digital communicating smart meters, distribution automation systems and equipment to facilitate load management. The advanced technology has allowed SMUD to deliver tools such as text and e-mail bill alerts and online energy usage comparison charts to help customers manage energy use. SMUD has leveraged smart grid investments to improve reliability, reduce losses, reduce power quality issues and improve customer service through better, more timely information.

Time-of-Day Rates. On June 15, 2017, the Board approved time-of-day ("TOD") rates as the standard rate for residential customers. The residential rate transition began in the fourth quarter of 2018 and was completed in the fourth quarter of 2019.

All of SMUD's business customers are also on time-based rates. On June 24, 2019, the Board approved an update to the commercial TOD rates to improve consistency and better align commercial rates with current energy market prices. Due to the impacts of the COVID-19 pandemic on SMUD's operations

and priorities, on August 20, 2020, the Board postponed the implementation of the commercial rate restructure for one year. The transition was completed in the first quarter of 2022. See "RATES AND CUSTOMER BASE – Rates and Charges."

Renewable Options. SMUD's customers have been increasingly interested in distributed energy resources, mainly through the installation of solar systems. As of January 2023, approximately 47,615 of SMUD's residential and commercial customers, approximately 7% of retail customers, had installed solar systems, representing approximately 324 MW of solar installations.

As the cost of energy storage continues to decline, SMUD anticipates an increase in behind-the-meter energy storage, mainly through the installation of battery storage systems. As of January 2023, approximately 1,183 of SMUD's residential and commercial customers, approximately 0.2% of retail customers, had installed storage systems, representing approximately 8 MW of storage.

As another option for solar, SMUD's SolarShares® pilot program (the "SolarShares Pilot") was established as a cost-effective and convenient way for commercial customers to meet their energy needs from solar power. The SolarShares Pilot offered SMUD commercial customers the opportunity to receive solar power without upfront costs or equipment installation through 5-, 10- or 20-year purchase contracts. Customers that entered into purchase contracts under the SolarShares Pilot receive up to half of their power from a utility-scale solar system. SMUD supplies solar power for the SolarShares Pilot either by building and maintaining utility-scale solar systems or by procuring solar power from third parties through power purchase agreements. The SolarShares Pilot generation was approximately 3.0% of retail sales in 2022. As of April 30, 2021, SMUD had completed the SolarShares Pilot and is not entering into new purchase contracts under the SolarShares Pilot.

Since January 2020, the California Building Code has required all newly constructed residential buildings under three stories to be powered by photovoltaic solar systems. A new home satisfies this requirement if it installs on-site solar or participates in an approved community solar or energy storage program. In February 2020, SMUD obtained approval from the California Energy Commission ("CEC") to administer its own community solar program, called Neighborhood SolarShares® ("Neighborhood SolarShares"). SMUD's Neighborhood SolarShares program can be used by developers of new low-rise residential buildings to satisfy the mandatory solar requirement. See also "DEVELOPMENTS IN THE ENERGY MARKETS – State Legislation and Regulatory Proceedings – *Rooftop Solar Mandate*." Starting in 2023, the California Building Code's mandatory solar requirement extends beyond low-rise residential properties, and other changes to the California Building Code's community solar regulations took effect. SMUD revised its program to align with the new regulations and, in May 2023, obtained approval from the CEC to continue offering its Neighborhood SolarShares compliance option to newly constructed low rise residential homes in its service territory.

In addition to the SolarShares Pilot and Neighborhood SolarShares, SMUD maintains a voluntary green energy pricing program called Greenergy® ("Greenergy"). The Greenergy program allows customers the opportunity to pay an additional amount per month to ensure that either all or part of their electricity comes from green or carbon free energy sources. In 2022, the program allocated Renewable Energy Credits ("RECs") equivalent to approximately 4.9% of retail sales to its participating customers.

Energy Efficiency. To further assist customers in managing energy usage and reducing regional carbon emissions and air pollution, SMUD offers an extensive array of energy efficiency and building electrification programs and services including financial incentives, loans, energy audits and education. In addition, SMUD has partnered with local developers to incorporate energy efficiency and all-electric construction measures into new residential and commercial construction, which helps developers plan and design efficient, cost-effective and low or zero-emission buildings. As part of SMUD's 2019 Integrated

Resource Plan ("IRP"), SMUD set a goal for regional carbon emissions through transport and building electrification that aims to reduce carbon emissions in buildings and transport by 64% over the next 20 years. SMUD's focus on electrification is continued in the Zero Carbon Plan (defined and discussed below). SMUD was the first electric utility in the country to set its efficiency goals based on carbon reductions, allowing building electrification and energy efficiency to both count toward meeting SMUD's efficiency goals. This is a significant opportunity, as converting a typical home today to all-electric saves more than three times the carbon emissions compared to doing a major energy efficiency upgrade alone to the same building. See "POWER SUPPLY AND TRANSMISSION – Projected Resources."

Sustainable Power Supply and Transmission

Maintaining a sustainable power supply entails focusing efforts on researching, promoting and implementing new renewable energy technologies and sources to meet SMUD's long-term commitment to reducing carbon emissions and providing a reliable energy supply. SMUD defines a sustainable power supply as one that reduces SMUD's GHG emissions to serve retail customer load to zero by 2030. See "*– 2030 Zero Carbon Plan*" below. SMUD is planning to achieve zero GHG emissions to serve retail customer load through investments in energy efficiency, clean distributed energy resources, renewables portfolio standard ("RPS") eligible renewables, energy storage, large hydroelectric generation, clean and emissions free fuels, and new technologies and business models. Additionally, SMUD plans to continue pursuing GHG emissions reductions through vehicle, building and equipment electrification. At the same time, SMUD's plans for maintaining a sustainable power supply include assuring the reliability of SMUD's electric system, minimizing environmental impacts on land, habitat, water and air quality, and maintaining competitive rates relative to other electricity providers in the State.

A number of bills affecting the electric utility industry have been enacted by the State Legislature. In general, these bills regulate GHG emissions and encourage greater investment in energy efficiency and sustainable generation alternatives, principally through more stringent RPS. See "DEVELOPMENTS IN THE ENERGY MARKETS – State Legislation and Regulatory Proceedings" herein.

2030 Zero Carbon Plan. In July 2020, the Board declared a climate emergency and adopted a resolution calling for SMUD to take significant and consequential actions to reduce its carbon footprint by 2030. On April 28, 2021, the Board approved SMUD's 2030 Zero Carbon Plan (the "Zero Carbon Plan"). The Zero Carbon Plan is intended to be a flexible roadmap for SMUD to eliminate carbon emissions from its electricity production by 2030 while maintaining reliable and affordable service. To achieve these goals the Zero Carbon Plan is focused on four main areas: natural gas generation repurposing, proven clean technologies, new technologies and business models and financial impacts and options. SMUD plans to revisit the Zero Carbon Plan annually.

The natural gas generation repurposing focus of the Zero Carbon Plan calls for exploring the replacement of two of SMUD's five Local Gas-Fired Plants (as defined herein) and the retooling of the other three Local Gas-Fired Plants. See "POWER SUPPLY AND TRANSMISSION – Power Generation Facilities – *Local Gas-Fired Plants*." Based on SMUD's studies to date, SMUD estimates that McClellan (as defined herein) and the Campbell Soup Project (as defined herein) can be replaced by mid-decade. Final decisions about the replacement of these two Local Gas-Fired Plants will be based on additional reliability studies and engagement with the community. As part of the Zero Carbon Plan, SMUD is also exploring converting the Carson Project (as defined herein) and the Procter & Gamble Project (as defined herein) to reliability use operations only and investigating the use of alternative fuels like Renewable Natural Gas-biomethane (RNG-biomethane), hydrogen and other biofuels for the Carson Project, the Procter & Gamble Project, and the Consumnes Power Plant (as defined herein). In addition, SMUD is investigating new technologies such as long duration energy storage, carbon capture and sequestration, hydrogen and other

clean fuel alternatives to help support natural gas repurposing. All final generator configurations are subject to reliability assessments.

The proven clean technologies focus of the Zero Carbon Plan calls for SMUD to procure approximately 1,100 to 1,500 MW of utility-scale solar photovoltaic ("PV") generating capacity, 700 to 1,100 MW of local utility-scale battery storage, 300 to 500 MW of wind generating capacity, and 100 to 220 MW of geothermal generating capacity. The Zero Carbon Plan also estimates that customer installation of approximately 500 to 750 MW of behind- the-meter solar PV generating capacity and approximately 50 to 250 MW of behind-the-meter battery storage will assist SMUD with achieving the Zero Carbon Plan goals.

With respect to new technologies and business models, the Zero Carbon Plan focuses on evaluating, prioritizing and scaling the emerging technologies that SMUD expects will have the largest impact on reducing carbon in SMUD's 2030 resource mix. SMUD is currently focused on various areas of technology and customer-focused programs, including electrification, education, demand flexibility, virtual power plants, vehicle-to-grid technology, and new grid-scale technologies. The Zero Carbon Plan forecasts that customer-owned resources and SMUD customer-focused programs will contribute between 360 and 1,300 MW of capacity to SMUD's grid by 2030.

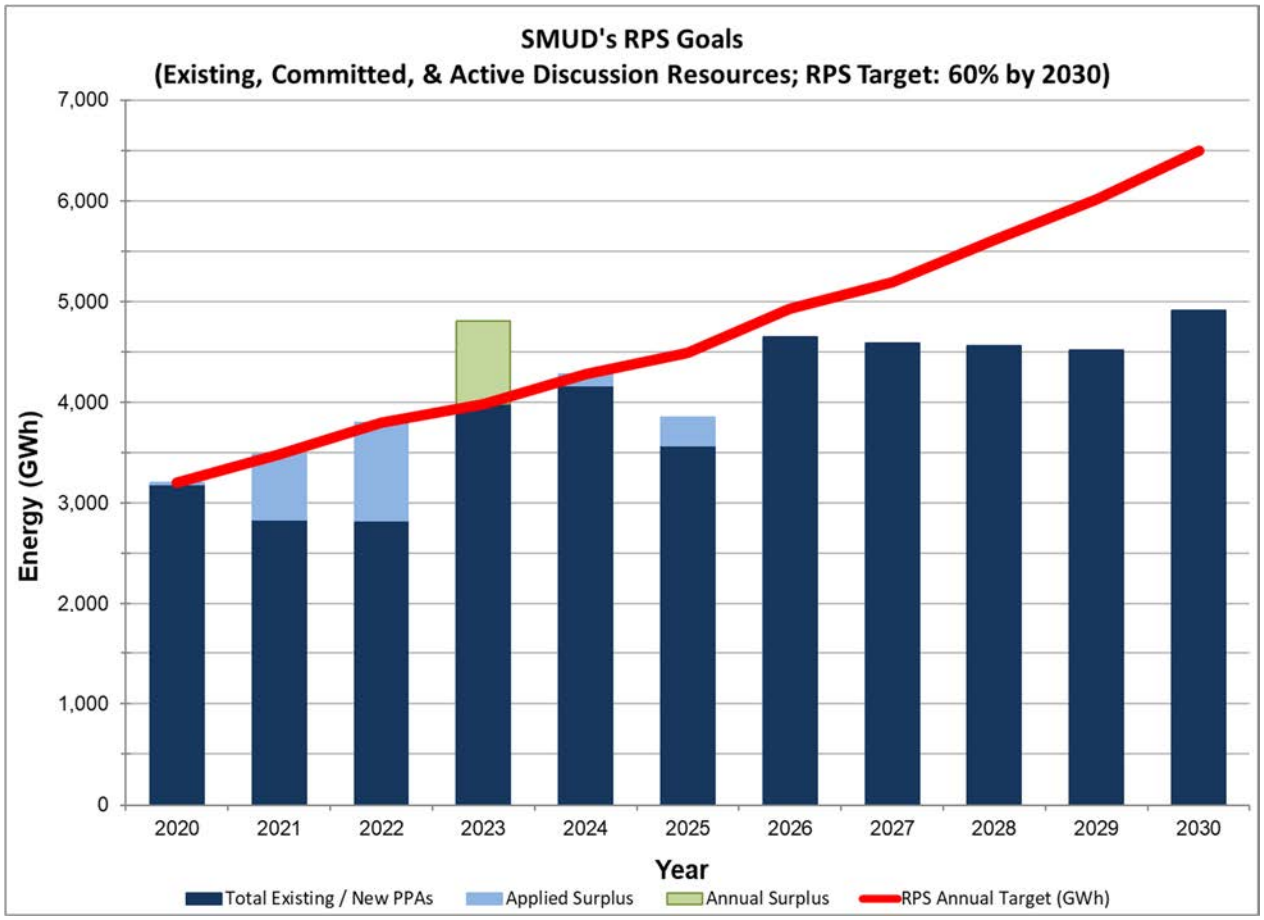
The financial impacts and options focus of the Zero Carbon Plan aims to keep SMUD rate increases at or below the rate of inflation while achieving SMUD's goal of eliminating carbon emissions from its power supply by 2030. To pay for the expected costs of the Zero Carbon Plan and keep rate increases at or below the rate of inflation, the Zero Carbon Plan estimates the need for SMUD to realize between $50 million and $150 million of sustained annual savings. SMUD currently plans to achieve these sustained annual savings by exploring the implementation of operational savings strategies and pursuing partnership and grant opportunities.

While the ultimate impacts of the Zero Carbon Plan on SMUD's financial results and operations are difficult to predict and are dependent on a variety of factors, such as the relative cost of procuring energy from clean technologies, the availability and relative cost of new technologies, and the adoption and implementation of energy efficiency and other measures by SMUD's customers, such impacts could be material.

Renewable Energy and Climate Change. The California Renewable Energy Resources Act, established by Senate Bill X1-2 ("SBX1-2") and the Clean Energy and Pollution Reduction Act of 2015, enacted by Senate Bill 350 ("SB 350") require that SMUD meets 33% of its retail sales from RPS-eligible renewable resources by 2020 and 50% of its retail sales from RPS-eligible renewable resources by 2030. Senate Bill 100 ("SB 100"), passed by the legislature and approved by then-Governor Brown on September 10, 2018, accelerates the RPS targets and establishes a new 60% target by 2030. The bill also created a planning goal to meet all of the State's retail electricity supply with a mix of RPS-eligible and zero-carbon resources by December 31, 2045. See "DEVELOPMENTS IN THE ENERGY MARKETS – State Legislation and Regulatory Proceedings – *Renewables Portfolio Standards*" for a discussion of the State RPS requirements.

SMUD's compliance with State RPS requirements is evaluated over 3 or 4-year compliance periods. SMUD met the State RPS requirements for the first compliance period (2011-2013) and second compliance period (2014-2016). The third compliance period (2017-2020) required SMUD to source one-third of its energy from renewable resources, and SMUD had sufficient RECs to meet the third compliance period requirements. SMUD filed its 2020 and third compliance period RPS compliance report with the CEC in the second quarter of 2021 and is awaiting verification of its submission from the CEC which is expected to occur by the end of 2023. As of the end of the third compliance period (2020), SMUD had

approximately 1.0 million surplus RECs available to help meet future RPS targets. SMUD expects to file its 2022 RPS compliance report by July 1, 2023, and due to increased load compared to forecast in 2022, and a delayed commercial online date for the NTUA solar project, expects to have provided 34.1% of its retail sales from RPS-eligible renewable resources in 2022, which is less than the interim 2022 RPS target of 38.5%. However, RPS compliance is determined by compliance period and not by individual years and SMUD anticipates that it has sufficient surplus procured and/or under contract resources in 2023 and 2024 to offset the 2022 shortfall. Therefore, SMUD expects to be in compliance with the RPS requirements for the fourth compliance period (2021 – 2024). In addition to meeting RPS standards, SMUD serves an additional 7.3% of its customer load with renewable energy through its voluntary SolarShares and Greenergy pricing programs described above. SMUD estimates that it has sufficient renewable energy deliveries, new power supply contract commitments, new power supply commitments under active discussion, and RPS-eligible surplus carryover to meet its RPS requirements through 2024. Additional resources have been identified in solicitations currently under way that are expected to provide sufficient RPS-eligible resources to cover most of SMUD's RPS requirements through 2030. Future solicitations are expected to provide the additional resources to fill any remaining gaps. The following chart illustrates SMUD's current RPS requirements through 2030 and its existing and committed resources, and its resources under active discussion that are expected to be utilized to meet those requirements.



In addition to procuring new sources, meeting the RPS requirements will require replacement of certain existing renewable contracts which expire in future years. While SMUD anticipates it will meet much of its renewable resource requirements through purchase contracts with third parties, it continues to explore additional options, including wind, solar, biomass, and geothermal developments, partnering with other utilities on future projects, and local development options. SMUD's resource forecast (see "POWER SUPPLY AND TRANSMISSION – Projected Resources") accounts for future renewable resources as a component of "Uncommitted Purchases." To meet SMUD's Zero Carbon Plan goals, SMUD anticipates meeting loads in 2030 with approximately 70-80% renewable resources, in addition to hydro and other new zero carbon technologies. See "– *2030 Zero Carbon Plan*" above.

Given the intermittent nature of power from renewable resources such as wind and solar, SMUD is exploring and investing in options that provide the flexibility to manage the intermittency of such renewable resources. Potential options include energy storage resources, which SMUD has committed to as part of the Zero Carbon Plan, and expanding load management resources. Additionally, on April 3, 2019, SMUD, through its membership in BANC, a joint exercise of powers agency formed in 2009, and currently comprised of SMUD, the Modesto Irrigation District ("MID"), the City of Roseville ("Roseville"), the City of Redding ("Redding"), the City of Shasta Lake and the Trinity Public Utilities District, has commenced its participation in the California Independent System Operator Corporation ("CAISO") western energy imbalance market ("WEIM"). Participation in the WEIM benefits SMUD by providing it with broader access to balancing resources within the region to help manage its expanding renewable portfolio. In addition, other entities within the BANC Balancing Authority Area began participation in the WEIM on March 25, 2021. See "BUSINESS STRATEGY – Serving SMUD's Customers – *Operational Independence and Local Control*" and "POWER SUPPLY AND TRANSMISSION – Balancing Authority Area Agreements."

In 2018, SMUD's Board adopted a new IRP through a comprehensive public process and filed the approved IRP with the CEC on April 29, 2019 pursuant to the CEC's IRP guidelines. The approved IRP calls for a reduction in GHG emissions from SMUD's energy supply by more than 60% by 2030 relative to 1990 levels and a goal of net zero emissions by 2040 due, in part, to a significant investment in electrification of the local building and transportation sectors. The IRP was expected to reduce Sacramento's economy-wide GHG emissions by 70% relative to current levels. SMUD's Zero Carbon Plan, adopted in 2021, built upon the IRP and set a goal of zero carbon emissions by 2030. On September 14, 2022, SMUD submitted an updated IRP filing with the CEC to incorporate the goals set in the Zero Carbon Plan pursuant to the CEC's IRP guidelines. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *2030 Zero Carbon Plan.*"

The State's carbon cap-and-trade market established pursuant to Assembly Bill 32 ("AB 32") began in 2013. See "DEVELOPMENTS IN THE ENERGY MARKETS – State Legislation and Regulatory Proceedings – *Greenhouse Gas Emissions*" for a discussion of AB 32 and the State's cap-and-trade program. SMUD anticipates that allowances allocated to SMUD will nearly equal SMUD's compliance obligations under normal water year conditions. Under low water year conditions, SMUD may need to purchase additional allowances to cover its compliance obligations, including carbon obligations related to wholesale energy sales from SMUD's natural gas power plants. As SMUD implements its clean power goals, SMUD expects its need for these allowances to decline.

There is scientific consensus that increasing concentrations of GHG have caused and will continue to cause a rise in temperatures in the State and around the world. The change in the earth's average atmospheric temperature, generally referred to as "climate change," is, among other things, expected to result in a wide range of changes in climate patterns, including increases in the frequency and severity of extreme weather events, including droughts and heat waves, more frequent incidences of wildfires, changes in wind patterns, sea level rise and flooding, any of which alone or in combination could materially

adversely affect SMUD's financial results or operations. See also "FACTORS AFFECTING THE REGION" and "OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY – Other Factors." As described above, SMUD is actively working to meet its sustainable power supply goals, reduce its own GHG emissions, and assist the local governments in the territory it serves with their desired GHG reductions. In 2016, SMUD introduced the Pilot Natural Refrigerant Incentive Program, its first customer program providing incentives for GHG reduction in addition to kWh savings. SMUD is a founding member and active participant in the Capital Region Climate Readiness Collaborative, a public private partnership formed to better understand and plan for climate impacts expected in the region. SMUD is also an active member of the United States Department of Energy (the "DOE") Partnership for Energy Sector Climate Resilience. SMUD regularly reviews scientific findings related to climate change and in 2016 published its Climate Readiness Assessment and Action Plan. In 2024, SMUD is planning to update the Climate Readiness Assessment and Action Plan along with other climate resiliency actions.

Energy Storage Systems. Assembly Bill 2514 ("AB 2514") requires the Board to re-evaluate energy storage goals every three years. In compliance with AB 2514, the Board established a target of 9 MW of energy storage procurement by December 31, 2020, which SMUD has procured. See "DEVELOPMENTS IN THE ENERGY MARKETS – State Legislation and Regulatory Proceedings – *Energy Storage Systems*" for further discussion of AB 2514. In September 2020, the Board directed that energy storage forecasts be implemented through SMUD's IRP process going forward. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *Renewable Energy and Climate Change*" above for a discussion of SMUD's IRP. SMUD is also evaluating how to couple utility-scale solar with utility-scale storage to support future system reliability needs and renewable energy goals.

Meeting Peak Load. A significant consideration for SMUD will be how it addresses its system peak load. SMUD has implemented programs and tools, such as advanced metering, energy efficiency options, and TOD rates for residential customers, to help customers manage their costs while helping SMUD reduce its peak load. Analysis of 2021 data showed a reduction of approximately 115 MW, weather adjusted, for residential customers during the TOD peak period (5-8 p.m. local time). SMUD staff will continue to monitor the progress and results of the implementation of TOD rates and will use this information to inform future rate actions and load forecasts. See "BUSINESS STRATEGY – Serving SMUD's Customers – *Time-of-Day Rates*."

On September 16, 2021, the Board approved an optional residential Critical Peak Pricing rate (the "Peak Pricing Rate"), which went into effect June 1, 2022. The Peak Pricing Rate is designed to reduce load by increasing the price of energy when the grid is most impacted, up to 50 hours per summer. In exchange, customers on the rate will receive a per kWh discount on summer Off-Peak and Mid-Peak rates. SMUD is also exploring the use of more distributed energy resources and demand response programs that could further reduce SMUD's system peak.

Operational Independence and Local Control. A key component of SMUD's business strategy is focused on maintaining its independence in operating and maintaining its resources. As such, SMUD has taken a number of actions to mitigate the potential impacts of various federal and state regulatory actions. For example, in 2002 SMUD established itself as an independent control area (now termed "Balancing Authority") within the Western Electricity Coordinating Council ("WECC") region. By removing itself from CAISO's Balancing Authority area, SMUD became responsible for balancing electric supply and demand within its own service territory. This move substantially reduced fees paid to CAISO, preserved operational flexibility and helped to insulate SMUD from the uncertain regulatory environment and tariff structure of CAISO. In addition to decreased financial risks, this independence also reduced SMUD's exposure to the impacts of capacity and energy shortages in the CAISO Balancing Authority area. Further, as an independent Balancing Authority, SMUD continued to support the statewide electric grid in events of electrical emergencies requiring rotating outages, such as loss of major transmission lines or equipment,

as provided in the statewide emergency plan. By 2006, the SMUD Balancing Authority footprint expanded north to the California-Oregon border and south to Modesto, to include the service areas of the WAPA, MID, Redding and Roseville, and TANC -owned 340-mile 500-kV California-Oregon Transmission Project ("COTP"). In October 2009, SMUD, with the coordination and cooperation of WAPA, joined the Western Power Pool Reserve Sharing Group, which supports reliability and reduces operating costs. In May 2011, BANC assumed the role of the Balancing Authority, though SMUD continues to oversee operation of the grid on behalf of BANC. BANC members share cost responsibility for balancing authority-related compliance obligations, liabilities, and operations. BANC also serves as an important venue for SMUD and other BANC members to collaborate with respect to operational and market improvements inside the BANC footprint and to preserve their operational independence. See "POWER SUPPLY AND TRANSMISSION – Balancing Authority Area Agreements." On April 3, 2019, SMUD, through its participation in BANC, began operating in the CAISO WEIM, which helps SMUD better manage the integration of renewable energy resources. The CAISO WEIM is a voluntary market, which allows SMUD to maintain its operational independence from the CAISO, while providing SMUD greater access to balancing resources throughout the western region. See "POWER SUPPLY AND TRANSMISSION – Balancing Authority Area Agreements."

FERC Order 1000. In 2011, the Federal Energy Regulatory Commission ("FERC") issued Order 1000, which mandates regional transmission planning and imposes a regional cost allocation methodology for transmission facilities. FERC states that it has the authority to allocate costs to beneficiaries of transmission services even in the absence of a contractual relationship between the owner of the transmission facilities and the beneficiary. Despite appeals challenging FERC's authority on a number of grounds, the D.C. Circuit Court of Appeals upheld Order 1000. See "DEVELOPMENTS IN THE ENERGY MARKETS – Federal Legislation and Regulatory Proceedings – *Federal Regulation of Transmission Access*." Nevertheless, there remains flexibility with respect to SMUD's participation in regional transmission planning. Specifically, SMUD is voluntarily participating as a Coordinating Transmission Owner ("CTO") in the WestConnect transmission planning organization, and will rely on its WestConnect membership to keep it Order 1000 compliant. While SMUD opposes any cost allocation methodology that would obligate SMUD to pay for facilities that it does not use or need to maintain reliable operations or serve its load, the FERC-approved WestConnect planning process does provide a CTO the option to not accept an allocation of costs. WestConnect is composed of utility companies providing transmission of electricity in a portion of the western United States, working collaboratively to assess stakeholder and market needs and develop cost-effective enhancements to the western wholesale electricity market. SMUD is unable to predict at this time the full impact that Order 1000 will have on the operations and finances of SMUD's electric system or the electric industry generally.

Electricity, Natural Gas, and Related Hedging

SMUD continues to utilize a comprehensive and integrated power and fuel supply strategy to acquire a reliable and diversified portfolio of resources to meet existing and future needs. This strategy includes a combination of both physical supply and financial hedging transactions to reduce price risk exposure over a five-year horizon. SMUD's physical supply arrangements include ownership of power generating resources, as well as a diversified portfolio of power and fuel supply purchase contracts that range in duration, with a mixture of fixed and variable pricing terms.

With regard to the power purchase contracts, SMUD has entered into a series of contracts for the purchase of electricity to supply the portion of its resource needs not already provided by owned resources. SMUD also actively manages its exposure on variable rate electricity purchases, and at times may enter into financial contracts to fix prices by using options to reduce price risk, in each case when warranted by economic conditions. See "POWER SUPPLY AND TRANSMISSION – Power Purchase Agreements."

With regard to fuel supply contracts, SMUD utilizes a similar strategy of employing financial contracts of various durations to hedge its variable rate fuel supply contracts. As of March 31, 2023, these contracts are forecasted to have hedged the price exposure on approximately 83%, 66% and 55% of SMUD's anticipated natural gas requirements for 2023, 2024 and 2025, respectively. While the financial effects resulting from the unhedged portions of SMUD's natural gas requirements are difficult to predict, SMUD's financial results could be materially impacted. See "POWER SUPPLY AND TRANSMISSION – Fuel Supply – *Supply*."

As provided in SMUD's natural gas contracts, SMUD may be required to post collateral to various counterparties. As of March 28, 2023, SMUD did not have any collateral posting obligations. A decrease in natural gas prices could result in a collateral posting by SMUD. While the posting of collateral is not an expense for SMUD, it does temporarily encumber unrestricted cash balances.

To hedge against hydroelectric production volatility of SMUD-owned hydroelectric facilities, SMUD implemented a pass-through rate component called the Hydro Generation Adjustment (the "HGA"). The HGA and the associated Hydro Rate Stabilization Fund (the "HRSF") help to offset increased power supply or fuel supply costs in years where precipitation levels at SMUD-owned hydroelectric facilities are low. To hedge against variations in the volume of energy received from non-SMUD-owned hydroelectric resources, SMUD uses a rate stabilization fund to help offset increased power supply or fuel supply costs. See "RATES AND CUSTOMER BASE – Rate Stabilization Funds."

Managing Risks

SMUD maintains an Enterprise Risk Management ("ERM") program, a strategic approach to managing enterprise-wide risks as a portfolio, to help reduce the chance of loss, create greater financial stability and protect SMUD resources. It is designed to maintain an early warning system to monitor changes in, and the emergence of, risks that affect the organization's business objectives. Under the purview of the Enterprise Risk Oversight Committee, composed of executive members and chaired by the Chief Financial Officer, ERM conducts ongoing risk identification, assessments, monitoring, mitigation, risk-based budgeting and reporting. To ensure accountability and oversight, each identified risk is assigned to an executive-level risk owner. Risk status and mitigation efforts are reported monthly to the Board.

Competitive Challenges

In the coming decade, utilities like SMUD may face competition from companies in other industries looking to diversify into the energy sector. Examples of developing competitive areas include retail sale of electricity, distributed electric storage resources, renewable distributed generation (mostly solar in Sacramento), customer installation of fuel cells, third-party electric vehicle charging, home or business automation that enables greater customer participation in energy markets, and third-party provision of energy management software and solutions.

SMUD has a wide range of initiatives to monitor and adapt to changing market conditions and new industry participants. Key areas of focus include:

- Enhancing customer experience. Recognizing the importance of meeting customer expectations, SMUD introduced the Customer Experience Strategy in 2016 to provide customers "value for what they pay" and further strengthen customer loyalty. The initiative is focused on ensuring SMUD has the people, systems, technology, programs and services to consistently meet or exceed customers' changing expectations. The customer experience is measured via surveys with the goal of achieving 80% of customers agreeing that SMUD provides them with value for what they pay by 2030.

- Restructuring electric rates. In 2017, the Board approved TOD rates as the standard rate for residential customers. The residential rate transition began in the fourth quarter of 2018, and the full transition was completed in the fourth quarter of 2019. All of SMUD's business customers are also on time-based rates. In 2019, the Board approved a restructuring of commercial rates to collect a greater portion of fixed costs through fixed charges and to better align time periods and prices with energy markets. The commercial rate restructuring was delayed by one year due to the impacts of the COVID-19 pandemic. The transition was completed in the first quarter of 2022. See "RATES AND CUSTOMER BASE – Rates and Charges" and "FACTORS AFFECTING THE REGION – Impacts from COVID-19 Pandemic."

- Ongoing integrated resource planning. SMUD monitors and updates its integrated resource planning to ensure future sources of energy balance cost, reliability and environmental requirements with the flexibility to meet challenges of changing market and regulatory conditions, customer energy resources, and emerging technologies.

Leveraging Core Competencies

In addition to these initiatives, SMUD is leveraging core competencies to improve industry safety and help communities serve their customers' energy needs.

Sacramento Power Academy. SMUD is leveraging its significant experience in training skilled line-workers with the opening of the SMUD Power Academy regional training center in 2016. The academy currently emphasizes training for public power, customer-owned utility employees. There are currently approximately 2,000 customer-owned utilities in the United States that are similar to SMUD, many of which may not have the resources to adequately train their employees. In addition to line-workers, the center will also train substation and network electricians. Other future plans include training electrical, telecom and meter technicians; engineers and designers; construction management inspectors; equipment operators; cable splicers and locators; and support staff.

Community Energy Services. In 2002, Assembly Bill 117 was passed to establish Community Choice Aggregation in the State by authorizing Community Choice Aggregators ("CCAs") to aggregate customer electric load and purchase electricity for customers. SMUD's Community Energy Services department was established in 2017 to support organizations with values closely aligned with SMUD's values, while also generating additional revenue for SMUD. CCA programs are proliferating in the State thanks to support for expanding renewable energy use and desire for local control particularly for electricity procurement. There are numerous CCAs operating in the State, and more are anticipated to launch in the future. CCAs are responsible for procuring wholesale power, setting the generation rate, and staffing a call center to handle opt-outs and questions about the power portfolio. The local investor-owned utility ("IOU") continues to deliver electricity from the electric grid, maintain its electric infrastructure, bill customers and collect payments.

In October 2017, SMUD was selected by the governing board of Valley Clean Energy ("VCE") to provide technical, energy and support services, including data management and call center services, wholesale energy services, and business operations support, to VCE for a five-year term expiring May 31, 2023. SMUD and VCE recently executed a new contract for these services that expires on December 31, 2028. VCE is a joint powers agency formed in 2016 by the City of Woodland, the City of Davis and Yolo County to implement a local CCA program. The service territory expanded to include the City of Winters in 2021. The mission of VCE is to deliver cost-competitive clean electricity, product choice, price stability, energy efficiency, and greenhouse gas emissions reductions to its customers in Yolo County. VCE began

electric services to its customers in the summer of 2018, giving Yolo County residents a choice between two electricity providers, VCE and PG&E.

In November 2017, SMUD was selected by the governing board of East Bay Community Energy ("EBCE") to provide call center and data management services for a three-year term beginning in January 2018. SMUD signed a new contract with EBCE in January 2022 for call center and data management services for an additional three-year term. EBCE is a joint powers agency formed in 2016 by the cities of Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Oakland, Piedmont, San Leandro and Union City in Alameda County to implement a local CCA program. EBCE expanded its territory to the cities of Pleasanton, Newark, and Tracy in April 2021.

In June 2019, SMUD was selected by the governing board of Silicon Valley Clean Energy ("SVCE") to provide program services to help local SVCE communities reduce carbon pollution while delivering engaging customer experiences. SVCE programs are focused on grid integration, as well as electrifying transportation, buildings and homes. SVCE is a joint powers agency formed in 2016 by the cities of Campbell, Cupertino, Gilroy, Lost Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Morgan Hill, Mountain View, Saratoga, Sunnyvale and Unincorporated Santa Clara County to implement a local CCA program.

In July 2022, SMUD was selected by the governing board of Marin Clean Energy ("MCE") to provide data management, billing, data analytic and system assessment services to MCE. MCE is a joint powers agency formed in 2010 and represents 37 member communities across four Bay Area counties: Contra Costa, Marin, Napa and Solano.

In September 2022, SMUD was selected by the governing board of Sonoma Clean Power ("SCP") to provide market research services to SCP. SCP is a joint powers agency that serves Sonoma and Mendocino counties.

While CCAs have had success in the State, they are susceptible to business, regulatory and other risks that could lead to a financial loss and/or result in a cessation of operations for the CCA. These risks could extend to a CCA's counterparties, including SMUD. SMUD has made an effort to identify and mitigate potential counterparty risks to the extent possible in service agreements with the CCAs described above. SMUD may pursue opportunities to provide similar services to additional CCAs in the future. SMUD management does not expect its current arrangements to have a material adverse impact on SMUD's financial position, liquidity or results of operations.

FACTORS AFFECTING THE REGION

Precipitation Variability

SMUD uses a National Weather Service precipitation station located at Pacific House, California to approximate available water supply to SMUD's Upper American River Project (the "UARP") hydropower reservoirs. As of March 31, 2023, precipitation at Pacific House, California totaled 77 inches for the October-September hydropower water supply period. This is 185% of the 50-year rolling median of 42 inches. Total reservoir storage in the UARP hydropower reservoirs was 269 thousands of acre-feet as of April 18, 2023, which was about 71% of capacity, approximately 8% below the historical average for this date to accommodate snowpack which was 156% of normal. SMUD manages its reservoirs to maximize water storage going into the summer season, which preserves generating capacity during SMUD's high load months and ensures that SMUD meets its UARP FERC license requirements, including requirements for recreational and environmental flows.

There can be wide swings in precipitation from year to year. In years with below average rainfall, SMUD may have to generate or purchase replacement energy at additional cost. To hedge against variations in the volume of energy received from SMUD-owned UARP hydroelectric resources, SMUD uses the HRSF to help offset increased power supply or fuel supply costs. See "RATES AND CUSTOMER BASE – Rate Stabilization Funds."

SMUD is also exposed to precipitation variability through its contract with the WAPA. In an average water year this contract provides roughly 661 gigawatt hours ("GWh") of power. WAPA's actual deliveries are based on hydroelectric generation (minus energy use for pumping) at Central Valley Project reservoirs in Northern California, which varies based on annual precipitation patterns, water deliveries for agriculture, and flow requirements in the Sacramento-San Joaquin River Delta. Unlike the UARP, SMUD does not monitor precipitation stations to approximate power deliveries under the WAPA contract, and instead relies on a forecast of power deliveries from WAPA. As of March 31, 2023, WAPA has forecasted power deliveries of 451 GWh for 2023, down approximately 32% less than an average water year. See "POWER SUPPLY AND TRANSMISSION – Power Purchase Agreements – *Western Area Power Administration*."

Wildfires

General. Wildfires in the State have become increasingly common and destructive. Frequent drought conditions and unseasonably warm temperatures have increased, and could further increase, the possibility of wildfires occurring in areas where SMUD maintains generation, transmission and distribution facilities. The number of diseased and dead trees has increased, and could further increase, this possibility. As a result, SMUD faces an increased risk that it may be required to pay for wildfire related property damage or personal injuries, fines and penalties, some of which may not be covered by insurance (including costs in excess of applicable policy limits), or may be disputed by insurers, and could be material. In addition, a significant fire or fires in SMUD's generation, transmission or service area could result in damage or destruction to SMUD's facilities, result in a temporary or permanent loss of customers or otherwise materially increase SMUD's costs or materially adversely affect SMUD's ability to operate its Electric System or generate revenues.

SMUD's service territory is located within Sacramento County, which is located outside the California Public Utilities Commission (the "CPUC") high fire threat areas established in 2018. However, as described below, SMUD's UARP facilities and certain of SMUD's and TANC's transmission facilities are within CPUC high fire threat areas. In addition, as described below, certain portions of SMUD's service territory are located within the California Department of Forestry and Fire Protection ("Cal Fire") Fire Protection and Resource Assessment Program ("FRAP") Moderate, High and Very High Fire Hazard Severity Zones. SMUD's exposure to liability for damages related to its UARP facilities, which are located within high fire threat areas in El Dorado County, is reduced due to risk mitigation measures adopted by SMUD and the low number of inhabitants and structures near the UARP facilities (See "Wildfire Mitigation" below). SMUD continues to take responsible action to minimize its exposure to liability from wildfires; however, under current State law, utilities can be held liable for damages caused by wildfires sparked by their equipment or other facilities regardless of whether the utility was negligent or otherwise at fault. Therefore, at this time the full extent of SMUD's potential exposure to wildfire risk is unknown.

Distribution (SMUD Service Territory). State law requires Cal Fire to classify areas in the State based on the severity of the fire hazard that is expected to prevail there. These areas or "Fire Hazard Severity Zones" are based on factors such as fuel (material that can burn), slope and the expected chance of burning. There are three Fire Hazard Severity Zones (Moderate, High and Very High) based on increasing fire hazard. Portions of SMUD's service territory are located within these Fire Hazard Severity Zones. SMUD has assessed its service territory based on Cal Fire's FRAP map, adopted in 2007; the

following table illustrates SMUD's assessment of the approximate extent of its service territory and retail customer base located within the three Fire Hazard Severity Zones.

Fire Hazard Severity Zone	Moderate	High	Very High
Acres of SMUD Service Area	231,816	2,337	1,061
% of Total SMUD Service Area	40.6%	0.4%	0.2%
Number of Retail Customers	53,621	4,285	148
% of Total Retail Customers	7.7%	0.6%	0.0%

Transmission (Outside of SMUD Service Territory). In 2018, the CPUC approved a new statewide fire map that identifies areas of elevated and extreme wildfire risk from utility-associated assets located throughout the State. SMUD directly participated in the development of the CPUC's statewide fire map. In connection with the development of the CPUC's statewide fire map, a peer review and a team of independent nationwide experts led by Cal Fire affirmed that SMUD's electric service area is properly located outside of these elevated ("Tier 2") and extreme ("Tier 3") high fire threat areas; however, SMUD's UARP facilities are located within both Tier 2 and Tier 3 areas. According to the CPUC, Tier 2 fire-threat areas are areas where there is an elevated wildfire risk from utility assets and Tier 3 fire-threat areas are areas where there is an extreme risk from utility assets. As of June 8, 2021, approximately 37 right-of-way miles of SMUD's transmission lines are in Tier 2 fire-threat areas and approximately 19 right-of-way miles of SMUD's transmission lines are in Tier 3 fire-threat areas. SMUD is also a member of TANC. As of July 2022, approximately 116.3 right-of-way miles of TANC's transmission lines are in Tier 2 fire-threat areas and approximately 4.5 right-of-way miles of TANC's transmission lines are in Tier 3 fire-threat areas. In accordance with its FERC license, SMUD adheres to a FERC-approved Fire Prevention and Response Plan for its UARP facilities. On May 17, 2018, in accordance with State law, SMUD's Board of Directors determined that the UARP area may have a "significant risk of catastrophic wildfire" resulting from overhead electric facilities and that SMUD's FERC-approved UARP Fire Prevention and Response Plan meets requirements for presenting wildfire mitigation measures to the Board for its approval.

Wildfire Mitigation. In response to potential wildfire risk, SMUD has implemented and is continuing to implement a series of measures intended to prevent wildfires from occurring, minimize the spread of any fire that does occur and improve the resiliency of its system. These measures include an increase in the degree of sophistication of fuel reduction inside and adjacent to rights-of-ways; installation of Cal Fire-approved exempt material to reduce the risk of sparking; enhanced inspection and maintenance programs; increased use of ignition-resistant construction, including covered conductors and undergrounding of conductors; increased monitoring of and identified responses to fire conditions, including operational procedures for the de-energization of lines during high fire conditions; and elimination of automatic reclosers on SMUD's transmission lines and on SMUD's distribution lines in certain areas during fire season.

SMUD's proactive approach to vegetation management recently has been expanded to include the use of advanced technologies such as Light Detection and Ranging ("LiDAR") surveys, ortho and oblique that is used to pinpoint tree health and/or condition that may not yet be visible to the naked eye. In addition, SMUD has installed additional weather stations in transmission corridors and substations for increased situational awareness and has continued coordination and collaboration with local agencies and first responders as well as vulnerable populations.

State legislation enacted in 2018 and 2019 (SB 901 and AB 1054, respectively) requires publicly owned utilities ("POUs") to prepare and present Wildfire Mitigation Plans to their governing boards by

January 1, 2020, and annually thereafter. SMUD assembled an enterprise-wide team of subject-matter experts to prepare its plan in compliance with this legislation. SMUD's initial Wildfire Mitigation Plan ("WMP") was adopted by the Board in the fourth quarter of 2019, after circulation for public comment and review of the comprehensiveness of the plan by a qualified independent evaluator. The WMP and evaluator's report were submitted to the State Wildfire Safety Advisory Board (the "WSAB") in 2020. The WSAB was established pursuant to AB 1054 and is charged, among other things, with providing comments and advisory opinions relating to content and sufficiency of POU wildfire mitigation plans and recommendations on how to mitigate wildfire risk.

SMUD reviews its WMP each year, presenting the updated plan to the Board for adoption at duly noticed public meetings. The updated plans and evaluator reports are submitted to the WSAB for advisory opinion and recommendations. SMUD responds to the WSAB's comments regarding SMUD's WMP as part of its WMP process. SMUD will continue to annually review and update its WMP, conducting a comprehensive review at least every third year.

SMUD recently completed a comprehensive review and update of its WMP after soliciting public input and independent evaluation and anticipates presenting its 2023-2025 WMP to the Board on June 15, 2023. SMUD expects to submit the 2023-2025 WMP to the WSAB after it is approved by the Board.

Wildfire Insurance. Wildfires in the State have not only increased potential liability for utilities, but have also adversely impacted the insurance markets, leading to higher costs for coverage; coverages becoming prohibitively expensive; limited or restricted coverage to certain types of risks; or coverage at insufficient levels. SMUD most recently renewed its general and wildfire liability insurance coverage on June 15, 2022. SMUD increased the commercially-insured portion of its $255 million wildfire coverage program from $176 million to $192.5 million and reduced the self-insured layers and quota share portions of the insurance tower down to $62.5 million.

In addition, it is expected that SMUD will have a portion of the $400 million aggregate principal amount of its commercial paper and line of credit program to provide operational flexibility in the event of the occurrence of a wildfire or other operational event. However, SMUD has not covenanted to maintain the availability of the commercial paper program and line of credit program for these purposes and no assurances can be given that the commercial paper and line of credit program will be available at the time of, or during, such an event.

August 2020 Heat Wave

The State experienced a period of prolonged above average temperatures from August 14, 2020 through August 18, 2020. The CAISO was forced to institute rotating electricity outages in the State during this extreme heat wave. SMUD, as a member of BANC, did not have to implement any planned power disruptions. Additionally, SMUD was able to support the CAISO during some hours of the heat wave with both requested emergency assistance and wholesale market sales. SMUD's peak demand between August 14, 2020 and August 18, 2020, varied between 2,874 MW and 3,057 MW, well below SMUD's record peak of 3,299 MW.

September 2022 Heat Wave

The State experienced a period of prolonged above average temperatures from September 5, 2022 through September 8, 2022. On September 6, 2022, SMUD experienced its second highest peak demand of 3,292 MW. SMUD did not have to implement any planned power disruptions.

Storm Damage

In January 2023, SMUD experienced a series of winter storms that brought heavy rains and high winds causing damage to SMUD's grid and widespread outages for SMUD's customers. By the time the storm response was complete, SMUD had experienced the largest mobilization of personnel and restoration crews in its history. SMUD incurred costs related to removing downed trees, restoring power from downed poles and broken lines, replenishing inventory, communicating with and providing assistance to customers, maintaining IT systems, and coordinating with local emergency agencies. SMUD is pursuing claims with Federal and State agencies to attempt to recover certain of SMUD's costs related to the storms. SMUD currently cannot predict financial impacts from the storm damage however such impacts may be material.

Cosumnes Power Plant Outage

On June 5, 2022, the Cosumnes Power Plant was shut down due to a ground fault in the Steam Turbine Generator ("STG") stator. The ground fault was caused by delamination of insulation of the through bolt. Damage from the ground fault resulted in a rewind and restack of the stator core, replacement of all stator through bolts, and a full rewind of turbine rotor. The Cosumnes Power Plant repairs were completed in February 2023 and the plant returned to service on March 5, 2023. During the extended outage, SMUD shifted generation to the other Local Gas-Fired Plants and the Sutter Energy Center and procured additional energy and resource adequacy capacity. SMUD also requested and received approval from the California Air Quality Board and California Energy Commission to operate one or both of the gas turbines without the STG. During the September 2022 heatwave, both of the gas turbines at the Consumnes Power Plant were operated without the STG, providing 270 MW at peak.

To mitigate the financial impact of unplanned outages from its thermal assets, SMUD carries commercial property insurance with a business interruption endorsement that can provide up to $30.8 million of claims recovery per month, with a sub-limit of $310 million over any 18-month period. Business interruption claims are subject to a 60-day waiting period. SMUD has begun the property damage and business interruption insurance claim process and received a $50 million advance in December 2022. SMUD is reviewing and submitting claim expenses and expects to reach claim settlement in the third quarter of 2023. The settlement amount is unknown but is expected to be material.

Impacts from COVID-19 Pandemic

While the impact of the COVID-19 pandemic on SMUD has lessened since the height of the pandemic in 2020, SMUD is still experiencing impacts from the pandemic. Compared to weather adjusted load levels, SMUD's overall load is near or above pre-pandemic levels. Compared to pre-pandemic loads, residential customer load remains higher and commercial customer load has almost recovered. SMUD anticipates that commercial customer load recovery will continue over the next couple of years resulting in continued movement towards pre-pandemic levels, but not a complete recovery as people continue to work from home long-term.

Part of the governmental response to the economic consequences of the pandemic required utility providers (including SMUD) to provide additional grace periods and flexible payment plans for the payment of utility bills or to refrain from pursuing collection remedies for unpaid bills for a period of time. SMUD also implemented a no-shutoff policy through January 2022 under which SMUD did not disconnect power to a customer for non-payment of its electric bill. Beginning in February 2022, SMUD resumed its normal payment, late fee, and disconnection process and began disconnections of unpaid accounts in late April 2022. As a result, SMUD has experienced an increase in delinquencies for customer electric accounts versus pre-pandemic levels. In December 2021, SMUD received $41 million from the California Arrearage Payment Program ("CAPP") initial funding, and an additional $9.9 million in 2022. All funds were applied

to delinquent balances. As of March 31, 2023, the total delinquencies for customer electric accounts were $50.8 million, after the CAPP credit, which is an increase from the February 2020 balance of total delinquencies for customer electric accounts of $16.9 million.

SMUD also paused the recertification process for existing customers in SMUD's low-income discount program during the pandemic. The number of customers participating in the low-income assistance program increased by 19,775, or approximately 26% from February 2020 to February 2023. SMUD has resumed the recertification process for existing customers in the low-income discount program in 2023.

While the impacts of the COVID-19 pandemic on SMUD have lessened, if the pandemic and its consequences again become more severe or another similar event occurs, the impacts on SMUD's financial results and operations could be material.

RATES AND CUSTOMER BASE

Rates and Charges

SMUD's Board of Directors has autonomous authority to establish the rates charged for all SMUD services. Unlike IOUs and some other municipal utility systems, retail rate and revenue levels are not subject to review or regulation by any other federal, State or local governmental agencies. Changes to SMUD rates only require formal action by the Board of Directors after two public workshops and a public hearing. SMUD is not required by law to transfer any portion of its collections from customers to any local government. SMUD typically reviews and sets rates on a two-year cycle.

2019 Rate Action.

On June 24, 2019, the Board approved a 3.75% rate increase effective January 1, 2020, a 3.00% rate increase effective October 1, 2020, a 2.50% rate increase effective January 1, 2021, and a 2.00% rate increase effective October 1, 2021, for all customer classes. Additionally, the Board approved a restructuring of the commercial rates, including new time periods and an overall increase in the fixed bill components, such as the System Infrastructure Fixed Charge and demand charges, and a corresponding decrease in energy charges, making the restructuring revenue neutral by rate category. To minimize bill impacts, rate categories will be restructured over an 8-year period. Due to the impacts of the COVID-19 pandemic on SMUD's operations and priorities, on August 20, 2020, the Board approved postponing the implementation of the commercial rate restructure for one year. Customers were transitioned to the new rates in the first quarter of 2022. There is currently pending litigation concerning the adoption of the 2020 and 2021 rates. See "LEGAL PROCEEDINGS – Proposition 26 Lawsuit."

2021 Rate Action.

On September 16, 2021, the Board approved a 1.5% rate increase effective March 1, 2022 and a 2.0% rate increase effective January 1, 2023 for all customer classes. Additionally, the Board approved the Solar and Storage Rate, the optional residential Peak Pricing Rate, and updates to certain schedules of SMUD's Open Access Transmission Tariff ("OATT"). The Board also approved a new timeline for the commercial rate restructure transition, and all impacted commercial customers were transitioned to the new rates by the end of the first quarter of 2022.

SMUD also implemented a solar interconnection fee based on the size of solar interconnection and supporting programs such as battery incentives, incentives to enroll in SMUD's Peak Pricing Rate, battery incentives for Virtual Power Plants, and a program to bring the benefits of solar to under-resourced multi-family communities. These programs and fees are not subject to Board approval.

Rate Stabilization Funds

The Rate Stabilization Fund (the "RSF") is maintained by SMUD to reduce the need for future rate increases when costs exceed existing rates. At the direction of the Board, amounts may be either transferred into the RSF (which reduces revenues) or transferred out of the RSF (which increases revenues). The Board authorizes RSF transfers on an event driven basis. The RSF includes funds to hedge variations in the volume of energy received from WAPA hydroelectric generation, variation in AB 32 revenue and variations in Low Carbon Fuel Credit ("LCFS") revenue. As of April 2023, the balance in the RSF was $120.1 million, which is approximately 7.3% of annual retail revenue.

Effective July 2008, SMUD implemented the HGA, which is a pass-through rate component to deal with variations in hydroelectric generation from the UARP (see "POWER SUPPLY AND TRANSMISSION – Power Generation Facilities – *Hydroelectric*"). The HGA is designed to increase revenues in dry years when SMUD must buy power to replace hydroelectric generation and return money to the HRSF in wet years when SMUD has more hydroelectric generation than expected. Each year SMUD determines the impact of precipitation variances on projected hydroelectric generation from the UARP. When the precipitation variance results in a deficiency of hydroelectric generation from the UARP, transfers from the HRSF, which was created as a component of the RSF, to SMUD's available cash, will be made in an amount approximating the cost to SMUD of replacement power (up to 4% of revenues) until the balance in the HRSF is zero. When the precipitation variance results in a projected surplus of hydroelectric generation from the UARP, deposits will be made into the HRSF in an amount approximating the positive impact to SMUD from the surplus hydroelectric generation (up to 4% of revenues) until the balance in the HRSF is equal to 6% of budgeted retail revenue. If the balance in the HRSF is not sufficient to cover transfers that would otherwise be made in the event of a projected deficiency in UARP hydroelectric generation, a 12-month HGA surcharge will automatically be included on customers' electric bills at a level that generates up to 4% of retail revenue. If the balance in the HRSF is equal to 6% of budgeted retail revenue on any precipitation variance calculation date and the precipitation variance results in a projected UARP hydroelectric generation surplus, the positive impact of the surplus may be used for other purposes at staff's recommendation, with the approval of the Board, including returned to customers through an electric bill discount up to 4% of retail revenue. SMUD calculates HRSF transfers based on an April-March (water year) precipitation period at Pacific House, California. This National Weather Service precipitation station is used to approximate available water supply to SMUD's UARP hydropower reservoirs. As of March 31, 2023, precipitation at Pacific House, California totaled 90.83 inches which is above the 50-year rolling median of 50.52 inches.

As of April 2023, the balance in the RSF and HRSF combined was $216.5 million. SMUD transferred approximately $65.4 million into of the HRSF from SMUD's available cash in April 2023 due to above average precipitation, which increased the balance in the HRSF from $31 million to approximately $96.4 million. Although the HRSF and the subaccount of the RSF that hedge variations in the volume of energy received from non-SMUD hydroelectric generation currently have positive balances, below average precipitation could deplete the HRSF and RSF balances to zero.

Low Income Discount

As of February 2023, approximately 95,175 customers received the low-income discount offered by SMUD, which represents approximately 17% of all residential customers. SMUD suspended recertification during the pandemic, but continued to monitor the program to ensure participants continue to be eligible for the discount. In 2022, the total discount was approximately $31.3 million. As a result of the effects of the COVID-19 pandemic and related economic downturn, SMUD experienced an increase in low-income discount applicants. See "FACTORS AFFECTING THE REGION – Impacts from COVID-19 Pandemic."

SMUD expanded its programs and services starting in 2016 to help customers with energy assistance, home improvement packages and education. SMUD is creating tailored solutions to best meet the needs of low-income customers. These solutions include free solar panels and inspecting homes to identify energy saving and fuel switching opportunities. As of February 2023, SMUD has performed 27,000 energy retrofits and, in partnership with Grid Alternatives (a non-profit organization that focuses on implementing solar power and energy efficiency for low-income families), 196 customers have benefited from free solar installations. Forty-eight additional homes received solar and energy efficiency through a partnership with Habitat for Humanity of Greater Sacramento. As part of SMUD's Zero Carbon Plan and the focus on building electrification, SMUD has also been ramping up electrification investments for low-income customers. Since 2019, SMUD has assisted more than 1,000 households with electrification upgrades.

[Remainder of Page Intentionally Left Blank]

Rate Comparisons

SMUD's rates remain significantly below those of PG&E and other large utilities throughout the State. The following table sets forth the average charges per kWh by customer class for both SMUD and PG&E. PG&E's rates reflect their recently approved rate increase effective March 1, 2023.

AVERAGE CLASS RATES

	SMUD Rates (cents/kWh)[1]	PG&E Rates (cents/kWh)[2]	Percent SMUD is Below PG&E[3]
Residential – Standard	17.96¢	36.27¢	50.5%
Residential – Low Income	12.53¢	23.11¢	45.7%
All Residential	**17.10¢**	**30.50¢**	**44.0%**
Small Commercial (Less than 20 kW)	17.39¢	34.55¢	49.7%
Small Commercial (21 to 299 kW)	16.07¢	33.90¢	52.6%
Medium Commercial (300 to 499 kW)	15.01¢	32.39¢	53.6%
Medium Commercial (500 to 999 kW)	14.08¢	28.00¢	49.7%
Large Commercial (Greater than 1,000 kW)	12.03¢	22.12¢	45.6%
Lighting – Traffic Signals	13.77¢	33.94¢	59.4%
Lighting – Street Lighting	15.64¢	46.15¢	66.1%
Agriculture	15.25¢	31.49¢	51.6%
System Average	15.65¢	29.83¢	47.6%

(1) Projected 2023 average prices for SMUD with rates effective January 1, 2023.

(2) PG&E average prices in 2023 reflect rates effective March 1, 2023, per Advice Letter 6863-E- dated February 15, 2023.

(3) The rates in the Average Class Rates table are calculated by dividing the total revenue of each class by the total usage of that class in kWh. The actual savings per customer will vary based on their electricity consumption.

[Remainder of Page Intentionally Left Blank]

The following table shows a comparison of SMUD's charges for the average residential usage of 750 kWh per month (based on an average of summer and non-summer) and charges of seven similar neighboring or largest utilities in the State.

STATEWIDE COMPARISON–RESIDENTIAL SERVICE

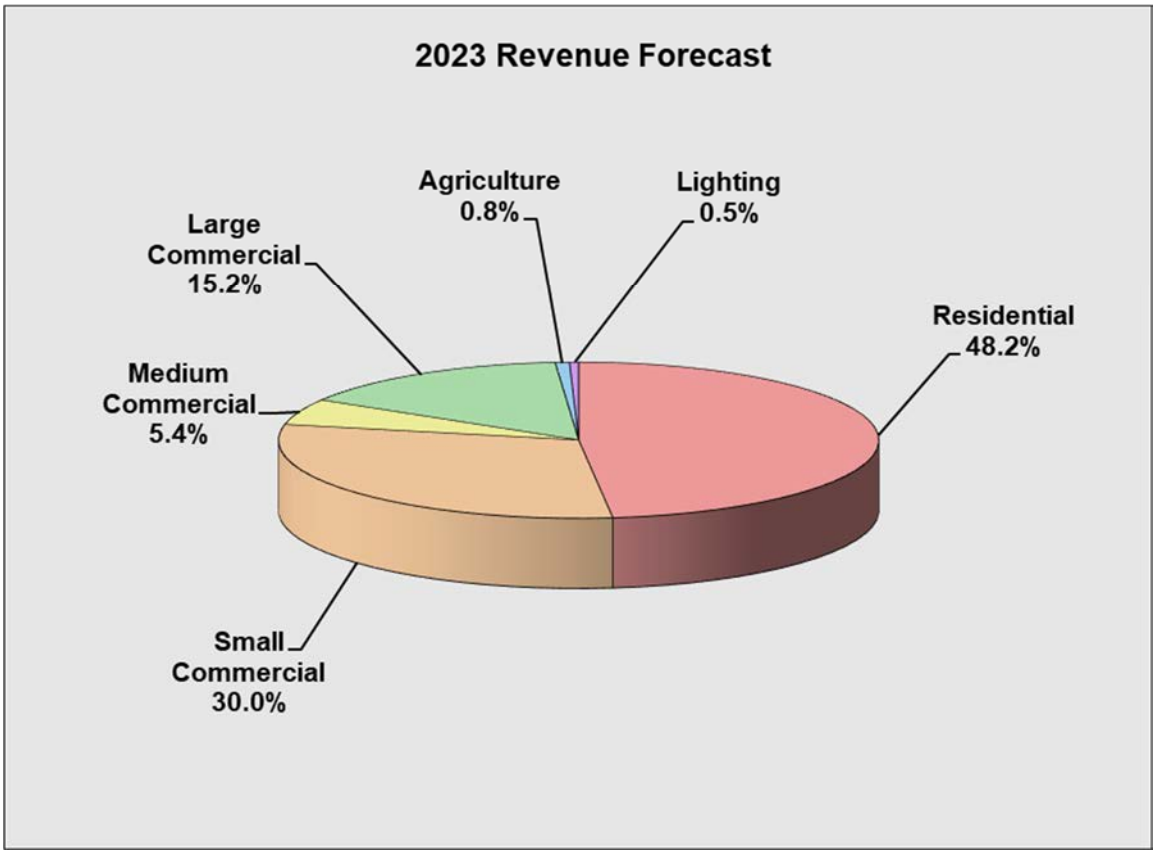
	Monthly Billing Charge 750 kWh[(1)(2)]	**Percent SMUD is (Below)/Above Utility**
Sacramento Municipal Utility District	$131.40	
Pacific Gas & Electric Company	$282.25	(53%)
Roseville Electric Utility	$122.47	7%
Turlock Irrigation District	$123.70	6%
Modesto Irrigation District	$144.30	(9%)
Los Angeles Dept. of Water & Power	$169.76	(23%)
Southern California Edison Company	$273.21	(52%)
San Diego Gas and Electric Company	$357.12	(63%)

(1) Per individual utility's published schedules as of March 1, 2023.
(2) Average usage of theoretical customer using 750kWh per month.

[Remainder of Page Intentionally Left Blank]

Allocation of Revenue by Customer Class

The following chart sets forth the forecast percentage of SMUD revenues from billed sales associated with each customer class.



[Remainder of Page Intentionally Left Blank]

Customer Base; Largest Customers

A stabilizing influence on SMUD's revenues is that a substantial proportion is derived from residential customers (48.9% in 2022). Historically, revenue from commercial and industrial consumption has been more sensitive to economic fluctuation. Furthermore, SMUD has no dominant customers that account for a significant percentage of annual revenues. In 2022, no single customer contributed more than 3% of revenues. The top ten customers generated approximately 11% of revenues and the top 30 generated approximately 17% of revenues. The following table presents information on SMUD's top ten customers as of December 31, 2022.

SMUD'S LARGEST CUSTOMERS
(As of December 31, 2022)

Customer Type	Annual Revenue ($ millions)	% of Total Revenue
Technology	37.56	2.31%
Government	33.02	2.03%
Government	31.59	1.94%
Government	14.58	0.90%
Government	14.11	0.87%
Communications	9.89	0.61%
Industrial Gases	9.12	0.56%
Government	8.04	0.49%
Grocery	7.37	0.45%
Government	7.29	0.45%
Top 10 Total	172.57	10.59%

[Remainder of Page Intentionally Left Blank]

POWER SUPPLY AND TRANSMISSION

Power Supply Resources

The following table sets forth information concerning SMUD's power supply resources as of March 31, 2023. Capacity availability reflects expected capacities at SMUD's load center, as well as entitlement, firm allocations and contract amounts in the month of July, which is generally SMUD's peak month.

POWER SUPPLY RESOURCES
(As of March 31, 2023)

Source:	Capacity Available (MW)[1]
Generating Facilities:	
Upper American River Project – Hydroelectric	685
Solano Wind Project – Wind[2]	94
Hedge Battery[2]	4
Sub-total:	**783**
Local Gas-Fired Plants:	
Cosumnes Power Plant	570
Carson Project	103
Procter & Gamble Project	166
McClellan	72
Campbell Soup Project	170
Sub-total:	**1,081**
Purchased Power:	
Western Area Power Administration (WAPA) [3] [4]	351
Grady – Wind[2]	34
Avangrid (Iberdrola) (PPM) – Wind[2]	22
Feed-in-Tariff Photovoltaic – Solar[2]	40
Rancho Seco Solar[2]	53
NTUA Navajo Drew Solar[2]	55
Great Valley – Solar[2]	40
Wildflower Solar[2]	8
Calpine Geysers – Geothermal	95
CalEnergy – Geothermal	26
Patua (Gradient/Vulcan) – Geothermal	12
Other Long-Term Contracts	18
ELCC Portfolio Adjustment[2]	4
Sutter Calpine Thermal	258
Firm Contract Reserves[4]	18
Committed Short-Term Purchases [5]	275
Uncommitted Short-Term Purchases	8
Sub-total:	**1,314**
Total	**3,178**

(1) Available capacity is the net capacity available to serve SMUD's system peak load during the month of July.

(2) Capacity values for wind, solar, and storage projects shown are based on resource effective load carrying capability (ELCC) modeling.

(3) Total includes SMUD's Base Resource share and WAPA Customer allocations.

(4) Assumes firm reserves of 5% are included.

(5) Committed Short-Term Purchases are primarily purchased on a year-ahead to season-ahead basis from various sources.

Note: Totals may not add due to rounding.

Power Generation Facilities

Hydroelectric. The UARP consists of three relatively large storage reservoirs (Union Valley, Loon Lake and Ice House) with an aggregate water storage capacity of approximately 400,000 acre-feet and eight small reservoirs. Project facilities also include eight tunnels with a combined length of over 26 miles and eight powerhouses containing 11 turbines. In addition to providing clean hydroelectric power and operating flexibility for SMUD, the UARP area provides habitat for fish and wildlife and a variety of recreational opportunities, including camping, fishing, boating, hiking, horseback riding, mountain biking and cross-country skiing.

The combined capacity of the UARP is approximately 685 MW at SMUD's load center in Sacramento. Under current licensing and mean water conditions, these facilities are expected to generate approximately 1,600 GWh of electric energy annually, which represents approximately 15% of SMUD's current average annual retail energy requirements. In 1957, the Federal Power Commission (predecessor agency to FERC) issued a license to SMUD for the UARP. This 50-year license was subsequently amended to add and upgrade facilities and now includes all segments of SMUD's hydroelectric facilities located on the South Fork of the American River and its tributaries upstream from the Chili Bar Project (described below). On July 23, 2014, FERC issued to SMUD a new 50-year license for the UARP.

On November 9, 2016 FERC issued an Order authorizing SMUD to construct the South Fork Powerhouse downstream of the UARP's Slab Creek Dam. Construction was substantially completed in the fall of 2020, and the new powerhouse was placed into operation on October 25, 2022, adding 1.8 MW of generation to the UARP's overall capacity.

On June 16, 2021, pursuant to Board authorization, SMUD acquired the Chili Bar Hydroelectric Project which consists of a 7 MW powerhouse, reservoir, dam and spillway, north of Placerville on the South Fork of the American River for approximately $10.4 million (the "Chili Bar Project"). The Chili Bar Project is immediately downstream from the UARP and operates as the regulating reservoir for the UARP's largest powerhouse. Owning the UARP and the Chili Bar Project enables SMUD to operate the two projects with a holistic approach to license compliance and generation efficiency.

Solano Wind Project. SMUD owns and operates an 87 MW wind project, located in Solano County, known as Solano 2. Solano 2 consist of 29 wind turbine generators ("WTGs") rated at 3 MW each. Energy from the project is collected at 21 kV and transmitted over a dedicated 3-mile overhead system to the SMUD-owned Russell substation. At the Russell facility, the energy is transformed to 230 kV and interconnected to PG&E's Birds Landing Switching Station. Energy deliveries are scheduled through the CAISO.

Solano 3 Project. In 2011 and 2012, SMUD constructed a 128 MW wind project adjacent to Solano Phase 2, known as Solano 3. The Solano 3 project consists of 31 WTGs rated at 1.8 MW and 24 WTGs rated at 3.0 MW. The project interconnects through a 34.5 kV underground collection system to the Russell substation. Like the Solano Phase 2 project, this energy is transformed to 230 kV and delivered through the CAISO.

Solano 4 Project. SMUD is developing the Solano 4 Wind Project on SMUD-owned land near the Solano 3 project, known as the Collinsville and Roberts properties, to install 10 WTGs rated at 4.5 MW, and to remove the Solano 1 turbines and replace them with 9 WTGs rated at 4.5 MW. SMUD received the Cluster II Phase I Study results from the CAISO in January 2019, provided the initial security posting in April 2019, and received the Phase II Study Report in November 2019, furthering the process towards a Large Generator Interconnection Agreement ("LGIA"). SMUD has met all of the CAISO requirements and has executed a LGIA as of June 2021 that will allow for 90.8 MW of capacity at the point of

interconnection. WAPA and PG&E identified upgrades needed to interconnect the Solano 4 Wind Project that may not be complete before 2024. The WAPA impacts have been resolved at no cost. PG&E has an approved project and expects to complete the needed upgrades by May of 2025. In April 2021, SMUD submitted an application for advisory review by the Solano County Airport Land Use Commission (the "Solano ALUC") of the Solano 4 Wind Project's consistency with the 2015 Travis Air Force Base Land Use Compatibility Plan (the "Travis Plan"). In May 2021, the Solano ALUC purported to resolve that the Solano 4 Wind Project was inconsistent with the Travis Plan. In August 2021, the Board approved the Project Environmental Impact Report, made findings overriding the Solano ALUC's finding of inconsistency, made findings there was no alternative to the project, and approved the Solano 4 Wind Project. In September 2021, Solano County filed a writ petition challenging SMUD's approval of the Solano 4 Wind Project based on procedural environmental, zoning and land use grounds. The parties entered into a settlement agreement on December 14, 2022, and the suit was dismissed on January 10, 2023. The settlement agreement allows for the construction of the Solano 4 Wind Project as planned.

In addition, SMUD applied for and obtained extensions of the Federal Aviation Administration Determinations of No Hazard allowing for construction of the turbines. A contract for the construction of the Solano 4 Wind Project was awarded to Vestas Corporation and the Solano 4 Wind Project is currently under construction. The expected operation date for the Solano 4 Wind Project is May 2024. Realization of the full capacity of the Solano 4 Wind Project may be delayed into the first quarter of 2025 due to the timeframe established for the PG&E required upgrades. SMUD has developed a mitigation plan for the limited interconnection capacity for the first year of operation, in coordination with CAISO and PG&E, of using all of the existing SMUD Solano Russell substation interconnection capacity combined for the dispatch of all the Solano Wind Project. SMUD completed a combined LGIA amendment administrative process, which combines all phases of the Solano Wind Project so it may operate as one project. This was fully executed by SMUD, CAISO, and PG&E on February 27, 2023.

Distributed Solar Photovoltaic. SMUD owns and operates approximately 2 MW of solar photovoltaic generating facilities. These facilities include installations at the Hedge Substation property, SMUD Headquarters, the East Campus Operations Center, and other smaller photovoltaic systems throughout the service area on parking lots.

Hedge Battery. SMUD owns and operates a 4 MW, 8 MWh, battery energy storage system located near the Hedge Substation in South Sacramento. The facility reached commercial operation in January 2023.

Local Gas-Fired Plants. SMUD constructed five local natural gas-fired plants in its service area: the Carson Project, the Procter & Gamble Project, the Campbell Soup Project, McClellan and the Cosumnes Power Plant (each defined below). These five plants are referred to collectively as the "Local Gas-Fired Plants." These plants are a strategic component of SMUD's resource mix. In addition to providing SMUD a total capacity of approximately 1,139 MW, the Local Gas-Fired Plants provide SMUD with needed voltage support, operational and load following capability, and the reliability inherent in having power resources located close to loads. With the exception of McClellan, these plants were financed through the issuance of project revenue bonds by separate joint powers authorities (collectively, the "Authorities"). In late 2021, ownership of all of the Local Gas-Fired Plants was transferred to one of the Authorities, SFA. SMUD has entered into long-term agreements with SFA providing for the purchase by SMUD of all of the power from each of the Local Gas-Fired Plants on a take-or-pay basis. This consolidation created operational and administrative efficiencies without changing any of the functionality of the power plants. Although the Local Gas-Fired Plants are owned by SFA, SMUD has exclusive control of their dispatch and manages their operations as part of its overall power supply strategy.

Payments under the power purchase agreements are payable from the revenues of SMUD's Electric System prior to the payment of the principal of or interest on SMUD's Senior Bonds and Subordinated Bonds (each as defined under the caption "CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS" below), as are other maintenance and operation costs and energy payments. For further discussion of SMUD's obligations to make these payments to SFA, see "CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS – Outstanding Indebtedness – *Joint Powers Authorities*."

The following is a brief description of the five Local Gas-Fired Plants:

The Cosumnes Power Plant (the "Cosumnes Power Plant"). The Cosumnes Power Plant is a 612 MW natural gas-fired, combined cycle plant located in the southern portion of Sacramento County adjacent to SMUD's decommissioned Rancho Seco Nuclear Power Plant. Commercial operation of the Cosumnes Power Plant commenced on February 24, 2006. SFA increased the net generating capacity of the facility by 81 MWs via an Advanced Gas Path ("AGP") upgrade. The additional AGP generation was realized after hardware and software upgrades were completed on both units in March of 2019. The Cosumnes Power Plant is owned by SFA, a joint powers authority formed by SMUD and MID. The existing take-or-pay power purchase agreement between SMUD and SFA expires no earlier than when the related bonds have been paid in full (the outstanding related bonds are scheduled to mature on July 1, 2030). On June 5, 2022, the Cosumnes Power Plant was shut down due to a ground fault in the STG stator. The repair was completed in February 2023 and the plant returned to service on March 5, 2023. See "FACTORS AFFECTING THE REGION – Cosumnes Power Plant Outage".

The Carson Cogeneration Project (the "Carson Project"). The Carson Project, a 103 MW natural-gas-fired cogeneration project consisting of separate combined cycle and peaking plants, provides steam to the Sacramento Regional County Sanitation District ("SRCSD") wastewater treatment plant adjacent to the site. The Carson Project was originally owned by the CVFA, a joint powers authority formed by SMUD and the SRCSD. Construction of the Carson Project was completed and the plant began commercial operation on October 11, 1995. The CVFA bonds were defeased in September 2019. In late 2021, ownership of the Carson Project was transferred to SFA. The take-or-pay power purchase agreement between SMUD and SFA relating to the Carson Project will be in effect until terminated by SMUD.

The Procter & Gamble Cogeneration Project (the "Procter & Gamble Project"). The Procter & Gamble Project, a 182 MW natural gas-fired cogeneration facility, is located in an established industrial area of Sacramento. The initial combined cycle portion of the plant began commercial operation on March 1, 1997. Construction of the peaking plant portion of the Procter & Gamble Project commenced during 2000 and the unit achieved commercial status on April 24, 2001. The Procter & Gamble Project produces steam for use in Procter & Gamble Manufacturing Company's oleochemical manufacturing processes and electricity for sale to SMUD. The Procter & Gamble Project was originally owned by the SCA, a joint powers authority formed by SMUD and SFA, a separate joint powers authority. The SCA bonds were defeased in September 2019. In late 2021, ownership of the Procter & Gamble Project was transferred to SFA. The take-or-pay power purchase agreement between SMUD and SFA relating to the Procter & Gamble Project will be in effect until terminated by SMUD.

The Campbell Soup Cogeneration Project (the "Campbell Soup Project"). The Campbell Soup Project, a 170 MW natural gas-fired cogeneration project, was completed and began commercial operations on December 4, 1997. Upgrades were implemented during 2000, which increased the plant's peaking capacity to 180 MW, well above its net demonstrated capacity of 159.8 MW. The plant is located in south Sacramento adjacent to the Capital Commerce Center (formerly the Campbell Soup Company food processing facility). The Campbell Soup Project was originally owned by SPA, a joint powers authority formed by SMUD and SFA. The SPA bonds were redeemed in July 2015. In late 2021, ownership of the Campbell Soup Project was transferred to SFA. The take-or-pay power purchase agreement between

SMUD and SFA relating to the Campbell Soup Project (the "Campbell Soup/McClellan PPA") covers both the Campbell Soup Project and McClellan and will be in effect until terminated by SMUD. As part of the Zero Carbon Plan, SMUD is exploring retiring the Campbell Soup Project in 2025, contingent upon SMUD having sufficient other resources available and grid reliability can be maintained. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *2030 Zero Carbon Plan."*

The McClellan Gas Turbine ("McClellan"). McClellan is a 72 MW natural gas-fired simple cycle combustion turbine generating plant at McClellan Business Park in Sacramento. This turbine is connected to SMUD's electric system and is operated to meet SMUD's peak-load requirements. McClellan is aligned for remote starting and operation with both black start and fast start capabilities. SMUD constructed the McClellan unit in 1986 as a 50 MW emergency power source for the McClellan Air Force Base. In 2001, following the Air Force Base closure, McClellan was upgraded to 72 MW and converted for SMUD use. In May 2007, SMUD transferred ownership of McClellan to SPA for more efficient operation. SPA did not issue debt related to McClellan. In late 2021, ownership of McClellan was transferred to SFA. SFA passes all costs of operations and maintenance through to SMUD in accordance with the terms of the Campbell Soup/McClellan PPA. In exchange for paying all costs related to McClellan, SMUD receives all of the power generated thereby on a take-or-pay basis. As part of the Zero Carbon Plan, SMUD is exploring retiring McClellan in 2024, contingent upon SMUD having sufficient other resources available and grid reliability can be maintained. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *2030 Zero Carbon Plan."*

Fuel Supply

General. SMUD is obligated to arrange for the purchase and delivery of natural gas to the Local Gas-Fired Plants. Management of the natural gas procurement and delivery process is a key focus of SMUD's reliability and risk policies. Although the natural gas consumption of the power plants for SMUD's load can vary significantly depending on the season, precipitation, and the market price of power and natural gas, the plants are forecasted to need, on average in 2023, a total of approximately 97,000 Decatherms per day ("Dth/day") with a daily peak slightly more than 171,000 Dth/day of natural gas. SMUD has implemented a comprehensive strategy to secure a reliable and diversified fuel supply through a variety of agreements for the supply, transportation, and storage of natural gas.

Supply. SMUD hedges a significant portion of its expected gas needs to meet customer power requirements. This includes gas for the Local Gas-Fired Plants and for the Sutter Energy Center. See "Power Purchase Agreements – *Sutter Energy Center*". This is accomplished through a combination of long-term supply arrangements and an exposure reduction program. The program consists of a primary rolling three-year exposure reduction component, a fuel hedging component on a rolling three-year basis, as well as supplemental fixed calendar year components reaching out up to five calendar years. Long-term arrangements may consist of a combination of physical commodity supply contracts, financial hedges, or options. Natural gas is purchased from a wide variety of producers and marketers at the northern and southern California borders, at Alberta, Canada and from the San Juan and the Rocky Mountain supply basins. SMUD has a number of both fixed-price supply agreements and financial hedging contracts to fix gas costs ranging from one month to several years in duration. Including fixed price biogas contracts as of March 31, 2023, these contracts have hedged the price of approximately 83%, 66% and 55% of SMUD's forecasted natural gas requirements for 2023, 2024 and 2025, respectively. While the financial effects resulting from the unhedged portions of SMUD's natural gas requirements are difficult to predict, SMUD's financial results could be materially impacted.

SMUD has contracted with the Northern California Gas Authority No. 1 ("NCGA") to purchase an approximate average of 8,700Dth/day over the remaining life of a contract expiring May 31, 2027 (the "NCGA Contract"). Under the NCGA contract, SMUD pays a discounted variable price for the fuel and

anticipates periodically fixing the effective price under separate hedging contracts. Currently the delivery point for the NCGA Contract is the AECO hub in Alberta. SMUD is using its long-term transport capacity to deliver the fuel to the local area plants. To increase delivery efficiencies, SMUD expects to exchange the gas delivered at the AECO hub under the NCGA Contract with gas to be delivered at the Malin receipt point beginning in November 2023.

SMUD has also contracted with the Northern California Energy Authority ("NCEA") to purchase an approximate average of 22,000 Dth/day or to be converted to the approximate value in Megawatt-hours ("MWh") of electricity over the remaining life of a contract expiring on May 31, 2049. The gas will be delivered to the SMUD system via the Malin receipt point on the PG&E backbone system. SMUD is using its long-term transport capacity to deliver the fuel to the local area plants. SMUD will pay a discounted variable price for the fuel and anticipates periodically fixing the effective price under separate hedging contracts.

Renewable Natural Gas Supply. As a component of meeting SMUD's RPS goals, SMUD procures renewable natural gas and digester gas as fuels to generate renewable electricity from the Cosumnes Power Plant. Descriptions of the renewable natural gas supply agreements are provided below.

In March 2009, SMUD entered into a 15-year contract (that qualifies as renewable energy) with Shell Energy North America (US), L.P. ("Shell Energy") to purchase up to 6,000 Dth/day of renewable natural gas produced from a landfill project in Texas. SMUD began taking deliveries of this supply in April 2009. In March 2012, SMUD amended the contract with Shell Energy to increase the maximum volumes to 7,300 Dth/day and extended the term by 10 years to March 31, 2034. Currently, the delivery point is PG&E Topock and SMUD is using its long-term transport capacity to deliver it to the Cosumnes Power Plant. In 2016, SMUD entered into a 3-year contract with Shell Energy to sell back the entire volume of renewable natural gas purchased, less 500 Dth/day, to be sold into the vehicle transportation markets. Upon expiration of the initial 3-year contract for the sale of biogas to Shell Energy, SMUD extended the sell back of the entire volume of biogas twice for an additional 3 years with Element Markets (now Anew RNG, LLC), starting in 2020 and 2023.

SMUD contracted with Heartland Renewable Energy, LLC ("HRE") in December 2009 for a 20-year supply of up to 7,000 Dth/day of renewable natural gas from a digester facility in Colorado. Deliveries began in March of 2014. Currently, the delivery point is Opal, Wyoming and SMUD uses its long-term transport capacity to deliver it to the Cosumnes Power Plant. HRE has not delivered volumes from the project to SMUD since December 2016 due to current litigation with Weld County, Colorado regarding odor and permit issues. EDF Renewables, the majority owner of HRE, notified SMUD in August of 2017 that it is in discussions with a short list of bidders to sell its interests in the facility. In June of 2020, the project was purchased and SMUD's contract was assigned to the new owner, Platte River Biogas, LLC ("PRB"). SMUD and PRB terminated the contract in the third quarter of 2021.

In September 2011, SMUD and CVFA entered into a "Digester Gas Purchase and Sale Agreement" through which the Carson Project cleans nearly all of the digester gas received from Sacramento Regional County Sanitation District ("SRCSD") and sells it to SMUD for delivery to the Cosumnes Power Plant. In return, SMUD pays all of the Carson Project's costs in acquiring, cleaning and making the gas available to SMUD. The Digester Gas Purchase and Sale Agreement expires in September 2025. In late 2021, the Digester Gas Purchase and Sale Agreement, along with the Carson Project was transferred to SFA. The Carson Project is currently receiving, processing and selling up to 1,500 Dth/day with provisions for volume increases over time to 2,500 Dth/day. Digester gas, when designated for use in SMUD's power plants, is counted as renewable generation towards SMUD's RPS obligations.

In December 2011, SMUD entered into a 20-year agreement with EIF KC Landfill Gas LLC ("EIF") to purchase up to 7,050 Dth/day of renewable natural gas produced from multiple landfill projects. SMUD began taking deliveries of this supply in January 2014. Currently the delivery point is Kern River – Opal and SMUD uses its long-term transport capacity to deliver it to the Cosumnes Power Plant. Renewable natural gas, when designated for use in SMUD's power plants, is counted as renewable generation towards SMUD's RPS obligations. In April 2022 SMUD entered into a transaction to sell the renewable natural gas purchased into the vehicle transportation markets. The transaction expires in March 2025. In 2023, SMUD entered into a 3-year contract with Anew Climate, LLC ("Anew") to sell back the entire volume of renewable natural gas purchased, to be sold into the vehicle transportation markets.

AB 2196 is a law that defines the criteria by which existing and future renewable natural gas contracts will qualify for the State RPS program. The CEC adopted a RPS Eligibility Guidebook on April 30, 2013, which includes detailed rules for implementation of AB 2196. SMUD received an updated certificate of eligibility from the CEC in July 2014 for the Cosumnes Power Plant that included the quantities of renewable natural gas from all four contracts. The CEC adopted a revised RPS Eligibility Guidebook (Ninth Edition) on April 27, 2017. This latest guidebook did not change the RPS eligibility of any of the above SMUD renewable natural gas and digester gas contracts, but did simplify reporting requirements for these contracts. When fully delivering, these contracts represent roughly 30% of SMUD's 2020 RPS requirement.

Gas Transmission

SMUD has satisfied its obligation to deliver natural gas to its power plants by constructing a natural gas pipeline, purchasing an equity interest in two PG&E backbone gas transmission lines, and contracting for capacity on a number of existing interstate natural gas transmission lines.

The Local Pipeline. SMUD constructed and owns a 20-inch, 50-mile natural gas pipeline in the greater Sacramento area (the "Local Pipeline") that transports gas to all of the Local Gas-Fired Plants except McClellan. The Local Pipeline is interconnected with PG&E's major State gas transmission lines 300 and 401. Additionally, it may be interconnected with one or more private gas gathering pipelines located in the area, a gas storage project and/or other FERC approved pipelines that may be built in the local area. In conjunction with the construction of the Cosumnes Power Plant, SMUD extended the Local Pipeline to the plant site. The 26-mile extension was completed in 2004. The extension is 24 inches in diameter and was designed to serve both the Cosumnes Power Plant and an additional second phase, if constructed.

PG&E Backbone Gas Transmission Lines 300 and 401. In 1996, SMUD purchased an equity interest in PG&E's backbone gas transmission lines 300 and 401 (referred to as the PG&E backbone). The total capacity acquired at that time was approximately 85,000 Dth/day and consisted of approximately 43,600 Dth/day of firm gas transport from the California–Oregon border at Malin, Oregon and 44,700 Dth/day from the California–Arizona border at Topock, Arizona, to SMUD's interconnection with the PG&E backbone near Winters, California. SMUD was also entitled to a share of non-firm capacity, which was approximately 4,360 Dth/day; making the total capacity potentially available to SMUD almost 90,000 Dth/day. This purchase made SMUD a co-owner of the PG&E backbone gas transmission lines 300 and 401 and obligated SMUD to pay PG&E to operate the pipelines on its behalf subject to the terms of the purchase agreement and operating protocols. PG&E reduced operating pressures on Line 300 after PG&E suffered a natural gas explosion in San Bruno, CA in September of 2010. Operating pressures and capacity may also fluctuate due to regulatory and other changes. As of December 1, 2021, SMUD holds a total capacity of approximately 87,000 Dth/day, consisting of approximately 47,572 Dth/day of firm gas transport from the California–Oregon border at Malin, and 39,193 Dth/day of firm gas transport from the California–Arizona border at Topock, Arizona, to SMUD's interconnection with the PG&E backbone near Winters, California.

SMUD also holds additional backbone capacity under tariff service for 5,000 Dth/day of northern path (Redwood) capacity. This contract expires in June 2023. Currently, SMUD is not planning to renew the contract upon expiration.

Kern River Gas Transmission Company Long Term Agreement. SMUD has an agreement with Kern River Gas Transmission Company for 20,000 Dth/day of firm capacity through April 30, 2028. This capacity gives SMUD access to the Rocky Mountain supply basin at Opal, Wyoming, and connects to PG&E Line 300 (owned in part by SMUD) at Daggett, California.

TransCanada Firm Transmission Service Agreements. SMUD has several agreements with TransCanada Corporation that give SMUD access to Canadian supply from the Alberta basin to Kingsgate, British Columbia and the California-Oregon border at Malin. SMUD has agreements for 22,101 Dth/day at the California-Oregon border at Malin via the Gas Transmission Northwest ("GTN") pipeline that expires in 2023. SMUD has agreements for approximately 12,000 Dth/day from the Alberta ANG/Foothills pipeline, also expiring in 2023. In order to match the Canadian capacity with the takeaway capacity at Malin, SMUD had an agreement with Foothills Pipeline for approximately 10,000 Dth/day that expired on October 31, 2022. Currently, SMUD is not planning to renew the GTN or the Alberta ANG/Foothills agreements.

SMUD's diversified portfolio of gas transmission arrangements allow for the purchase of gas from a variety of suppliers and locations, and the opportunity to capitalize on regional price differentials where possible. In addition, its ownership interest in the SMUD/PG&E backbone and Local Pipeline enhances the reliability of SMUD's gas supply.

Gas Storage

SMUD also employs gas storage as part of its overall fuel supply strategy. Gas storage is useful in helping to balance gas supply, mitigate market price volatility, and provide a reliable supply to meet peak day delivery requirements.

SMUD also has a contract with Lodi Gas Storage, LLC, which began in April 2023 and expires in March 2026, for capacity in the Lodi Gas Storage project located near Acampo in northern California. The contract provides SMUD with capacity levels of 1.0 million Dth of storage inventory, 10,000 Dth/day of injection rights and 20,000 Dth/day of withdrawal capacity.

SMUD has a second contract with Lodi Gas Storage, LLC , which began in April 2022 and expires in March 2024, for additional capacity in the Lodi Gas Storage project located near Acampo in northern California. The contract provides SMUD with capacity levels of 1.0 million Dth of storage inventory, 10,000 Dth/day of injection rights and 20,000 Dth/day of withdrawal capacity.

Power Purchase Agreements

SMUD has a number of power purchase agreements to help meet its power requirements. Some of these agreements are described below.

Western Area Power Administration. Effective January 1, 2005, SMUD entered into a 20-year contract with WAPA. SMUD has entered into a replacement agreement extending the term by 30 years for the period of January 1, 2025 through December 31, 2054. Power sold under this contract is generated by the Central Valley Project ("CVP"), a series of federal hydroelectric facilities in northern California operated by the United States Bureau of Reclamation. The contract provides WAPA's CVP Base Resource customers (including SMUD) delivery of a percentage share of project generation in return for

reimbursement of an equivalent share of project costs. SMUD's CVP Base Resource share is roughly 25% of project generation and costs. This is expected to be approximately 318 MW of capacity and 661 GWh of energy in an average water year but will vary depending on precipitation. Energy available under the contract is determined by water releases required for water supply and flood control and is then shaped into higher value periods within other CVP operating constraints. More capacity and energy are typically available in spring and summer months and less in fall and winter.

SMUD also has a contract with WAPA expiring December 31, 2024, by which WAPA delivers an additional 200-300 MW per hour from projects located in the Pacific Northwest based on certain contractual parameters. In 2022, SMUD received 1,913 GWh of energy under this contract.

Avangrid (formerly Iberdrola Renewables ("Iberdrola")). SMUD has a contract with Iberdrola that provides SMUD with bundled renewable energy (energy plus RECs). The contract agreement is for 126 GWh of wind power generated in Solano County, California. The SMUD Board approved an extension of the wind contract through June 30, 2025.

Patua Project LLC. In April 2010, SMUD entered into a power purchase agreement with Patua Project LLC ("Patua"), a subsidiary of Gradient Resources, for the delivery of up to 132 MW (expected to be 120 MW nominal power output) of renewable energy from geothermal generation being developed in north central Nevada, from a Gradient Resources project known as the Patua Project. The Patua Project was to have been developed in three phases. Since 2010, the agreed upon capacity has been reduced several times. In December 2013, Phase 1 of the project, which had been reduced to 30 MW, finally achieved commercial operation. In 2014, the parties concluded negotiations on the fourth amendment to the power purchase agreement with Patua, which reduced the total capacity down to 40 MW, extended the commercial operation date of Phase 2 to January 1, 2016, and allowed Patua to add up to 13 MW of solar photovoltaics to supplement geothermal production. In addition, this amendment shifted responsibility to Patua for a portion of the long-term transmission service agreements that have been underutilized due to the project not meeting its targets. In November 2015, the Patua Project was acquired by TL Power, LLC, a wholly owned subsidiary of Cyrq Energy, Inc. ("Cyrq"). In December 2015, Cyrq terminated Phase 2. Upon termination of Phase 2, the contractual right for Cyrq to add solar photovoltaics to supplement geothermal production was reduced to 10 MW. As a result of poor performance during the first year of operation, SMUD reduced its obligation to take power from 30 MW to 25 MW. Performance continued to lag in 2015 and 2016 and SMUD further reduced its obligation to take power from 25 MW to 19 MW.

Renewable Energy Feed-In Tariff. In September 2009, SMUD's Board authorized a feed-in tariff program for the purchase of renewable energy from local renewable energy projects connected to SMUD's distribution system. SMUD's Board authorized connection of up to 100 MW under the feed-in tariff which included standard payment rates and standard purchase terms for power. The feed-in tariff program became effective on January 1, 2010. Under the feed-in tariff, SMUD has executed 20-year term power purchase agreements for solar projects totaling 98.5 MW. Construction and start-up were completed on all projects between 2010 and 2012.

CalEnergy LLC. In August 2014, SMUD entered into a 22-year power purchase agreement with CalEnergy LLC for the purchase of 30 MWs per year of renewable energy from its Salton Sea geothermal facilities. As of July 1, 2017, SMUD began receiving up to 10 MWs from the CalEnergy portfolio, which escalated to the full 30 MWs on May 1, 2020.

Rancho Seco Solar. In October 2015, SMUD entered into a 20-year power purchase agreement with Rancho Seco Solar LLC for the purchase of energy from a 10.88 MW solar PV project sited on SMUD's property at the closed Rancho Seco Nuclear Generating Station. Commercial operation was achieved in August of 2016. Rancho Seco Solar LLC leased the property from SMUD under a land lease

agreement. The output of this project directly serves two large commercial customers that executed agreements with SMUD for retail supply of solar power.

In May 2019, SMUD entered into a 30-year power purchase agreement for an additional 160 MW solar PV project with Rancho Seco Solar II, LLC. The project is located on SMUD-owned property at the closed Rancho Seco Nuclear Generating Station, adjacent to the existing 10.88 MW solar PV project. Construction began in 2019, and the project became commercially operable in February 2021.

Grady Wind Energy. In October 2015, SMUD entered into a 25-year power purchase agreement with Grady Wind Energy LLC ("Grady") for the purchase of energy from a 200 MW wind project located in New Mexico (the "Grady Project"). The Grady Project began commercial operations on August 5, 2019. Energy from the Grady Project is delivered to CAISO. SMUD purchases 100% of the Grady Project output which includes energy, renewable energy credits, and capacity attributes. SMUD and Grady had a short-term (6-month) agreement spanning the winter 2021-spring 2022 season wherein Grady has the option to pay SMUD to curtail up to 100 MW. This agreement does not affect the remaining term of the agreement.

Great Valley Solar 2, LLC. In January 2017, SMUD entered into a 20-year power purchase agreement with Great Valley Solar 2, LLC for the purchase of energy from a 60 MW solar PV project located in Fresno County, California. The project's commercial operation date was December 28, 2017.

ARP-Loyalton Cogen LLC. On September 14, 2016, Senate Bill 859 ("SB 859") was signed into law. Under SB 859, a POU must procure its proportionate share of 125 MWs of renewable energy from biomass plants burning high hazard forest fuels, subject to terms of at least five years. Seven POUs (SMUD, MID, Turlock Irrigation District ("TID"), Anaheim Public Utilities, Imperial Irrigation District, Los Angeles Department of Water & Power and Riverside Public Utilities, collectively described herein as the "ARP-Loyalton POUs") jointly solicited proposals for up to 29 MW of contract capacity for renewable energy to meet the requirements of SB 859. In January 2018, SMUD entered into a 5-year power purchase agreement with ARP-Loyalton Cogen LLC to fulfill 18 MWs of the required 29 MWs with SMUD's share being just over 23 percent (the "ARP-Loyalton PPA"). See "—*Roseburg Forest Product Co.*" below for a discussion of the remaining SB 859 capacity. The contract became effective on April 1, 2018. On February 18, 2020, ARP-Loyalton Cogen LLC filed for Chapter 11 bankruptcy and stopped producing and selling energy from the biomass plant. On May 7, 2020, the bankruptcy court approved the sale of the Loyalton facility to Sierra Valley Enterprises, LLC ("SVE"). SVE initially expressed interest in bringing the facility back into service; however, the bankruptcy trustee requested repeated extension of the deadline for SVE to accept or reject the ARP-Loyalton PPA. The latest deadline was April 19, 2023, the date of expiration of the ARP-Loyalton PPA term. As SVE did not resume operations before the end of the ARP-Loyalton PPA term, the ARP-Loyalton POUs have negotiated a settlement agreement with the bankruptcy trustee (the "ARP-Loyalton Settlement Agreement"). The ARP-Loyalton Settlement Agreement defines funds from the performance security that the ARP-Loyalton POUs will keep to cover legal and administrative fees, along with a contingency amount to cover potential risk of future damages. Since the ARP-Loyalton POUs entered into a 5-year agreement to procure compliant biomass and provided SVE the opportunity to accept the ARP-Loyalton PPA and restart operations, the ARP-Loyalton POUs consider their statutory obligations to have been fulfilled.

Roseburg Forest Products Co. For the remaining SB 859 biomass obligation of 11 MW, SMUD and the other ARP-Loyalton POUs have entered into a five-year power purchase agreement with Roseburg Forest Products Co. SMUD's share of the contract capacity is 2.5795 MW, and the plant began operating under the contract on February 26, 2021.

Sutter Energy Center. SMUD entered into an initial two-year contract (with a third-year exercisable option) with Calpine Energy Services, L.P. ("Calpine") for the ability to schedule up to 258

MWs of energy from Sutter Energy Center. The Sutter Energy Center is a natural gas-fired, combined-cycle facility located in Yuba City, California. The initial contract became effective on April 1, 2018. SMUD exercised its option to extend the contract, which expired November 1, 2020. SMUD entered into a new contract with Calpine for the same 258 MWs of energy that became effective January 1, 2021, and had an original expiration date of January 1, 2024. In December 2021, SMUD extended this contract through December 31, 2026.

Drew Solar, LLC. In June 2018, SMUD entered into a 30-year power purchase agreement with Drew Solar, LLC for the purchase of energy from a 100 MW solar PV project located in Imperial County, California. The project's scheduled commercial operation date was set to be December 31, 2021. The commercial operation date was delayed due to Force Majeure claims surrounding the COVID pandemic and supply chain constraints caused by changes in Federal regulatory requirements. The project began commercially operating on November 3, 2022.

Wildflower Solar. In October 2018, SMUD entered into a 25-year power purchase agreement with Wildflower Solar I, LLC, for the purchase of energy, capacity, and RECs from a 13 MW solar PV project located in Rio Linda, California. The project began commercially operating on December 18, 2020.

Coyote Creek (Formerly Sacramento Valley Energy Center, LLC.) In August 2021, SMUD entered into a 30-year power purchase agreement with Sacramento Valley Energy Center, LLC for the purchase of energy from a 200 MW solar PV and 100 MW four-hour Battery Energy Storage System ("BESS") capacity project located in Sacramento County, California. The project's commercial operation date was expected to be December 31, 2023. The scheduled commercial operation date has been delayed to 2026 due to ongoing development and permitting delays.

SloughHouse Solar, LLC. In September 2021, SMUD entered into a 30-year power purchase agreement with SloughHouse Solar, LLC for the purchase of energy from a 50 MW solar PV project located in Sacramento County, California. The project's commercial operation date was originally expected to be December 31, 2023, but the commercial operation date has been delayed to 2026 due to ongoing development and permitting delays.

Country Acres Solar. In December 2021, SMUD issued a Request for Offers ("RFO") seeking qualified Power Purchase Agreement offers for a utility scale PV with BESS project under development which will interconnect to SMUD's North Area transmission system. The project site is located on over 1,000 acres in Placer County near the city of Roseville. SMUD selected a developer for the power purchase agreement, which is currently expected to be in place by the third quarter of 2023. Development efforts are underway with an expected commercial operation date in late 2025 to early 2026.

Geysers Power Company, LLC. In March 2021, SMUD executed a 10-year power purchase agreement with Geysers Power Company, LLC for 100 MW of capacity from the Geysers geothermal energy plant located in Lake and Sonoma Counties, California. SMUD started to receive deliveries on January 1, 2023.

Transmission Service Agreements

TANC California-Oregon Transmission Project. The 340-mile COTP is one part of a three 500-kV line coordinated system known as the California-Oregon Intertie ("COI"). The COTP is allocated one-third of the 4,800 MW capability of the COI system (see related agreements below). TANC is entitled to use 1,390 MW and is obligated to pay approximately 80% of the operating costs of the COTP. SMUD is a member of TANC and a party to Project Agreement No. 3 ("PA3"), under which it is entitled to 378 MW and obligated to pay on an unconditional take-or-pay basis about 27.5% of TANC's COTP debt service and

operations costs, subject to a "step-up" obligation of up to 25% of its entitlement share upon the un-remedied default of another TANC member-participant. In 2009, SMUD entered into a long-term layoff agreement with certain members that increased SMUD's entitlement by 35 MW. In 2014, SMUD entered into another long-term layoff agreement with certain other members that increased SMUD's COTP entitlements by 128 MW and amended the 2009 layoff agreement that returned 13 MW to a member. As of December 31, 2018, SMUD was entitled to approximately 528 MW of TANC's transfer capability for imports and 405 MW for exports, and is obligated to pay approximately 38.6% of TANC's COTP debt service and operations costs. SMUD's payments under this contract, like SMUD's payments under its other power purchase and transmission service agreements, are treated as "Maintenance and Operation Costs" or "Energy Payments" under the resolutions securing the Senior Bonds and Subordinated Bonds (each as defined under the caption "CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS" below). SMUD relies on its COTP rights to purchase power, access contingency reserves through the Western Power Pool, and obtain renewable resources to supplement its own resources to serve its load. TANC maintains its own property/casualty insurance program. TANC's budget for COTP costs, support services and advocacy expenses is about $45.4 million for 2023. SMUD's obligation of the TANC budget is about $17.4 million for 2023.

TANC Tesla-Midway Transmission Service. TANC has a long-term contract with PG&E to provide TANC with 300 MW of transmission service between PG&E's Midway Substation and the electric systems of the TANC Members (the "Tesla-Midway Service"). SMUD's share of the Tesla-Midway Service had been 46 MW. As part of the 2009 long-term layoff agreement, SMUD acquired an additional 2 MW of South-of Tesla Principles ("SOTP") transmission rights for 15 years starting February, 2009 from another TANC member, bringing SMUD's share of the Tesla-Midway Service to 48 MW.

Bonneville Power Administration. In 2009, SMUD entered into a transmission service agreement with the Bonneville Power Administration ("BPA") for 60 MW of firm point-to-point transmission service from BPA's Hilltop substation in north eastern California to the Malin substation at the California-Oregon border for the purpose of transmitting power under SMUD's power purchase agreement with Gradient Resources for Phase 1 of the Patua geothermal project over BPA's 230kV transmission lines. In early 2013, in accordance with BPA's transmission tariff, the transmission service was split into two 30 MW services and deferred as appropriate to better fit the timing of expected commercial operation of Phase 1 and Phase 2 of the Patua Project. See "POWER SUPPLY AND TRANSMISSION – Power Purchase Agreements – *Patua Project LLC*." SMUD submitted another request for the 30 MW of transmission procured for Phase 2 of the Patua Project to split the service into a 10 MW and a 20 MW service, with the 10 MW of service deferred and timed with the originally expected commercial operation date of Phase 2 of the Patua Project. With the termination of Phase 2 of the Patua Project and SMUD's reduced obligation due to the poor performance of Phase 1 of the Patua Project, much of the transmission reserved for it will no longer be needed. BPA does not have a provision in its transmission tariff for early termination of transmission service. However, the power purchase agreement with Patua requires Patua to cover unused transmission that SMUD has procured for the Patua purchases. On January 1, 2020, SMUD's transmission rights with BPA were reduced to 19 MW. This now aligns with SMUD's Pacificorp transmission rights of 19 MW described in the immediately following paragraph.

Pacificorp. In 2009, SMUD entered into a transmission service agreement with PacifiCorp for 60 MW of firm point-to-point transmission service across PacifiCorp's high voltage step-up transformer at the Malin substation at the California-Oregon border for the purpose of transmitting power under SMUD's power purchase agreement with Gradient Resources for Phase 1 of the Patua Project. In early 2013, in accordance with PacifiCorp's transmission tariff, the commencement of the 60 MW of transmission service was deferred to fit the timing of first deliveries expected from the 30 MW of Phase 1 of the Patua Project. In 2013, SMUD terminated the 60 MW of transmission service and requested two new transmission services of 30 MW each, with service start dates timed to better fit with the expected start dates of Phase 1

and Phase 2 of the Patua Project. With the reduction in expected output of the Patua Project, SMUD terminated the second 30 MW transmission agreement, and replaced it with a 10 MW transmission service agreement for Phase 2 of the Patua Project. With the termination of Phase 2 of the Patua Project, SMUD terminated the 10 MW Pacificorp transmission service agreement and as a result of the reduced obligation to take power from the Patua Project, SMUD has reduced its remaining Pacificorp transmission service from 30 MW to 19 MW.

Western Area Power Administration. SMUD does not have a direct interconnection of its power system to the COTP. To receive power deliveries that use its COTP rights, SMUD has a long-term transmission service agreement with WAPA for transmission of 342 MW of power from the COTP line (received at WAPA's Tracy or Olinda substations) to SMUD's system. In May of 2011, WAPA completed the Sacramento Voltage Support Transmission Project. Completion of this project has given SMUD an additional 165 MW of transmission service rights on WAPA's system from the COTP at the Olinda Substation to SMUD's system at the Elverta Substation.

Projected Resources

The following tables titled "Projected Requirements and Resources to Meet Load Requirements Energy Requirements and Resources" (the "Energy Table") and "Capacity Requirements and Resources Net Capacity – Megawatts" (the "Capacity Table") describe SMUD's contracted commitments and owned resources available to meet its forecasted load requirements through the year 2032. Resources are shown on an annualized basis with market purchases netted against surplus sales to arrive at a single net position for each year. Because SMUD's available resources do not exactly match its actual load requirements on an hourly basis, there are times during a year when resources available will either exceed or be insufficient to meet SMUD's needs. Expected actual capacity values are included in the tables. These values may differ from measured net demonstrated capacity values of the Local Area Gas-Fired Plants. The table below also includes the impact energy efficiency has on resource requirements as discussed below under "Demand Side Management Programs." See "BUSINESS STRATEGY" and "POWER SUPPLY AND TRANSMISSION – Power Generation Facilities – *Local Gas-Fired Plants*."

Resources listed in both the Energy Table and the Capacity Table are listed as either renewable or non-renewable. Generally, SMUD follows the CEC guidelines for eligibility requirements. Some of SMUD's renewable resources listed include solar, wind, geothermal, small hydroelectric facilities with a capacity of 30 MW or less, and biomass (representing generation from a fuel comprised of agricultural wastes and residues, landscape and tree trimmings, wood and wood waste).

As in any forecast, assumptions are made. In both the Energy Table and the Capacity Table the WAPA and UARP forecasts assume average water conditions throughout the period. On the capacity table, WAPA and Cosumnes Power Plant renewable capacity is estimated based on the ratio of renewable energy to total WAPA or Cosumnes Power Plant energy. See "POWER SUPPLY AND TRANSMISSION – Power Generation Facilities – *Hydroelectric*."

The Uncommitted Purchases (Sales) on the tables represent either anticipated future needs or surpluses. Future needs are met well in advance of delivery. They also include both renewable and non-renewable resources.

The Transmission Losses represent reductions in the amount of energy or capacity from the location it was purchased to the point of entering SMUD's electrical system. This amount reduces the Total Resources available to meet the Total Projected Energy Requirements of the electrical system.

Demand Side Management Programs

SMUD's demand-side management initiatives represent an integral element of its total resource portfolio, and are organized into two major components: energy efficiency and load management programs. Energy efficiency offerings include a wide variety of programs and services to customers to retrofit or upgrade existing equipment and fixtures and to install new energy efficiency measures in existing and new construction facilities. Load management allows SMUD to reduce the load on the electric system by cycling residential air conditioning, and calling upon commercial/industrial customers to curtail energy usage when energy is constrained during the summer or system emergencies. Load management programs are projected to allow SMUD to shed approximately 60 MW of peak load in an emergency on a hot day, representing about 2% of SMUD's maximum system peak demand.

The customer "smart meter" system with 2-way communication capability provides information regarding customer usage patterns, which is expected to help SMUD tailor rate designs that provide customers with both the information and ability to manage their energy usage around high energy cost periods.

[Remainder of Page Intentionally Left Blank]

PROJECTED REQUIREMENTS AND RESOURCES TO MEET LOAD REQUIREMENTS[1]
ENERGY REQUIREMENTS AND RESOURCES (GWh)

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Renewable Resources										
District or Joint Powers Authority Owned:										
UARP - Small Hydro[2]	115	93	92	94	94	95	94	94	94	95
Solano Wind	585	738	895	902	902	904	902	902	902	904
Cosumnes-Shell Landfill Gas and Digester Gas[3]	48	166	167	582	692	692	692	692	692	692
Total	**748**	**996**	**1,154**	**1,578**	**1,688**	**1,691**	**1,688**	**1,688**	**1,688**	**1,691**
Purchases										
Western (WAPA) – Small Hydro[2]	13	15	15	15	15	15	15	15	15	15
Grady – Wind	933	900	897	897	897	900	897	897	897	900
Avangrid (Iberdrola) (PPM) - Wind	97	98	45	0	0	0	0	0	0	0
Patua (Gradient/Vulcan) – Geothermal	140	147	147	147	147	147	147	147	141	147
Geysers – Geothermal	876	878	876	876	876	878	876	876	876	878
Cal Energy – Geothermal	218	224	223	223	223	224	223	223	223	224
Great Valley SolarShares	167	170	171	171	169	169	169	166	166	167
Rancho Seco PV2	261	332	330	328	327	325	323	322	320	319
Rancho Seco PV	21	22	22	22	22	22	22	22	22	22
Feed-in-Tariff Photovoltaic – Solar	205	209	208	207	206	205	204	203	202	60
Navajo Drew (NTUA) Solar	299	301	298	297	285	276	273	264	271	237
Sloughhouse (Kings Country)	0	0	0	131	124	124	123	122	122	121
Wildflower Solar	31	31	31	31	33	32	33	31	32	32
CoyoteCreek (SVEC) Solar	0	0	0	519	505	502	500	497	495	492
Country Acres	0	0	0	710	706	703	699	696	692	689
Other Long-Term Contracts	145	150	140	29	8	8	6	6	6	6
Future Uncommitted Renewables	0	0	0	0	1,044	1,989	3,351	4,206	4,537	5,870
Total	**3,404**	**3,477**	**3,403**	**4,602**	**5,587**	**6,521**	**7,861**	**8,693**	**9,018**	**10,179**
Non-Renewable										
District or Joint Powers Authority Owned:										
UARP – Large Hydro[2]	2,561	1,614	1,627	1,647	1,618	1,625	1,635	1,625	1,617	1,626
Cosumnes Power Plant	3,428	4,173	4,187	3,685	2,511	1,792	675	530	528	525
Procter & Gamble Project	786	859	809	831	123	43	2	3	5	4
Carson Project	423	480	435	401	3	0	1	3	4	4
Campbell Soup Project	776	929	926	0	0	0	0	0	0	0
McClellan	24	61	0	0	0	0	0	0	0	0
Total	**7,998**	**8,116**	**7,984**	**6,565**	**4,256**	**3,460**	**2,313**	**2,160**	**2,155**	**2,160**
Purchases										
Western (WAPA) – Large Hydro[2]	410	482	485	485	485	485	485	485	485	485
Western (WAPA) Customers (Wheeling)[2]	25	37	38	38	38	38	38	38	38	38
Calpine Sutter	1,733	1,695	1,660	1,585	0	0	0	0	0	0
Committed Purchases	0	0	0	0	0	0	0	0	0	0
Total	**2,168**	**2,213**	**2,182**	**2,108**	**523**	**523**	**523**	**523**	**523**	**523**
Total Resources	**14,319**	**14,803**	**14,723**	**14,852**	**12,053**	**12,195**	**12,384**	**13,064**	**13,383**	**14,552**
Uncommitted Purchases / (Sales)	(3,382)	(3,773)	(3,606)	(3,599)	(1,067)	(920)	(921)	(1,374)	(1,471)	(2,351)
Transmission Losses (COTP/CVP)	(3)	(11)	(11)	(9)	(82)	(102)	(129)	(146)	(152)	(179)
Total Projected Energy Requirements	**10,933**	**11,018**	**11,106**	**11,244**	**10,903**	**11,174**	**11,335**	**11,544**	**11,759**	**12,021**
Energy Efficiency (EE)	16	30	44	57	69	79	89	99	108	117
Customer PV	63	121	181	238	793	844	894	943	988	1,033
Expected Electric Vehicle (EV) Charging	(34)	(75)	(143)	(228)	(324)	(430)	(545)	(674)	(803)	(947)
Electric Building (EB)	(12)	(28)	(50)	(77)	(108)	(146)	(201)	(267)	(339)	(412)
Battery Storage (Utility)	0	0	0	0	(121)	(142)	(188)	(225)	(232)	(266)
Battery Storage (BTM)	(0)	(0)	(1)	(1)	(7)	(11)	(17)	(23)	(31)	(38)
Total Gross Energy Requirements before EE, PV and EV Charging	**10,966**	**11,066**	**11,136**	**11,233**	**11,205**	**11,368**	**11,368**	**11,396**	**11,451**	**11,508**

(1) Totals may not sum due to rounding.
(2) 2023 based on current precipitation levels as of March 31, 2023. All other years assume average precipitation.
(3) Includes a biomethane contract counted as renewable (see "POWER SUPPLY AND TRANSMISSION – Fuel Supply – *Renewable Natural Gas Supply*").

CAPACITY REQUIREMENTS AND RESOURCES[1]
NET CAPACITY – MEGAWATTS

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Load:										
Planned Peak	**2,806**	**2,807**	**2,813**	**2,820**	**2,766**	**2,784**	**2,790**	**2,795**	**2,800**	**2,808**
Transmission Losses	28	28	28	28	28	28	28	28	28	28
Dispatchable Demand Resource	(71)	(71)	(71)	(71)	(165)	(183)	(202)	(165)	(165)	(165)
Adjusted Peak	**2,764**	**2,764**	**2,770**	**2,778**	**2,629**	**2,629**	**2,616**	**2,658**	**2,663**	**2,671**
Reserve Margin	415	415	416	417	394	394	392	399	399	401
Adjusted Peak with Reserves	**3,178**	**3,179**	**3,186**	**3,194**	**3,023**	**3,023**	**3,008**	**3,057**	**3,062**	**3,072**
Renewable Resources										
District or Joint Powers Authority Owned:										
UARP – Small Hydro	45	45	45	45	45	45	45	45	45	45
Solano Wind	94	97	158	202	204	194	197	198	201	201
Cosumnes – Shell Landfill Gas and Digester Gas[2]	7	7	26	94	120	120	120	120	120	120
Total	**146**	**148**	**229**	**341**	**369**	**359**	362	**363**	**365**	**366**
Purchases										
Western (WAPA) – Small Hydro	10	10	9	9	9	9	9	9	9	9
Grady – Wind	34	33	33	32	32	33	33	33	29	29
Avangrid (Iberdrola) (PPM) - Wind	22	21	--	--	--	--	--	--	--	--
Patua (Gradient/Vulcan) – Geothermal	12	12	12	12	12	12	12	12	12	12
CalEnergy– Geothermal	26	26	26	26	26	26	26	26	26	26
Geysers – Geothermal	95	95	95	95	95	95	95	95	95	95
Great Value Solar Shares	40	35	33	14	14	15	16	15	14	13
Rancho Seco – PV1	3	3	3	0	1	2	1	1	1	1
Rancho Seco – PV2	50	66	61	16	23	26	19	17	14	11
Feed-in-Tariff Photovoltaic - Solar	40	35	31	7	10	13	6	8	5	5
Wildflower Solar	8	4	4	1	1	2	2	1	1	1
Navajo Solar	55	49	45	14	16	19	16	14	11	9
Sloughhouse Solar	--	--	--	14	15	17	15	14	13	12
CoyoteCreek Solar with Storage	--	--	--	154	147	152	147	145	143	141
CountryAcres with Storage	--	--	--	225	214	219	213	209	206	204
Stand-alone Storage	4	4	4	4	521	521	625	664	844	994
Future Uncommitted Renewables (Solar, Wind, Other)	--	--	--	--	90	209	215	289	333	346
Future Uncommitted Firm Renewables (Geothermal)	--	--	--	--	--	12	125	125	125	185
Other Long-Term Contracts	18	18	17	2	2	2	2	2	2	2
Total	**414**	**410**	**371**	**625**	**1,228**	**1,383**	**1,576**	**1,678**	**1,881**	**2,093**
Non-Renewable										
District or Joint Powers Authority Owned:										
UARP – Large Hydro	640	640	640	640	640	640	640	640	640	640
Cosumnes Power Plant	563	563	544	476	450	450	450	450	450	450
Carson Project	103	103	103	103	100	100	100	100	100	100
Procter & Gamble Project	166	166	166	166	166	166	166	150	150	150
McClellan	72	72	--	--	--	--	--	--	--	--
Campbell Soup Project	170	170	170	--	--	--	--	--	--	--
Total	**1,714**	**1,714**	**1,623**	**1,385**	**1,356**	**1,356**	**1,356**	**1,340**	**1,340**	**1,340**
Purchases										
Western (WAPA) – Large Hydro	323	309	304	304	304	304	304	304	304	304
Western (WAPA) Customers (wheeling)	19	18	18	18	18	18	18	18	18	18
Sutter Energy Center	258	258	258	258	--	--	--	--	--	--
Firm Contract Reserves[3]	18	17	17	17	17	17	17	17	17	17
Committed Purchases	275	--	--	--	--	--	--	--	--	--
Total	**892**	**602**	**596**	**596**	**338**	**338**	**338**	**338**	**338**	**338**
Total Variable Renewal Diversity Benefit/(Risk)	**4**	**107**	**124**	**263**	**164**	**131**	**162**	**178**	**199**	**215**
Uncommitted Purchases / (Sales)	7	197	242	(16)	(432)	(544)	(787)	(840)	(1,062)	(1,281)
Total Resources	**3,178**	**3,179**	**3,186**	**3,194**	**3,023**	**3,023**	**3,008**	**3,057**	**3,062**	**3,072**

(1) Based on information available as of March 31, 2023. Totals may not sum due to rounding. Capacity values for wind, solar, storage, and future variable renewable projects shown are based on resource effective load carrying capability (ELCC) modeling.

(2) The Cosumnes Power Plant is a 495 MW plant that includes 100 MW capacity attributable to a biogas contract counted as renewable (see "POWER SUPPLY AND TRANSMISSION – Fuel Supply – *Renewable Natural Gas Supply*") and 395 MW capacity from natural gas.

(3) SMUD assumes that for all firm system purchases, the suppliers will be planning 5% reserves.

Balancing Authority Area Agreements

Background. SMUD began operating as an independent control area, later termed a Balancing Authority, on June 18, 2002 within the WECC reliability organization's region. This reduced SMUD's exposure to the costs and reliability risks of the CAISO's markets. SMUD expanded its operational footprint beyond SMUD's service territory to include WAPA's electric system, including the MID, Roseville, and Redding service areas (on January 1, 2005) and the COTP (on December 1, 2005). As described further below, SMUD ceased to be the Balancing Authority on April 30, 2011, as BANC took SMUD's place as the Balancing Authority. SMUD remains the operator of the Balancing Authority through a contract with BANC. SMUD administers the contracts with WAPA and TANC to provide specified Balancing Authority-related and other services, and is compensated by WAPA and TANC for its added labor expense. TANC recovers such Balancing Authority services costs as a part of its annual operating budget from the COTP Participants and WAPA recovers its Balancing Authority services costs through its rates for power and transmission service. The agreement with WAPA, among other terms, establishes operating reserve obligations between the parties. WAPA in turn has agreements with electric systems connected to it to assure that such systems also operate reliably (i.e., MID, Roseville and Redding). As a result of the transition to BANC as the Balancing Authority, SMUD assigned or terminated its interconnection and operations agreements with other interconnecting Balancing Authority areas (i.e., CAISO, BPA and TID). BANC is now the party to these agreements as they primarily address only Balancing Authority matters required for compliance with the reliability standards issued by the North American Electric Reliability Corporation ("NERC"), such as emergency assistance arrangements. See also "OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY – Western Energy Imbalance Market."

Reliability Standards. The Energy Policy Act of 2005 gave FERC authority to enforce reliability standards for the bulk electric system. In June 2007, these standards became mandatory for SMUD and BANC.

In 2022, SMUD and BANC underwent a combined NERC/WECC audit to evaluate compliance with applicable reliability standards. These audits occur every three years. At the conclusion of the audit, regulators determined that neither entity had any compliance violations related to the Operations and Planning or Critical Infrastructure Protection Standards. SMUD and BANC will undergo another NERC/WECC audit sometime in 2025.

Balancing Authority of Northern California. SMUD, MID, Redding and Roseville executed a Joint Exercise of Powers Agreement (the "BANC JPA Agreement") creating BANC on May 8, 2009. BANC became operational on May 1, 2011 as a Balancing Authority and replaced SMUD as the entity responsible for Balancing Authority-related reliability standards. Since that time, the Trinity Public Utilities District and the City of Shasta Lake have also become members of BANC. As provided in the BANC member agreement, liability for penalties associated with such Balancing Authority-related reliability standards are shared on a *pro rata* basis among the members of BANC. SMUD is the Balancing Authority operator under contract and performs Balancing Authority operational functions on behalf of BANC, much as it did when it was the Balancing Authority. The BANC JPA Agreement assigns cost responsibility based on member load within the BANC Balancing Authority, with SMUD representing approximately 70% of the total load.

Power Pool and Other Agreements

Western Power Pool Agreement. The Western Power Pool ("WPP") is an agreement among over 30 utilities and public agencies in the western United States to coordinate contingency reserve sharing, referred to as the WPP Reserve Sharing Program ("RSP"). The RSP permits participants to rely on one

another in the event that any participant experiences a generating resource outage. While SMUD became an RSP participant in 2009, participation is limited to Balancing Authorities, which SMUD relinquished to BANC in 2011. Under the RSP, BANC and TID (also a WPP member) share their reserve amounts and when necessary may call upon WPP reserves using BANC member systems and unused COTP rights. The WPP RSP permits members to operate more efficiently by reducing the contingency reserves that they would otherwise need to have available if they could not rely on each other.

TANC-SMUD OASIS Administration Agreement. SMUD entered into an agreement with TANC to provide OASIS services (transmission sales and scheduling related services in the BANC BA of TANC members' COTP rights) on September 29, 2005. SMUD is compensated for performing these services. TANC and SMUD entered into a letter agreement dated October 25, 2010 to clarify each party's role for regulatory reliability standards compliance responsibilities and take into account SMUD's increased efforts related to supporting TANC's compliance requirements. SMUD and TANC entered into an agreement to transition this service to the Western Area Power Administration, effective on May 1, 2023. Going forward SMUD will only have a minor role in receiving payments and distributing revenues to the TANC members.

Other Agreements with PG&E

Background. SMUD's electric system was originally purchased from PG&E in 1947. SMUD's service area is mostly surrounded by PG&E's service area and the two electric systems are interconnected at SMUD's Rancho Seco and Lake 230-kV substations.

Interconnection Agreement. PG&E and SMUD executed a Replacement Interconnection Agreement ("RIA") which became effective on January 1, 2010. The RIA provides that SMUD and PG&E operate their interconnections reliably, plan their electric systems to meet their load requirements, and avoid or mitigate impacts they cause by certain electric system modifications. The new agreement has a termination date of December 31, 2024, subject to FERC approval.

Generator Interconnection Agreements. SMUD signed a LGIA with CAISO and PG&E for the Solano 3 Wind Project, effective December 16, 2008, with a 50-year term. The Solano 2 Wind Project has interconnection rights granted through a LGIA, also with the CAISO and PG&E. The agreement became effective in January 2010 and has a term of 20 years. On June 3, 2021, SMUD entered into a LGIA with the CAISO and PG&E, for the planned 90.8 MW Solano 4 Wind project with a 10-year term and automatic renewal for successive one-year terms thereafter. On February 27, 2023, SMUD completed a combined LGIA amendment administrative process which combines the Solano 2, 3 & 4 projects into one Solano Wind Project. The original agreement conditions for the individual projects are carried forward with a new combined project maximum production limit of 320.8 MW at the point of interconnection at the Russell Substation.

Other generator interconnection agreements include a Small Generator Interconnection Agreement with PG&E for Slab Creek with a 22-year term which became effective on January 14, 2010, and a Small Generator Interconnection Agreement with PG&E for the Chili Bar Project with a 10-year term which became effective on June 2, 2021.

[Remainder of Page Intentionally Left Blank]

SELECTED OPERATING DATA

Selected operating data of SMUD for the four years ended December 31, 2019 through 2022, and for the three months ended March 31, 2023 and March 31, 2022 are presented in the following table.

SMUD SELECTED OPERATING DATA
CUSTOMERS, SALES, SOURCES OF ENERGY AND REVENUES

	Three Months Ended March 31,		Year Ended December 31,			
	2023	2022	2022	2021	2020	2019
Customers at End of Period:						
Residential	577,659	573,693	576,471	572,786	568,741	565,103
Commercial and industrial	69,503	69,531	69,512	69,426	68,628	68,203
Other	7,284	7,331	7,290	7,345	7,354	7,406
Total	654,446	650,555	653,273	649,557	644,723	640,712
MWh Sales:						
Residential	1,108,861	1,010,095	4,763,277	4,749,079	4,906,566	4,493,548
Commercial and industrial	1,234,611	1,313,519	5,805,052	5,649,474	5,453,120	5,616,920
Other	14,045	14,272	53,965	54,473	55,590	55,770
Total	2,357,517	2,337,886	10,622,294	10,453,026	10,415,276	10,166,238
Surplus power/out of area sales	989,530	551,317	2,493,651	2,774,907	2,259,991	1,878,205
Total	3,347,047	2,889,203	13,115,945	13,227,933	12,675,267	12,044,443
Sources of Energy Sold MWh:						
Generated by SMUD	1,683,465	1,297,158	4,368,126	6,776,244	6,414,380	7,143,944
Purchased or exchanged	1,773,658	1,679,188	9,162,576	6,884,003	6,691,279	5,324,217
Total	3,457,123	2,976,346	13,530,702	13,660,247	13,105,659	12,468,161
Less System losses and SMUD usage	106,194	87,143	414,757	432,314	430,392	423,718
Total	3,350,929	2,889,203	13,115,945	13,227,933	12,675,267	12,044,443
Gross System peak demand (kW)[1]	1,549,000	1,526,000	3,263,000	3,019,000	3,057,000	2,927,000
Average kWh sales per residential customer[2]	1,921	1,762	8,293	8,316	8,650	7,987
Average Revenue per kWh Sold:						
Residential[2] (cents)	14.52	14.34	16.73	16.20	15.27	14.90
Commercial & industrial[2] (cents)	13.91	12.11	13.97	13.95	13.17	12.71

(1) Peak system MW values are measured at the four SMUD interconnection points and exclude SMUD's generation losses. Historical values include the impacts of dispatchable, non-dispatchable, and energy efficiency program capacity savings.

(2) The average kWh sales per residential customer and the average revenue per kWh sold are calculated based upon billed and unbilled sales.

Source: SMUD

SELECTED FINANCIAL DATA

SMUD Financial Information

The following table presents selected financial data of SMUD. Under generally accepted accounting principles, data with respect to SMUD's component units, such as the Authorities, is included with that of SMUD. The following presents data for SMUD only and not its component units, such as the Authorities. SMUD's audited financial statements for the years ended December 31, 2022 and December 31, 2021 are included in APPENDIX B attached to this Official Statement. The following unaudited data for SMUD (excluding its component units) is drawn from SMUD's financial records that have been subjected to the auditing procedures applied in the audits of SMUD's and its component units financial statements for the years ended December 31, 2019 through 2022. The selected financial data for the periods ended March 31, 2023 and March 31, 2022 are derived from SMUD's unaudited financial records, which

have been prepared on the same basis as SMUD's data for the years ended December 31, 2019 through 2022. The selected financial data for the period ended March 31, 2023 are not necessarily indicative of the financial data to be expected for the entire year ending December 31, 2023.

SMUD FINANCIAL DATA[1]
(thousands of dollars)

	Three Months Ended March 31,		Year Ended December 31,			
	2023	2022	2022	2021 (Restated)	2020	2019
Summary of Income						
Operating Revenues[2]	$ 466,524	$ 378,404	$ 2,138,655	$ 1,784,290	$1,582,979	$1,553,167
Operating Expenses	(489,270)	(376,017)	(2,102,849)	(1,464,069)	(1,397,845)	(1,412,199)
Operating Income (Loss)	(22,746)	2,387	35,806	320,221	185,134	140,968
Interest and Other Income (Expense)	32,593	10,777	124,704	108,788	63,014	(21,113)
Interest Expense	(18,608)	(19,294)	(74,702)	(81,692)	(80,699)	(66,185)
Change in Net Position	$ (8,761)	$ (6,130)	$ 85,808	$ 347,317	$ 167,449	$ 53,670
Selected Statement of Net Position Information						
Net Plant in Service	$ 3,604,649	$ 3,413,234	$ 3,654,725	$ 3,502,335	$3,234,208	$3,187,135
Construction Work in Progress	343,966	409,932	323,499	365,478	460,155	351,584
Electric Utility Plant – Net	$ 3,948,615	$ 3,823,166	$ 3,978,224	$ 3,867,813	$3,694,363	$3,538,719
Unrestricted Cash	$ 554,360	$ 536,534	$ 591,410	$ 569,001	$ 662,155	$ 451,800
Rate Stabilization Fund	$ 151,118	$ 193,608	$ 156,016	$ 188,992	$ 168,726	$ 143,669
Total Assets	$ 6,297,170	$ 6,032,532	$ 6,421,666	$ 6,096,865	$5,826,449	$5,429,137
Net Position	$ 2,368,958	$ 2,286,511	$ 2,377,719	$ 2,291,910	$1,944,593	$1,777,145
Long-Term Debt[3]	$ 2,228,327	$ 2,378,960	$ 2,236,824	$ 2,387,686	$2,523,921	$2,166,389
Debt Service Coverage Ratios						
Parity Debt Service Coverage Ratio			2.04x	2.59x	2.25x	2.11x
Parity and Subordinate Debt Service Coverage Ratio			1.94x	2.47x	2.14x	2.06x

(1) The financial statements of SMUD comprise financial information of SMUD along with its component units, CVFA, SPA, SCA, SFA, NCGA and NCEA. This table includes only financial information of SMUD excluding its component units. Net operating revenues and expenses and Electric Utility Plant and Capitalization of CVFA, SPA, SCA, SFA, NCGA and NCEA are not included in this table, although amounts paid to or received from the Authorities by SMUD are included.

(2) Operating Revenues reflect net transfers to (from) the Rate Stabilization Fund for each full year as follows:
2023 ($4.9) million through March 31, 2023
2022 ($33.0) million
2021 $20.3 million
2020 $25.1 million
2019 $47.0 million
Transfers to the Rate Stabilization Fund reduce operating revenues in the year transferred; transfers from the Rate Stabilization Fund increase operating revenues. Transfers from the HGA balancing account in the Rate Stabilization Fund are automatic based on the amount of precipitation received. See "RATES AND CUSTOMER BASE – Rates and Charges" above.

(3) Long-Term Debt includes Long-Term Debt due within one year and unamortized premiums.

[Remainder of Page Intentionally Left Blank]

Financial Information of SMUD and the Authorities

The following table presents a summary of selected financial information for SMUD and the Authorities.

SUMMARY OF FINANCIAL INFORMATION OF SMUD AND THE AUTHORITIES FOR THE YEARS ENDED DECEMBER 31, 2022 AND 2021 (thousands of dollars)

	Year Ended December 31, 2022			Year Ended December 31, 2021 (Restated)		
	SMUD	Authorities	Total[1]	SMUD	Authorities	Total[1]
Summary of Income						
Operating Revenues[2]	$ 2,138,655	$ 166,674	$ 2,147,334	$ 1,784,290	$ 270,694	$ 1,790,276
Operating Expenses	(2,102,849)	(120,798)	(2,065,652)	(1,464,069)	(250,980)	(1,450,341)
Operating Income	35,806	45,876	81,682	320,221	19,714	339,935
Interest and Other Income	124,704	1,871	90,044	108,788	712	108,114
Interest Expense	(74,702)	(26,482)	(101,184)	(81,692)	(27,608)	(109,300)
Change in Net Position	$ 85,808	$ 21,265	$ 70,542	$ 347,317	$ (7,182)	$ 338,749
Selected Statement of Net Position Information						
Net Plant in Service	$3,654,725	$ 285,346	$3,653,281	$3,502,335	$ 307,755	$3,523,243
Construction Work in Progress	323,499	24,259	347,758	365,478	1,819	367,297
Electric Utility Plant – Net	$3,978,224	$ 309,605	$4,001,039	$3,867,813	$ 309,574	$3,890,540
Unrestricted Cash	$ 591,410	$ 36,454	$ 627,864	$ 569,001	$ 61,375	$ 630,376
Rate Stabilization Fund	$ 156,016	--	$ 156,016	$ 188,992	--	$ 188,992
Total Assets	$6,421,666	$1,133,461	$7,191,063	$6,096,865	$1,179,848	$6,916,205
Net Position	$2,377,719	$ 271,836	$2,366,803	$2,291,910	$ 286,890	$2,296,261
Long-Term Debt[3]	$2,236,824	$ 787,215	$3,024,039	$2,387,686	$ 826,171	$3,213,857

(1) Financial information for SMUD and the SMUD JPAs (CVFA, SPA, SCA, SFA, NCGA and NCEA) include intercompany balances. The financial information reflects balances after the elimination of intercompany accounts including Authorities distributions to SMUD of $36.5 million in 2022 and $1.4 million in 2021.

(2) Operating Revenues reflect net transfers to (from) the Rate Stabilization Fund as follows:
2022 ($33.0) million
2021: $20.3 million
Transfers to the Rate Stabilization Fund reduce operating revenues in the year transferred; transfers from the Rate Stabilization Fund increase operating revenues. Transfers from the HGA balancing account in the Rate Stabilization Fund are automatic based on the amount of precipitation received. See "RATES AND CUSTOMER BASE – Rates and Charges" above.

(3) Long-Term Debt includes Long-Term Debt due within one year and unamortized premiums.

[Remainder of Page Intentionally Left Blank]

Management's Discussion of SMUD's Operating Results

Three Months Ended March 31, 2023 (Unaudited). For the three months ended March 31, 2023, SMUD reported a decrease in net position of $8.8 million as compared to a decrease of $6.1 million for the three months ended March 31, 2022.

Operating revenues were $88.1 million higher than 2022. This was primarily due to higher sales of surplus power ($47.1 million), sales to customers ($29.0 million), and transfers from the rate stabilization fund ($9.3 million).

Operating expenses were $113.3 million higher than 2022. This was primarily due to higher purchased power expenses ($42.7 million), amortization of pension and OPEB ($19.5 million), transmission and distribution maintenance expenses ($12.6 million), administrative and general expenses ($11.5 million), depreciation expense ($9.7 million), production expenses ($4.1 million), production maintenance expenses ($3.5 million), customer service and information expenses ($3.3 million), public good expenses ($2.6 million), and customer accounts expenses ($2.0 million).

Non-Operating income was $21.8 million higher than 2022. This was primarily due to a gain on land sale ($14.3 million), higher interest income ($6.0 million), and unrealized holding gains ($2.6 million) offset by investment expenses ($2 million).

Interest expense decreased $0.7 million from 2022.

Year Ended December 31, 2022. For the year ended December 31, 2022, SMUD reported an increase in net position of $85.8 million as compared to an increase of $347.3 million for 2021.

Operating revenues were $354.4 million higher than 2021. This was primarily due to higher sales to customers ($130.7 million), sales of surplus gas ($96.0 million), sales of surplus power ($62.2 million), transfers from the RSF ($24.3 million), customer fees ($9.5 million), AB 32 revenue ($4.9 million) and LCFS revenue ($2.2 million), partially offset by lower gain on sale of carbon allowance futures ($3.7 million) and transfers to the RSF ($28.9 million).

Operating expenses were $638.8 million higher than 2021. This was primarily due to higher purchased power expenses ($369.6 million), amortization of pension and OPEB ($126.9 million), production operating expenses ($114.0 million), transmission and distribution maintenance expenses ($23.3 million), depreciation expenses ($8.9 million), transmission and distribution operating expenses ($8.8 million), public good expenses ($7.7 million), customer service and information expenses ($4.5 million), and production maintenance expenses ($2.8 million), partially offset by lower administrative and general expenses ($30.4 million).

Non-Operating income increased by $15.9 million primarily due to higher investment income ($19.7 million), partially offset by unrealized holding losses ($3.7 million), closeout of escrow account ($2.8 million), higher fee based product costs ($1.9 million), and loss on asset retirements ($1.9 million).

Interest expense decreased $7.0 million from 2021.

Year Ended December 31, 2021. For the year ended December 31, 2021, SMUD reported an increase in net position of $347.3 million as compared to an increase of $167.4 million for 2020.

Operating revenues were $201.3 million higher than 2020. This was primarily due to higher sales to customers ($70.1 million), sales of surplus gas ($65.4 million), sales of surplus power ($47.1 million),

transfers from the RSF ($18.2 million), AB 32 revenue ($17.9 million) and gain on sale of carbon allowance futures ($3.1 million), partially offset by transfers to the RSF ($13.4 million) and lower public good revenue ($3.5 million).

Operating expenses were $66.2 million higher than 2020. This was primarily due to higher production operating expenses ($89.6 million), purchased power expenses ($47.0 million), and depreciation expenses ($37.8 million), partially offset by lower amortization of pension and OPEB ($84.2 million), public good expenses ($10.7 million), customer accounts expenses ($6.8 million) and transmission and distribution maintenance expenses ($5.5 million).

Non-Operating income increased by $45.8 million primarily due to California Arrearage Payment Program funding ($41.4 million), a settlement related to Rancho Seco damages ($15.0 million), higher investment income ($11.5 million), higher contributions in aid of construction ($4.0 million), lower legal settlement costs ($2.2 million), offset by dissolution of RBC CSCDA gas prepay contract ($10.9 million), lower insurance proceeds ($8.6 million), lower interest income ($6.9 million), lower unrealized holding gains ($4.0) and lower distributions from the JPAs ($2.6 million.

Interest expense increased $1.0 million from 2020.

Regulatory Assets. In accordance with Governmental Accounting Standards Board ("GASB") No. 62, "Regulated Operations," SMUD defers, as regulatory assets, certain types of expenditures. These assets are amortized and collected through future rates.

As of December 31, 2022, SMUD had a total of $764.2 million recorded for regulatory assets. Regulatory assets associated with costs related to implementation of GASB No. 68, which requires SMUD to record a net pension liability was $340.5 million and deferred outflows related to GASB No. 68 was $86.6 million at December 31, 2022. Regulatory assets associated with costs related to implementation of GASB No. 75, which requires SMUD to record a net Other Post Employment Benefit (OPEB) liability was $281.0 million and deferred outflows related to GASB No. 75 was $19.2 million at December 31, 2022. Regulatory assets associated with Rancho Seco decommissioning costs totaled $83.9 million at December 31, 2022. Nuclear fuel storage costs and non-radiological decommissioning costs have been collected in rates since 2009. For a complete description of these regulatory assets, see Note 8 (Regulatory Deferrals) to SMUD's financial statements.

The Board has authorized the deferral of any charges or credits that result from the change in valuation of ineffective hedges that should be reported as Investment Revenue/Expense on the Statements of Revenues, Expenses and changes in net position. The Board's resolution establishes that such charges or credits are not included in rates based on market value changes but are included in rates when the underlying transactions occur. Therefore, under GASB No. 62, "Regulated Operations," any such changes are included in the Statement of Net Position as regulatory assets or liabilities. For a complete description of these derivative financial instruments, see Note 9 (Derivative Financial Instruments) to SMUD's financial statements.

RANCHO SECO DECOMMISSIONING

Overview. The 913 MW Rancho Seco Nuclear Power Plant ("Rancho Seco") began Nuclear Regulatory Commission ("NRC") licensed operations in 1974. In June 1989, the electorate of SMUD voted against allowing SMUD to continue to operate Rancho Seco as a nuclear generating facility, and the plant was shut down. In 1991, SMUD submitted a report (the "Financial Assurance Plan") providing required financial assurance to the NRC that SMUD will have sufficient funds available to pay for the cost of decommissioning. On March 17, 1992, the NRC granted SMUD a change from an operating to a

possession-only license for Rancho Seco that relieved SMUD from compliance with a number of NRC regulations applicable to operating nuclear power plants. SMUD also filed a proposed decommissioning plan with the NRC (the "Decommissioning Plan"), which was approved in March 1995.

After the decommissioning efforts began, no suitable disposal option was available to SMUD for the Class B and Class C low level radioactive waste generated during the plant decommissioning. With the used nuclear fuel stored onsite requiring oversight staff, SMUD opted to store the Class B and Class C radioactive waste in an existing interim onsite storage building until a suitable disposal option was available. In November 2007, the possession-only license for Rancho Seco was amended to update the Decommissioning Plan to terminate the possession-only license for the Class B and Class C waste in two phases. Phase I of the decommissioning was completed at the end of 2008. Following verification of the site conditions, SMUD submitted a request to the NRC to reduce the licensed facility from 2,480 acres to the interim onsite storage building and about one acre surrounding it. The request was approved by the NRC in September 2009. Phase II of decommissioning included the approximately two-acre interim storage building containing the Class B and Class C radioactive waste and surrounding area. In September 2013, SMUD entered into a contract with the operator of the low-level radioactive waste disposal facility located in Andrews, Texas. Shipment of the Class B and Class C radioactive waste for disposal was completed in November 2014. SMUD conducted additional clean-up activities and radiological surveys, which were followed by NRC confirmatory surveys. The results of these surveys demonstrated unit dose criteria well below NRC release criteria, and the NRC approved the Phase II area for unrestricted use. On September 21, 2017, SMUD formally requested the termination of the possession-only license. On August 31, 2018, the NRC officially terminated SMUD's possession-only license for the remaining Class B and Class C waste at Rancho Seco.

As part of the Decommissioning Plan, the nuclear fuel and Greater Than Class C ("GTCC") radioactive waste is being stored in a dry storage facility (the Independent Spent Fuel Storage Installation or "ISFSI") constructed by SMUD, adjacent to the former reactor facility. The NRC has separately licensed this facility. The DOE, under the Nuclear Waste Policy Act of 1982, is responsible for permanent disposal of used nuclear fuel and GTCC radioactive waste. SMUD has a contract with the DOE for the removal and disposal of this waste. The DOE was to have a waste repository operating by 1998, but has experienced significant and ongoing delays. The Nuclear Waste Policy Act designates Yucca Mountain in Nevada as the final and exclusive repository for the nation's used nuclear fuel. The DOE discontinued the Yucca Mountain license review activities in 2010, but after a court ordered the NRC to resume its review in 2013, the NRC published its final safety evaluation report in 2015. The final safety report, and the final environmental impact statement, concluded that the proposed repository would be safe and environmentally sound for one million years.

Nevertheless, seeking alternatives to Yucca Mountain, the Blue-Ribbon Commission on America's Nuclear Future delivered its final report in January 2012 with several recommendations. The Department of Energy (the "DOE") responded to the recommendations by issuing a report in January 2013 (Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste). Key to both documents is a focus on used fuel from decommissioned sites including Rancho Seco. The DOE report accepts most of the Blue-Ribbon Commission recommendations, and contains timelines for fuel management options which proposed removing the fuel from Rancho Seco as early as 2021. However, any progress on the strategies proposed by the DOE is dependent on legislative action by Congress. With no legislative action taken to date, the 2021 projected date for fuel removal slips year-for-year. Therefore, SMUD cannot determine at this time when the DOE will fulfill its contractual obligations to remove the nuclear fuel and GTCC waste from the Rancho Seco facility. In the meantime, SMUD continues to incur costs of approximately $5 to $6 million per year for storage of used nuclear fuel at the ISFSI. SMUD has filed a series of successful lawsuits against the federal government for recovery of past spent fuel costs, with recoveries to date from the DOE in excess of $104 million. SMUD plans to continue pursuing cost

recovery claims to ensure it is reimbursed for all such costs in the future. The ISFSI will be decommissioned, and its license terminated after the fuel and GTCC is removed.

Financial Assurance Plan. In accordance with the Financial Assurance Plan, SMUD established and funded an external decommissioning trust fund currently held by Wells Fargo Bank (the "Decommissioning Trust Fund"). Pursuant to the Financial Assurance Plan, SMUD made the final deposit into the Decommissioning Trust Fund in 2008. Additional deposits are not expected but will be made if increased cost estimates or reduced fund interest earnings require it. In 2011, the NRC began requiring that SMUD demonstrate financial assurance for decommissioning the ISFSI as well as the former power facility, increasing the overall cost for decommissioning Rancho Seco. The estimated total cost for decommissioning the ISFSI was approximately $6.5 million on December 31, 2022. The decommissioning cost estimate is required to be updated every three years. As of December 31, 2022, the balance of the Decommissioning Trust Fund was $8.98 million, excluding unrealized gains and losses. Based on the current decommissioning cost estimate and the value of the fund, SMUD's existing Decommissioning Trust Fund provides sufficient funds to complete decommissioning and terminate the ISFSI license.

In addition to these costs, SMUD also estimates that it would cost approximately $13.1 million to restore the site to make it available for other SMUD uses with some major structures remaining intact. Site restoration is not a legal requirement. No site restoration is currently underway.

EMPLOYEE RELATIONS

SMUD has approximately 2,335 employees, most of whom are covered by a civil service system. SMUD is a contracting member of the California Public Employees' Retirement System ("PERS"). Approximately 50% of SMUD's work-force is represented as to wages, hours and other terms and conditions of employment, by one of three recognized employee organizations, the International Brotherhood of Electrical Workers ("IBEW") Local 1245, the Organization of SMUD Employees ("OSE"), and the SMUD Public Safety Officers' Association ("PSOA"). The remaining 50% of SMUD's work-force, which includes managers, professional, administrative, supervisory, confidential and security staff, is unrepresented.

SMUD negotiated a four-year Memoranda of Understanding ("MOU") with IBEW and the OSE, effective January 1, 2022, through December 31, 2025. Both contracts contain a no-strike/no-lockout clause effective during the life of the agreements. SMUD has an MOU with PSOA effective through December 31, 2026. SMUD has experienced only one labor interruption, which occurred in January 1980 that lasted four days.

RETIREMENT BENEFITS AND POST-EMPLOYMENT MEDICAL BENEFITS

Pension Plans

SMUD participates in PERS, an agent multiple-employer public employee defined benefit pension plan. PERS provides retirement and disability benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries. PERS acts as a common investment and administrative agent for participating public entities within the State. Benefit provisions and all other requirements are established by State statute and SMUD policies. The pension plan provides retirement benefits, survivor benefits, and death and disability benefits based upon employees' years of credited service, age, and final compensation.

As of June 30, 2021, the last actuarial valuation date for SMUD's plan within PERS, the market value of the SMUD plan assets was $2.51 billion. The plan is 100.1% funded on a market value of assets

basis, an increase of 21.0% compared to the June 30, 2020 funded status based on the market value of assets.

As an employer, SMUD is required to contribute a percentage of payroll each year to PERS to fund SMUD's plan based on actuarial valuations performed by PERS. PERS collects the normal cost based on a percentage of payroll and the unfunded liability portion is based on a dollar amount. SMUD also makes partial contributions required of SMUD employees on their behalf and for their account. At the PERS fiscal year ended June 30, 2022, SMUD's required employer contribution rate for normal cost was 9.0% of payroll and the unfunded liability contribution was $36.3 million. During 2022, SMUD contributed $52.7 million to PERS (including SMUD's contributions to cover required employee contributions), and SMUD employees paid $16.5 million for their share of the PERS contribution.

For the fiscal years ending June 30, 2023 and June 30, 2024, SMUD is required to contribute 8.9% and 9.6% of payroll for normal costs and $22.4 million for fiscal year ending June 30, 2023 for the unfunded liability contribution. There is no estimated employer contribution to the unfunded liability for fiscal year ending June 30, 2024. Assuming no amendments to the plan and no liability gains or losses (which can have a significant impact), PERS has projected that SMUD will be required to contribute 9.5% of payroll to the plan for normal costs and no employer contribution for the unfunded liability for the fiscal year ending June 30, 2025, not including SMUD contributions to cover required employee contributions. The amount SMUD is required to contribute to PERS is expected to increase in the future. The actual amount of such increases will depend on a variety of factors, including but not limited to investment returns, actuarial methods and assumptions, experience and retirement benefit adjustments.

SMUD has the option to prepay an annual lump sum payment to PERS for the unfunded accrued liability portion only (not including SMUD contributions to cover required employee contributions). SMUD made an annual lump sum prepayment of $35.1 million, and also voluntarily made an additional payment of $56.3 million, for the unfunded accrued liability for the fiscal year ended June 30, 2022. SMUD also made an annual lump sum prepayment of $19.5 million, and voluntarily made an additional payment of $2.9 million for the unfunded accrued liability for the fiscal year ending June 30, 2023.

While SMUD has some ability to adjust the retirement benefits provided to its employees, PERS determines the actuarial methods and assumptions used with respect to assets administered by PERS (including the SMUD plan assets) and makes the investment decisions with respect to such assets. For a description of such actuarial methods and assumptions (including the smoothing conventions used by PERS when setting employer contribution rates) and investments, see the comprehensive annual financial report of PERS (SMUD's plan is part of the Public Employees' Retirement Fund of PERS) available on its website at www.calpers.ca.gov. SMUD cannot guarantee the accuracy of such information and neither the comprehensive annual financial report of PERS nor any other information contained on the PERS website is incorporated by reference in or part of this Official Statement. Actuarial assessments are "forward-looking" information that reflect the judgment of the fiduciaries of the pension plans, and are based upon a variety of assumptions, one or more of which may prove to be inaccurate or be changed in the future. Actuarial assessments will change with the future experience of the pension plans.

GASB issued statement No. 68 "Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27" ("GASB No. 68"). The primary objective of GASB No. 68 is to improve accounting and financial reporting by state and local governments for pensions. Under GASB No. 68, SMUD is required to report the net pension asset or net pension liability (i.e., the difference between the total pension liability and the pension plan's net position or market value of assets) in its Statement of Net Position. This standard requires shorter amortization periods for recognition of non-investment gains and losses and actuarial assumption changes, as well as for recognition of investment gains and losses. GASB No. 68 separates financial reporting from funding requirements for pension plans. The net pension

liability as of December 31, 2022 is $235.5 million and the net pension asset as of December 31, 2021 is $27.7 million.

SMUD provides its employees with two cash deferred compensation plans: one pursuant to Internal Revenue Code ("IRC") Section 401(k) (the "401(k) Plan") and one pursuant to IRC Section 457 (the "457 Plan" and collectively, the "Plans"). The Plans are contributory plans in which SMUD's employees contribute the funds. Each of SMUD's eligible full-time or permanent part-time employees may participate in either or both Plans, and amounts contributed by employees are vested immediately. Such funds are held by a trustee in trust for the employees upon retirement from SMUD service and, accordingly, are not subject to the general claims of SMUD's creditors. SMUD makes annual contributions to the 401(k) Plan on behalf of certain employees pursuant to a memorandum of understanding with both of its collective bargaining units. SMUD matches non-represented employee contributions to the 401(k) Plan up to a set amount. SMUD also makes limited discretionary contributions to non-represented employees hired after January 1, 2013, which contributions fully vest after five years. Prior to 2022, SMUD did not match employee contributions, nor make contributions on behalf of its employees to the 457 Plan. Beginning in 2022, SMUD makes annual contributions to the 457 Plan on behalf of certain employees and matches employee contributions up to a set amount pursuant to a memorandum of understanding with one of its collective bargaining units. SMUD made contributions to both Plans of $7.0 million in 2022 and to the 401(k) Plan of $6.1 million in 2021. Participating employees made contributions into both Plans totaling $32.4 million in 2022 and $30.6 million in 2021.

Other Post-Employment Benefits

SMUD provides post-employment healthcare benefits, in accordance with SMUD policy and negotiated agreements with employee representation groups in a single employer defined benefit plan, to all employees who retire from SMUD, and their dependents. SMUD also provides post-employment healthcare benefits to covered employees who are eligible for disability retirement. SMUD contributes the full cost of coverage for retirees hired before January 1, 1991, and a portion of the cost based on credited years of service for retirees hired after January 1, 1991. SMUD also contributes a portion of the costs of coverage for these retirees' dependents. Retirees are required to contribute the portion that is not paid by SMUD. The benefits, benefit levels, retiree contributions and employer contributions are governed by SMUD and can be amended by SMUD through its personnel manual and union contracts.

SMUD's post-employment health care benefits are funded through the PERS California Employers' Retiree Benefit Trust ("CERBT"), an agent multiple-employer plan. The funding of a plan occurs when the following events take place: the employer makes payments of benefits directly to or on behalf of a retiree or beneficiary; the employer makes premium payments to an insurer; or the employer irrevocably transfers assets to a trust or other third party acting in the role of trustee, where the plan assets are dedicated to the sole purpose of the payments of the plan benefits, and creditors of the government do not have access to those assets.

SMUD has elected to contribute the normal costs to the CERBT but annually receive reimbursement for cash benefit payments from the CERBT. In 2023, SMUD's contribution for the normal costs to CERBT is $8.6 million. In 2022 and 2021, SMUD decided to forgo making a contribution for the normal costs to the CERBT because there was a net OPEB asset at December 31, 2021 and December 31, 2020. SMUD can elect to make additional contributions to the trust. During 2022 and 2021, SMUD made healthcare benefit contributions by paying actual medical costs of $24.5 million and $24.1 million, respectively. During 2022 and 2021, SMUD received a $23.3 million reimbursement for cash benefit payments from the CERBT each year.

At June 30, 2022 and 2021, SMUD estimated that the actuarially determined accumulated post-employment benefit obligation was approximately $381.7 and $398.2 million, respectively. At June 30, 2022 and 2021, the plan was 97.9% and 113.1% funded, respectively.

SMUD's actuary uses PERS economic and other assumptions as the basis for the calculation of the post-employment benefit obligation. The actual accumulated post-employment benefit obligation will vary substantially if such PERS assumptions, such as interest rate and life expectancy, among others, prove to be inaccurate or different than SMUD's actual experience. Although SMUD believes that such assumptions and estimates are reasonable, no assurance can be given that any such assumptions will prove to be accurate, or that SMUD's actual accumulated post-employment benefit obligation will not materially exceed its estimates. Additional information is available in Note 15 (Other Postemployment Benefits) and "Required Supplementary Information" to SMUD's consolidated financial statements.

GASB previously issued SGAS No. 75 "Accounting and Financial Reporting for Postemployment Benefits Other than Pensions". The primary objective of GASB No. 75 is to improve accounting and financial reporting by state and local governments for post-employment benefits other than pensions ("OPEB"). Under GASB No. 75, SMUD is required to report the net OPEB asset or net OPEB liability (i.e., the difference between the total OPEB liability and the OPEB plan's net position or market value of assets) in its Statement of Net Position. This standard requires shorter amortization periods for recognition of non-investment gains and losses and actuarial assumption changes, as well as for recognition of investment gains and losses. The net OPEB liability as of December 31, 2022 is $6.8 million and the net OPEB asset as of December 31, 2021 is $57.5 million.

CAPITAL REQUIREMENTS AND OUTSTANDING INDEBTEDNESS

Estimated Capital Requirements

SMUD has a projected capital requirement of approximately $2.70 billion for the period 2023 through 2027 as shown in the table below. Approximately 60% of this requirement is anticipated to be funded with internally generated funds and cash on hand.

Special projects include costs relating to construction of large substations and the potential construction of Solano Phase 4. The Estimated Capital Requirements table below includes $207 million for Solano Phase 4. See "POWER SUPPLY AND TRANSMISSION – Power Generation Facilities – Solano 4 Project."

ESTIMATED CAPITAL REQUIREMENTS
(Dollars in Thousands)

	Service Area and Other System Improvements Including Distribution System	Improvements to Existing Generation Plant	General Plant	Special Projects	Total Capital Requirements
2023	$150,334	$57,763	$78,675	$207,427	$494,199
2024	195,581	40,608	97,225	216,229	549,643
2025	247,528	100,303	107,766	94,651	550,248
2026	247,528	100,303	107,766	94,651	550,248
2027	247,528	100,303	107,766	94,651	550,248

Outstanding Indebtedness

General. SMUD typically finances its capital requirements through the sale of revenue bonds, the sale of commercial paper, from draws on its Revolving Credit Facility (as defined below) and from internally generated funds. With the recent passage of the Inflation Reduction Act and the Infrastructure Investment and Jobs Act, SMUD is monitoring and exploring new methods of financing, including those afforded under these two programs, that provide not-for-profit public power utilities with direct federal incentive payments.

SMUD's Electric Revenue Bonds (the "Senior Bonds") are issued pursuant to Resolution No. 6649 (the "Senior Resolution") adopted in 1971, as amended and supplemented (the "Senior Resolution"). As of May 1, 2023, SMUD had Senior Bonds in the aggregate principal amount of $1,841,715,000 outstanding. If the plan of finance described in the forepart of this Official Statement is implemented in whole, Senior Bonds in the aggregate principal amount of $1,895,910,000* are expected to be outstanding under the Senior Resolution. See "PLAN OF FINANCE" in the forepart of this Official Statement. The Senior Bonds are payable solely from the Net Revenues of SMUD's Electric System. The Senior Bonds are subordinate in right of payment to the prior payment of "Maintenance and Operation Costs" and "Energy Payments" as defined in the Master Resolution, including payments by SMUD to TANC under PA3, payments by SMUD under power purchase agreements related to the Authorities and payments by SMUD to NCGA and NCEA under their respective gas supply contracts.

SMUD's Subordinated Electric Revenue Bonds (the "Subordinated Bonds") are issued pursuant to Resolution No. 85-11-1 of SMUD, adopted on November 7, 1985, as amended and supplemented (the "Subordinate Resolution"). As of May 1, 2023, SMUD had Subordinated Bonds in the aggregate principal amount of $200,000,000 outstanding. If the plan of finance described in the forepart of this Official Statement is implemented in whole, Subordinate Bonds in the aggregate principal amount of $332,020,000* are expected be outstanding under the Subordinate Resolution. The Subordinated Bonds are payable solely from the Net Subordinated Revenues of SMUD's Electric System. The Subordinated Bonds are subordinate in right of payment to the prior payment of principal of and interest on the Senior Bonds.

SMUD issues commercial paper notes (the "Notes") from time to time. As of May 1, 2023, SMUD's Notes were outstanding in the aggregate principal amount of $200,000,000. Currently, Notes in the aggregate principal amount of $300,000,000 may be outstanding at any one time, but SMUD reserves the right to increase or decrease the aggregate principal amount of the Notes that may be outstanding at any one time in the future. The Notes are secured by letters of credit issued by commercial banks. The Notes (and SMUD's obligations to repay drawings under the letters of credit) are payable solely from available revenues of SMUD's Electric System and are subordinate in right of payment to the prior payment of principal of, premium if any, and interest on the Senior Bonds and the Subordinated Bonds. Drawings under the letters of credit, to the extent not repaid immediately from the proceeds of commercial paper or other available SMUD funds, are repayable with interest over a period of five years. The letters of credit currently expire in February and August of 2025. SMUD expects to pay $200,000,000 of the outstanding principal amount of the Notes with proceeds of the 2023 Series K Bonds (as defined in the forepart of the Official Statement). See "PLAN OF FINANCE" in the forepart of the Official Statement.

SMUD also entered into a revolving credit agreement with a commercial bank and issued its taxable and tax-exempt revolving notes thereunder (collectively, the "Revolving Credit Facility") in February 2022. As of May 1, 2023, no principal amount was outstanding under the Revolving Credit Facility. Currently, the aggregate principal amount that can be outstanding under the Revolving Credit Facility at any one time is limited to $100,000,000. However, SMUD reserves the right to increase or

* Preliminary, subject to change.

decrease the aggregate principal amount that can be outstanding at any one time under the Revolving Credit Facility in the future. SMUD's payment obligations under the Revolving Credit Facility are payable solely from available revenues of SMUD's Electric System and are subordinate in right of payment to the prior payment of principal of, premium if any, and interest on the Senior Bonds and the Subordinated Bonds. The current term of the Revolving Credit Facility expires in February 2026.

Joint Powers Authorities. SMUD has entered into long-term take-or-pay power purchase agreements with SFA relating to the Local Gas-Fired Plants. Under such agreements, SMUD has exclusive control of the dispatch of all five of the Local Gas-Fired Plants and takes all of the power produced by the Local Gas-Fired Plants. See "POWER SUPPLY AND TRANSMISSION – Power Generation Facilities – *Local Gas-Fired Plants*." The Authorities are each treated as component units of SMUD for accounting purposes. Only SFA has outstanding debt, which relates solely to the Cosumnes Power Plant and is payable solely from capacity payments made by SMUD under the related power purchase agreement. As of May 1, 2023, bonds issued by SFA to finance the Cosumnes Power Plant were outstanding in the aggregate principal amount of $89,735,000. SMUD's payments under the power purchase agreements relating to the Local Gas-Fired Plants are payable from revenues of SMUD's Electric System prior to the payment of principal of and interest on the Senior Bonds and Subordinated Bonds as either "Maintenance and Operation Costs" or "Energy Payments" under the Senior Resolution and Subordinate Resolution.

SMUD and Sacramento Municipal Utility District Financing Authority formed a joint powers authority called the Northern California Gas Authority No. 1 ("NCGA"). NCGA is treated as a component unit of SMUD for accounting purposes. NCGA issued $757,055,000 in bonds in May 2007 for the purpose of paying Morgan Stanley Capital Group in advance for natural gas to be delivered to NCGA and then sold to SMUD pursuant to a long-term purchase contract. SMUD's obligation under the purchase contract is limited to payment for gas supplies delivered by NCGA. SMUD's payments under the purchase contract are payable from revenues of SMUD's Electric System prior to the payment of principal and interest on the Senior Bonds and the Subordinated Bonds as either "Maintenance and Operation Costs" or "Energy Payments" under the Senior Resolution and the Subordinate Resolution. SMUD is not obligated to make any payments in respect of debt service on the NCGA bonds. As of May 1, 2023, related bonds in the aggregate principal amount of $142,935,000 remain outstanding.

SMUD and Sacramento Municipal Utility District Financing Authority formed a joint powers authority called the Northern California Energy Authority ("NCEA"). NCEA is treated as a component unit of SMUD for accounting purposes. NCEA issued $539,615,000 in bonds in December 2018 for the purpose of paying J. Aron & Company LLC in advance for natural gas or electricity to be delivered to NCEA and then sold to SMUD pursuant to a long-term purchase contract. SMUD's obligation under the purchase contract is limited to payment for gas or electricity supplies delivered by NCEA. SMUD's payments under the purchase contract are payable from revenues of SMUD's Electric System prior to the payment of principal and interest on the Senior Bonds and the Subordinated Bonds as either "Maintenance and Operation Costs" or "Energy Payments" under the Senior Resolution and the Subordinate Resolution. SMUD is not obligated to make any payments in respect of debt service on the NCEA bonds. As of May 1, 2023, related bonds in the aggregate principal amount of $539,615,000 remain outstanding.

Interest Rate Swap Agreements. SMUD has two interest rate swap agreements relating to previously or currently outstanding Subordinated Bonds and two forward starting interest rate swap agreements relating to potential refunding bonds to be issued in the future, as shown in the following table. For more information, see Note 9 (Derivative Financial Instruments) to SMUD's consolidated financial statements.

Effective Date	Termination Date	SMUD Pays		SMUD Receives	Notional Amount (000's)	Counterparty
7/2/1997	7/1/2024	Floating	SIFMA	5.154%	$38,165	J Aron & Company LLC
7/15/2003	8/15/2028	Fixed	2.894%	63% of 1M LIBOR	68,450	Morgan Stanley Capital Services, Inc.
07/12/2023	08/15/2041	Fixed	0.718%	70% of 1M LIBOR	132,020	Barclays Bank
07/12/2023	08/15/2033	Fixed	0.554%	70% of 1M LIBOR	75,680	Barclays Bank

The obligations of SMUD under the swap agreements are not secured by a pledge of revenues of SMUD's electric system or any other property of SMUD. SMUD does not currently have any collateral posting requirements with respect to the interest rate swap agreements, but SMUD may be required to post collateral under certain circumstances. In connection with the plan of finance described in the forepart of this Official Statement, SMUD expects to terminate the swap with Barclays Bank with a notional amount of $75,680,000 that would otherwise become effective on July 12, 2023. See "PLAN OF FINANCE" in the forepart of this Official Statement. As set forth above, payments under certain of the swap agreements are currently determined based on the one-month LIBOR index. It is expected that the ICE Benchmark Administration Limited will cease publication of the one-month LIBOR index after June 30, 2023. SMUD has adhered to protocols for the one-month LIBOR index-based swap agreements that provide for the transition to a SOFR based index upon the discontinuation of the one-month LIBOR index.

Build America Bonds Subsidy Payments. SMUD's Electric Revenue Bonds, 2009 Series V (the "2009 Series V Bonds") and Electric Revenue Bonds, 2010 Series W (the "2010 Series W Bonds") were issued as "Build America Bonds" under the provisions of the American Recovery and Reinvestment Act of 2009. At the time the 2009 Series V Bonds and 2010 Series W Bonds were issued, SMUD expected to receive an annual cash subsidy payment from the United States Treasury equal to 35% of the interest payable on the 2009 Series V Bonds and the 2010 Series W Bonds. However, as a result of the federal budget process, many payments from the federal government, including Build America Bonds subsidy payments, have been reduced. Absent the federal budget reductions, the aggregate annual cash subsidy payable to SMUD with respect to the 2009 Series V Bonds and the 2010 Series W Bonds would be approximately $9.8 million. With the current federal budget reductions, SMUD has typically been receiving aggregate annual cash subsidy payments with respect to the 2009 Series V Bonds and the 2010 Series W Bonds of approximately $9.2 million. It is possible that future federal budget actions could further reduce, or eliminate entirely, the annual cash subsidy payments with respect to Build America Bonds, including the annual cash subsidy payments payable to SMUD with respect to the 2009 Series V Bonds and the 2010 Series W Bonds. SMUD cannot predict the likelihood of the further reduction or elimination of the Build America Bonds subsidy payments. A significant reduction or elimination of the cash subsidy payments payable to SMUD with respect to the 2009 Series V Bonds or the 2010 Series W Bonds could be material.

[Remainder of Page Intentionally Left Blank]

Debt Service Requirements. The following table sets forth SMUD's debt service requirements with respect to SMUD's Senior Bonds and Subordinated Bonds.

DEBT SERVICE REQUIREMENTS [1]

Calendar Year	Senior Bonds Debt Service[2]	Subordinated Bonds Debt Service[3]	Total Debt Service
2023	$ 208,076,945	$ 10,861,111	$ 218,938,056
2024	176,548,637	7,483,333	184,031,970
2025	177,270,712	8,833,333	186,104,045
2026	177,369,062	5,500,000	182,869,062
2027	177,458,312	6,000,000	183,458,312
2028	177,568,563	6,000,000	183,568,563
2029	126,192,937	6,000,000	132,192,937
2030	136,265,941	6,000,000	142,265,941
2031	141,875,082	6,000,000	147,875,082
2032	141,716,845	6,000,000	147,716,845
2033	141,576,102	6,000,000	147,576,102
2034	144,261,606	6,000,000	150,261,606
2035	144,110,773	6,000,000	150,110,773
2036	143,962,001	6,000,000	149,962,001
2037	83,681,613	6,000,000	89,681,613
2038	83,528,863	6,000,000	89,528,863
2039	80,375,800	6,000,000	86,375,800
2040	80,382,550	6,000,000	86,382,550
2041	85,735,800	6,000,000	91,735,800
2042	31,422,350	28,490,000	59,912,350
2043	31,214,150	28,490,300	59,704,450
2044	31,008,750	28,490,350	59,499,100
2045	30,799,950	28,494,550	59,294,500
2046	25,391,750	28,492,150	53,883,900
2047	25,392,000	28,492,700	53,884,700
2048	25,392,500	28,490,450	53,882,950
2049	25,390,750	28,489,800	53,880,550
2050	25,394,250	-	25,394,250
Total	$2,879,364,594	$350,608,077	$3,229,972,671

(1) Does not include outstanding bonds issued by the Authorities for the Local Gas-Fired Plants. Does not include bonds issued by NCGA, NCEA or SMUD's portion of bonds issued by TANC. Payments by SMUD which are used by the Authorities, NCGA, NCEA, and TANC to pay debt service on such bonds constitute either "Maintenance and Operation Costs" or "Energy Payments" under the Senior Resolution and the Subordinate Resolution.

(2) As of December 31, 2022. Does not include debt service for the Senior Bonds anticipated to be issued as part of the plan of finance described in the forepart of this Official Statement or reflect the refunding of the Senior Bonds anticipated to be refunded as part of the plan of finance described in the forepart of this Official Statement. Debt service is not reduced by the amount of any subsidy that SMUD currently expects to receive in connection with the 2009 Series V Bonds and 2010 Series W Bonds.

(3) As of December 31, 2022. Does not include debt service for the Subordinated Bonds anticipated to be issued as part of the plan of finance described in the forepart of this Official Statement or reflect the refunding of the Subordinated Bonds anticipated to be refunded as part of the plan of finance described in the forepart of this Official Statement. Based on an assumed interest rate of 3% per annum following (i) the initial scheduled Mandatory Purchase Date of October 17, 2023 for SMUD's Subordinated Electric Revenue Bonds, 2019 Series A and (ii) the initial scheduled Mandatory Purchase Date of October 15, 2025 for SMUD's Subordinated Electric Revenue Bonds, 2019 Series B.

Note: Amounts may not add due to rounding.

INSURANCE

SMUD maintains a comprehensive property/casualty insurance program designed to protect against catastrophic losses that would have an adverse effect on its financial position or operational capabilities. Insurance programs are continuously reviewed and modified when construction, operational exposures, or developments in the insurance industry so warrant. Long term relationships with a variety of insurers minimize SMUD's susceptibility to the effects of market cycles. SMUD budgets reserves to meet potential insurance deductibles and self-insured liability claims.

SMUD safeguards assets with all-risk property and boiler/machinery insurance with limits of $800 million per occurrence for physical damage and business interruption combined. Various coverage sublimits and deductibles apply to losses arising from certain perils, such as business interruption, earthquake, or flood, respectively. Liability insurance is in effect to defend and indemnify SMUD against third party claims, including general, automobile and sudden and accidental pollution claims with policy limits of $140 million, and wildfire coverage with policy limits of $250 million, all of which include a variety of self-insured retentions.

Nuclear property and liability insurance policies are maintained in accordance with the NRC's requirements for decommissioned nuclear plants that maintain dry storage of spent fuel on-site. This includes $100 million in first party property damage and decontamination, $100 million for nuclear liability arising from accidents on-site, $200 million for supplier's and transporter's nuclear liability, and $300 million for nuclear worker liability. SMUD is exposed to possible retrospective assessments for nuclear property events occurring at other nuclear facilities in the United States capped at ten times SMUD's annual nuclear property premium (currently the maximum retrospective assessment is approximately $1,000,000).

Other types of insurance include non-owned aircraft liability, workers' compensation, crime, cyber security, fidelity, fiduciary liability, directors' and officers' liability, professional errors and omissions, transportation, and builder's risk for major facilities under construction.

LEGAL PROCEEDINGS

SMUD is a party to numerous actions arising out of the conduct of its business and affairs, some of which are discussed below. SMUD believes that any losses or adverse financial results it may suffer in these current actions, to the extent not covered by insurance, would not, in the aggregate, have an adverse material impact on SMUD, its business and affairs, the results of its operations, financial position or liquidity.

Environmental Litigation

SMUD was one of many potentially responsible parties that had been named in a number of actions relating to environmental claims and/or complaints. SMUD has resolved these environmental claims and/or complaints and entered into settlement agreements and/or consent orders. These settlement agreements and consent orders have statutory reopener provisions which allow regulatory agencies to seek additional funds for environmental remediation under certain limited circumstances. While SMUD believes it is unlikely that any of the prior settlements or consent orders will be reopened, the possibility exists. If any of the settlements or consent orders were to be reopened, SMUD management does not believe that the outcome will have a material adverse impact on SMUD's financial position, liquidity or results of operations.

Claim for Accidental Death

In February 2020, SMUD received a claim alleging an employee of a gutter company died after he accidentally came into contact with a SMUD electrical line during an installation. The claim is for approximately $43 million. SMUD concluded the electrical lines at the site of the accident exceeded required clearances and there is no basis for the claim against SMUD. SMUD management believes that SMUD has no potential liability in this matter and that any costs ultimately borne by SMUD will not have a material adverse impact on SMUD's financial position, liquidity or results of operations.

Proposition 26 Lawsuit

Two SMUD customers jointly filed a complaint against SMUD in October 2019, and subsequently one of the plaintiffs removed themselves from the complaint. The complaint states that SMUD violated Proposition 26 (see "DEVELOPMENTS IN THE ENERGY MARKETS – State Legislation and Regulatory Proceedings – Proposition 26" for a description of Proposition 26) when SMUD's Board on June 24, 2019 adopted rate increases for 2020 and 2021. The plaintiff contends the rate increases do not reflect SMUD's reasonable cost of service because they include a 9.2% scalar that SMUD applied to its TOD residential rate restructure in the 2017 rate process which SMUD's Board adopted at that time. Therefore, the plaintiff contends SMUD's 2020 and 2021 rates should be decreased by this scalar amount because the scalar exceeded SMUD's cost of service, and refunded to SMUD customers. Because SMUD has a strong evidentiary record supporting the Board's rate decisions in 2017 and 2019, and views the lawsuit as having little merit, SMUD anticipates the court will rule in SMUD's favor. The plaintiff has requested to amend the complaint, which has delayed the court's proceeding until the amended complaint is filed. While SMUD believes the court will rule in its favor, SMUD is unable to predict the outcome of the litigation or, if or to the extent SMUD ultimately is not successful in the litigation, what remedies against SMUD may be available. SMUD management believes that if SMUD is not successful in the litigation, and to the extent the outcome would have a material adverse impact on SMUD's financial position, liquidity, or results of operations, the Board would make appropriate rate modifications based on an evidentiary record consistent with guidance from a judicial decision in the case.

Other Litigation Matters

Currently, SMUD is party to various claims, legal actions and complaints relating to its operations, including but not limited to: property damage and personal injury, contract disputes, torts, and employment matters. SMUD management believes that the ultimate resolution of these matters will not have a material adverse effect on SMUD's financial position, liquidity or results of operation.

FERC Administrative Proceedings

SMUD is involved in a number of FERC administrative proceedings related to the operation of wholesale energy markets, regional transmission planning, gas transportation and NERC reliability standards. These proceedings generally fall into the following categories: (i) filings initiated by the CAISO (or other market participants) to adopt/modify the CAISO Tariff and/or establish market design and behavior rules; (ii) filings initiated by existing transmission owners (i.e., PG&E and the other IOUs) to pass-through costs to their existing wholesale transmission customers; (iii) filings initiated by FERC on market participants to establish market design and behavior rules or investigate market behavior by certain market participants; (iv) filings initiated by transmission owners under their transmission owner tariffs to establish a regional transmission planning process; (v) filings initiated by providers of firm gas transportation services under the Natural Gas Act; and (vi) filings initiated by NERC to develop reliability standards applicable to owners, users, and operators of the bulk electric system. In addition, SMUD is an active participant in other FERC administrative proceedings, including those related to reliability, variable

resource integration and the changing resource mix, and transmission planning and cost allocation. SMUD management believes that determinations of these FERC proceedings will not have a material adverse effect on SMUD's financial position, liquidity or results of operations.

CPUC Administrative Proceedings

Periodically, PG&E seeks to update its gas transmission and storage ("GT&S") revenue requirements and rate designs. These applications are litigated at the CPUC and affect SMUD through several tariff rates SMUD pays to move natural gas along PG&E's backbone transmission lines. In the 2019 GT&S rate case (the "2019 GT&S Case"), the CPUC affirmed the application in GT&S rates of cost causation principles to prevent excessive and unreasonable costs being shifted to electric generator backbone customers like SMUD, either through proposed changes in PG&E's natural gas storage strategy or through cost shifts within the electric generator customer class.

PG&E filed its 2023 General Rate Case ("GRC") in June 2021 which includes its gas transmission and storage revenue requirements. In September 2021, PG&E filed an application for approval of its Gas Cost Allocation and Rate Design Proposals ("CARD"). SMUD is actively participating in PG&E's GRC and CARD proceedings to ensure that costs are fairly allocated to non-core customers, including electric generator backbone customers. Separately, SMUD continues to participate and monitor a proceeding at the CPUC concerning long-term gas system planning. At this point in these proceedings, SMUD management does not anticipate that the ultimate resolution of such cases will have a material adverse effect on SMUD's financial position, liquidity, or results of operation.

DEVELOPMENTS IN THE ENERGY SECTOR

Electric Market Deregulation

In 1996, the State partially deregulated its electric energy market and the CAISO was established in 1998. Since the CAISO's formation, the State has experienced episodes of higher and more volatile prices for natural gas and wholesale electricity. In reaction to such conditions, SMUD made significant changes to its business strategy to mitigate the impacts of the more volatile and unpredictable energy markets. Volatility in energy prices in the State are always a potential risk due to a variety of factors which affect both the supply and demand for electricity in the western United States. These factors include, but are not limited to, the implementation of the CAISO market design changes, insufficient generation resources, the increase in intermittent renewable energy resources, natural gas price volatility, fuel costs and availability, weather and natural disasters, transmission constraints and levels of hydroelectric generation within the region. While SMUD has taken a number of steps to mitigate its exposure to price volatility associated with these factors, this price volatility under extreme conditions may contribute to greater volatility in SMUD's net revenues from the purchase and sale of electric energy and, therefore, could materially adversely affect the financial condition and liquidity of SMUD. For a discussion of SMUD's current resource planning activities and risk management strategies, see "BUSINESS STRATEGY" above.

Cybersecurity

Cybersecurity continues to be a top priority for SMUD. Attacks or threats directed at critical electric or energy sector operations could damage or cause the shut-down of generation, transmission or distribution assets that are essential to SMUD's ability to serve its customers, cause operational malfunctions and outages affecting SMUD's electric system, and result in costly recovery and remediation efforts. The costs of security measures or of remedying breaches could be material.

SMUD participates in sharing and receiving information about cyber security threats in real-time through the Electricity Information Sharing and Analysis Center ("E-ISAC"), the central hub for such data to actively manage risk related to potential cyber intrusion. SMUD also participates in NERC's development of mandatory, enforceable cyber security standards to address vulnerabilities in electric utility systems. SMUD also adopts voluntary measures suggested as best practices by the National Institute of Standards and Technology ("NIST") in its national framework.

SMUD's prudent response to this ever-changing threat requires constant monitoring and frequent updates to implement new regulatory requirements as they are developed. SMUD manages risk related to frequently changing regulatory requirements by participating in the development of standards at NERC and NIST and through active engagement in the cyber security policy dialogue in Congress.

Physical Security

Physical security is a critical concern for electric utilities as they seek to protect their infrastructure from a range of threats. The electric utility infrastructure is complex and consists of multiple components, such as power plants, substations, transmission and distribution lines, and other facilities. SMUD employs a dedicated physical security team that is deployed 24/7 and allows SMUD to respond to emergent events in a safe, coordinated, efficient, and cohesive manner, protecting the lives of its employees, customers, community, properties and assets. SMUD has policies, processes and procedures in place that outline the access controls and restrictions for its properties. SMUD restricts access based on need as it determines, while adhering to applicable laws, regulations and standards such as NERC Reliability Standards and NRC regulations. SMUD also maintains a Utility Security Plan adopted by the Board representing SMUD's compliance with the CPUC's Safety and Enforcement Divisions six-step security plan process described in CPUC Decision 19-01-018.

During times of elevated, imminent threats, safety and/or security concerns, SMUD's Security Operations team, under the direction of the Chief Financial Officer or delegate, reserves the right to deploy additional security measures, controls, and further restrict or limit access to its properties to increase its security posture.

SMUD operates a 24/7 security operations center which monitors and coordinates responses to situations reported by internal and external stakeholders, or which are detected by SMUD's security technology. The technology includes access control, video surveillance, and various types of intrusion detection solutions. The security operations center is a central hub for initial contact for physical security calls from employees of suspicious events and initiates incident responses as needed.

Federal Legislation and Regulatory Proceedings

Energy Policy Act of 2005. On August 8, 2005, the Energy Policy Act of 2005 (the "EPAct of 2005") was signed into law. The law includes a number of energy-related provisions, including among other things limited FERC jurisdiction over interstate transmission assets of municipal utilities, cooperatives and federal utilities to order these entities to provide transmission services on rates and terms comparable to those the entities charge and provide to themselves; the grant of authority to FERC to establish and certify an electric reliability organization to develop and enforce reliability standards for users of the bulk power transmission system; and prohibitions of certain market practices including the provision of false information and related expansion of FERC civil and criminal penalty authority. So far, the most visible impact of the EPAct of 2005 on SMUD has been the development of mandatory federal reliability standards.

Federal Regulation of Transmission Access. The Energy Policy Act of 1992 (the "Energy Policy Act") made fundamental changes in the federal regulation of the electric utility industry, particularly in the area of transmission access. The Energy Policy Act provided FERC with the authority to require a transmitting utility to provide transmission services at rates, charges, terms and conditions set by FERC. The purpose of these changes, in part, was to bring about increased competition in the electric utility industry. Under the Energy Policy Act, electric utilities owned by municipalities and other public agencies which own or operate electric power transmission facilities which are used for the sale of electric energy at wholesale are "transmitting utilities" subject to the requirements of the Energy Policy Act.

Since the Energy Policy Act, FERC has adopted a series of rules to implement competitive open access to transmission facilities and regional transmission planning. Order No. 888, issued in 1996, requires the provision of open access transmission services on a nondiscriminatory basis by all "jurisdictional utilities" (which, by definition, does not include municipal entities like SMUD) by requiring all such utilities to file OATTs. Order No. 888 also requires "nonjurisdictional utilities" (which, by definition, does include SMUD) that purchase transmission services from a jurisdictional utility under an open access tariff and that owns or controls transmission facilities to provide open access service to the jurisdictional utility under terms that are comparable to the service that the nonjurisdictional utility provides itself. Section 211A of the EPAct of 2005 authorizes, but does not require, FERC to order unregulated transmission utilities to provide transmission services, including rates and terms and conditions, that are comparable to those under which the unregulated transmitting utility provides transmission services to itself that are not unduly discriminatory or preferential.

In Order 890, issued in 2007, FERC stated that it will implement its authority under Section 211A on a case-by-case basis and retain the current reciprocity provisions.

In 2011, FERC issued Order 1000, which among other things requires public utility (jurisdictional) transmission providers to participate in a regional transmission planning process that produces a regional transmission plan and that incorporates a regional and inter-regional cost allocation methodology. Similar to Order 890, FERC states that it will implement its authority under Section 211A on a case-by-case basis. However, in Order 1000, FERC appears to expand upon the current reciprocity provisions and states that it has the authority to allocate costs to beneficiaries of services provided by specific transmission facilities even in the absence of a contractual relationship between the owner of the transmission facilities and the identified beneficiary.

SMUD, individually, and through the Large Public Power Council ("LPPC"), appealed Order 1000, but in 2014 the D.C. Circuit Court of Appeals rejected all of the arguments raised on appeal, upholding the entirety of Order 1000.

The jurisdictional members of WestConnect filed their proposed regional planning process and cost allocation methodology through a series of compliance filings at FERC. FERC accepted binding cost allocation for jurisdictional transmission providers of WestConnect and mandated that non-jurisdictional transmission providers (such as SMUD) identified as beneficiaries of a project have the ability to not accept the cost allocation. WestConnect's Order 1000 planning process began with the 2016-2017 planning cycle.

However, in response to FERC's WestConnect orders on compliance, El Paso Electric Company ("El Paso"), a jurisdictional transmission provider, petitioned to the Court of Appeals for the 5th Circuit. El Paso contends that FERC's WestConnect orders violate Order 1000's cost causation principle because WestConnect's binding cost allocation applies only to the jurisdictional transmission providers and thus forces jurisdictional transmission providers to subsidize projects benefitting non-jurisdictional transmission providers that opt-out of projects. The non-jurisdictional transmission providers agreed on a settlement with the jurisdictional transmission providers to resolve the matters on appeal in the 5th Circuit, but FERC

ultimately did not accept the settlement. The court scheduled briefings and oral argument for the case, which took place April 3, 2023. A court decision is expected sometime later in 2023. In the meantime, SMUD continues to participate in the WestConnect process.

SMUD is unable to predict at this time the full impact that Order 1000 will have on the operations and finances of SMUD's electric system or the electric industry generally. However, WestConnect has conducted planning cycles under its Order 1000 planning process and has not identified any project eligible for cost allocation. SMUD will continue to take any action necessary, including withdrawing from a cost allocation determination and engaging in FERC proceedings, to ensure that it is not required to pay for transmission costs in the absence of an agreement or service relationship.

Of note, on April 21, 2022, FERC issued a Notice of Proposed Rulemaking on Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection (the "NOPR"). The NOPR seeks input on proposals that would impact the Order 1000 planning and cost allocation process. SMUD has been engaged in the proceeding, providing input and helping draft comments with trade organizations, including LPPC. FERC has not issued any subsequent order. SMUD will continue to monitor and be engaged in any developments at FERC that impact the Order 1000 process and its participation in WestConnect.

NERC Reliability Standards. The EPAct of 2005 required FERC to certify an electric reliability organization ("ERO") to develop mandatory and enforceable reliability standards, subject to FERC review and approval. On February 3, 2006, FERC issued Order 672, which certified NERC as the ERO. Many reliability standards have since been approved by FERC, including those aimed at protecting the bulk electric system from physical and cyber threats.

The ERO or the regional entities, such as WECC, may enforce the reliability standards, subject to FERC oversight or FERC may independently enforce reliability standards. Potential monetary sanctions include fines of up to $1,496,035 per violation per day. Order 693 provides ERO and regional entities with the discretion necessary to assess penalties for such violations, while also having discretion to calculate a penalty without collecting the penalty if circumstances warrant.

Anti-Market Manipulation Rules. EPAct of 2005 gave FERC the authority to issue rules to prevent market manipulation in jurisdictional wholesale power and gas markets, and in jurisdictional transmission and transportation services. These anti-market manipulation rules apply to non-jurisdictional entities such as SMUD. Further, EPAct of 2005 provided FERC civil penalty authority, which the Commission has stated that it will exercise carefully by assuring that its market manipulation rules are clear.

Greenhouse Gas Emissions. The United States Environmental Protection Agency (the "EPA") has taken steps to regulate GHG emissions under existing law. In 2007, the U.S. Supreme Court held that the Clean Air Act ("CAA") directed EPA to regulate GHG emissions from new motor vehicles if it judged that such emissions contribute to climate change. In 2009, EPA finalized an "Endangerment Finding" under the CAA, declaring that six identified GHGs – carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride – cause global warming, and that global warming endangers public health and welfare. Subsequently, EPA promulgated GHG standards for passenger cars and light-duty trucks (the so-called "Tailpipe Rule"). Although that rulemaking was later withdrawn by a different administration, prompting litigation and re-proposal of the standards that has only recently been finalized, the original promulgation of the Tailpipe Rule required EPA to also address emissions of the same pollutants from other sources, namely, the electric sector.

In 2014, EPA issued a proposed rule under section 111(d) of the CAA called the Clean Power Plan (the "CPP") that projected power sector emissions reductions of 30% below 2005 levels by 2030. The

proposed CPP would have established a rate-based emissions goal for each state, providing states the responsibility to develop a State Implementation Plan ("SIP") describing how each will meet the goal assigned by EPA using the "Best System of Emissions Reduction" ("BSER") established by EPA. The BSER under the CPP featured a suite of emissions reduction measures including fuel switching, emissions trading, and other measures. Significantly for the State and its regulated entities, the proposed CPP included a "state measures" plan that allowed for continued operation of successful state programs that achieve CPP goals. The rule was finalized in October 2015.

In November 2015, 27 states and numerous corporations challenged the CPP in court, alleging that EPA had exceeded its authority under the CAA. The U.S. Supreme Court stayed implementation of the CPP pending disposition of the petitions for review in the D.C. Circuit and any subsequent review by the Supreme Court. The D.C. Circuit Court of Appeals held oral arguments on the petitioner's claims, but before the court issued a decision, the 2016 presidential election resulted in a change of administration.

The new administration quickly moved for an abeyance (or stay) of the case for as long as the agency needed to review and withdraw the CPP. The court issued a series of 60-day abeyances and ultimately dismissed the case on September 17, 2019. Meanwhile, in August 2018, EPA proceeded to withdraw the CPP and proposed a different rule under the same provision of the CAA. The new rule, known as the Affordable Clean Energy ("ACE") rule, would establish a BSER that only includes measures that can be undertaken at an individual power plant, rather than the broader suite of measures envisioned under the CPP. The ACE rule would also allow states to decide individually, on a case-by-case basis, the standards to be achieved by the best system of emission reductions, as well as exempt certain upgrades of fossil-fuel power plants from the CAA's New Source Review program and extend the time to implement SIPs after the ACE rule is finalized. The ACE rule was challenged in court by environmental groups and states alleging that the revised rule inadequately responds to EPA's responsibility to protect public health and welfare. SMUD joined in this litigation along with other challengers. The D.C. Circuit vacated the ACE rule on January 19, 2021, and remanded it to the EPA for review and revision, just days before a new presidential administration took office. Several states led by West Virginia and coal industry members appealed the decision.

In June 2022, the U.S. Supreme Court issued its opinion in *West Virginia v. EPA*, striking down the CPP and foreclosing any future regulations of "significant political and economic significance" if Congress has not expressly authorized them. While the decision does not restrict EPA to only requiring measures "inside the fence line" at an individual power plant to control GHGs, it appears unlikely that the EPA will be able to require material reductions in GHGs to mitigate climate change through section 111(d) of the CAA.

Federal Clean Energy Legislation. SMUD actively participates in discussion at the federal level regarding legislation that would meaningfully impact SMUD's existing GHG reduction strategies or impose new requirements for electric generators, including a proposed federal clean energy standard. In the 117th Congress, a clean electricity performance program was considered but ultimately lacked support to pass. Instead, Congress extended and expanded clean energy tax credits and created new grant and rebate programs to incentivize clean energy investments in the Inflation Reduction Act of 2022. While it is possible that a future Congress may revisit the concept of a clean energy standard or other GHG reduction regime, it is possible that the passage of the Inflation Reduction Act will diminish the likelihood of a new regulatory framework being enacted in the near future.

SMUD is unable to predict whether any new EPA rulemakings will be undertaken, and what the full impact of the reduction of fossil-based generation over time will have on the operations and finances of SMUD's electric system or the electric utility industry generally.

State Legislation and Regulatory Proceedings

A number of bills affecting the electric utility industry have been enacted by the State Legislature. In general, these bills provide for reduced GHG emission standards and greater investment in energy efficient and environmentally friendly generation alternatives through more stringent RPS. Additionally, ongoing regulatory proceedings address water flow and quality issues related to the Sacramento – San Joaquin River Delta. The following is a brief summary of these bills and regulatory proceedings.

Greenhouse Gas Emissions. On September 27, 2006, the Governor of the State signed into law AB 32, the Global Warming Solutions Act of 2006 ("AB 32"). AB 32 requires the California Air Resources Board ("CARB") to adopt enforceable GHG emission limits and emission reduction measures in order to reduce GHG emissions to 1990 levels by 2020. In addition, AB 32 establishes a mandatory reporting program for all IOUs, local, publicly-owned electric utilities and other load-serving entities (electric utilities providing energy to end-use customers) ("LSEs"). The AB 32 reporting program allows CARB to adopt regulations using market-based compliance mechanisms such as a "cap-and-trade" system.

On December 16, 2010, CARB approved a resolution adopting cap-and-trade regulations for the State. The regulations became effective on January 1, 2012. As adopted, the cap-and-trade program covers sources accounting for 85% of the State's GHG emissions, the largest program of its type in the United States.

The cap-and-trade program has been implemented in phases. The first phase of the program (through December 31, 2014) introduced a hard emissions cap on the combined electric utility and large industrial sectors, covering all sources emitting more than 25,000 metric tons of carbon dioxide-equivalent greenhouse gases ("CO2e") per year. In 2015, the program was expanded to cover distributors of transportation, natural gas, and other fossil fuels. The cap declined about 2 percent in 2014, and declined 3 percent annually from 2015 to 2020. The cap-and-trade program requires covered entities to retire compliance instruments (allowances and carbon offsets) for each metric ton of CO2e they emit. Initially, CARB allocated free allowances to LSEs and most industrial facilities at roughly 90% of their average emissions. SMUD was granted a higher amount because of early action taken to reduce GHG emissions. In the case of electric utilities, the value of allowances must be used to benefit ratepayers and achieve GHG emission reductions. As the program matures, some covered entities will be required to buy an increasing portion of their allowances at auction or on the secondary market. The cap-and-trade program also allows covered entities to use offset credits for compliance purposes (not exceeding 8% of a regulated entity's compliance obligation through 2020, 4% from 2021 through 2025, and 6% from 2026 through 2030). Offsets must be obtained from certified projects in sectors that are not regulated under the cap-and-trade program and are subject to other restrictions.

In November of 2012, CARB conducted its first allowance auction and auctions now occur on a quarterly schedule. On January 1, 2014, CARB linked the State cap and trade program with a companion program in the Canadian province of Quebec. The first quarterly joint auction for the linked programs occurred in November, 2014. On January 1, 2018, CARB linked the State's cap-and-trade program with a companion program in the Canadian province of Ontario. Immediately thereafter, an entity in any one of the three jurisdictions was able to purchase allowances on the secondary market in a linked jurisdiction, and as of February 21, 2018 (the date of the first joint auction) could purchase allowances in the joint auction. In June 2018, elections in Ontario changed political parties and the new administration formally withdrew from the Cap-and-Trade linkage. CARB has limited purchase and use of Ontario allowances in response. The August 2018 Cap and Trade auction did not include Ontario. In 2021, the Washington state legislature passed a Cap-and-Trade bill, which is expected to interact with the State's markets. Future potential near-term links to the CARB cap-and-trade program also include the states of Oregon, which has

adopted a cap and trade program, and New Mexico, which is considering the adoption of a cap and trade program.

On October 7, 2015, the Governor of the State signed SB 350 that contained aggressive goals for reducing carbon emissions by 2030, including raising the proportion of renewable energy to 50%, reducing the use of petroleum fuel in cars and trucks by up to 50%, and doubling the energy efficiency of existing buildings. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *Renewable Energy and Climate Change*" for additional information. In addition, SB 350 established requirements for larger POUs to adopt (by January 1, 2019) and file with the CEC Integrated Resource Plans ("IRPs") by April 2019 that would show planned procurement to achieve the 50% RPS and State GHG goals established by CARB. The CEC developed "guidelines" for these IRPs for POUs in 2017, updated them in 2018, and proposed additional updates in 2022. CARB established specific GHG target ranges for these IRPs in summer 2018, with SMUD's planning target set at 1.1 – 1.9 million metric tons of emissions. SMUD developed and adopted an IRP in 2018 through a comprehensive public process and filed the adopted IRP with the CEC in April 2019. SMUD adopted an updated IRP in June 2022 and filed the updated IRP with the CEC in September 2022. SMUD's updated IRP plans for a greater than 92% reduction in GHG emissions by 2030 relative to 1990 levels, which equals approximately 250,000 metric tons of GHG emissions in 2030. See "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *Renewable Energy and Climate Change*."

On April 29, 2015, the Governor of the State signed Executive Order B-30-15, establishing a goal for the State to reduce GHG emissions to 40% below 1990 levels by 2030. In 2016, the State Legislature passed Senate Bill 32 ("SB 32"), which codified Governor Brown's goal of reducing the State's GHG emissions to 40% below 1990 levels by 2030. In 2017, the State Legislature passed Assembly Bill 398 ("AB 398"), explicitly authorizing the continuation of the cap and trade program, with designated changes, through 2030. Subsequently, CARB adopted an initial set of regulatory changes extending the Cap-and-Trade program, including establishing utility sector allowance allocations through 2030. In 2018, CARB completed a rulemaking to implement the cap-and-trade program changes designated by AB 398. These changes include development of a hard price ceiling for the cap-and-trade program and two price-containment points below that ceiling, in an attempt to ensure stable prices in the program. CARB adopted final regulations on December 13, 2018.

In December 2022, CARB approved the agency's 2022 Scoping Plan, a roadmap to reducing GHG emissions by 85% and achieving economy-wide carbon neutrality by 2045. The Plan does not impose new mandates, but calls for state policymakers and regulatory agencies to implement programs and policies that support the Plan's goals. In 2023, CARB signaled that they would reopen regulations that govern several programs that SMUD participates in, including Cap and Trade, to align them with the goals set forth in the Scoping Plan. SMUD will monitor and, as appropriate, participate in these forthcoming regulatory proceedings.

In addition, any new projects constructed in the State, including power plants, that may cause a significant adverse impact on the environment must be analyzed under CEQA. Some State agencies have begun using CEQA in novel ways to require mitigation of "significant" GHG emissions caused, either directly or indirectly, by a project. Pursuant to Senate Bill 97 passed in 2007, CARB will assist the Governor's Office of Planning and Research in setting thresholds of significance under CEQA of GHG impacts from new projects. This is an area of State law that is evolving and untested in the courts. However, there is a risk that any project proponent of an electric system infrastructure project might have to mitigate such potential impacts to a level of less than significance.

On December 3, 2012, the Superior Court issued a ruling in *Cleveland National Forest Foundation v. San Diego Association of Governments* ("SANDAG"), Case No. 2100-00101593, that sided with the

State Attorney General and the other petitioners stating that SANDAG did not follow CEQA when it adopted a $257 billion regional transportation plan in 2011. The ruling expressly invalidated the certification of the Environmental Impact Report ("EIR") on the grounds that the EIR should have analyzed the plan's consistency with the governor's policy goal to reduce GHG emissions by 80% by 2050 as articulated in the 2005 Executive Order S-03-05. On November 24, 2014, the Fourth Appellate District upheld the trial court in a published decision, and SANDAG appealed to the State Supreme Court. On July 13, 2017, the Supreme Court reversed and held that SANDAG's decision not to adopt the 2050 goal was not an abuse of discretion. Nevertheless, the Court articulated three clear principles for agencies to follow in their CEQA review of planning documents: 1) agencies must take seriously the significance of even small increases in GHG emissions; 2) they must consider science-based State policy guidance in their decision-making; and 3) they are required to use the best scientific information available to determine whether their planning decisions are consistent with the State's goals. These principles will apply to SMUD in CEQA reviews of future projects.

On September 29, 2006, the Governor of the State signed into law Senate Bill 1368 ("SB 1368"), the GHG Emissions Performance Standard ("EPS"). SB 1368 limits long-term investments in baseload generation by the State's utilities to power plants that meet an EPS jointly established by the CEC and the CPUC. The agencies have set the EPS at 1,100 pounds CO2 per MWh, which is roughly half of the CO2 emissions rate of a conventional coal-fired power plant. CEC regulations to implement the law for POUs were approved by the Office of Administrative Law on October 16, 2007.

SMUD's primary supply and demand-side resource needs to meet customers' electricity usage patterns over the next 10 years are for peaking resources. Currently there is a ban in the State that prohibits the development of nuclear power plants until there is a permanent storage solution for spent fuel rods. With the effective ban on new coal power imports under SB 1368, natural gas-fired, combined cycle power plants would appear to be the primary viable option for fossil fuel-based baseload power plant development absent the implementation of new technologies in connection with other resource options. The reliance on a single fuel source will continue to put pressure on the natural gas market in the United States. SMUD has in place a natural gas procurement plan to mitigate natural gas volatility, see "POWER SUPPLY AND TRANSMISSION – Fuel Supply" above.

On September 16, 2022, the Governor of the State signed into law SB 1158, which requires every retail supplier of electricity to annually report hourly greenhouse gas emissions. The California Energy Commission will establish a process by July 1, 2024, and the implementation date is 2028.

Also on September 16, 2022, the Governor of the State signed into law SB 1020, which creates interim climate targets under which eligible renewable energy resources and zero-carbon resources must supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, and 95% by December 31, 2040. The bill also requires each State agency to ensure that zero carbon resources and eligible renewable energy resources supply 100 percent of electricity procured on its behalf by December 31, 2035. SMUD provides electricity to a number of State agency buildings and will work with State agencies to comply with this requirement.

Reliability. On June 30, 2022, the Governor signed the 2022-23 budget, along with a number of trailer bills, which provide implementing details on the budget line items. Included in AB 205, the energy trailer bill, are a number of reliability programs.

1. CEC Distributed Electricity Backup Assets Program to incentivize the construction of cleaner and more efficient distributed energy assets that would serve as on-call emergency supply or load reduction for the state's electrical grid during extreme events.

2. CEC Demand Side Grid Support Program to pay customers to reduce demand during stressed grid events this summer. SMUD is actively engaging the CEC on the development of this program.

3. DWR Strategic Reliability Reserve to secure resources for summer reliability or to preserve the option to extend the life of facilities that otherwise would retire, new temporary generators of more than 5 megawatts (MWs), new energy storage systems of at least 20 MWs, generation facilities that use lean, zero-emission fuel technologies, or new zero-emission technologies that can be operational by December 31, 2026.

Energy Efficiency. Senate Bill 1037 ("SB 1037"), signed by Governor Schwarzenegger on September 29, 2005, requires that each municipal electric utility, including SMUD, prior to procuring new energy generation resources, first acquire all available energy efficiency, demand reduction and renewable resources that are cost effective, reliable and feasible. SB 1037 also requires each municipal electric utility to report annually to its customers and to the CEC its investment in energy efficiency and demand reduction programs. Further, State Assembly Bill 2021 ("AB 2021"), signed by the Governor on September 29, 2006 requires that the publicly owned utilities establish energy efficiency and demand reduction targets and report and explain the basis of the targets beginning June 1, 2007 and every three years thereafter for a ten year horizon. Future reporting requirements as set forth in AB 2021 include: (i) the identification of sources of funding for the investment in energy efficiency and demand reduction programs, (ii) the methodologies and input assumptions used to determine cost effectiveness, and (iii) the results of an independent evaluation to measure and verify energy efficiency savings and demand reduction program impacts. The information obtained from local publicly owned utilities will be used by the CEC to present the progress made by the publicly owned utilities on the State's goal of reducing electrical consumption by 10% in ten years and amelioration with the GHG targets presented in Executive Order S-3-05 enacted by the Governor of the State on June 1, 2005.

In response to SB 1037 and AB 2021, SMUD established a specific goal of reducing energy consumption by 15% by 2018 and adopted annual targets for gigawatt hour and megawatt savings. SMUD revisits its energy efficiency goals and programs on a regular basis to ensure compliance with State policies established by SB 1037 and AB 2021 (as modified by SB 350).

SB 350 (passed in 2015) requires the CEC to develop statewide energy efficiency targets for 2030 aimed at doubling the achieved savings, and requires POUs to establish efficiency targets that are "consistent" with those targets. In 2017, the CEC developed a report on the doubling of energy efficiency targets required by SB 350. Both SB 350 and the CEC report contemplate the use of fuel substitution to meet energy efficiency targets and have a strong focus on carbon reduction. In response, SMUD developed a methodology and carbon tool to count fuel substitution, namely switching natural gas end-uses to efficient electric end uses and measuring savings in carbon emissions. SMUD presented its methodology to the joint state agency working group known as the Fuel Substitution Working Group several times in 2019 and adopted a carbon-based metric in early 2020 to guide overall SMUD carbon targets. This goal is expected to facilitate substantial expansion of building electrification and result in more than double the overall amount of energy efficiency being delivered per year, when measured on a carbon reduction basis. The vast majority of this energy efficiency (more than 85%) is expected to be delivered through efficient electrification by 2030.

Also passed in 2015 was AB 802. This bill directed the CEC to develop a State-wide building energy use benchmarking and public disclosure program for those buildings greater than 50,000 square feet. As set forth in regulations adopted by the CEC, building owners are required to report building characteristic information and energy use data each year. The reporting began in 2018 for buildings without residential utility accounts and in 2019 for buildings with 17 or more residential utility accounts. Energy utilities must provide building-level energy use data to building owners upon request.

In order to support the implementation of SB 350 and AB 802, the CEC opened a rulemaking to amend its Title 20 Data Collection regulations, resulting in an expansion of customer data utilities must report to the CEC. The CEC adopted regulations pursuant to the rulemaking in February 2018, and the regulations were approved and went into effect in the Summer of 2018. SMUD has made several data filings under the new regulations. In 2020, the CEC opened a second phase of Data Collection rulemaking to amend regulations necessary to develop the policy reports and analysis as required by statue to assist in the CEC's energy forecasting and assessment activities. The OAL approved the codifying of the regulations from that proceeding on December 30, 2021.

Electric Transportation Mandates Executive Order B-48-18, enacted January 2018, ordered all state entities to work with the private sector and all appropriate levels of government to put at least 5 million zero-emission vehicles on California roads by 2030, as well as 250,000 zero-emission vehicle chargers by 2025.

In September 2020, Governor Newsom signed Executive Order N-79-20 to accelerate actions to mitigate and adapt to climate change, and to more quickly move toward a low-carbon, sustainable and resilient future. Executive Order N-79-20 states the goal of 100 percent of in-state sales of new passenger cars and trucks will be zero-emission by 2035 and 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks.

CARB has proposed or adopted a suite of regulations to support these State policies, including the Zero Emission Forklift Regulation, Advanced Clean Trucks Rule (the "ACT Rule"), Advanced Clean Cars II ("ACC II"), and the Advanced Clean Fleets Rule (the "ACF Rule"). The ACT Rule and ACC II establish increasing zero-emission vehicle ("ZEV") sales requirements for truck and light-duty vehicle manufacturers, respectively. The ACT Rule, which took effect in March 2021, requires that by 2035, at least 55% of Class 2b-3 truck sales are ZEVs, at least 75% of Class 4-8 straight truck sales, and 40% of truck tractor sales. ACC II, which took effect in November 2022, requires that 100% of light-duty passenger car, truck, and SUV sales in California be ZEV by the 2035 model year.

CARB is expected to adopt the ACF Rule in 2023. The proposed ACF Rule would establish ZEV purchase and fleet composition requirements for on-road medium- and heavy-duty ("MHD") fleets in California. Under the proposed ACF Rule, public fleets like SMUD would have two compliance options. The first is a ZEV purchase requirement: 50% of annual MHD vehicle purchases would need to be ZEVs starting in 2024, and 100% starting in 2027. The second is the optional ZEV milestone option, under which the composition of the MHD fleet meets certain ZEV percentages over time, which would provide SMUD with considerably greater compliance flexibility. The proposed ACF Rule would also accelerate the manufacturer ZEV sales requirement to 100% of all MHD truck sales by the 2036 model year.

Additionally, CARB is developing a regulation to drive greater deployment of zero-emission forklifts within fleets throughout the State. This Zero-Emission Forklift Regulation is scheduled for CARB consideration in 2023.

Increases in ZEV adoption and deployment will result in increased customer usage of electricity. The ACF Rule would also require SMUD, as a fleet owner, to transition SMUD's MHD fleet to ZEVs.

Rooftop Solar Mandate. In February 2018, the CEC approved updates to the 2019 Building Energy Efficiency Standards to require installation of rooftop photovoltaic solar systems for residential buildings under three stories constructed starting in 2020, with an option to satisfy the requirement through community shared solar electric generation or battery storage systems. This "Community Solar" compliance mechanism permits a program administrator, such as a utility, to provide solar power to participating residential customers instead of rooftop solar. SMUD submitted an application to the CEC to

be a program administrator of SMUD's Community Solar program, Neighborhood SolarShares, in 2019, and the CEC approved SMUD's application in February 2020. In 2021, the CEC revised the Community Solar provisions in the 2022 Building Energy Efficiency Standards to include an "opt-out" provision, which will impact the design and implementation of SMUD's Neighborhood SolarShares program. SMUD updated its Neighborhood SolarShares program materials to incorporate the 2022 revisions, which took effect in January 2023, and has received approval from the CEC to continue serving as a program administrator. See also "BUSINESS STRATEGY – Serving SMUD's Customers – *Renewable Options*."

Renewables Portfolio Standard. Senate Bill 100 was passed by the Legislature and approved by Governor Brown on September 10, 2018. The bill sets a 50% RPS target for 2026 and sets compliance period targets at 44% by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. The bill also creates a statewide planning goal to meet all of the state's retail electricity supply with a mix of RPS-eligible and zero-carbon resources by December 31, 2045.

Load Management Standards. Sections 25213, 25218(e) and 25403.5 of the Public Resources Code mandate and authorize the CEC to adopt rules and regulations to reduce the uneconomic and unnecessary consumption of energy and to manage energy loads, or demand, to help maintain electrical grid reliability. The original Load Management Standards ("LMS") regulations were adopted in 1979 and required the implementation of marginal cost pricing industrial time-of-use rates, and residential load control programs. In October 2022, the CEC adopted an update to the LMS regulations to require the largest electric service providers in California (including SMUD) to develop retail electricity rates that change at least hourly to reflect locational marginal costs and submit those rates to the utility's governing body for approval. The LMS proposes the following: a) voluntary hourly or sub-hourly rates for each customer class or b) a cost-effective program, to be implemented by the utilities by January 2026. The effective date of the LMS regulation is April 1, 2023. The LMS regulations are intended to increase efficiency and demand flexibility in California's electricity grid. SMUD's pricing team is leading SMUD's LMS implementation work, including the development of a Compliance Plan to be submitted to SMUD's Board by the fourth quarter of 2023 and then to the CEC.

Energy Storage Systems. In September 2010, the State Legislature enacted, and the Governor signed into law, Assembly Bill 2514 ("AB 2514"). On or before March 1, 2012, the governing board of each POU was required to initiate a process to determine appropriate targets, if any, for the utility to procure viable and cost-effective energy storage systems to be achieved by December 31, 2016, and December 31, 2020. The bill required each POU to report certain information to the CEC. In 2014, SMUD set a 0 MW target for 2017, and in 2017 set a 9 MW target for 2020. In 2018, SMUD identified a potential need for 246 MW of storage by 2030. Following SMUD's 2020 compliance report to the CEC in January 2021, going forward SMUD will evaluate and report energy storage planning as part of its IRP update at least once every five years. See also "BUSINESS STRATEGY – Sustainable Power Supply and Transmission – *Energy Storage Systems*."

Sacramento-San Joaquin River Bay-Delta Processes. The Sacramento-San Joaquin River Delta is an expansive inland estuary, formed at the western edge of the California Central Valley by the confluence of the Sacramento and San Joaquin rivers ("Delta"). There are two substantial Delta planning processes with the potential to affect (1) energy available for SMUD's purchase from the Central Valley Project ("CVP") and (2) flows within the Upper American River watershed. These processes are called the Bay-Delta Water Quality Control Plan ("Bay-Delta Plan") and the Delta Conveyance Project.

The Bay-Delta Water Quality Control Plan is updated periodically by the State Water Resources Control Board ("SWRCB"), the last time being in 2006. The current Bay-Delta Plan update process is being implemented in four phases. The first phase considered southern Delta water quality, with a significant focus on San Joaquin River tributaries. Phase 2, which is initially being addressed by a

document under development by SWRCB staff, will address Sacramento River tributaries and various flow related issues, including the critically important one of those tributaries' contribution to Delta outflow. Phase 3 will concern changes to water rights needed to implement Phase 2. A substantial change in Delta outflow requirements could have a major impact on the timing of hydroelectric energy generation by the CVP. SMUD has a long-term agreement with WAPA to purchase some of this power (see "POWER SUPPLY AND TRANSMISSION – Power Purchase Agreements – *Western Area Power Administration*"). On July 18, 2018, the SWRCB released an updated Framework document signaling its staff's intent to propose Delta outflow requirements of 45–65% unimpaired flows for the Sacramento River tributaries (which includes the American River, the upper portions of which are where the UARP sits), though the report will analyze requirements of 35–75%. If these criteria were implemented, they could cut CVP generation by 50 to 63%. Governor Newsom has urged the SWRCB, other agencies and affected parties to execute voluntary agreements to address species' needs and outflow requirements. Although the negotiations have been slow, it is expected they will eventually result in a reasonable compromise. If the agreements do not come to fruition, SMUD plans to fully participate in all regulatory and legal proceedings to argue for consideration and minimization of impacts to hydropower generation. SMUD will assess the potential impacts of proposed modifications to the present outflow objectives on SMUD's operations once the SWRCB makes those available.

In July 2022, the State Department of Water Resources ("DWR") released a Draft Environmental Impact Report ("EIR") to evaluate the potential impacts of carrying out the Delta Conveyance Project; the U.S. Army Corps of Engineers released a separate Environmental Impact Statement to evaluate the effects of the Project pursuant to the National Environmental Policy Act. The Delta Conveyance Project is expected to entail construction of two intakes on the Sacramento River that will carry water to a main tunnel to the California Aqueduct for delivery south of the Delta. The Delta Conveyance Project may pose the potential to exacerbate impacts to already imperiled aquatic species, and in turn could have indirectly prompted regulatory agencies to require third parties, such as SMUD, to compensate by making changes to their operations. The Bureau of Reclamation is not a party to the Delta Conveyance Project, which should eliminate the potential for CVP power to be used to supply Delta Conveyance Project pumps. SMUD will monitor the proceedings and participate as necessary to ensure any impacts to SMUD interests are minimized.

Proposition 26. Proposition 26 was approved by the electorate on November 2, 2010 and amends Article XIII A and Article XIII C of the State Constitution. Proposition 26 imposes a two-thirds voter approval requirement for the imposition of fees and charges by the State, unless the fees and charges are expressly excluded. It also imposes a majority voter approval requirement on local governments with respect to fees and charges for general purposes, and a two-thirds voter approval requirement with respect to fees and charges for special purposes, unless the fees and charges are expressly excluded. The initiative, according to its supporters, is intended to prevent the circumvention of tax limitations imposed by the voters pursuant to Proposition 13, approved in 1978, and other measures through the use of non-tax fees and charges. Proposition 26 expressly excludes from its scope a charge imposed for a specific local government service or product provided directly to the payor that is not provided to those not charged, and which does not exceed the reasonable cost to the local government of providing the service or product. Proposition 26 is not retroactive as applied to local governments. Although SMUD believes that the initiative was not intended to apply to fees for utility services such as those charged by SMUD and its fees and charges meet the criteria of the exclusion described above, it is possible that Proposition 26 could be interpreted to further limit fees and charges for electric utility services and/or require stricter standards for the allocation of costs among customer classes. SMUD is unable to predict at this time how Proposition 26 will be interpreted by the courts or what its ultimate impact will be. As of the date of this Official Statement, SMUD is unaware of any fees or charges relating to SMUD's service that would have to be reduced or eliminated because of Proposition 26. However, certain of SMUD's adopted rate increases have been challenged. See "LEGAL PROCEEDINGS – Proposition 26 Lawsuit."

Initiative 1935. A voter initiative entitled "The Taxpayer Protection and Government Accountability Act" ("Initiative 1935") has been determined to be eligible for the State's November 2024 statewide general election and, unless withdrawn by its proponent prior to June 27, 2024, will be certified as qualified for the ballot in such election. Were it to be approved by a majority of voters in the election, Initiative 1935 would amend Article XIII C of the State Constitution to, among other things, provide that charges (or increases in charges) imposed by a local government after January 1, 2022 for services or products provided directly to the payor (including, potentially, fees and charges for electric utility services) are "taxes" subject to voter approval unless the local government can prove by clear and convincing evidence that the charge is reasonable and does not exceed the "actual cost" of providing the service or product. Initiative 1935 defines "actual cost" as "(i) the minimum amount necessary to reimburse the government for the cost of providing the service or the product to the payor and (ii) where the amount charged is not used by the government for any purpose other than reimbursing that cost." If adopted, Initiative 1935 would be subject to judicial interpretation. SMUD is unable to predict whether and how Initiative 1935, if approved, would be interpreted or applied, but it is possible any such interpretation or application could further limit future fees and charges or future increases in fees and charges for electric utility services, require stricter standards for the allocation of costs among customer classes and/or otherwise adversely impact SMUD and the Net Revenues pledged to pay the Senior Bonds and Subordinated Bonds.

Wildfire Legislation. In September 2016, Governor Brown signed into law Senate Bill 1028 ("SB 1028"), which requires POUs (including SMUD), IOUs, and electrical cooperatives to construct, maintain and operate their electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by electrical lines and equipment. SB 1028 also requires the governing board of POU's to make an initial determination whether any portion of that geographical area has a significant risk of catastrophic wildfire resulting from those electrical lines and equipment, based on historical fire data and local conditions, and in consultation with the fire departments or other entities responsible for control of wildfires within the geographical area.

Senate Bill 901 ("SB 901"), signed into law in September 2018 by Governor Brown, further addresses response, mitigation and prevention of wildfires. The bill requires POUs, including SMUD, before January 1, 2020, and annually thereafter, to prepare a wildfire mitigation plan and present it in a public meeting to their governing board. SB 901 requires POU's to accept comments on the wildfire mitigation plan from the public, other local and State agencies, and interested parties, and to verify that the plan complies with all applicable rules, regulations, and standards, as appropriate. The bill requires a qualified independent evaluator to review and assess the comprehensiveness of its wildfire mitigation plan and present its report to the board in a public meeting.

In 2019, Governor Newsom released his comprehensive strategy on wildfires, laying the groundwork for legislative discussions on utility wildfire liability and allocating costs associated with catastrophic wildfires, among other things. While the Governor supported a modification of State's current inverse condemnation doctrine, under which utilities are held liable for wildfire damage without regard to the fault of the utility, no bill was introduced. AB 1054 (Holden) did pass in 2019 that included several provisions for solvent investor owned utilities, including the development of a fund to help pay victim claims for utility ignited wildfires. The bill also created a new Wildfire Safety Division within the CPUC to prioritize wildfire safety throughout the State, and established an appointed Wildfire Safety Advisory Board to advise and make recommendations relating to wildfire safety to this new Division. For POUs, the bill requires submittal of annual wildfire mitigation plans to the Advisory Board for review and advisory opinions.

Senate Bill 247 ("SB 247"), signed by Governor Newsom on October 2, 2019, establishes notification, audit and reporting guidelines for electrical corporations relating to vegetation management requirements in the wildfire mitigation plan. SB 247 also specifies the qualifications for electrical line

clearance tree trimmers performing work to comply with the vegetation management requirements in an electrical corporation's wildfire mitigation plan and requires that qualified line clearance tree trimmers be paid no less than a specified prevailing wage rate. POUs are not required to adhere to SB 247, but the market impacts are projected to significantly increase SMUD's annual vegetation management costs.

Nonstock Security. SMUD sponsored legislation in 2019, Assembly Bill 689, which was signed into law by Governor Newsom on September 5, 2019. This bill expressly allows SMUD the ability to operate a pilot project (effective January 1, 2020, to January 1, 2025), of up to three acquisitions, to hold nonstock security in a corporation or other private entity if acquired as part of a procurement of goods or services from that entity, provided that no separate funding is expended solely for the nonstock security. This will allow SMUD to realize the financial benefits of its investments, partnerships, and intellectual property.

On September 15, 2022, the Board authorized the CEO & GM to enter into a joint collaboration agreement with ESS Tech, Inc. ("ESS"). Under that agreement SMUD would procure from ESS iron flow batteries for utility scale long-duration energy storage applications. The agreement contemplates a multi-year phased deployment of up to 200MW/2GWh of long duration energy storage by 2028. As part of that procurement, SMUD acquired nonstock security in ESS.

Future Regulation

The electric industry is subject to continuing legislative and administrative reform. States and Federal entities routinely consider changes to the way in which they regulate the electric industry. Recently, both further deregulation and forms of additional regulation have been proposed for the industry, which has been highly regulated throughout its history. SMUD is unable to predict at this time the impact any such proposals will have on the operations and finances of SMUD or the electric utility industry generally.

OTHER FACTORS AFFECTING THE ELECTRIC UTILITY INDUSTRY

CAISO Market Initiatives

The CAISO routinely conducts a number of initiatives and stakeholder processes that propose certain operational and market changes that impact SMUD. SMUD does and will continue to monitor the various initiatives proposed by the CAISO and participate in its stakeholder processes to ensure that its interests are protected.

SMUD participates in the CAISO market for only a small percentage of energy needs, however, it continues to benefit from its participation in the CAISO's WEIM and is currently exploring further participation in the CAISO's proposed Extended Day Ahead Market ("EDAM") (both the WEIM and EDAM are described further below). Along with monitoring other key market initiatives at the CAISO which impact wholesale energy markets, SMUD will continue to actively participate in all processes related to EIM and EDAM, to ensure both participation models are beneficial to SMUD's customers. Given its success in EIM and active engagement with the CAISO and CAISO leadership, SMUD has earned a key role in the stakeholder processes related to these important and evolving markets.

Resource Adequacy Filing

In September 2005, the State Legislature enacted and the Governor signed into law Assembly Bill 380 ("AB 380"), which requires the CPUC to establish resource adequacy requirements for all LSEs within the CPUC's jurisdiction. In addition, AB 380 requires publicly owned utilities, including SMUD, to meet the most recent resource adequacy standard as adopted by the WECC. In October 2005, the CPUC issued

a decision stating that LSEs under its jurisdiction would be required, by June 2006, to demonstrate that they have acquired capacity sufficient to serve their forecast retail customer load plus a 15-17% planning reserve margin. In March 2021, the CPUC issued a decision requiring the three largest investor-owned utilities (PG&E, Southern California Edison, and San Diego Gas & Electric) to target a minimum of 2.5% of incremental resources for their planning reserve margin for 2021 and 2022. Subsequently, in December 2021, the CPUC issued another decision that increased the investor-owned utilities' minimum target by an additional 2.5-5% of incremental resources for 2022 (which creates an effective planning reserve margin of 20-22%) and extended this target to 2023. And in June 2022, the CPUC issued a decision adopting a planning reserve margin of 16% for 2023, and 17% for 2024, for all LSEs under its jurisdiction. The WECC has yet to formally adopt a resource adequacy requirement. However, consistent with current WECC practices, SMUD utilizes a 15% planning reserve margin when assessing the need for future resources.

Western Energy Imbalance Market and Extended Day Ahead Market

Federal and state policymakers have long-promoted the development of organized markets in the west as a means (among other reasons) to better integrate intermittent renewable resources into the electric system, the first of which markets is the Western EIM, operated by the CAISO. The CAISO successfully launched the WEIM, a real time only imbalance market, on October 1, 2014, with PacifiCorp as the first participant. Since this time, the WEIM has grown significantly with the additions of NV Energy, Arizona Public Service, Puget Sound Energy, Portland General Electric, Idaho Power, Powerex, BANC, the Salt River Project, Seattle City Light, the Turlock Irrigation District, the Los Angeles Department of Water and Power, NorthWestern Energy, the Public Service Company of New Mexico, Avista, Tacoma Power, Bonneville Power Administration, and Tucson Electric Power. Additionally, the WEIM footprint continued to expand in 2023 with the additions of Avangrid, WAPA Desert Southwest Region, and El Paso Electric. SMUD expects the WEIM to comprise a significant portion of the Western Interconnection in 2023.

To date, participation in the WEIM by SMUD has shown significant financial and operational benefits, in addition to furthering an already favorable working partnership between SMUD and the CAISO to develop solutions to integrate renewable resources in support of carbon reduction goals.

BANC's participation not only signaled the first public power participant in the EIM, but it was also implemented utilizing a unique phased approach, with SMUD (as the largest member of BANC) implementing so-called WEIM Phase 1 in 2019, while the other BANC members and WAPA (the "Phase 2 Parties") joined after further evaluation and approvals in March of 2021.

Part of the BANC Phase 2 participation included reimbursement to SMUD certain upfront infrastructure costs incurred by SMUD in Phase 1 to establish BANC as an WEIM Entity. This reimbursement to SMUD by the Phase 2 Parties has been completed.

The CAISO and WEIM participants, including SMUD and BANC, have participated in developing a design framework to extend the successful WEIM real time framework to the EDAM. Like WEIM, EDAM would broaden the access to regional resources for the reliable integration of renewable resources, only over a longer (day ahead) time horizon by allowing for a more economic and efficient optimization of regional resources by providing grid operators greater time (day ahead as opposed to real time) to commit or decommit units based on market price signals. Only participants in the WEIM will be allowed to extend their participation to EDAM. The CAISO launched a public stakeholder initiative and utilized most of 2022 developing the EDAM design. On February 1, 2023 the CAISO Board of Governors and EIM Governing Body approved the EDAM proposal. Tariff development, regulatory approvals and implementation activities will take place in 2023 and 2024, with expected market go-live first quarter 2025. SMUD (and BANC) will likely need to consider its participation before 2024 if it wishes to on-board in time for the first

phase of EDAM participation in 2025. Similar to the process around WEIM participation, SMUD, along with BANC, are performing cost-benefit studies to ensure EDAM participation will expand on the existing WEIM benefits prior to seeking approvals to proceed.

PG&E Bankruptcy

On January 14, 2019, PG&E and its parent company, PG&E Corporation, announced their intention to file, on or about January 29, 2019, for bankruptcy protection under Chapter 11 of the United States Bankruptcy Code (the "Bankruptcy Code") mainly as a result of wildfire liability claims and exposure. On January 29, 2019, PG&E and PG&E Corporation filed for bankruptcy protection under Chapter 11 of the Bankruptcy Code (the "Bankruptcy Code"). On May 28, 2020, the CPUC approved PG&E's Plan of Reorganization. On June 20, 2020 the United States Bankruptcy Court for the Northern District of California confirmed PG&E's Plan of Reorganization. SMUD does not anticipate any material impacts to SMUD in connection with PG&E's Plan of Reorganization.

In addition, other electric utilities, including the other major IOUs in the State, Southern California Edison and San Diego Gas & Electric Company, have experienced credit rating downgrades as a result of potential wildfire liabilities exposure, which may have implications for the electric market generally.

Other Factors

The electric utility industry in general has been, or in the future may be, affected by a number of other factors which could impact the financial condition and competitiveness of many electric utilities and the level of utilization of generating and transmission facilities. In addition to the factors discussed above, such factors include, among others, (a) effects of compliance with rapidly changing environmental, safety, licensing, regulatory and legislative requirements other than those described above; (b) changes resulting from conservation and demand side management programs on the timing and use of electric energy; (c) changes resulting from a national energy policy; (d) effects of competition from other electric utilities (including increased competition resulting from mergers, acquisitions, and "strategic alliances" of competing electric and natural gas utilities and from competitors transmitting less expensive electricity from much greater distances over an interconnected system) and new methods of, and new facilities for, producing low cost electricity; (e) the repeal of certain federal statutes that would have the effect of increasing the competitiveness of many IOUs; (f) increased competition from independent power producers and marketers, brokers and federal power marketing agencies; (g) "self-generation" or "distributed generation" (such as solar, microturbines and fuel cells) by industrial and commercial customers and others; (h) issues relating to the ability to issue tax exempt obligations, including severe restrictions on the ability to sell to nongovernmental entities electricity from generation projects and transmission service from transmission line projects financed with tax exempt obligations; (i) effects of inflation on the operating and maintenance costs of an electric utility and its facilities; (j) changes from projected future load requirements; (k) increases in costs and uncertain availability of capital; (l) issues relating to supply chains and the uncertain availability or increased costs of necessary materials; (m) shifts in the availability and relative costs of different fuels (including the cost of natural gas); (n) sudden and dramatic increases in the price of energy purchased on the open market that may occur in times of high peak demand in an area of the country experiencing such high peak demand, such as has occurred in the State; (o) issues relating to risk management procedures and practices with respect to, among other things, the purchase and sale of natural gas, energy and transmission capacity; (p) other legislative changes, voter initiatives, referenda and statewide propositions; (q) effects of changes in the economy; (r) effects of possible manipulation of the electric markets; (s) natural disasters or other physical calamities, including, but not limited to, earthquakes, droughts, severe weather, wildfires and floods; (t) changes to the climate, including increasing volatility in rainfall in the Western United States and a reduction in the depth and duration of the Sierra snowpack; (u) issues relating to cyber-security; and (v) outbreaks of infectious diseases or the occurrence of pandemics.

Any of these factors (as well as other factors) could have an adverse effect on the financial condition of any given electric utility, including SMUD's electric utility, and likely will affect individual utilities in different ways.

SMUD is unable to predict what impact such factors will have on the business operations and financial condition of SMUD's electric system, but the impact could be significant. SMUD has taken major steps to mitigate the impacts of many of the changes. This Official Statement includes a brief discussion of certain of these factors. This discussion does not purport to be comprehensive or definitive, and these matters are subject to change subsequent to the date hereof. Extensive information on the electric utility industry is available from the legislative and regulatory bodies and other sources in the public domain, and potential purchasers of any of SMUD's Senior Bonds or Subordinated Bonds described in the forepart of this Official Statement should obtain and review such information.

APPENDIX B

2022 AND 2021 CONSOLIDATED FINANCIAL STATEMENTS AND REPORT OF INDEPENDENT ACCOUNTANTS

[THIS PAGE INTENTIONALLY LEFT BLANK]

Financial Statements

Report of Independent Auditors

December 31, 2022 and 2021

SMUD®

SACRAMENTO MUNICIPAL UTILITY DISTRICT
TABLE OF CONTENTS
As of and for the Years Ended December 31, 2022 and 2021

Report of Independent Auditors	1
Required Supplementary Information - Unaudited	
Management's Discussion and Analysis	4
Basic Financial Statements	
Statements of Net Position	15
Statements of Revenues, Expenses and Changes in Net Position	17
Statements of Cash Flows	18
Notes to Financial Statements	
Note 1. Organization	20
Note 2. Summary of Significant Accounting Policies	20
Note 3. Accounting Change	28
Note 4. Electric Utility Plant	30
Note 5. Investment in Joint Powers Authority	32
Note 6. Component Units	34
Note 7. Cash, Cash Equivalents, and Investments	38
Note 8. Regulatory Deferrals	40
Note 9. Derivative Financial Instruments	42
Note 10. Long-term Debt	48
Note 11. Commercial Paper Notes	53
Note 12. Fair Value Measurement	54
Note 13. Accrued Decommissioning Liability	56
Note 14. Pension Plans	58
Note 15. Other Postemployment Benefits	63
Note 16. Insurance Programs and Claims	67
Note 17. Commitments	68
Note 18. Claims and Contingencies	69
Note 19. Subsequent Events	70

SACRAMENTO MUNICIPAL UTILITY DISTRICT
TABLE OF CONTENTS - CONTINUED
As of and for the Years Ended December 31, 2022 and 2021

Required Supplementary Information - Unaudited

Schedule of Changes in Net Pension Liability and Related Ratios During the Measurement Period – PERS Plan 72

Schedule of Plan Contributions for Pension – PERS Plan 73

Schedule of Changes in Net OPEB Asset or Liability and Related Ratios During the Measurement Period 74

Schedule of Plan Contributions for OPEB 75

Independent Auditors' Report

To the Board of Directors of
Sacramento Municipal Utility District

Report on the Audit of the Financial Statements

Opinion

We have audited the accompanying financial statements of the Sacramento Municipal Utility District, as of and for the years ended December 31, 2022 and 2021, and the related notes to the financial statements, which collectively comprise the Sacramento Municipal Utility District's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Sacramento Municipal Utility District as of December 31, 2022 and 2021, and the changes in financial position and cash flows for the year 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 (GAS). 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 Sacramento Municipal Utility District and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audits. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

As discussed in Note 3, the Sacramento Municipal Utility District adopted the provisions of GASB Statement No. 87, *Leases*, effective January 1, 2022. Accordingly, the accounting changes have been retroactively applied to the prior period presented. Our opinion is not modified with respect to this matter.

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 Sacramento Municipal Utility District'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.

Baker Tilly US, LLP, trading as Baker Tilly, is a member of the global network of Baker Tilly International Ltd., the members of which are separate and independent legal entities. © 2020-2022 Baker Tilly US, LLP

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 GAS 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 GAS, 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 Sacramento Municipal Utility District'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 Sacramento Municipal Utility District'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 Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated February 24, 2023 on our consideration of the Sacramento Municipal Utility District'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 Sacramento Municipal Utility District'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 Sacramento Municipal Utility District's internal control over financial reporting and compliance.

Baker Tilly US, LLP

Madison, Wisconsin
February 24, 2023

Sacramento Municipal Utility District
Management's Discussion and Analysis - Unaudited
For the Years Ended December 31, 2022 and 2021

Using this Financial Report

This annual financial report for Sacramento Municipal Utility District (SMUD) consists of management's discussion and analysis and the financial statements, including notes to financial statements. The Financial Statements consist of the Statements of Net Position, the Statements of Revenue, Expenses and Changes in Net Position and the Statements of Cash Flows.

SMUD maintains its accounting records in accordance with Generally Accepted Accounting Principles for proprietary funds as prescribed by the Governmental Accounting Standards Board (GASB). SMUD's accounting records generally follow the Uniform System of Accounts for Public Utilities and Licensees prescribed by the Federal Energy Regulatory Commission (FERC), except as it relates to accounting for contributions of utility property in aid of construction.

Overview of the Financial Statements

The following discussion and analysis of the financial performance of SMUD provides an overview of the financial activities for the years ended December 31, 2022 and 2021. This discussion and analysis should be read in conjunction with the financial statements, required supplementary information and accompanying notes, which follow this section.

The Statements of Net Position provide information about the nature and amount of resources and obligations at a specific point in time.

The Statements of Revenues, Expenses and Changes in Net Position report all SMUD's revenues and expenses for the periods shown.

The Statements of Cash Flows report the cash provided and used by operating activities, as well as other cash sources, such as investment income and debt financing, and other cash uses such as payments for debt service and capital additions.

The Notes to Financial Statements provide additional detailed information to support the financial statements.

Required Supplementary Information provides additional detailed disclosures as required by the GASB.

Organization and Nature of Operations

SMUD was formed and operates under the State of California Municipal Utility District Act (Act). The Act gives SMUD the rights and powers to fix rates and charges for commodities or services it furnishes, and to incur indebtedness and issue bonds or other obligations. As a community-owned utility, SMUD is not subject to regulation or oversight by the California Public Utilities Commission.

SMUD is responsible for the acquisition, generation, transmission, and distribution of electric power to its service area, with a population of approximately 1.5 million – most of Sacramento County and small adjoining portions of Placer and Yolo Counties. The Board of Directors (Board) determines SMUD's rates.

SMUD's vision is to be the trusted partner with its customers and the community, providing innovative solutions to ensure energy affordability and reliability, improve the environment, reduce the region's carbon footprint, and enhance the vitality of the community. SMUD's business strategy focuses on serving its customers in a progressive, forward-looking manner, addressing current regulatory and legislative issues and potential competitive forces. This includes ensuring financial stability by

establishing rates that provide acceptable cash coverage of all fixed charges, taking into consideration the impact of capital expenditures and other factors on cash flow.

2030 Zero Carbon Plan

In July 2020, the Board adopted a Climate Emergency Declaration to work toward an ambitious goal of delivering carbon neutral electricity by 2030 and indicating a strong commitment to finding additional opportunities to accelerate decarbonization in our energy supply. Building on the Board's Climate Emergency Declaration, SMUD's 2030 Clean Energy Vision calls for absolute zero carbon emission in its power supply by 2030.

In 2021, SMUD's 2030 Clean Energy Vision was translated into the 2030 Zero Carbon Plan, the flexible road map to achieve a zero-carbon power supply by 2030. The plan guides elimination of GHG emissions from SMUD's power plants, development of new distributed energy resource business models, research of emerging grid-scale carbon-free technologies, and expansion of investments in proven clean technologies while ensuring all communities benefit from the plan.

COVID-19 Global Pandemic

In 2022, SMUD continued to support its customers during the COVID-19 pandemic. At the start of the pandemic in March 2020, SMUD provided its electric customers with suspension of disconnections and stopped collections, late fee, and security deposit processes for all customers to support them during this difficult time. In February 2022, normal payment, late fees, and disconnection policies resumed with disconnections occurring in mid-April 2022. SMUD is working proactively with electric customers to create payment arrangements for those who need them. The effects of the pandemic have resulted in an increase in the number of past due customer accounts.

In 2022 and 2021, SMUD received $9.9 million and $41.4 million, respectively, in California Arrearage Payment Program (CAPP) funding that was applied to customers' bills, to support customers amid the ongoing challenges of the COVID-19 pandemic. The CAPP offers financial assistance for California energy utility customers to help reduce past due energy bill balances that increased during the COVID-19 pandemic. As of December 31, 2022 and 2021, the uncollectible reserve for account write-offs was $38 million and $69 million, respectively. Other financial and operational impacts to SMUD associated with COVID-19 are noted throughout this report.

Requests for Information

For more information about SMUD, visit our website at www.smud.org or contact us at customerservices@smud.org**.**

FINANCIAL POSITION

The following table summarizes the financial position as of December 31 (in millions).

CONDENSED STATEMENTS OF NET POSITION

	2022	2021 (restated)*	2020
Assets			
Electric Utility Plant - net	$ 4,001	$ 3,891	$ 3,747
Restricted and Designated Assets	183	289	188
Current Assets	1,426	1,244	1,239
Noncurrent Assets	1,581	1,492	1,515
Total Assets	7,191	6,916	6,689
Deferred Outflows of Resources	268	143	271
Total Assets and Deferred Outflows of Resources	$ 7,459	$ 7,059	$ 6,960
Liabilities			
Long-Term Debt - net	$ 2,886	$ 3,081	$ 3,259
Current Liabilities	802	494	437
Noncurrent Liabilities	428	216	694
Total Liabilities	4,116	3,791	4,390
Deferred Inflows of Resources	976	972	613
Net Position	2,367	2,296	1,957
Total Liabilities, Deferred Inflows of Resources, and Net Position	$ 7,459	$ 7,059	$ 6,960

*See Note 3 of the financial statements for discussion on the restatement of the December 31, 2021 Statements of Net Position.

TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES

2022 Compared to 2021

Total assets in 2022 increased $275 million or 4.0% over 2021, primarily due to the following:

- An increase of $110 million in electric utility plant – net. See Capital Program below for further information.
- A $106 million decrease in restricted and designated assets primarily due to a $28 million decrease in a net pension asset and a $57 million decrease in net Other Postemployment Benefits (OPEB) asset based on the most recent actuarial results, a $30 million Rate Stabilization Fund transfer to revenue as a result of lower than budgeted energy deliveries from the Western Area Power Administration (Western), and a $25 million Hydro Rate Stabilization Fund (HRSF) transfer to revenue for below average precipitation, offset by $22 million Rate Stabilization Fund transfer from revenues for net auction proceeds received and funds spent on Assembly Bill (AB) 32 programs.
- A $182 million increase in current assets is primarily due to $115 million increase in hedging derivative instruments due to the gas hedging program and $44 million increase in wholesale and other receivables due to larger sales of power and gas sales in December.
- A $89 million increase in noncurrent assets primarily due to a $61 million increase in regulatory costs for future recovery due to recognition of those costs, a $48 million increase in hedging derivative instruments due to the gas hedging program, offset by a $30 million decrease in prepaid gas supply due to gas delivered.

Deferred outflows of resources in 2022 increased $125 million or 87.4% from 2021, primarily due to increases in the unrealized pension and OPEB gains.

2021 Compared to 2020

Total assets in 2021 increased $227 million or 3.4% over 2020, primarily due to the following:

- An increase of $144 million in electric utility plant – net. See Capital Program below for further information.
- A $101 million increase in restricted and designated assets primarily due to a $28 million increase in a net pension asset and a $57 million increase in net Other Postemployment Benefits (OPEB) asset based on the most recent actuarial results, and the $35 million deferral of 2021 operating revenues for recognition in future years to offset one-time expenditures not identified in the annual budget, offset by a $19 million Hydro Rate Stabilization Fund (HRSF) transfer to revenue for below average precipitation.
- A $23 million decrease in noncurrent assets primarily due to a $39 million decrease in regulatory costs for future recovery due to recognition of those costs, a $26 million decrease in prepaid gas supply due to gas delivered, offset by a $29 million increase in hedging derivative instruments due to the gas hedging program.

Deferred outflows of resources in 2021 decreased $128 million or 47.2% from 2020, primarily due to decreases in the unrealized pension and OPEB losses.

TOTAL LIABILITIES AND DEFERRED INFLOWS OF RESOURCES

2022 Compared to 2021

Total liabilities in 2022 increased $325 million or 8.6% over 2021, primarily due to an increase in current liabilities of $308 million due to $150 million issuance of commercial paper and $106 million increase in purchased power payable due to high purchased power prices in December. Non-current liabilities increased due to a $235 million increase in net pension liability based on the most recent actuarial results. This is offset by a decrease in long-term debt- net of $195 million.

Net position in 2022 increased $71 million or 3.1% over 2021 based on results of operations.

2021 Compared to 2020

Total liabilities in 2021 decreased $599 million or 13.6% over 2020, primarily due to a decrease in long-term debt-net of $178 million and a decrease in noncurrent liabilities of $478 million, primarily due a $470 million reduction in net pension liability based on the most recent actuarial results.

Deferred inflows of resources in 2021 increased $359 million or 58.6% from 2020, primarily due to increases in the unrealized pension and OPEB gains.

Net position in 2021 increased $339 million or 17.3% over 2020 based on results of operations.

RESULTS OF OPERATIONS

The following table summarizes the operating results for the years ended December 31 (in millions).

CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	2022	2021 (restated)*	2020
Operating revenues	$ 2,147	$ 1,790	$ 1,588
Operating expenses	(2,065)	(1,450)	(1,389)
Operating income	82	340	199
Other revenues/(expenses)	90	108	63
Interest charges	(101)	(109)	(109)
Change in net position	71	339	153
Net position - beginning of year	2,296	1,957	1,804
Net position - end of year	$ 2,367	$ 2,296	$ 1,957

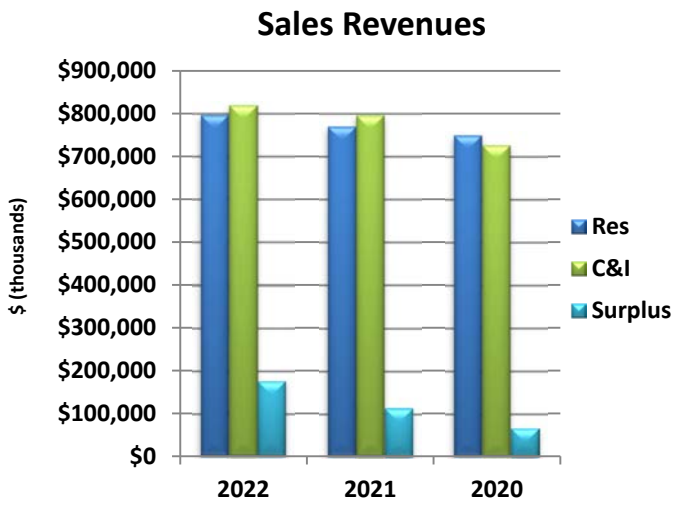
*See Note 3 of the financial statements for discussion on the restatement of the December 31, 2021 Statements of Net Position.

2022 Compared to 2021

OPERATING REVENUES

Total operating revenues were $2,147 million for 2022, an increase of $357 million or 19.9 percent over 2021 operating revenues. The residential MWh sales increased 0.3 percent and sales revenues increased 3.6 percent compared to 2021, although usage is flat, the increase is related to the shift in the customer load shape. The commercial & industrial MWh sales increased 2.7 percent and sales revenues increased 2.9 percent compared to 2021, primarily due to more commercial businesses and schools returning to in-person 2022.

The following charts show the megawatt hour (MWh) sales, and sales revenue for the past three years by surplus energy sales (Surplus), commercial, industrial, and other (C&I), and residential (Res) customers:



Wholesale revenues are comprised of both surplus gas and energy sales which are part of the operational strategy in managing fuel and energy costs. In 2022, energy sales were higher by $62 million as compared to 2021 due to higher energy prices and energy sales. Surplus gas sales were higher than 2021 by $96 million primarily due the unplanned outage of CPP and selling at higher gas prices in 2022.

OPERATING EXPENSES

Total operating expenses were $2,066 million for 2022, an increase of $615 million or 42.4 percent over 2021.

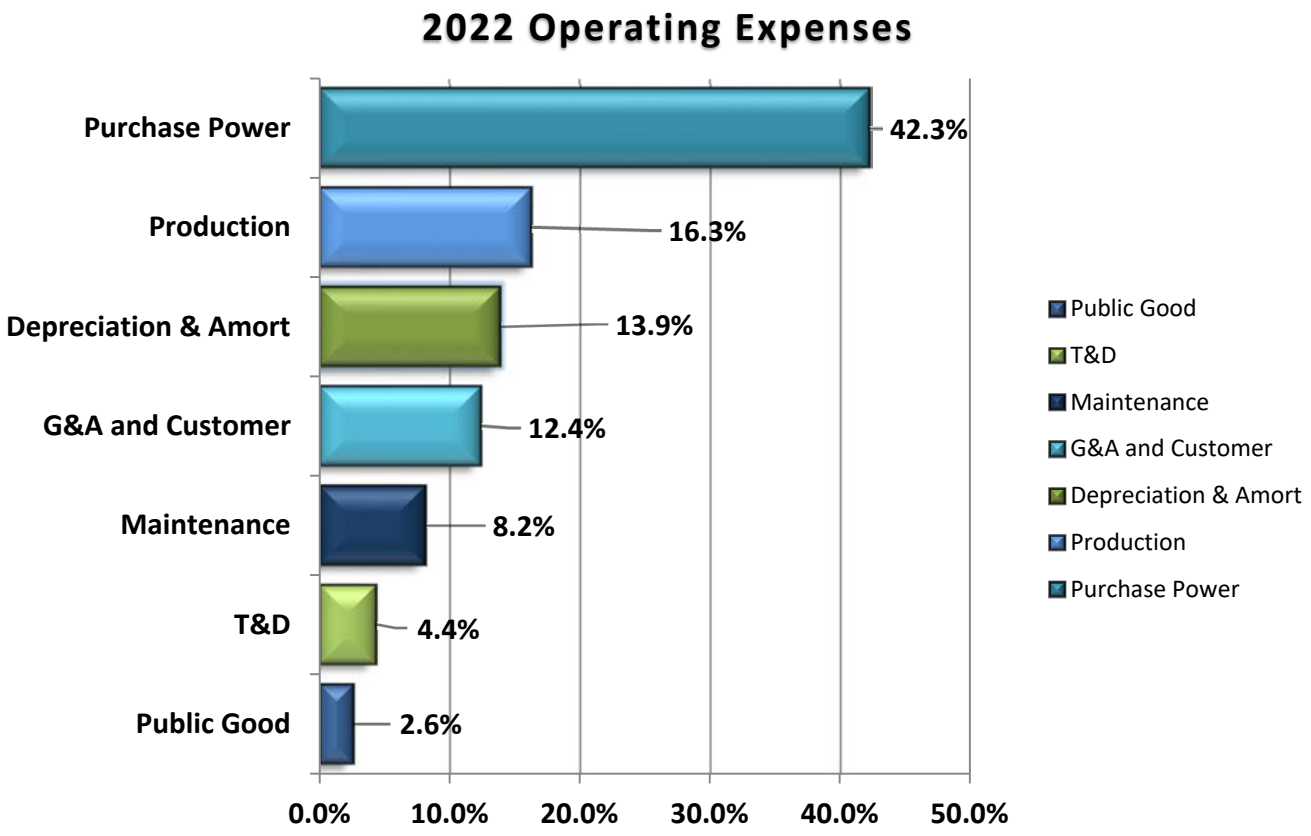
- Purchased power increased by $478 million or 120.8 percent primarily due to the unplanned outage of Cosumnes Power Plant (CPP), increased load, reduced hydro, and record high heat wave in September that led to increase procurement of power.

- Production expense decreased by $21 million or 6.0 percent primarily due to unplanned CPP outage for majority of the year.

- General, administrative and customer increased by $102 million or 66.6 percent primarily due to SMUD establishing regulatory accounting in 2022 for pension and OPEB regulatory costs and/or credits to defer recognition of certain expenses related to the amortization of pension and OPEB deferred outflows and deferred inflows of resources compared to 2021 there were large credit adjustments related to pension and OPEB based on the most recent actuarial results.

- Maintenance increased by $32 million or 23.1 percent primarily due to increased costs related to tree trimming and JPA thermal plant maintenance.

The following chart illustrates 2022 operating expenses by expense classification and percentage of the total:



OTHER REVENUES

Total other revenues (net) were $90 million for 2022, a decrease of $18 million or 16.7 percent over 2021. The decrease is due to receiving $41 million in grant revenues from CAPP funding in 2021, offset by the increase in investment revenue related to gas swaps.

2021 Compared to 2020

RESULTS OF OPERATIONS

- Total operating revenues were $1,790 million for 2021, an increase of $202 million or 12.7 percent over 2020 operating revenues. The residential MWh sales decreased 3.2 percent and sales revenues increased 2.7 percent compared to 2020, primarily due to employees returning to work and children returning to school which reduced usage and shifted the customer load shape. The commercial & industrial MWh sales increased 3.5 percent and sales revenues increased 9.6 percent compared to 2020, primarily due to commercial businesses and schools re-opening in 2021 compared to the California mandated shut down and limited re-openings of commercial businesses in 2020.

- In 2021, energy sales were higher by $47 million as compared to 2020 due to higher energy prices and energy sales. Surplus gas sales were higher than 2020 by $65 million primarily due to higher gas prices in 2021.

- Total operating expenses were $1,450 million for 2021, an increase of $61 million or 4.4 percent over 2020.
    - Purchased power increased by $48 million or 13.7 percent due to higher load due to warmer than anticipated weather and lower hydro generation due to lower precipitation levels.
    - Production expense increased by $80 million or 28.7 percent due to lower hydro generation due to lower precipitation levels led to increased thermal plant generation.
    - General, administrative and customer decreased by $88 million or 36.3 percent due to lower costs related to reduced customer call volumes due to COVID and the continued moratorium on electric shut offs, reduction in customer programs due to COVID and reduction in administrative and labor costs related to employees working remotely. In addition, large adjustments related to GASB 75 OPEB and GASB 68 Pension based on the most recent actuarial results.
    - Public Good decreased by $11 million or 18.7 percent due to lower expenditure for research and development programs and energy efficiency program incentives.

- Total other revenues (net) were $108 million for 2021, an increase of $45 million or 71.3 percent over 2020. In 2021, SMUD recorded $41 million as grant revenues from CAPP funding received for delinquent customer balances and a $15 million settlement related to Rancho Seco.

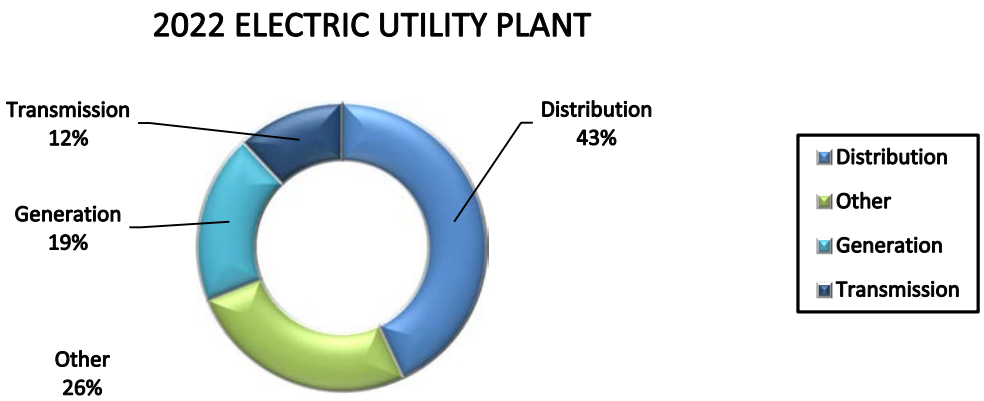
CAPITAL PROGRAM

SMUD's electric utility plant includes production, transmission and distribution, and general plant facilities. The following table summarizes the balance of the electric utility plant as of December 31 (in millions).

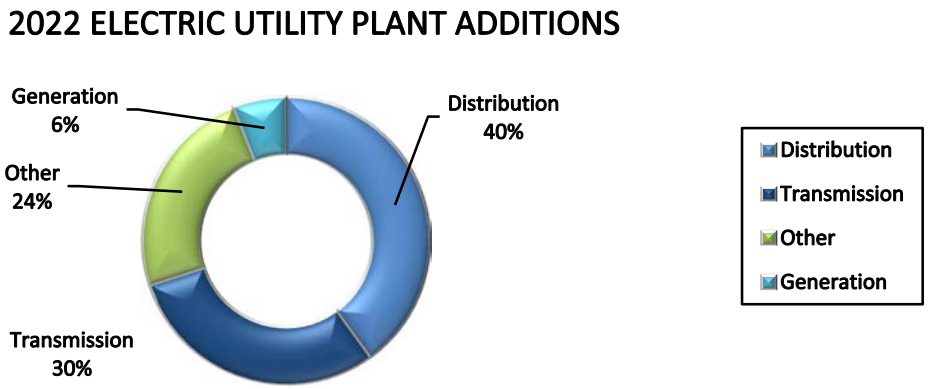
	2022	2021(restated)*	2020
Electric Utility Plant	$ 7,549	$ 7,232	$ 6,886
Accumulated Depreciation and Amortization	(3,548)	(3,341)	(3,139)
Electric Utility Plant - Net	$ 4,001	$ 3,891	$ 3,747

*See Note 3 of the financial statements for discussion on the restatement of the December 31, 2021 Statements of Net Position.

The following chart shows the breakdown of 2022 Electric Utility Plant - net by major plant category:



The following chart shows the breakdown of 2022 Electric Utility Plant capitalized additions by major plant category:



Details of SMUD's electric utility plant asset balances and activity are included in Note 4 in the Notes to Financial Statements. SMUD's capital program includes investment in generation, transmission, distribution, buildings, vehicles, technology, and other assets critical to meeting the energy needs of our customers. Capital investments are financed with revenues from operations, bond proceeds, investment income and cash on hand.

The following table shows actual capital program expenditures for the last two years and budgeted capital expenditures for 2022 (in millions).

	Budget 2023	Actual 2022	Actual 2021
Capital Program:			
Transmission & Distribution	$ 180	$ 154	$ 183
Generation	336	124	52
Other	108	70	49
Total	$ 624	$ 348	$ 284

In 2022 and 2021, SMUD actual expenditures included work for Substation E & G, Advanced Distribution Management System, White Rock Tunnel Bolt Replacement, the purchase and operationalization of Chili Bar Hydroelectric facility, Substation J land purchase, distribution line work and continued work on UARP relicensing projects.

Major capital expenditures planned in 2023 include completing work for Station G, additions to our wind farm with Solano Phase IV, the Country Acres solar project, and ongoing improvements in our Upper American River Project (UARP) area as part of our hydro relicensing. Programmatic capital planned in 2023 includes cable and pole replacement programs, installing new meters, and new fleet purchases. Technology investments included in the 2023 Budget are to complete the Advanced Distribution Management System & Outage Management System (ADMS-OMS) and improvements to HR systems and network communications systems with our Talent Technology Transformation (T3) project.

LIQUIDITY AND CAPITAL RESOURCES

SMUD maintains a strong liquidity position by setting a minimum number of days cash on hand and managing a $400 million commercial paper program. Our current days cash threshold is 150 days, the minimum amount of cash on hand before triggering a new debt or commercial paper issuance to replenish cash balances. On December 31, 2022, the days cash on hand was 214 days. The commercial paper program allows for short-term borrowing when needed in lieu of issuing long-term debt, similar to a credit card or line of credit. On December 31, 2022, SMUD had $150 million of commercial paper notes outstanding. A strong liquidity position is important in demonstrating to investors and rating agencies that SMUD can withstand various financial stresses.

In addition, SMUD targets strong financial metrics in cash flow coverage with its fixed charge ratio. The Board sets a minimum fixed charge of 1.50 times operating cash flow; however, we aim for a minimum of 1.70 as a standard. On December 31, 2022, the fixed charge ratio was 1.65 which decreased below our standard but above our Board set minimum due to the higher commodity costs incurred from the CPP unplanned outage, record heat wave in September and higher commodity prices.

FINANCING ACTIVITIES

In June 2022, SMUD issued $132.7 million of 2022 Series J Revenue Refunding Bonds. The purpose of this transaction was to refund the fixed rate debt associated with 2012 Series Y bonds and terminated the associated interest rate swap entered into in 2019. This locked in the refunding's interest rates, generating $28.6 million in Net Present Value savings, or annual cash flow savings of $3.1 million through 2033.

DEBT SERVICE COVERAGE

Debt service coverage for long-term debt was 1.87 times and 2.50 times in 2022 and 2021, respectively. SMUD's bond resolutions contain various covenants that include requirements to maintain minimum debt service coverage ratios of at least 1.40 times, certain other financial ratios, stipulated minimum funding of revenue bond reserves, and various other requirements including a rate covenant to raise rates to maintain minimum debt service coverage. SMUD is in compliance with all debt covenants.

CREDIT RATINGS

We proactively manage our strong financial position to maintain high credit ratings. These strong credit ratings improve access to credit markets and result in a lower cost of borrowing. Both quantitative (financial strength) and qualitative (business and operating characteristics) factors are considered by the credit rating agencies in establishing a company's credit rating. As of December 31, 2022, SMUD's bonds had an underlying rating of "AA" from Standard & Poor's, "AA" from Fitch, and "Aa3" from Moody's. Some of SMUD's bonds are insured and are rated by the rating agencies at the higher of the insurer's rating or SMUD's underlying rating.

COMPETITIVE RATES

The Board has independent authority to set SMUD's rates and charges. Changes in rates require a public hearing and formal action by the Board. SMUD has committed to our customers in keeping rates low while continuing to deliver safe, reliable, and environmentally responsible power and the products and services they value.

In June 2019, the Board approved the 2020 and 2021 rate proposals including a 2.50 percent rate increase effective January 1, 2021, and a 2.0 percent rate increase effective October 1, 2021, for all customer classes. In October 2021, SMUD started transitioning commercial customers to the new restructured rates. While the restructure is revenue neutral, it will improve SMUD's revenue stability and better align electric charges with costs.

In 2021, the Board approved the Solar and Storage Rate (SSR), which will reduce the cost shift from Net Energy Metering (NEM) and will incentivize customers to invest in solar paired with storage, providing greater benefits to SMUD and our customers. In 2021, the Board approved the 2022 and 2023 rate proposals including rate increases of 1.5% in 2022 and 2% in 2023, which is well below the estimated rate of inflation. This ensures the necessary revenue to meet SMUD's financial obligations, key financial metrics, and delivery of our 2030 Zero Carbon Plan.

Progress on several key rates and programs, including the Virtual Solar (VS) program and our optional residential Critical Peak Pricing (CPP) rate, both of which will be available in June 2022. The VS program will provide the benefits of solar to our under-resourced customers living in multi-family housing, and our residential CPP rate will provide customers the opportunity to reduce their bills and help the environment while contributing to the 2030 Zero Carbon Plan.

Even with these increases, SMUD's rates continue to remain amongst the lowest in the state. In 2022, the average system rate was 45 percent below the average rate of the nearest investor-owned utility.

ENERGY RISK MANAGEMENT

SMUD's commodity costs have prices locked in for most of our expected energy requirements to ensure cost and rate stability for customers. Only a small portion of budgeted energy purchases are exposed to short-term market price fluctuations – a beneficial practice, especially during the price volatility currently reflected in California power and energy prices.

SMUD has mitigation measures in place for higher commodity costs due to reduced hydroelectric production that will lead to higher purchased power. In April 2022, $25.1 million was transferred from the HRSF to revenue as a result of low precipitation. At December 31, 2022, the HRSF was $31.0 million and $56.6 million in the Rate Stabilization Fund (RSF), net of Low Carbon Fuel Standard and Cap and Trade funds. These reserve funds help absorb higher energy costs when hydroelectric production is down and serve as a buffer against unexpected financial developments.

RESOURCE PLANNING AND GENERATION UPDATE

In March 2021, the Board adopted the 2030 Zero Carbon Plan, a flexible road map to achieving its zero carbon goal while ensuring all customers and communities that are served share in the benefits of decarbonization. While SMUD has always had an Integrated Resource Plan target to meet or exceed goals established by the State for renewable energy and the reduction of carbon emissions, the 2030 Zero Carbon Plan greatly accelerates these efforts, working toward eliminating carbon emissions from SMUD's power supply by 2030.

The Board formally approved the 2022 Integrated Resource Plan (IRP) update in June 2022 and filed this update with the California Energy Commission (CEC) in September. Implementation of the plan has SMUD embarking on new pathways to completely decarbonize energy supply, including eliminating GHG emissions from the thermal power plants, developing new distributed energy resource business models, researching emerging grid-scale and carbon-free technologies and expanding investments in proven clean technologies.

DECOMMISSIONING

SMUD has made significant progress toward completing the Decommissioning Plan for its Rancho Seco nuclear facility, which was shut down in 1989. The plan consists of two phases that allow SMUD to terminate its possession-only license. Phase I of the decommissioning was completed at the end of 2008. Phase II consists of a storage period for the Class B and Class C radioactive waste overseen by the existing facility staff, followed by shipment of the waste for disposal, and then complete termination of the possession-only license. SMUD also established and funded an external decommissioning trust fund as part of its assurance to the Nuclear Regulatory Commission (NRC) to pay for the cost of decommissioning. Shipment of the previously stored Class B and Class C radioactive waste was completed in November 2014 to a low-level radioactive waste facility located in Andrews, Texas. The remaining Phase II decommissioning activities required for termination of the possession-only license commenced in 2015. In September 2017, SMUD formally requested the termination of the possession-only license and termination of the possession-only license was completed in 2018.

As part of the Decommissioning Plan, the nuclear fuel and Greater Than Class C (GTCC) radioactive waste is being stored in a dry storage facility constructed by SMUD and licensed separately by the NRC. The U.S. Department of Energy (DOE), under the Nuclear Waste Policy Act of 1982, was responsible for permanent disposal of used nuclear fuel and GTCC radioactive waste and SMUD contracted with the DOE for removal and disposal of that waste. The DOE has yet to fulfill its contractual obligation to provide a permanent waste disposal site. SMUD has filed a series of successful lawsuits against the federal government for recovery of the past spent fuel costs, with recoveries to date in excess of $123.1 million. SMUD will continue to pursue cost recovery claims until the DOE fulfills its obligation.

The total Accrued Decommissioning balance in the Statements of Net Position, including Rancho Seco and other ARO's, amounted to $95.9 million as of December 31, 2022.

SIGNIFICANT ACCOUNTING POLICIES

In accordance with GASB No. 62, the Board has taken regulatory actions for ratemaking that result in the deferral of expense and revenue recognition. These actions result in regulatory assets and liabilities. SMUD has regulatory assets that cover costs related to decommissioning, derivative financial instruments, debt issuance costs, pension costs, and OPEB costs. As of December 31, 2022, total regulatory assets were $813.6 million. SMUD also has regulatory credits that cover costs related to contributions in aid of construction, the RSF and HRSF, EAPR reserves, SB-1, grant revenues, and Transmission Agency of Northern California operations costs. As of December 31, 2022, total regulatory credits were $620.4 million.

.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF NET POSITION

	December 31,	
	2022	2021 (restated)
	(thousands of dollars)	
ASSETS		
ELECTRIC UTILITY PLANT		
Plant in service	$ 7,201,276	$ 6,864,040
Less accumulated depreciation and amortization	(3,547,995)	(3,340,797)
Plant in service - net	3,653,281	3,523,243
Construction work in progress	347,758	367,297
Total electric utility plant - net	4,001,039	3,890,540
RESTRICTED AND DESIGNATED ASSETS		
Revenue bond and debt service reserves	119,385	120,024
Nuclear decommissioning trust fund	8,980	8,874
Rate stabilization fund	156,016	188,992
Net pension asset	-0-	27,738
Net other postemployment benefits asset	-0-	57,532
Other funds	30,424	22,411
Less current portion	(131,852)	(136,663)
Total restricted and designated assets	182,953	288,908
CURRENT ASSETS		
Unrestricted cash and cash equivalents	268,653	584,998
Unrestricted investments	359,211	45,378
Restricted and designated cash and cash equivalents	30,583	46,828
Restricted and designated investments	101,269	89,835
Receivables - net:		
Retail customers	181,606	190,987
Wholesale and other	102,305	58,628
Regulatory costs to be recovered within one year	49,312	38,303
Investment derivative instruments maturing within one year	5,870	1,354
Hedging derivative instruments maturing within one year	151,349	36,620
Inventories	113,120	99,941
Prepaid gas to be delivered within one year	29,452	26,059
Prepayments and other	32,881	25,330
Total current assets	1,425,611	1,244,261
NONCURRENT ASSETS		
Regulatory costs for future recovery	764,246	703,748
Prepaid gas	637,000	666,452
Prepaid power and capacity	173	380
Investment derivative instruments	329	803
Hedging derivative instruments	85,675	37,753
Energy efficiency loans - net	732	1,298
Credit support collateral deposits	11,650	11,650
Due from affiliated entity	31,149	29,674
Prepayments and other	50,506	40,738
Total noncurrent assets	1,581,460	1,492,496
TOTAL ASSETS	7,191,063	6,916,205
DEFERRED OUTFLOWS OF RESOURCES		
Accumulated decrease in fair value of hedging derivative instruments	28,438	22,600
Deferred pension outflows	175,478	81,334
Deferred other postemployment benefits outflows	53,674	25,113
Deferred asset retirement obligations outflows	2,066	1,775
Unamortized bond losses	8,389	12,261
TOTAL DEFERRED OUTFLOWS OF RESOURCES	268,045	143,083
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	$ 7,459,108	$ 7,059,288

The accompanying notes are an integral part of these financial statements.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF NET POSITION

	December 31, 2022	December 31, 2021 (restated)
	(thousands of dollars)	
LIABILITIES		
LONG-TERM DEBT - net	$ 2,885,844	$ 3,081,707
CURRENT LIABILITIES		
Commercial paper notes	150,000	-0-
Accounts payable	159,463	121,925
Purchased power payable	135,570	30,103
Credit support collateral obligation	534	3,575
Long-term debt due within one year	138,195	132,150
Accrued decommissioning	7,549	6,889
Interest payable	49,784	50,739
Accrued salaries and compensated absences	60,209	60,433
Investment derivative instruments maturing within one year	3,103	2,757
Hedging derivative instruments maturing within one year	21,636	18,232
Customer deposits and other	75,911	67,064
Total current liabilities	801,954	493,867
NONCURRENT LIABILITIES		
Net pension liability	235,451	-0-
Net other postemployment benefits liability	6,753	-0-
Accrued decommissioning	88,385	88,168
Investment derivative instruments	1,424	4,786
Hedging derivative instruments	6,802	4,368
Self insurance and other	89,910	118,146
Total noncurrent liabilities	428,725	215,468
TOTAL LIABILITIES	4,116,523	3,791,042
DEFERRED INFLOWS OF RESOURCES		
Accumulated increase in fair value of hedging derivative instruments	237,025	74,374
Regulatory credits	620,373	543,014
Deferred pension inflows	26,656	229,707
Deferred other postemployment benefits inflows	49,838	94,902
Deferred lease inflows	18,187	17,373
Unamortized bond gains	20,473	9,246
Unearned revenue	3,230	3,369
TOTAL DEFERRED INFLOWS OF RESOURCES	975,782	971,985
NET POSITION		
Net investment in capital assets	1,491,548	1,349,688
Restricted:		
Revenue bond and debt service	60,048	64,793
Net pension asset	-0-	27,738
Net other postemployment benefits asset	-0-	57,532
Other funds	29,890	18,836
Unrestricted	785,317	777,674
TOTAL NET POSITION	2,366,803	2,296,261
COMMITMENTS, CLAIMS AND CONTINGENCIES (Notes 17 and 18)		
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION	$ 7,459,108	$ 7,059,288

The accompanying notes are an integral part of these financial statements.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	Year Ended December 31,	
	2022	2021 (restated)
	(thousands of dollars)	
OPERATING REVENUES		
Residential	$ 808,906	$ 721,228
Commercial and industrial	814,584	773,311
Street lighting and other	52,122	41,739
Wholesale	406,171	248,001
Senate Bill - 1 revenue deferral	40	784
AB-32 revenue	22,760	17,880
LCFS revenue	9,775	7,599
Rate stabilization fund transfers	32,976	(20,266)
Total operating revenues	2,147,334	1,790,276
OPERATING EXPENSES		
Operations:		
Purchased power	873,436	395,572
Production	336,406	357,832
Transmission and distribution	90,242	81,484
Administrative, general and customer	256,288	153,799
Public good	54,170	46,519
Maintenance	168,500	136,849
Depreciation and amortization	249,922	242,917
Regulatory amounts collected in rates	36,688	35,369
Total operating expenses	2,065,652	1,450,341
OPERATING INCOME	81,682	339,935
NON-OPERATING REVENUES AND EXPENSES		
Other revenues and (expenses):		
Interest income	14,265	6,777
Investment income - net	27,702	8,035
Other income - net	48,077	93,302
Total other revenues and (expenses)	90,044	108,114
Interest charges:		
Interest on debt	101,184	109,300
Total interest charges	101,184	109,300
Total non-operating revenues and (expenses)	(11,140)	(1,186)
CHANGE IN NET POSITION	70,542	338,749
NET POSITION - BEGINNING OF YEAR	2,296,261	1,957,512
NET POSITION - END OF YEAR	$ 2,366,803	$ 2,296,261

The accompanying notes are an integral part of these financial statements.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
STATEMENTS OF CASH FLOWS

	Year Ended December 31,	
	2022	2021 (restated)
	(thousands of dollars)	
CASH FLOWS FROM OPERATING ACTIVITIES		
Receipts from customers	$ 1,673,495	$ 1,498,124
Receipts from surplus power and gas sales	369,878	242,767
Other receipts	216,564	35,173
Payments to employees - payroll and other	(379,423)	(417,475)
Payments for wholesale power and gas purchases	(1,021,810)	(599,268)
Payments to vendors/others	(458,111)	(320,201)
Net cash provided by operating activities	400,593	439,120
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Repayment of debt	(20,550)	(18,450)
Receipts from federal and state grants	1,647	41,601
Proceeds from insurance settlements	-0-	3,135
Interest on debt	(28,568)	(29,385)
Net cash used in noncapital financing activities	(47,471)	(3,099)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Construction expenditures	(336,576)	(297,179)
Contributions in aid of construction	21,602	24,414
Net proceeds from bond issues	150,711	130,248
Repayments and refundings of debt	(269,385)	(235,970)
Issuance of commercial paper	150,000	-0-
Other receipts	16,413	9,253
Interest on debt	(120,222)	(120,874)
Lease and other payments	(26,407)	(23,185)
Cash received from leases	1,000	858
Net cash used in capital and related financing activities	(412,864)	(512,435)
CASH FLOWS FROM INVESTING ACTIVITIES		
Sales and maturities of securities	436,129	215,153
Purchases of securities	(812,821)	(106,889)
Proceeds from termination of prepaid gas contracts	-0-	2,000
Interest and dividends received	10,005	8,151
Investment revenue/expenses - net	27,619	8,036
Net cash provided by investing activities	(339,068)	126,451
Net increase in cash and cash equivalents	(398,810)	50,037
Cash and cash equivalents at the beginning of the year	788,648	738,611
Cash and cash equivalents at the end of the year	$ 389,838	$ 788,648
Cash and cash equivalents included in:		
Unrestricted cash and cash equivalents	$ 268,653	$ 584,998
Restricted and designated cash and cash equivalents	30,583	46,828
Restricted and designated assets (a component of the total of $182,953 and $288,908 at December 31, 2022 and 2021, respectively)	90,602	156,822
Cash and cash equivalents at the end of the year	$ 389,838	$ 788,648

The accompanying notes are an integral part of these financial statements.

SACRAMENTO MUNICIPAL UTILITY DISTRICT
SUPPLEMENTAL CASH FLOW INFORMATION

A reconciliation of the statements of cash flows operating activities to operating income as follows:

	Year Ended December 31,	
	2022	2021 (restated)
	(thousands of dollars)	
Operating income	$ 81,682	$ 339,935
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	249,922	242,917
Regulatory amortization	36,688	35,369
Other Amortizations	22,909	20,278
Revenue deferred to (recognized from) regulatory credits - net	(33,016)	19,483
Other (receipts) payments - net	19,777	13,283
Changes in operating assets, deferred outflows, liabilities and deferred inflows:		
Receivables - retail customers, wholesale and other	(25,719)	(15,543)
Inventories, prepayments and other	(29,479)	(27,140)
Net pension and other postemployment benefits assets	85,270	(84,499)
Deferred outflows of recources	(122,706)	96,029
Payables and accruals	127,299	22,693
Decommissioning	(6,049)	(5,358)
Net pension liability	235,451	(469,820)
Net other postemployment benefits liability	6,753	-0-
Deferred inflows of resources	(248,189)	251,493
Net cash provided by operating activities	$ 400,593	$ 439,120

The supplemental disclosure of noncash financing and investing activities is as follows:

	Year Ended December 31,	
	2022	2021 (restated)
	(thousands of dollars)	
Amortization of debt related (expenses) and premiums - net	$ 34,145	$ 34,969
Write-off unamortized premium and loss	7,576	4,465
(Loss) Gain on debt extinguishment and refundings	6,677	3,925
Unrealized holding gain (loss)	(5,890)	(2,201)
Change in valuation of derivative financial instruments	163,871	93,719
Amortization of revenue for assets contributed in aid of construction	19,226	18,208
Construction expenditures included in accounts payable	55,787	43,470
(Loss) Gain on sale and retirement of assets - net	(2,036)	(439)
Write-off capital projects and preliminary surveys	(3,720)	(2,057)

The accompanying notes are an integral part of these financial statements.

Sacramento Municipal Utility District
Notes to Financial Statements
As of and for the Years Ended December 31, 2022 and 2021

NOTE 1. ORGANIZATION

The Sacramento Municipal Utility District (SMUD) was formed and operates under the State of California Municipal Utility District Act (Act). The Act gives SMUD the rights and powers to fix rates and charges for commodities or services it furnishes, and to incur indebtedness and issue bonds or other obligations. As a community-owned utility, SMUD is not subject to regulation or oversight by the California Public Utilities Commission.

SMUD is responsible for the acquisition, generation, transmission, and distribution of electric power to its service area, which includes most of Sacramento County and small adjoining portions of Placer and Yolo Counties. The Board of Directors (Board) determines SMUD's rates.

SMUD is exempt from payment of federal and state income taxes and, under most circumstances, real and personal property taxes. SMUD is not exempt from real and personal property taxes on assets it holds outside of its service territory. In addition, SMUD is responsible for the payment of a portion of the property taxes associated with its real property in California that lies outside of its service area.

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Method of Accounting. SMUD's accounting records are maintained in accordance with Generally Accepted Accounting Principles for proprietary funds as prescribed by the Governmental Accounting Standards Board (GASB). SMUD's accounting records generally follow the Uniform System of Accounts for Public Utilities and Licensees prescribed by the Federal Energy Regulatory Commission (FERC), except as it relates to the accounting for contributions of utility property in aid of construction. SMUD's Financial Statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Electric revenues and costs that are directly related to the acquisition, generation, transmission, and distribution of electricity are reported as operating revenues and expenses. All other revenues and expenses are reported as non-operating revenues and expenses.

Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America (U.S.) requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, and deferred inflows of resources and disclosures of contingent assets and liabilities at the date of the financial statements and reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

The Financial Reporting Entity. These Financial Statements include SMUD and its component units. Although the component units are legally separate from SMUD, they are blended into and reported as part of SMUD because of the extent of their operational and financial relationships with SMUD. All significant inter-component transactions have been eliminated in consolidation.

Component Units. The component units include the Central Valley Financing Authority (CVFA), the Sacramento Cogeneration Authority (SCA), the Sacramento Municipal Utility District Financing Authority (SFA), the Sacramento Power Authority (SPA), the Northern California Gas Authority No. 1 (NCGA), and the Northern California Energy Authority (NCEA). The primary purpose of CVFA, SCA, SFA and SPA is to own and operate electric utility plants that supply power to SMUD. On October 26, 2021, SFA entered into Assignment and Assumption Agreements (the Agreements) with CVFA, SCA, and SPA. The Agreements transfer the assets and obligations, including ownership of the Carson Power Plant, Procter and Gamble Power Plant, Campbell Power Plant, and McClellan Power Plant (assigned Power Plants) to SFA as of

November 1, 2021. The primary purpose of NCGA is to prepay for natural gas to sell to SMUD. The primary purpose of NCEA is to prepay for commodities in the form of natural gas and electricity to sell to SMUD. SMUD's Board comprises the Commissions that govern these entities (see Note 6).

Plant in Service. Capital assets are generally defined by SMUD as tangible assets with an initial, individual cost of more than five thousand dollars and an estimated useful life in excess of two years. The cost of additions to Plant in Service and replacement property units is capitalized. Repair and maintenance costs are charged to expense when incurred. When SMUD retires portions of its Electric Utility Plant, retirements are recorded against Accumulated Depreciation and the retired portion of Electric Utility Plant is removed from Plant in Service. The costs of removal and the related salvage value, if any, are charged or credited as appropriate to Accumulated Depreciation. SMUD generally computes depreciation on Plant in Service on a straight-line, service-life basis. The average annual composite depreciation rates for 2022 and 2021 was 3.2 percent and 3.3 percent, respectively. Depreciation is calculated using the following estimated lives:

Generation	8 to 80 years
Transmission and Distribution	7 to 50 years
Gas Pipeline	10 to 90 years
General	3 to 60 years

Investment in Joint Powers Authority (JPA). SMUD's investment in the Transmission Agency of Northern California (TANC) is accounted for under the equity method of accounting and is reported as a component of Plant in Service. SMUD's share of the TANC debt service costs and operations and maintenance expense, inclusive of depreciation, is included in Transmission and Distribution expense in the Statements of Revenues, Expenses and Changes in Net Position (see Note 5).

SMUD's investment in the Balancing Authority of Northern California (BANC) is accounted for under the equity method of accounting. SMUD's share of the BANC operations and maintenance expense is included in Transmission and Distribution expense in the Statements of Revenues, Expenses and Changes in Net Position (see Note 5).

Leases. SMUD implemented Statement of Governmental Accounting Standards (SGAS) No. 87, ***"Leases"*** in 2022 (see Note 3). Leases are contracts that convey control of the right to use another entity's nonfinancial asset as specified for a period of time in an exchange or exchange-like transaction without the transfer of ownership of the asset. The lease term is the period of time where there is a noncancellable right to use the underlying asset (see Note 4).

For lessor contracts, lease receivables and deferred inflows of resources are reported at present value using SMUD's incremental borrowing rate on the Statements of Net Position. The amortization of the discount for lessor contracts is recorded as Lease receivable for SMUD on the Statements of Net Position with the offset to interest income in Interest and other income on the Statements of Revenue, Expenses and Change in Net Position (see Note 4).

For lessee contracts, lease assets and liabilities are reported at present value using SMUD's incremental borrowing rate on the Statements of Net Position. The lease assets are amortized over the shorter of the lease term or the useful life of the underlying asset. The amortization of the discount for lessee contracts is recorded as Interest payable on the Statement of Net Position with the offset to Lease interest expense for SMUD on the Statement of Revenue, Expenses and Change in Net Position (see Note 4).

Restricted and Designated Assets. Cash, cash equivalents, and investments, which are restricted by regulation or under terms of certain agreements for payments to third parties are included as restricted assets. Restricted assets include Revenue bond and debt service reserves, Nuclear decommissioning trust fund, and Other funds. Board actions limiting the use of such funds are included as designated assets. Designated assets include the Rate stabilization fund and $0.6 million of Other funds as of December 31, 2022 and 2021. When SMUD restricts or designates funds for a specific purpose, and restricted and designated and unrestricted resources are available for use, it is SMUD's policy to use restricted and designated resources first, then unrestricted resources as they are needed.

Restricted Bond Funds. SMUD's Indenture Agreements (Indenture) requires the maintenance of minimum levels of reserves for debt service on the 1997 Series K Bonds.

Nuclear Decommissioning Trust Fund. SMUD made annual contributions to its Nuclear Decommissioning Trust Fund (Trust Fund) through 2008 to cover the cost of its primary decommissioning activities associated with the Rancho Seco facility. Primary decommissioning excludes activities associated with the spent fuel storage facility after 2008 and most non-radiological decommissioning tasks. Interest earnings on the Trust Fund assets are recorded as Interest Income and are accumulated in the Trust Fund.

Asset Retirement Obligations (ARO). SMUD records asset retirement obligations (ARO) for tangible capital assets when an obligation to decommission facilities is legally required. SMUD recognizes AROs for its Rancho Seco nuclear power plant and for the CVFA power plant facility (see Note 13). The Rancho Seco ARO is recorded as Accrued Decommissioning and the unfunded portion of the ARO is recorded as current and noncurrent Regulatory Costs for Future Recovery (see Note 8) in the Statements of Net Position. Other AROs are recorded as Accrued Decommissioning and a corresponding Deferred Asset Retirement Obligation Outflows in the Statements of Net Position.

SMUD has identified potential retirement obligations related to certain generation, distribution and transmission facilities. SMUD's non-perpetual leased land rights generally are renewed continuously because SMUD intends to utilize these facilities indefinitely. GASB No. 83 requires the measurement of the ARO to be based on the probability weighting of potential outcomes. Due to the low probability that these leases will be terminated, a liability has not been recorded.

Cash and Cash Equivalents. Cash and cash equivalents include all debt instruments purchased with an original maturity of 90 days or less, deposits held at financial institutions, all investments in the Local Agency Investment Fund (LAIF), and money market funds. LAIF has an equity interest in the State of California (State) Pooled Money Investment Account (PMIA). PMIA funds are on deposit with the State's Centralized Treasury System and are managed in compliance with the California Government Code according to a statement of investment policy which sets forth permitted investment vehicles, liquidity parameters, and maximum maturity of investments.

Investments. SMUD's investments are reported at fair value in accordance with SGAS No. 72, ***"Fair Value Measurement and Application"*** (see Note 12). Realized and unrealized gains and losses are included in Other income (expense) - net in the Statements of Revenues, Expenses and Changes in Net Position. Premiums and discounts on zero coupon bonds are amortized using the effective interest method. Premiums and discounts on other securities are amortized using the straight-line method, which approximates the effective interest method.

Electric Operating Revenues. Electric revenues are billed on the basis of monthly cycle bills and are recorded as revenue when the electricity is delivered. SMUD records an estimate for unbilled revenues earned from the dates its retail customers were last billed to the end of the month. At December 31, 2022 and 2021, unbilled revenues were $80.5 and $93.6 million, respectively.

Purchased Power Expenses. A portion of SMUD's power needs are provided through power purchase agreements (PPA). Expenses from such agreements, along with associated transmission costs paid to other utilities, are charged to Purchased Power expense in the Statements of Revenues, Expenses and Changes in Net Position in the period the power is received. The costs or credits associated with energy swap agreements (gas and electric) or other arrangements that affect the net cost of Purchased Power are recognized in the period in which the underlying power delivery occurs. Contract termination payments and adjustments to prior billings are included in Purchased Power expense once the payments or adjustments can be reasonably estimated.

Advanced Capacity Payments. Some long-term agreements to purchase energy or capacity from other providers call for up-front payments. Such costs are generally recorded as an asset and amortized over the length of the contract in Operations - Production expense on the Statements of Revenues, Expenses and Changes in Net Position.

Credit and Market Risk. SMUD enters into forward purchase and sales commitments for physical delivery of gas and electricity with utilities and power marketers. SMUD is exposed to credit risk related to nonperformance by its wholesale counterparties under the terms of these contractual agreements. In order to limit the risk of counterparty default, SMUD has a wholesale counterparty risk policy which includes using the credit agency ratings of SMUD's counterparties and other credit services, credit enhancements for counterparties that do not meet an acceptable risk level, and the use of standardized agreements that allow for the netting of positive and negative exposures associated with a single counterparty. SMUD is also subject to similar requirements for many of its gas and power purchase agreements. SMUD uses a combination of cash and securities to satisfy its collateral requirements to counterparties.

SMUD's component units, NCGA and NCEA, entered into guaranteed investment contracts and are exposed to credit risk related to nonperformance by its investment provider. For NCGA, the investment provider provides collateral if their credit ratings fall below agreed upon levels. SMUD holds deposits by counterparties and an investment provider and records the amounts as Credit Support Collateral Obligation in the Statements of Net Position.

Collateral deposits that SMUD has with counterparties are recorded as Credit Support Collateral Deposits in the Statements of Net Position.

Accounts Receivable, Allowance for Doubtful Accounts and Energy Efficiency Loans. Accounts receivable is recorded at the invoiced amount and does not bear interest, except for accounts related to energy efficiency loans. SMUD recognizes an estimate of uncollectible accounts for its receivables related to electric service, energy efficiency loans, and other non-electric billings, based upon its historical experience with collections and current energy market conditions. For large wholesale receivable balances, SMUD determines its bad debt reserves based on the specific credit issues for each account. In the Statements of Net Position, SMUD reports its receivables net of the allowance for uncollectible as current assets, and its energy efficiency loans net of the allowance for uncollectible as noncurrent assets. Due to COVID-19, SMUD suspended disconnections for non-payment beginning in March 2020 and reinstated disconnections in April 2022. At December 31, 2022 and 2021, SMUD estimated its uncollectible retail customer accounts at $38.0 million and $69.0 million, respectively, based on non-payment behaviors by aging category. SMUD records bad debts for its estimated uncollectible accounts related to electric service as a reduction to the related operating revenues in the Statements of Revenues, Expenses and Changes in Net Position. SMUD records bad debts for its estimated uncollectible accounts related to energy efficiency loans and other non-electric billings in Administrative, General and Customer expense in the Statements of Revenues, Expenses and Changes in Net Position.

SMUD's receivables, allowances for uncollectible and energy efficiency loans are presented below:

	December 31,	
	2022	2021 (restated)
	(thousands of dollars)	
Retail customers:		
Receivables	$ 219,606	$ 259,987
Less: Allowance for uncollectible	(38,000)	(69,000)
Receivables - net	$ 181,606	$ 190,987
Wholesale and other (includes lease receivables, see Note 4):		
Receivables	$ 105,083	$ 60,883
Less: Allowance for uncollectible	(2,778)	(2,255)
Receivables - net	$ 102,305	$ 58,628
Energy efficiency loans:		
Receivables	$ 869	$ 1,517
Less: Allowance for uncollectible	(137)	(219)
Energy efficiency loans - net	$ 732	$ 1,298

Regulatory Deferrals. The Board has the authority to establish the level of rates charged for all SMUD services. As a regulated entity, SMUD's financial statements are prepared in accordance with SGAS Statement No. 62, ***"Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 Financial Accounting Standards Board (FASB) and American Institute of Certified Public Accountants Pronouncements,"*** which requires that the effects of the ratemaking process be recorded in the financial statements. Accordingly, certain expenses and credits, normally reflected in Change in Net Position as incurred, are recognized when included in rates and recovered from or refunded to customers. SMUD records various regulatory assets and credits to reflect ratemaking actions of the Board (see Note 8).

Materials and Supplies. Materials and supplies are stated at average cost, which approximates the first-in, first-out method.

Compensated Absences. SMUD accrues vacation leave and compensatory time when employees earn the rights to the benefits. SMUD does not record sick leave as a liability until it is taken by the employee, since there are no cash payments made for sick leave when employees terminate or retire. Compensated absences are recorded as Accrued Salaries and Compensated Absences in the Statements of Net Position. At December 31, 2022 and 2021, the total estimated liability for vacation and other compensated absences was $43.7 million and $41.9 million, respectively.

Public Good. Public Good expenses consist of non-capital expenditures for energy efficiency programs, low income subsidies, renewable energy resources and technologies, and research and development.

Gains/Losses on Bond Refundings. Gains and losses resulting from bond refundings are included as a component of Deferred Inflows of Resources or Deferred Outflows of Resources in the Statements of Net Position and amortized as a component of Interest on Debt in the Statements of Revenues, Expenses and Changes in Net Position over the shorter of the life of the refunded debt or the new debt using the effective interest method.

Gains/Losses on Bond Defeasances or Extinguishments. Gains and losses resulting from bond defeasances or extinguishments that were not financed with the issuance of new debt are included as a component of Interest on Debt in the Statements of Revenues, Expenses and Changes in Net Position.

Deferred Outflow of Resources. A deferred outflow of resources represents a consumption of net position that applies to a future period and will not be recognized as an outflow of resources (expense) until that future time.

Deferred Inflows of Resources. A deferred inflow of resources represents an acquisition of net position that applies to a future period and therefore will not be recognized as an inflow of resources (revenue) until that future time.

Derivative Financial Instruments. SMUD records derivative financial instruments (interest rate swap and gas price swap agreements, certain wholesale sales agreements, certain power purchase agreements and option agreements) at fair value in its Statements of Net Position. SMUD does not enter into agreements for speculative purposes. Fair value is estimated by comparing contract prices to forward market prices quoted by third party market participants and/or provided in relevant industry publications. SMUD is exposed to risk of nonperformance if the counterparties default or if the swap agreements are terminated. SMUD reports derivative financial instruments with remaining maturities of one year or less and the portion of long-term contracts with scheduled transactions over the next twelve months as current in the Statements of Net Position (see Note 9).

Interest Rate Swap Agreements. SMUD enters into interest rate swap agreements to modify the effective interest rates on outstanding debt (see Notes 9 and 10).

Gas and Electricity Price Swap and Option Agreements. SMUD uses forward contracts to hedge the impact of market volatility on gas commodity prices for its natural gas-fueled power plants and for energy prices on purchased power for SMUD's retail load (see Note 9).

Precipitation Hedge Agreements. SMUD enters into non-exchange traded precipitation hedge agreements to hedge the cost of replacement power caused by low precipitation years (Precipitation Agreements). SMUD records the intrinsic value of the Precipitation Agreements as Prepayments and Other under Current Assets in the Statements of Net Position. Settlement of the Precipitation Agreements is not performed until the end of the period covered (water year ended September 30). The intrinsic value of a Precipitation Agreement is the difference between the expected results from a monthly allocation of the cumulative rainfall amounts, in an average rainfall year, and the actual rainfall during the same period.

Insurance Programs. SMUD records liabilities for unpaid claims at their present value when they are probable in occurrence and the amount can be reasonably estimated. SMUD records a liability for unpaid claims associated with general, auto, workers' compensation, and short-term and long-term disability based upon estimates derived by SMUD's claims administrator or SMUD staff. The liability comprises the present value of the claims outstanding and includes an amount for claim events incurred but not reported based upon SMUD's experience (see Note 16).

Pollution Remediation. SGAS No. 49, ***"Accounting and Financial Reporting for Pollution Remediation Obligations,"*** (GASB No. 49) requires that a liability be recognized for expected outlays for remediating existing pollution when certain triggering events occur. SMUD recorded a pollution remediation obligation for its North City substation, which was built on a former landfill, for the former Community Linen Rental Services Property, and for obligations for several land sites, including a few sites where it will be building a substation. At December 31, 2022 and 2021, the total pollution remediation liability was $24.3 million and $20.4 million, respectively, and recorded as either Current Liabilities, Customer Deposits and Other or Noncurrent Liabilities, Self Insurance and Other in the Statements of Net Position. Costs were estimated using the expected cash flow technique prescribed under GASB No. 49, including only amounts that are reasonably estimable.

Hydro License. SMUD owns and operates the Upper American River Hydroelectric Project (UARP). The original license to construct and operate the UARP was issued in 1957 by FERC. Effective July 1, 2014, SMUD received a 50-year hydro license. As part of the hydro licensing process, SMUD entered into four contracts with government agencies whereby SMUD makes annual payments to them for various services for the term of the license. At December 31, 2022 and 2021, the liability for these contract payments was $58.5 million and $65.1 million, respectively, and recorded as either Current Liabilities, Customer Deposits and Other or Noncurrent Liabilities, Self-Insurance and Other in the Statements of Net Position (see Note 17).

Assembly Bill 32. California Assembly Bill (AB) 32 was an effort by the State of California to set a greenhouse gas (GHG) emissions reduction goal into law, and initially was set through 2020. In 2015, the state established a 2030 goal for GHG emissions at 40 percent below 1990 levels, and in July of 2017 AB-398 was approved by the Governor. Central to these initiatives is the Cap and Trade program, which covers major sources of GHG emissions in the State including power plants. AB-398 extended Cap and Trade through 2030. The Cap and Trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. SMUD is subject to AB-32 and has participated in California Air Resources Board (CARB) administered quarterly auctions in the past. In a normal water year, SMUD expects its free allocation of allowances from the CARB to cover its compliance costs associated with electricity delivered to its retail customers. SMUD expects to recover compliance costs associated with wholesale power sales costs through its wholesale power sales revenues. SMUD continues to monitor new legislation and proposed programs that could impact AB-32 and its subsequent extensions.

In addition, the Low Carbon Fuel Standards (LCFS) was enacted through AB-32. CARB is responsible for the implementation of LCFS and has established a program for LCFS credits. The LCFS program is designed to reduce greenhouse gas emissions associated with the lifecycle of transportation fuels used in California. SMUD participates in the program and receives LCFS credits from CARB for the electricity used to power electric vehicles. The LCFS credits are sold to parties (oil companies) that have a compliance obligation. CARB requires that electricity LCFS credit sales proceeds be spent in a way to benefit current or future Electric Vehicle drivers in California, for both commercial and residential vehicles.

Net Pension Asset (NPA) or Liability (NPL). The NPA or NPL is the difference between the actuarial present value of projected pension benefit payments attributable to employees' past service and the pension plan's fiduciary net position (see Note 14).

Net Other Postemployment Benefit (OPEB) Asset (NOA) or Liability (NOL). The NOA or NOL is the difference between the actuarial present value of projected OPEB benefit payments attributable to employee's past service and the OPEB plan's fiduciary net position (see Note 15).

Net Position. SMUD classifies its net position into three components as follows:

- Net investment in capital assets – This component of net position consists of capital assets, net of accumulated depreciation, reduced by the outstanding debt balances, net of unamortized debt expenses. Deferred inflows and outflows of resources that are attributable to the acquisition, construction or improvement of those assets or related debt are also included.
- Restricted – This component of net position consists of assets with constraints placed on their use, either externally or internally. Constraints include those imposed by debt indentures (excluding amounts considered in Net investment in capital assets, above), grants or laws and regulations of other governments, or by law through constitutional provisions or enabling legislation or by the Board. These restricted assets are reduced by liabilities and deferred inflows of resources related to those assets.
- Unrestricted – This component of net position consists of net amount of the assets, deferred outflows of resources, liabilities, and deferred inflows of resources that do not meet the definition of "Net investment in capital assets" or "Restricted."

Contributions in Aid of Construction (CIAC). SMUD records CIAC from customer contributions, primarily relating to expansions to SMUD's distribution facilities, as Other income (expense) - net in the Statements of Revenues, Expenses and Changes in Net Position. Contributions of capital are valued at acquisition value. For ratemaking purposes, the Board does not recognize such revenues when received; rather, CIAC is included in revenues as such costs are amortized over the estimated useful lives of the related distribution facilities.

Revenues and Expenses. SMUD distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with SMUD's principal ongoing operations. The principal operating revenues of SMUD are charges to customers for sales and services. Operating expenses include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as Non-Operating Revenues and Expenses in the Statements of Revenues, Expenses and Changes in Net Position.

Grants. SMUD receives grant proceeds from federal and state assisted programs for its projects which include, but are not limited to, advanced and renewable technologies, electric transportation, and energy efficiency. SMUD also periodically receives grant proceeds from federal or state assistance programs as partial reimbursements for costs it has incurred as a result of natural disasters, such as storm or fire damages. During 2021, SMUD received $41.4 million from the California Arrearage Payment Program (CAPP), which offers financial assistance to help reduce past due energy balances accrued during the COVID-19 pandemic. The State Budget Act of 2021 appropriated $1.0 billion from the federal American Rescue Plan Act of 2021 to support the establishment of CAPP. When applicable, these programs may be subject to financial and compliance audits pursuant to regulatory requirements. SMUD records grant proceeds related to capital projects as a Regulatory Credit (see Note 8).

SMUD has taxable Build America Bonds in which it receives an interest subsidy from the federal government equal to 35 percent of the interest paid (see Note 10). SMUD received reduced subsidy payments in 2022 and 2021 due to budget sequestration by the federal government. SMUD recognized $9.3 million in revenues in 2022 and 2021 for its Build America Bonds, as a component of Other income (expense) - net, in the Statements of Revenues, Expenses and Changes in Net Position.

Customer Sales and Excise Taxes. SMUD is required by various governmental authorities, including states and municipalities, to collect and remit taxes on certain customer sales. Such taxes are presented on a net basis and excluded from revenues and expenses in the Statements of Revenues, Expenses and Changes in Net Position.

Subsequent Events. Subsequent events for SMUD have been evaluated through February 24, 2023 (see Note 19).

Reclassifications. Certain amounts in the 2021 Financial Statements have been reclassified in order to conform to the 2022 presentation.

Recent Accounting Pronouncements, adopted. In March 2020, GASB issued SGAS No. 93, ***"Replacement of Interbank Offered Rates"*** (GASB No. 93). The objective of this statement is to address accounting and financial reporting implications that result from the replacement of an interbank offered rate (IBOR), most notably, the London Interbank Offered Rate (LIBOR), which is expected to cease to exist in its current form at the end of 2021. This statement provides exceptions for certain hedging derivative instruments to the hedge accounting termination provisions when an IBOR is replaced as the reference rate of the hedging derivative instrument's variable payment. By removing LIBOR as an appropriate benchmark interest rate for the qualitative evaluation of the effectiveness of an interest rate swap, GASB No. 93 identifies the Secured Overnight Financing Rate and the Effective Federal Funds Rate as appropriate benchmark interest rates to replace LIBOR. This statement is effective for SMUD in 2022. GASB No. 99 (see below) further states that the LIBOR is no longer an appropriate benchmark interest rate for a derivative instrument that hedges the interest rate risk of taxable debt when LIBOR ceases to be determined by the ICE Benchmark Administration using the methodology in place as of December 31, 2021. SMUD utilizes the 1-month LIBOR for its interest rate swap agreements. According to the ICE Benchmark Administration, the 1-month US dollar settings will be determined and published under the methodology until the end of June 2023. At this time, SMUD will determine an appropriate benchmark interest rate.

In April 2022, GASB issued SGAS No. 99, ***"Omnibus 2022"*** (GASB No. 99). This statement addresses a variety of topics and is effective for SMUD in 2022, 2023, or 2024 depending on the requirement. The only topic effective for SMUD in 2022 is the replacement of IBOR discussed above. SMUD chose to adopt provisions related to leases and the implementation of GASB No. 87 that were effective in 2023 early. SMUD incorporated the clarifications related to leases contained in GASB No. 99 during its implementation of GASB No. 87. SMUD is currently assessing the financial impact of adopting the remaining topics in this statement that are effective in 2023 and 2024.

Recent Accounting Pronouncements, not yet adopted. In March 2020, GASB issued SGAS No. 94, ***"Public-Private and Public-Public Partnerships and Availability Payment Arrangements"*** (GASB No. 94). The primary objective of this Statement is to provide guidance for accounting and financial reporting related to public-private and public-public partnership arrangements (PPPs) and availability payment arrangements (APAs). A PPP is an arrangement in which a government (the transferor) contracts with an operator (a governmental or nongovernmental entity) to provide public services by conveying control of the right to operate or use a nonfinancial asset, such as infrastructure or other capital asset (the underlying PPP asset), for a period of time in an exchange or exchange-like transaction. An APA is an arrangement in which a government compensates an operator for services that may include designing, constructing, financing, maintaining, or operating an underlying nonfinancial asset for a period of time in an exchange or exchange-like transaction. This statement is effective for SMUD in 2023. SMUD is currently assessing the financial impact of adopting this statement but does not expect it to be material.

In May 2020, GASB issued SGAS No. 96, ***"Subscription-Based Information Technology Arrangements"*** (GASB No. 96). This statement provides guidance on the accounting and financial reporting for subscription-based information technology arrangements (SBITAs) for governments. The statement (1) defines a SBITA as a contract that conveys control of the right to use another party's information technology software, alone or in combination with tangible capital assets, as specified in the contract for a period of time in an exchange or exchange-like transaction; (2) establishes that a SBITA results in a right-to-use subscription asset and a corresponding subscription liability; (3) provides the capitalization criteria for outlays other than subscription payments, including implementation costs of a SBITA; and (4) requires note disclosures regarding a SBITA. To the

extent relevant, the standards for SBITAs are based on the standards established in GASB No. 87, *Leases*, as amended. This statement is effective for SMUD in 2023. SMUD is currently assessing the financial statement impact of adopting this statement.

In June 2022, GASB issued SGAS No. 100, "***Accounting Changes and Error Corrections – an amendment of GASB Statement No. 62***" (GASB No. 100), to enhance accounting and financial reporting requirements for accounting changes and error corrections. The statement defines accounting changes and sets forth requirements for reporting changes and error corrections in the financial statements. In addition, the statement contains requirements for disclosure in notes to financial statements of information about accounting changes and error corrections. Furthermore, for periods that are earlier than those included in the financial statements, information presented in required supplementary information and supplementary information should be restated for error corrections, but not for changes in accounting principles. This statement is effective for SMUD in fiscal year 2024. SMUD is currently assessing the financial statement impact of adopting this statement.

In June 2022, GASB issued SGAS No. 101, "***Compensated Absences***" (GASB No. 101), to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. The unified recognition and measurement model in this Statement will result in a liability for compensated absences that more appropriately reflects when a government incurs an obligation. This statement is effective for SMUD in fiscal year 2024. SMUD is currently assessing the financial statement impact of adopting this statement.

NOTE 3. ACCOUNTING CHANGE

In June 2017, GASB issued SGAS No. 87, "Leases" (GASB No. 87), to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. The statement requires 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. GASB No. 87 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 GASB No. 87, 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. SMUD implemented GASB No. 87 in fiscal year 2022, retroactive to the beginning of fiscal year 2021. SMUD has assessed whether its leases meet the requirements of GASB No. 87. The implementation impacted the Statements of Net Position when the lease assets, receivables, liabilities and deferred inflow of resources were recorded. The implementation also impacted the Statements of Revenues, Expenses and Changes in Net Position as lease revenue, amortization expense, interest income, and interest expense were also recorded. Net Position was reduced by $0.8 million for 2021 due to the restatement (see Note 4).

SMUD has restated amounts of the affected balances within the financial statements for the period ended December 31, 2021, as follows:

STATEMENTS OF NET POSITION

	December 31,	
	2021 (restated)	2021
Assets		
Electric Utility Plant		
Plant in service	$ 6,864,040	$ 6,782,493
Less accumulated depreciation and depletion	(3,340,797)	(3,314,820)
Current Assets		
Receivables – net:		
Wholesale and other	58,628	58,202
Noncurrent Assets		
Due from affiliated entity	29,674	29,687
Prepayments and other	40,738	23,576
Current Liabilities		
Interest payable	50,739	50,709
Customer deposits and other	67,064	41,003
Noncurrent Liabilities		
Self insurance and other	118,146	87,617
Deferred Inflows of Resources		
Regulatory credits	543,014	543,027
Deferred lease inflows	17,373	-0-
Net Position		
Net investment in capital assets	1,349,688	1,350,709
Revenue bond and debt service	64,793	64,823
Unrestricted	777,674	777,459

STATEMENTS OF REVENUE, EXPENSES AND CHANGES IN NET POSITION

	December 31,	
	2021 (restated)	2021
Operating Revenues		
Street lighting and other	$ 41,739	$ 42,031
Operating Expenses		
Purchased power	395,572	420,350
Production	357,832	358,162
Administrative, general and customer	153,799	153,978
Depreciation and amortization	242,917	216,940
Non-operating revenues (expenses)		
Interest income	6,777	6,501
Other income - net	93,302	93,432
Change in Net Position	338,749	339,585
Net Position – End of Year	2,296,261	2,297,097

STATEMENTS OF CASH FLOWS

	December 31,	
	2021 (restated)	2021
Cash flows from operating activities		
Receipts from customers	$ 1,498,124	$ 1,498,982
Payments for wholesale power and gas purchases	(599,268)	(621,944)
Payments to vendors/others	(320,201)	(320,710)
Cash flows from capital and related financing activities		
Lease and other payments	(23,185)	-0-
Cash received from leases	858	-0-
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	339,935	340,917
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	242,917	216,940
Other (receipts) payments – net	13,283	15,951

NOTE 4. ELECTRIC UTILITY PLANT

The summarized activity of SMUD's Electric Utility Plant during 2022 is presented below:

	Balance January 1, 2022	Additions	Transfers and Disposals	Balance December 31, 2022
		(thousands of dollars)		
Nondepreciable Electric Utility Plant:				
Land and land rights	$ 169,544	$ 1,072	$ -0-	$ 170,616
CWIP	367,297	353,439	(372,978)	347,758
Total nondepreciable electric utility plant	536,841	354,511	(372,978)	518,374
Depreciable Electric Utility Plant:				
Generation	1,751,920	21,801	(7,324)	1,766,397
Transmission	522,765	112,301	(341)	634,725
Distribution	2,651,039	147,235	(12,699)	2,785,575
Investment in JPAs	34,761	5,947	-0-	40,708
Intangibles	526,923	44,394	-0-	571,317
General	1,125,541	45,634	(23,361)	1,147,814
	6,612,949	377,312	(43,725)	6,946,536
Lease Assets:				
Land	1,764	-0-	-0-	1,764
Generation	76,804	-0-	-0-	76,804
General	2,979	2,577	-0-	5,556
	81,547	2,577	-0-	84,124
Less: accumulated depreciation and amortization	(3,333,205)	(248,672)	41,787	(3,540,090)
Less: accumulated amortization on JPAs	(7,592)	(313)	-0-	(7,905)
	(3,340,797)	(248,985)	41,787	(3,547,995)
Total depreciable plant	3,353,699	130,904	(1,938)	3,482,665
Total Electric Utility Plant - net	$ 3,890,540	$ 485,415	$ (374,916)	$ 4,001,039

The summarized activity of SMUD's Electric Utility Plant during 2021 is presented below:

	Balance January 1, 2021	Additions	Transfers and Disposals	Balance December 31, 2021 (Restated)
		(thousands of dollars)		
Nondepreciable Electric Utility Plant:				
Land and land rights	$ 159,515	$ 10,835	$ (806)	$ 169,544
CWIP	461,319	298,426	(392,448)	367,297
Total nondepreciable electric utility plant	620,834	309,261	(393,254)	536,841
Depreciable Electric Utility Plant:				
Generation	1,710,420	49,594	(8,094)	1,751,920
Transmission	410,567	113,776	(1,578)	522,765
Distribution	2,498,526	162,177	(9,664)	2,651,039
Investment in JPAs	30,012	4,749	-0-	34,761
Intangibles	517,415	18,016	(8,508)	526,923
General	1,098,911	39,861	(13,231)	1,125,541
	6,265,851	388,173	(41,075)	6,612,949
Lease Assets:				
Land	-0-	1,764	-0-	1,764
Generation	-0-	76,804	-0-	76,804
General	-0-	2,979	-0-	2,979
	-0-	81,547	-0-	81,547
Less: accumulated depreciation and amortization	(3,132,247)	(242,313)	41,355	(3,333,205)
Less: accumulated amortization on JPAs	(7,279)	(313)	-0-	(7,592)
	(3,139,526)	(242,626)	41,355	(3,340,797)
Total depreciable plant	3,126,325	171,524	280	3,353,699
Total Electric Utility Plant - net	$ 3,747,159	$ 536,355	$ (392,974)	$ 3,890,540

Leases. SMUD engages in lease contracts for land, communication sites, buildings, and a power plant. SMUD leases land to SFA, a component unit, and as described in Note 2, all of the activities and balances of the component units are blended into and reported as part of SMUD because of the extent of their operational and financial relationships with SMUD.

Lessor. Lease agreements include land, communication sites, and a building. Lease terms range from 19 to 35 years including options to extend the lease term after completion of the initial contracted term. The likelihood that the renewal options will be exercised has been evaluated and it has been determined that Lessees will exercise the renewal options with reasonable certainty. The agreements allow for periodic increases to the lease payments. The interest rates range between 0.7 percent to 4.2 percent based on the AAA Muni Curve with the number of years to maturity that corresponds to the lease term, plus an additional credit spread to account for a different credit rating and other factors. At December 31, 2022 and 2021, lease receivables included in current assets, Receivables – Wholesale and other (see Note 2), were $0.8 million and $0.4 million, respectively, and lease receivables included in noncurrent assets, Prepayments and other, were $17.8 million and $17.2 million, respectively. As of December 31, 2022 and 2021, deferred lease inflows were $18.2 million and $17.4 million, respectively. SMUD recognized lease revenue of $0.7 million and $0.6 million in 2022 and 2021, respectively, which is reported in Street lighting and other on

the Statements of Revenues, Expenses and Changes in Net Position. SMUD recognized interest income of $0.03 million in 2022 and 2021. There were no variable lease payments received in 2022 or 2021.

Lessee. Lessee agreements include land, buildings, and a power plant. Lease terms range from 3 to 25 years including options to extend the lease term after completion of the initial contracted term. The likelihood that the renewal options will be exercised has been evaluated and it has been determined that the lease agreements will be renewed with reasonable certainty. The agreements allow for periodic increases to the lease payments. The interest rates range between 0.1 percent to 4.2 percent based on the AAA Muni Curve with the number of years to maturity that corresponds to the lease term, plus an additional credit spread to account for a different credit rating and other factors. As of December 31, 2022 and 2021, assets recorded under leases were $84.1 million and $81.5 million, respectively, and accumulated amortization associated with lease assets was $52.0 million and $26.0 million, respectively. SMUD recognized amortization expense of $26.0 million in 2022 and 2021 which is reported as Depreciation and amortization on the Statements of Revenues, Expenses and Changes in Net Position. As of December 31, 2022 and 2021, lease obligations included in current liabilities, Customer deposits and other, were $26.8 million and $26.1 million, respectively, and lease obligations included in noncurrent liabilities, Self insurance and other, were $6.3 million and $30.5 million, respectively. There were no lease impairments in 2022 or 2021. There were no payments recorded in the current period that were not included in the measurement of the lease liability. There is one lease commitment for which the lease term begins in 2024 and will be recorded as a lease asset and lease liability upon commencement of the lease term.

The following table summarizes the future lease principal and interest payments as of December 31, 2022:

	Principal	Interest	Total
2023	$ 26,767	$ 174	$ 26,941
2024	402	142	544
2025	419	137	556
2026	429	132	561
2027	438	127	565
2028-2032 (combined)	1,816	548	2,364
2033-2037 (combined)	939	422	1,361
2038-2042 (combined)	979	273	1,252
2043-2046 (combined)	919	99	1,018
Total	$ 33,108	$ 2,054	$ 35,162

NOTE 5. INVESTMENT IN JOINT POWERS AUTHORITY

TANC. SMUD and fourteen other California municipal utilities are members of TANC, a JPA. TANC, along with the other California municipal utilities, own and operate the California-Oregon Transmission Project (COTP), a 500-kilovolt transmission line between central California and southern Oregon. SMUD is obligated to pay approximately 39 percent of TANC's COTP debt service and operations costs in exchange for entitlement to approximately 536 megawatts (MW) of TANC's 1,390 MW transfer capability. Additionally, SMUD has a 48 MW share of TANC's 300 MW firm, bi-directional transmission over Pacific Gas and Electric Company's (PG&E) system between PG&E's Tesla and Midway substations (SOT). The total entitlement shares for the COTP and SOT described above include the long-term agreements listed below.

In 2009, SMUD entered into a 15-year long-term layoff agreement with TANC and certain members, expiring January 31, 2024. This agreement provides for the assignment of all rights and obligations of the City of Palo Alto and the City of Roseville related to their COTP and SOT entitlements. This agreement increased SMUD's COTP entitlement by 36 MW and SOT entitlement by 2 MW. On July 1, 2014, an amendment returned to the City of Roseville all rights and obligations related to the COTP entitlements, which decreased SMUD's COTP entitlement by 13 MW.

Effective July 1, 2014, SMUD entered into a 25-year long-term layoff agreement with TANC and certain members that provides for the assignment of all rights and obligations of Northern California Power Agency and partial rights and obligations of the City of Santa Clara related to their COTP entitlements. This agreement increased SMUD's COTP entitlements by 130 MW.

The long-term debt of TANC, which totals $167.8 million (unaudited) at December 31, 2022, is collateralized by a pledge and assignment of net revenues of TANC supported by take or pay commitments of SMUD and other members. Should other members default on their obligations to TANC, SMUD would be required to make additional payments to cover a portion of such defaulted payments, up to 25 percent of its current obligation. SMUD recorded transmission expenses related to TANC of $16.9 million and $16.5 million in 2022 and 2021, respectively.

Summary financial information for TANC is presented below:

	December 31,	
	2022 (Unaudited)	2021(restated) (Unaudited)
	(thousands of dollars)	
Total Assets	$ 389,258	$ 372,434
Total Deferred Outflows of Resources	106	349
Total Assets and Deferred Outflows of Resources	$ 389,364	$ 372,783
Total Liabilities	$ 309,291	$ 307,554
Total Deferred Inflows of Resources	995	1,079
Total Net Position	79,078	64,150
Total Liabilities and Net Position	$ 389,364	$ 372,783
Changes in Net Position for the Six Months Ended December 31	$ 7	$ -0-

Copies of the TANC annual financial reports may be obtained from SMUD at P.O. Box 15830, Sacramento, California 95852 or online at www.tanc.us.

BANC. SMUD, City of Redding, City of Roseville, Modesto Irrigation District (MID), City of Shasta Lake, and Trinity Public Utilities District are members of BANC, a JPA formed in 2009. In 2011, operational control of Balancing Authority Area (BAA) operations was transferred from SMUD to BANC. BANC performs FERC approved BAA reliability functions that are managed by North American Electric Reliability Corporation (NERC), nationally, and by Western Electricity Coordinating Council functions in the west. SMUD recorded expenses related to BANC of $3.9 million and $3.7 million in 2022 and 2021, respectively.

Summary financial information for BANC is presented below:

	December 31,	
	2022 (Audited)	2021 (Audited)
	(thousands of dollars)	
Total Assets	$ 15,028	$ 7,097
Total Liabilities	$ 15028	$ 7,097
Total Net Position	-0-	-0-
Total Liabilities and Net Position	$ 15,028	$ 7,097
Changes in Net Position for the Year Ended December 31	$ -0-	$ -0-

Copies of the BANC annual financial reports may be obtained from SMUD at P.O. Box 15830, Sacramento, California 95852.

NOTE 6. COMPONENT UNITS

CVFA Carson Power Plant Cogeneration Project. CVFA is a JPA formed by SMUD and the Sacramento Regional County Sanitation District. CVFA operates the Carson Power Plant Project, a 65 MW (net) natural gas-fired cogeneration facility and a 42 MW (net) natural gas-fired simple cycle peaking plant. On November 1, 2021, CVFA transferred the assets and obligations, including the ownership of the Carson Power Plant to SFA (see Note 2).

SCA Procter & Gamble Power Plant Cogeneration Project. SCA is a JPA formed by SMUD and the SFA. SCA operates the Procter & Gamble Power Plant Project, a 136 MW (net) natural gas-fired cogeneration facility and a 50 MW (net) natural gas-fired simple cycle peaking plant. On November 1, 2021, SCA transferred the assets and obligations, including the ownership of the Procter & Gamble Power Plant to SFA (see Note 2).

SFA Cosumnes Power Plant Project. SFA is a JPA formed by SMUD and MID. SFA operates the Cosumnes Power Plant Project, a 602 MW (net) natural gas-fired, combined cycle facility. The revenue stream to pay the SFA bonds' debt service is provided by a "take-or-pay" power purchase agreement between SMUD and SFA. On November 1, 2021, CVFA, SCA and SPA assets and obligations, including ownership of the assigned Power Plants, were transferred to SFA (see Note 2).

SPA Campbell Soup Power Plant Cogeneration Project. SPA is a JPA formed by SMUD and the SFA. SPA operates the Campbell Soup Power Plant Project, a 160 MW (net) natural gas-fired cogeneration facility, and the McClellan Power Plant Project, a 72 MW (net) natural gas-fired simple cycle peaking plant. On November 1, 2021, SPA transferred the assets and obligations, including the ownership of the Campbell and McClellan Power Plants to SFA (see Note2).

NCGA. NCGA is a JPA formed by SMUD and the SFA. NCGA has a prepaid gas contract with Morgan Stanley Capital Group (MSCG) expiring in 2027, which is financed primarily by NCGA revenue bonds. SMUD has contracted with NCGA to purchase all the gas delivered by MSCG to NCGA, based on market prices. NCGA is obligated to pay the principal and interest on the bonds. Neither SMUD nor SFA is obligated to make debt service payments on the bonds. NCGA can terminate the prepaid gas contract under certain circumstances, including a failure by MSCG to meet its gas delivery obligation to NCGA or a drop in MSCG's credit rating below a specified level. If this occurs, MSCG will be required to make a termination payment to NCGA based on the unamortized prepayment proceeds received by MSCG.

NCEA. NCEA is a JPA formed by SMUD and the SFA. NCEA has a prepaid natural gas and electricity (commodity) contract with J. Aron & Company LLC (J. Aron) expiring in 2049, which is financed primarily by NCEA revenue bonds. SMUD has contracted with NCEA to purchase all the commodity delivered by J. Aron to NCEA, based on market prices. NCEA is obligated to pay the principal and interest on the bonds. Neither SMUD nor SFA is obligated to make debt service payments on the bonds. NCEA can terminate the prepaid commodity contract under certain circumstances, including a failure by J. Aron to meet its commodity delivery obligation to NCEA. If this occurs, J. Aron will be required to make a termination payment to NCEA based on the unamortized prepayment proceeds received by J. Aron.

The summarized activity of SMUD's component units for 2022 is presented below:

CONDENSED STATEMENTS OF NET POSITION
December 31, 2022
(thousands of dollars)

	SFA	NCGA	NCEA
Assets			
Electric Utility Plant - net	$ 309,606	$ -0-	$ -0-
Current Assets	109,011	40,591	36,148
Noncurrent Assets	682	112,872	524,549
Total Assets	419,299	153,463	560,697
Deferred Outflows of Resources	3,258	-0-	-0-
Total Assets and Deferred Outflows of Resources	$ 422,557	$ 153,463	$ 560,697
Liabilities			
Long-Term Debt - net	$ 95,553	$ 120,070	$ 544,562
Current Liabilities	44,332	24,404	20,537
Noncurrent Liabilities	15,215	-0-	208
Total Liabilities	155,100	144,474	565,307
Net Position	267,457	8,989	(4,610)
Total Liabilities and Net Position	$ 422,557	$ 153,463	$ 560,697

CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
December 31, 2022
(thousands of dollars)

	SFA	NCGA	NCEA
Operating Revenues	$ 115,247	$ 28,472	$ 22,955
Operating Expenses	94,435	22,520	3,845
Operating Income	20,812	5,952	19,110
Non-Operating Revenues and Expenses			
Other Revenues	1,155	326	-0-
Interest Charges and Other	(3,126)	(6,610)	(16,354)
Change in Net Position Before Distributions and Contributions	18,841	(332)	2,756
Distribution to Member	(35,000)	(590)	(941)
Member Contributions	-0-	73	140
Change in Net Position	(16,159)	(849)	1,955
Net Position – Beginning of Year	283,616	9,838	(6,565)
Net Position – End of Year	$ 267,457	$ 8,989	$ (4,610)

CONDENSED STATEMENTS OF CASH FLOWS
December 31, 2022
(thousands of dollars)

	SFA	NCGA	NCEA
Net Cash Provided by Operating Activities	$ 47,786	$ 25,312	$ 22,955
Net Cash Provided by (Used in) Noncapital Financing Activities	(35,000)	(27,955)	(22,694)
Net Cash Used in Capital Financing Activities	(41,839)	-0-	-0-
Net Cash Provided by (Used in) Investing Activities	384	536	(8,579)
Net Decrease in Cash and Cash Equivalents	(28,669)	(2,107)	(8,318)
Cash and Cash Equivalents at the Beginning of the Year	69,630	14,823	10,877
Cash and Cash Equivalents at the End of the Year	$ 40,961	$ 12,716	$ 2,559

The summarized activity of SMUD's component units for 2021 is presented below:

CONDENSED STATEMENTS OF NET POSITION
December 31, 2021
(thousands of dollars)

	SFA (Restated)	NCGA	NCEA
Assets			
Electric Utility Plant - net	$ 309,574	$ -0-	$ -0-
Current Assets	133,673	39,938	28,879
Noncurrent Assets	790	138,186	528,808
Total Assets	444,037	178,124	557,687
Deferred Outflows of Resources	3,267	-0-	-0-
Total Assets and Deferred Outflows of Resources	$ 447,304	$ 178,124	$ 557,687
Liabilities			
Long-Term Debt - net	$ 99,421	$ 142,935	$ 551,815
Current Liabilities	49,507	25,351	12,277
Noncurrent Liabilities	14,760	-0-	160
Total Liabilities	163,688	168,286	564,252
Net Position	283,616	9,838	(6,565)
Total Liabilities and Net Position	$ 447,304	$ 178,124	$ 557,687

CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
December 31, 2021
(thousands of dollars)

	SFA (Restated)	NCGA	NCEA
Operating Revenues	$ 143,050	$ 27,092	$ 21,406
Operating Expenses	137,234	19,980	3,573
Operating Income	5,816	7,112	17,833
Non-Operating Revenues and Expenses			
Other Revenues	51	492	459
Interest Charges and Other	(3,464)	(7,449)	(16,774)
Change in Net Position Before Distributions, Contributions and Special Item	(3,413)	155	1,518
Distribution to Member	-0-	(544)	(843)
Member Contributions	-0-	81	79
Special Item	161,298	-0-	-0-
Change in Net Position	163,701	(308)	754
Net Position – Beginning of Year	119,915	10,146	(7,319)
Net Position – End of Year	$ 283,616	$ 9,838	$ (6,565)

CONDENSED STATEMENTS OF CASH FLOWS
December 31, 2021
(thousands of dollars)

	SFA (Restated)	NCGA	NCEA
Net Cash Provided by Operating Activities	$ 25,536	$ 26,145	$ 21,405
Net Cash Provided by (Used in) Noncapital Financing Activities	37,999	(26,626)	(22,595)
Net Cash Used in Capital Financing Activities	(17,827)	-0-	-0-
Net Cash Provided by Investing Activities	56	492	1,190
Net Increase in Cash and Cash Equivalents	45,764	11	-0-
Cash and Cash Equivalents at the Beginning of the Year	23,866	14,812	10,877
Cash and Cash Equivalents at the End of the Year	$ 69,630	$ 14,823	$ 10,877

As described in Note 2, all of the activities and balances of the component units are blended into and reported as part of SMUD because of the extent of their operational and financial relationships with SMUD. Copies of SFA's, NCGA's and NCEA's annual financial reports may be obtained from their Executive Office at P.O. Box 15830, Sacramento, California 95852 or online at www.smud.org.

NOTE 7. CASH, CASH EQUIVALENTS, AND INVESTMENTS

Cash Equivalents and Investments. SMUD's investment policy is governed by the California State and Municipal Codes and its Indenture, which allow SMUD's investments to include: obligations which are unconditionally guaranteed by the U.S. Government or its agencies or instrumentalities; direct and general obligations of the State or any local agency within the State; bankers' acceptances; commercial paper; certificates of deposit; repurchase and reverse repurchase agreements; medium term corporate notes; LAIF; and money market funds. SMUD's investment policy includes restrictions for investments relating to maximum amounts invested as a percentage of total portfolio and with a single issuer, maximum maturities, and minimum credit ratings.

Credit Risk. This is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. To mitigate this risk, SMUD limits investments to those rated, at a minimum, "A-1" or equivalent for short-term investments and "A" or equivalent for medium-term corporate notes by a nationally recognized rating agency, with the exception of the Guaranteed Investment Contracts (GICs) held by NCEA. NCEA's GICs are rated at the credit rating of the commodity supplier, or, if not rated, the guarantor of the commodity supplier which is currently Goldman Sachs rated as "BBB+".

Custodial Credit Risk. This is the risk that, in the event of the failure of a depository financial institution or counterparty to a transaction, SMUD's deposits and investments may not be returned or SMUD will not be able to recover the value of its deposits, investments or collateral securities that are in the possession of another party. SMUD does not have a deposit or investment policy for custodial credit risk.

As of December 31, 2022 and 2021, $9.7 million and $21.9 million in deposits were uninsured, respectively. The bank balance is also, per a depository pledge agreement between SMUD and SMUD's bank, collateralized at 128 percent and 129 percent of the collective funds on deposit (increased by the amount of accrued but uncredited interest, reduced by deposits covered by Federal Deposit Insurance Corporation) at December 31, 2022 and 2021, respectively. SMUD had money market funds of $185.7 million and $141.6 million which were uninsured at December 31, 2022 and 2021, respectively. SMUD's investments and money market funds are held in SMUD's name.

Concentration of Credit Risk. This is the risk of loss attributed to the magnitude of an entity's investment in a single issuer. SMUD places no limit on the amounts invested in any one issuer for repurchase agreements, US Treasuries, federal agency, and state and municipal securities.

The following are the concentrations of risk greater than five percent in either year:

	December 31,	
	2022	2021
Investment Type:		
Federal Home Loan Banks	68%	30%
Freddie Mac	N/A	13%
Corporate Note – Toyota Motor Credit Corp	5%	N/A
Municipal Bond – CA Department of Water Resources	N/A	18%
Municipal Bond – State of Florida	5%	16%
Municipal Bond – State of California	N/A	7%
Federal Farm Credit Bank	6%	N/A
Ebury	N/A	7%
Guaranteed Investment Contracts	4%	7%

Interest Rate Risk. This is the risk of loss due to the fair value of an investment declining due to interest rates rising. Though SMUD has restrictions as to the maturities of some of the investments, it does not have a formal policy that limits

investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates. SMUD is exposed to interest rate risk on its interest rate swaps (see Note 9).

The following schedules indicate the credit and interest rate risk at December 31, 2022 and 2021. The credit ratings listed are from Standard & Poor's (S&P) or Moody's. (N/A is defined as not applicable to the rating disclosure requirements.)

At December 31, 2022, SMUD's cash, cash equivalents, and investments consist of the following:

		Remaining Maturities (in years)			
Description	Credit Rating	Less Than 1	1-5	More Than 5	Total Fair Value
		(thousands of dollars)			
Cash and Cash Equivalents:					
Cash	N/A	$ 2,453	$ -0-	$ -0-	$ 2,453
LAIF	Not Rated	85,502	-0-	-0-	85,502
Money Market Funds	AAAm	185,709	-0-	-0-	185,709
Deposit at Notice	N/A	103,597	-0-	-0-	103,597
Commercial Paper	A-1	12,577	-0-	-0-	12,577
Total cash and cash equivalents		389,838	-0-	-0-	389,838
Investments:					
Federal Home Loan Bank	AA+	218,532	123,332	-0-	341,864
Federal Farm Credit Bank	AA+	-0-	29,377	-0-	29,377
U.S. Treasury Obligations	Aaa	39,569	24,272	-0-	63,841
Corporate Notes	AAA/AA+/A-/A+/A	-0-	48,490	-0-	48,490
Municipal Bonds	AAA/AA+/AA-	24,582	25,327	-0-	49,909
Guaranteed Investment Contracts	BBB+	-0-	19,350	-0-	19,350
Total investments		282,683	270,148	-0-	552,831
Total cash, cash equivalents, and investments		$ 672,521	$ 270,148	$ -0-	$ 942,669

At December 31, 2021, SMUD's cash, cash equivalents, and investments consist of the following:

		Remaining Maturities (in years)			
Description	Credit Rating	Less Than 1	1-5	More Than 5	Total Fair Value
		(thousands of dollars)			
Cash and Cash Equivalents:					
Cash	N/A	$ 4,931	$ -0-	$ -0-	$ 4,931
LAIF	Not Rated	526,297	-0-	-0-	526,297
Money Market Funds	AAAm	141,605	-0-	-0-	141,605
Deposit at Notice	N/A	105,922	-0-	-0-	105,922
Commercial Paper	A-1	9,893	-0-	-0-	9,893
Total cash and cash equivalents		788,648	-0-	-0-	788,648
Investments:					
Federal Home Loan Bank	AA+	44,992	-0-	-0-	44,992
Freddie Mac	AA+	20,013	-0-	-0-	20,013
U.S. Treasury Obligations	AA+	39,993	-0-	-0-	39,993
Corporate Notes	AA+	3,975	-0-	-0-	3,975
Municipal Bonds	AAA/AA+/AA-	37,947	24,851	-0-	62,798
Guaranteed Investment Contracts	BBB+	-0-	10,258	-0-	10,258
Total investments		146,920	35,109	-0-	182,029
Total cash, cash equivalents, and investments		$ 935,568	$ 35,109	$ -0-	$ 970,677

SMUD's cash, cash equivalents, and investments are classified in the Statements of Net Position as follows:

	December 31,	
	2022	2021
	(thousands of dollars)	
Cash, Cash Equivalents, and Investments:		
Revenue bond reserve and debt service funds:		
Revenue bond reserve fund	$ 2,004	$ 2,931
Debt service fund	81,263	78,922
Component unit bond reserve and debt service funds	36,118	38,171
Total revenue bond reserve and debt service funds	119,385	120,024
Nuclear decommissioning trust fund	8,980	8,874
Rate stabilization fund	156,016	188,992
Component unit other restricted funds	3,015	6,575
Escrow fund	12,484	15,182
Other restricted funds	14,925	654
Unrestricted funds	627,864	630,376
Total cash, cash equivalents, and investments	$ 942,669	$ 970,677

NOTE 8. REGULATORY DEFERRALS

The Board has taken various regulatory actions that result in differences between the recognition of revenues and expenses for ratemaking purposes and their treatment under generally accepted accounting principles for non-regulated entities (see Note 2). These actions result in regulatory assets and deferred inflow of resources, which are summarized in the tables below. Changes to these balances, and their inclusion in rates, occur only at the direction of the Board.

Regulatory Assets (Costs)

Decommissioning. SMUD's regulatory asset relating to the unfunded portion of its decommissioning liability for the Rancho Seco nuclear power plant is being collected through interest earnings on the Trust Fund. Nuclear fuel storage costs and non-radiological decommissioning costs have been collected in rates since 2009.

Derivative Financial Instruments. SMUD's regulatory costs and/or credits relating to investment derivative instruments are intended to defer the net difference between the fair value of derivative instruments and their cost basis, if any. Investment derivative instruments are reflected in rates at contract cost and as such, the balance is charged or credited into rates as the related asset or deferred inflow of resource is utilized (see Note 9).

Debt Issuance Costs. SMUD established a regulatory asset for costs incurred in connection with the issuance of debt obligations, principally underwriter fees and legal costs. The regulatory asset is amortized through 2022 for the portion related to SMUD's debt issuance costs and over the life of the bonds for the portion related to the component units' debt issuance costs. Debt issuance costs after December 31, 2013 are expensed.

Pension. SMUD established a regulatory asset for pension costs related to the implementation of GASB No. 68 which requires SMUD to record a net pension asset or a net pension liability. The regulatory asset is being amortized over a period of 25 years starting in 2018.

OPEB. SMUD established a regulatory asset for OPEB costs related to the implementation of GASB No. 75 which requires SMUD to record a net OPEB asset or net OPEB liability. The regulatory asset will be amortized over a period of 25 years starting in 2020.

Pension/OPEB. In 2022, SMUD established regulatory accounting for pension and OPEB regulatory costs and/or credits to defer recognition of certain expenses related to the amortization of the pension and OPEB deferred outflows and deferred inflows of resources to match such costs in the appropriate accounting period for rate-making purposes.

SMUD's total regulatory costs for future recovery are presented below:

	December 31,	
	2022	2021
	(thousands of dollars)	
Regulatory Costs:		
Decommissioning	$ 83,882	$ 83,846
Derivative financial instruments	1,095	5,387
Debt issuance costs	1,255	1,464
Pension – implementation costs	340,544	357,571
Pension – deferred outflows	86,574	-0-
OPEB – implementation costs	281,010	293,783
OPEB – deferred outflows	19,198	-0-
Total regulatory costs	813,558	742,051
Less: regulatory costs to be recovered within one year	(49,312)	(38,303)
Total regulatory costs for future recovery - net	$ 764,246	$ 703,748

Regulatory Credits

CIAC. In 2022 and 2021, SMUD added CIAC totaling $23.9 million and $24.2 million, respectively, to Regulatory Credits in the Statements of Net Position and recorded $14.8 million and $14.2 million of amortization, respectively, to Other income (expense) - net in the Statements of Revenues, Expenses and Changes in Net Position. SMUD's regulatory credit relating to CIAC is intended to offset the revenue and expense associated with this accounting treatment. Thus, this regulatory credit is being amortized into rates over the depreciable lives of the related assets in order to offset the earnings effect of these non-exchange transactions.

Rate Stabilization. SMUD's regulatory credit relating to Rate Stabilization is intended to defer the need for future rate increases when costs exceed existing rates. At the direction of the Board, amounts may be either deferred into this fund (which reduces revenues), or amounts are recognized out of this fund (which increases revenues). The Board authorizes Rate Stabilization Fund (RSF) deferrals on an event driven basis.

In 2022 and 2021, $30.0 million and $11.4 million, respectively, was recognized as revenue from the RSF as a result of lower than budgeted energy deliveries from the Western Area Power Administration.

SMUD participates in the carbon allowance auctions under AB-32, the Global Warming Solutions Act (see Note 2). The Board authorized deferral of AB-32 auction proceeds to match the revenue recognition with the related expenses. The difference between the auction proceeds received and the funds spent on AB-32 programs are deferred into future years. In 2022 and 2021, the Board authorized deferring the difference into the RSF and $23.0 million and $16.2 million, respectively, was deferred from revenue to the RSF.

SMUD sells LCFS credits under AB-32, the Global Warming Solutions Act (see Note 2). In 2019, the Board authorized deferral of LCFS credit sales to match the revenue recognition with the related expenses. The difference between the LCFS credit sales and the funds spent on LCFS programs are deferred into future years. In 2022, the Board authorized deferring the difference and $0.7 million was deferred from revenue to the RSF. In 2021, the Board authorized recognizing the difference and $0.9 million was recognized from the RSF to revenue.

In 2021, the Board authorized SMUD to defer $35.0 million from revenue to the RSF to offset future one-time specific expenses which may have a significant financial impact on SMUD. In 2022, the Board authorized the use of $41.0 million of

deferred operating revenue to offset future Community Impact Plan expenditures from 2022 through 2025, and $1.5 million was recognized from the RSF to revenue.

Hydro Rate Stabilization. The Hydro Rate Stabilization Fund (HRSF) was established through the Hydro Generation Adjustment (HGA) mechanism, which helps manage volatility in energy costs. The HGA mechanism applies a formula based on precipitation and wholesale electricity prices to calculate needed withdrawals from or deposits to the HRSF. The maximum balance of the HRSF is 6 percent of the budgeted retail revenue and the maximum annual transfer in or out of the HRSF is 4 percent of budgeted retail revenue. If the HRSF is depleted, SMUD will apply a hydro rate surcharge to customers' bills up to 4 percent. When the HRSF reaches the 6 percent cap, the Board may authorize a hydro rebate to customers or direct the funds for another purpose. In 2022 and 2021, $25.1 million and $18.6 million, respectively, was recognized from the HRSF to revenue as a result of low precipitation.

Senate Bill 1. SMUD implemented a per kilowatt hour solar surcharge, effective January 1, 2008 in order to fund investments in solar required by Senate Bill 1 (SB-1). The difference between the surcharge revenues received and the funds spent on solar initiatives will be recognized or deferred into future years. SMUD has spent less than it collected in SB-1 revenues and has recorded a regulatory credit. Collection of the solar surcharge ended in December 2017 when total collections reached $130.0 million. In 2022 and 2021, $0.04 million and $0.8 million was spent for SB-1 programs, respectively.

Grant Revenues. In 2009, SMUD was awarded several large grants under the American Recovery and Reinvestment Act, which provided significant reimbursements for capital expenditures. In 2010, the Board authorized the deferral of grant income for capital expenditures as regulatory liabilities. Thus, this regulatory credit was deferred to match the depreciable lives of the related capital assets in order to offset the earnings effect of these non-exchange transactions.

TANC Operations Costs. SMUD's cash payments to TANC exceeded TANC's accrual-based costs and SMUD has recorded a regulatory credit.

SMUD's total regulatory credits for future revenue recognition are presented below:

	December 31,	
	2022	2021 Restated
	(thousands of dollars)	
Regulatory Credits:		
CIAC	$ 298,026	$ 288,856
Derivative Financial Instruments	2,767	-0-
Rate stabilization	125,032	132,876
Hydro rate stabilization	30,984	56,117
Senate Bill 1	3,430	3,470
Pension – deferred inflows	68,082	-0-
OPEB – deferred inflows	32,983	-0-
Grant revenues	27,920	32,021
TANC operations costs	31,149	29,674
Total regulatory credits	$ 620,373	$ 543,014

NOTE 9. DERIVATIVE FINANCIAL INSTRUMENTS

To help provide stable electric rates and to meet the forecasted power needs of its retail customers reliably, SMUD enters into various physical and financial fixed price purchase contracts for electricity and natural gas. These fixed price contracts and swap agreements are intended to hedge the exposure due to highly volatile commodity prices. SMUD also enters into interest rate swap agreements to reduce interest rate risk. SMUD utilizes these derivative financial instruments to mitigate its exposure to certain market risks associated with ongoing operations. SMUD has established policies set by an executive committee for the use of derivative financial instruments for trading purposes. These contracts are evaluated pursuant to SGAS No. 53,

"Accounting and Financial Reporting for Derivative Instruments," (GASB No. 53) to determine whether they meet the definition of derivative instruments, and if so, whether they effectively hedge the expected cash flows associated with interest rate and commodity price risk exposures.

SMUD applies hedge accounting for derivative instruments that are deemed effective hedges. Under hedge accounting, the increase or (decrease) in the fair value of a hedge is reported as a Deferred Inflow or Deferred Outflow in the Statements of Net Position. Accumulated gains and losses from derivative instruments that do not meet the effectiveness tests are deferred for ratemaking purposes as regulatory assets on the Statements of Net Position (see Note 8).

SMUD executed numerous new gas and power related purchase agreements, some of which are recorded as hedging or investment derivative instruments and are therefore included in the following table. All hedging or investment derivative instruments are recorded at fair value in the Statements of Net Position (see Note 12).

The following is a summary of the fair value, changes in fair value and notional amounts of derivative instruments, grouped by trading strategy, outstanding at December 31, 2022 (amounts in thousands; gains shown as positive amounts, losses as negative):

	2022 Changes in Fair Value		Fair Value at December 31, 2022		
	Current Amount	Noncurrent Amount	Current Amount	Noncurrent Amount	Notional
Cash Flow Hedges:					
(thousands of dollars)					
(thousands of Dekatherms (Dth))					
Asset: Investment Derivative Instruments					
Gas – Commodity	$ 1,936	$ (474)	$ 3,110	$ 329	688 Dth
Gas – Storage	87	-0-	87	-0-	77 Dth
Gas – Transportation	2,493	-0-	2,673	-0-	155 Dth
Total Investment Derivative Instruments	$ 4,516	$ (474)	$ 5,870	$ 329	
Asset: Hedging Derivative Instruments					
Gas – Commodity	$ 64,093	$ 19,348	$ 95,386	$ 52,029	57,997 Dth
Gas – Storage	11	-0-	502	-0-	303 Dth
Gas – Transportation	49,472	-0-	53,024	-0-	10,102 Dth
Interest Rate	1,153	28,574	2,437	33,646	$245,865
Total Hedging Derivative Instruments	$ 114,729	$ 47,922	$ 151,349	$ 85,675	
Liability: Investment Derivative Instruments					
Gas – Commodity	$ (2,071)	$ 169	$ 2,076	$ 70	927 Dth
Gas – Storage	(90)	-0-	90	-0-	78 Dth
Gas – Transportation	-0-	-0-	-0-	-0-	
Interest Rate	1,815	3,193	937	1,354	$68,450
Total Investment Derivative Instruments	$ (346)	$ 3,362	$ 3,103	$ 1,424	
Liability: Hedging Derivative Instruments					
Gas – Commodity	$ 2,493	$ (5,314)	$ 12,859	$ 6,802	30,655 Dth
Gas – Storage	(7,637)	-0-	8,255	-0-	302 Dth
Gas – Transportation	1,040	-0-	522	-0-	4,188 Dth
Interest Rate	700	2,880	-0-	-0-	$0
Total Hedging Derivative Instruments	$ (3,404)	$ (2,434)	$ 21,636	$ 6,802	

The following is a summary of the fair value, changes in fair value and notional amounts of derivative instruments, grouped by trading strategy, outstanding at December 31, 2021 (amounts in thousands; gains shown as positive amounts, losses as negative):

	2021 Changes in Fair Value		Fair Value at December 31, 2021		
	Current Amount	Noncurrent Amount	Current Amount	Noncurrent Amount	Notional
Cash Flow Hedges:					
(thousands of dollars)					
(thousands of Dekatherms (Dth))					
Asset: Investment Derivative Instruments					
Gas – Commodity	$ 1,174	$ 770	$ 1,174	$ 803	2,445 Dth
Gas – Storage	-0-	-0-	-0-	-0-	
Gas – Transportation	180	-0-	180	-0-	78 Dth
Total Investment Derivative Instruments	$ 1,354	$ 770	$ 1,354	$ 803	
Asset: Hedging Derivative Instruments					
Gas – Commodity	$ 29,964	$ 30,356	$ 31,293	$ 32,681	76,850 Dth
Gas – Storage	190	-0-	491	-0-	380 Dth
Gas – Transportation	2,062	-0-	3,552	-0-	9,395 Dth
Interest Rate	(509)	(1,209)	1,284	5,072	$263,535
Total Hedging Derivative Instruments	$ 31,707	$ 29,147	$ 36,620	$ 37,753	
Liability: Investment Derivative Instruments					
Gas – Commodity	$ 4	$ 24	$ 5	$ 239	1,223 Dth
Gas – Storage	-0-	-0-	-0-	-0-	
Gas – Transportation	-0-	-0-	-0-	-0-	
Interest Rate	(1,360)	3,093	2,752	4,547	$74,375
Total Investment Derivative Instruments	$ (1,356)	$ 3,117	$ 2,757	$ 4,786	
Liability: Hedging Derivative Instruments					
Gas – Commodity	$ 5,314	$ 17,210	$ 15,352	$ 1,488	12,983 Dth
Gas – Storage	479	-0-	618	-0-	380 Dth
Gas – Transportation	(1,562)	-0-	1,562	-0-	3,805 Dth
Interest Rate	(179)	7,718	700	2,880	$157,785
Total Hedging Derivative Instruments	$ 4,052	$ 24,928	$ 18,232	$ 4,368	

Objectives and Terms of Hedging Derivative Instruments. The objectives and terms of SMUD's hedging derivative instruments that were outstanding at December 31, 2022 are summarized in the table below. The table is aggregated by the trading strategy. Credit ratings of SMUD's counterparties can be found in the table under Credit Risk. Details of SMUD's interest rate derivative instruments can be found in Note 10.

	Notional Amount Dth	Beginning Date	Ending Date	Minimum Price/Dth	Maximum Price/Dth
Gas – Commodity	90,267	01/01/23	12/31/25	$ 1.18	$ 50.38
Gas – Storage	760	01/01/23	02/28/23	1.19	20.50
Gas – Transportation	14,445	01/01/23	12/31/23	(2.86)	16.00

The objectives and terms of SMUD's hedging derivative instruments that were outstanding at December 31, 2021 are summarized in the table below. The table is aggregated by the trading strategy.

	Notional Amount Dth	Beginning Date	Ending Date	Minimum Price/Dth	Maximum Price/Dth
Gas – Commodity	95,478	01/01/08	12/31/25	$ 1.00	$ 7.80
Gas – Storage	760	01/01/22	02/28/22	.85	6.20
Gas – Transportation	13,278	01/01/22	12/31/22	(1.30)	1.35

SMUD hedges its interest rate exposure with swaps. One swap is used to convert some of the interest expense associated with the 1997 Series K fixed rate bonds to a variable rate interest expense (see note 10). SMUD also has a swap that is designed to fix the interest expense associated with commercial paper (see Note 11). SMUD has two forward starting swaps that are designed to synthetically fix the interest expense associated with refunding bonds that are expected to be issued to refund the 2013 Series A and 2013 Series B bonds in 2023 (see Note 10).

SMUD hedges its power and natural gas costs so that it can offer predictable rates to its retail electric customers and support its credit rating. SMUD maintains a risk management program to control the price, credit, and operational risks arising from its power and natural gas market activities. Under the program, authorized SMUD employees assemble a portfolio of swaps, futures, and forward contracts over time with the goal of making SMUD's purchased power and fuel budget more predictable.

The hedged risks include those related to interest rate and commodity price fluctuations associated with certain forecasted transactions, including interest rate risk on long-term debt, and forward purchases of gas and electricity to meet load.

Derivative Instruments Not Designated as Hedging Derivative Instruments

Gas and Electric Contracts. SMUD utilizes certain gas swap and electric swap agreements under GASB No. 53 not designated as hedging derivative instruments to mitigate exposure to changes in the market price of natural gas and electricity. The fair value of each agreement, excluding the actual settlements to be paid or received as of the end of the period, is recorded in the Statements of Net Position in either Current or Noncurrent Assets, Investment Derivative Instruments if in an asset position or Current or Noncurrent Liabilities, Investment Derivative Instruments if in a liability position. An offsetting amount is included in Current or Noncurrent Regulatory Costs or Regulatory Credits for future recovery in the Statements of Net Position. The actual settlement payable is recorded in Accounts Payable in the Statements of Net Position, and the actual settlement receivable is recorded in Receivables - net: Wholesale and Other in the Statements of Net Position. The payments and receipts of the actual settlement are recorded as Investment Expense in the Statements of Revenues, Expenses and Changes in Net Position.

Interest Rate Contracts. SMUD utilizes certain interest rate swap agreements not designated as hedging derivative instruments under GASB No. 53 to mitigate exposure to fluctuations in interest rates. The fair value of each agreement, excluding the balance of interest to be paid or received as of the end of the period, is recorded in the Statements of Net Position in either Current or Noncurrent Assets, Investment Derivative Instruments if in an asset position or Current or

Noncurrent Liabilities, Investment Derivative Instruments if in a liability position. An offsetting amount is included in Current or Noncurrent Regulatory Costs or Deferred Outflows or Inflows of Resources in the Statements of Net Position. The interest receivable is recorded in Receivables - net: Wholesale and Other in the Statements of Net Position and the accrued interest is recorded in Interest Payable in the Statements of Net Position. The payments or receipts of the actual settlement are recorded as Investment Expense in the Statements of Revenues, Expenses and Changes in Net Position.

The Board has deferred recognition of the effects of reporting the fair value of Investment Derivative Instruments for ratemaking purposes and maintains regulatory accounts to defer the accounting impact of these accounting adjustments (see Note 8). Fair values may have changed significantly since December 31, 2022.

Basis Risk. This is the risk that arises when a hedged item and a derivative instrument that is attempting to hedge that item are based on different indices. SMUD is exposed to basis risk when it hedges its natural gas purchases, which are priced at various locations, and with NYMEX futures contracts, which settle based on the price at Henry Hub, Louisiana. SMUD enters into basis swaps to hedge against this risk.

Termination Risk. This is the risk that a derivative instrument will terminate prior to its scheduled maturity due to a contractual event. Contractual events include bankruptcy, illegality, default, credit events upon merger, and other events. One aspect of termination risk is that SMUD would lose the hedging benefit of a derivative instrument that becomes subject to a termination event. Another aspect of termination risk is that, if at the time of termination, the mark to market value of the derivative instrument was a liability to SMUD, SMUD could be required to pay that amount to the counterparty. Termination risk is associated with all of SMUD's derivative instruments up to the fair value amounts.

Counterparty Credit Risk. This is the risk of loss resulting when the counterparty is unable or unwilling to fulfill its present and future financial obligations. SMUD can be exposed to significant counterparty credit risk on all derivative instruments. SMUD seeks to minimize credit risk by transacting with creditworthy counterparties. SMUD has established and maintained strict counterparty credit guidelines. SMUD continuously monitors counterparty credit risk and utilizes numerous counterparties to diversify the exposure to potential defaults. Under certain conditions as outlined in SMUD's credit risk management policy, SMUD may require additional credit support under its trading agreements.

Some of SMUD's derivative instrument master agreements contain credit contingent provisions that enable SMUD to maintain unsecured credit as a result of positive investment quality credit ratings from each of the major credit rating agencies. If SMUD's credit rating was to be downgraded, there could be a step-down in SMUD's unsecured credit thresholds, and SMUD's counterparties would require additional collateral. If SMUD's credit rating was to decrease below investment grade, SMUD's unsecured credit thresholds would be reduced to zero, and counterparties to the derivative instruments would demand ongoing full collateralization on derivative instruments in net out of the money positions (see Note 2).

The counterparties' credit ratings at December 31, 2022 and 2021 are shown in the table below. The credit ratings listed are from S&P or Moody's.

	December 31,	
	2022	2021
Counterparty Gas Contracts:		
Bank of Montreal	A+	A+
Barclays Bank PLC	A	A
Citigroup Inc.	BBB+	BBB+
EDF Trading Group	Baa2	Baa2
J.P. Morgan Ventures Energy Corp.	A-	A-
Merrill Lynch	A2	A2
Mitsui Bussan	A	A
Morgan Stanley Capital Group, Inc.	BBB+	BBB+
Nextera	A-	A-
Royal Bank of Canada	AA-	AA-
Shell Trading Market Risk	A	A
Interest Rate Contracts:		
Barclays Bank PLC	A	A
Goldman Sachs Capital Markets, L.P. (J. Aron)	BBB+	BBB+
Morgan Stanley Capital Services, Inc.	A+	A+

NOTE 10. LONG-TERM DEBT

SMUD's total long-term debt is presented below:

	December 31,	
	2022	2021
	(thousands of dollars)	
Electric revenue bonds, 2.13%-6.32%, 2023-2050	$ 1,841,715	$ 1,966,925
Subordinated electric revenue bonds, 5.0%, 2023-2049	200,000	200,000
Total electric revenue bonds	2,041,715	2,166,925
Component unit project revenue bonds, 5.0%, 2023-2030	89,735	101,185
Gas and Commodity supply revenue bonds, index rates and 4.0%-5.0%, 2023-2049	682,550	703,100
Total long-term debt outstanding	2,814,000	2,971,210
Bond premiums - net	210,039	242,647
Total long-term debt	3,024,039	3,213,857
Less: amounts due within one year	(138,195)	(132,150)
Total long-term debt - net	$ 2,885,844	$ 3,081,707

The summarized activity of SMUD's long-term debt during 2022 is presented below:

	January 1, 2022	Additions	Defeasance Payments or Amortization	December 31, 2022	Amounts Due Within One Year
	(thousands of dollars)				
Electric revenue bonds	$ 1,966,925	$ 132,725	$ (257,935)	$ 1,841,715	$ 111,165
Subordinate electric revenue bonds	200,000	-0-	-0-	200,000	-0-
Component unit project revenue bonds	101,185	-0-	(11,450)	89,735	1,845
Gas and Commodity supply revenue bonds	703,100	-0-	(20,550)	682,550	25,185
Total	2,971,210	132,725	(289,935)	2,814,000	$ 138,195
Unamortized premiums - net	242,647	17,986	(50,594)	210,039	
Total long-term debt	$ 3,213,857	$ 150,711	$ (340,529)	$ 3,024,039	

The summarized activity of SMUD's long-term debt during 2021 is presented below:

	January 1, 2021	Additions	Defeasance Payments or Amortization	December 31, 2021	Amounts Due Within One Year
			(thousands of dollars)		
Electric revenue bonds	$ 2,085,120	$ 106,875	$ (225,070)	$ 1,966,925	$ 100,150
Subordinate electric revenue bonds	200,000	-0-	-0-	200,000	-0-
Component unit project revenue bonds	112,085	-0-	(10,900)	101,185	11,450
Gas and Commodity supply revenue bonds	721,550	-0-	(18,450)	703,100	20,550
Total	3,118,755	106,875	(254,420)	2,971,210	$ 132,150
Unamortized premiums - net	267,947	23,373	(48,673)	242,647	
Total long-term debt	$ 3,386,702	$ 130,248	$ (303,093)	$ 3,213,857	

At December 31, 2022 scheduled annual principal maturities and interest are as follows:

	Principal	Interest	Total
		(thousands of dollars)	
2023	$ 138,195	$ 139,057	$ 277,252
2024	139,330	129,638	268,968
2025	151,115	122,436	273,551
2026	157,575	113,645	271,220
2027	166,245	105,782	272,027
2028 – 2032 (combined)	536,515	429,877	966,392
2033 – 2037 (combined)	575,125	278,362	853,487
2038 – 2042 (combined)	403,785	158,167	561,952
2043 – 2047 (combined)	362,275	79,450	441,725
2048 – 2050 (combined)	183,840	13,131	196,971
Total requirements	$ 2,814,000	$ 1,569,545	$ 4,383,545

Interest in the preceding table includes interest requirements for fixed rate debt at their stated rates, variable rate debt covered by interest rate swaps at their fixed rate, and variable rate debt not covered by interest rate swaps using the debt interest rate of 70.0 percent of 1 month London Interbank Offered Rate (LIBOR) plus a fixed fee. The LIBOR rate is based on the rate in effect at December 31, 2022 for the issues. The 2019 Series A and 2019 Series B Put Bonds assume a 3.0 percent fixed rate coupon after mandatory remarketing. The 2018 NCEA Put Bonds assume a 4.0 percent fixed rate coupon after mandatory remarketing. Principal in the preceding table includes known principal payments and the amortization schedule for mandatory remarketing bonds.

The following bonds have been issued and are outstanding at December 31, 2022:

Date	Issue	Final Maturity	Interest Rate	Original Amount	Outstanding Amount
				(thousands of dollars)	
Electric Revenue Bonds					
06/15/1997	1997 Series K Bonds	07/01/2024	5.25%	$ 131,030	$ 38,165
05/15/2009	2009 Series V Bonds	05/15/2036	6.322%	200,000	200,000
07/29/2010	2010 Series W Bonds	05/15/2036	6.156%	250,000	250,000
05/21/2013	2013 Series A Bonds	08/15/2041	3.75% - 5.0%	132,020	132,020
05/21/2013	2013 Series B Bonds	08/15/2033	3.0% - 5.0%	118,615	81,820
07/14/2016	2016 Series D Bonds	08/15/2028	2.125% - 5.0%	149,890	104,060
12/14/2017	2017 Series E Bonds	08/15/2028	5.0%	202,500	111,585
07/12/2018	2018 Series F Bonds	08/15/2028	5.0%	165,515	103,245
07/25/2019	2019 Series G Bonds	08/15/2041	2.375% - 5.0%	191,875	191,875
05/07/2020	2020 Series H Bonds	08/15/2050	4.0% - 5.0%	400,000	400,000
07/14/2021	2021 Series I Bonds	08/15/2028	5.0%	106,875	96,220
06/23/2022	2022 Series J Bonds	08/15/2033	5.0%	132,725	132,725
Subordinated Electric Revenue Bonds					
07/25/2019	2019 Series A Bonds	08/15/2049	5.0%	100,000	100,000
07/25/2019	2019 Series B Bonds	08/15/2049	5.0%	100,000	100,000
JPA Revenue Bonds					
06/03/2015	2015 SFA Bonds	07/01/2030	5.0%	193,335	89,735
05/31/2007	2007B NCGA#1 Bonds	07/01/2027	Index Rate	668,470	142,935
12/19/2018	2018 NCEA Bonds	07/01/2049	4.0% - 5.0%	539,615	539,615

2022 Bond Issuances. In June 2022, SMUD issued $132.7 million of 2022 Series J Revenue Refunding Bonds. The purpose of this transaction was to refund the fixed rate debt associated with 2012 Series Y bonds. Proceeds from the 2022 Series J bonds combined with swap termination receipt defeased all the outstanding Series 2012 Series Y bonds. A total of $157.8 million of bonds were defeased through a legal defeasance, and accordingly, the liability for the defeased bonds has been removed from Long-Term Debt - net in the Statements of Net Position. The refunding resulted in the recognition of a deferred accounting gain of $6.7 million, which is being amortized over the life of the refunding issue. The 2022 refunding reduced future aggregate debt service payments by $30.9 million and resulted in a total economic gain of $28.6 million, which is the difference between the present value of the old and new debt service payments.

2021 Bond Issuances. In July 2021, SMUD issued $106.9 million of 2021 Series I Revenue Refunding Bonds. The purpose of this transaction was to refund the fixed rate debt associated with 2011 Series X bonds. Proceeds from the 2021 Series I bonds defeased all the outstanding Series 2011 Series X bonds and funded the associated swap termination payment. A total of $127.0 million of bonds were defeased through a legal defeasance, and accordingly, the liability for the defeased bonds has been removed from Long-Term Debt - net in the Consolidated Statements of Net Position. The refunding resulted in the recognition of a deferred accounting gain of $3.9 million, which is being amortized over the life of the refunding issue. The termination payments of the interest rate swaps are being amortized over the life of the refunding issue. The 2021 refunding reduced future aggregate debt service payments by $23.8 million and resulted in a total economic gain of $22.5 million, which is the difference between the present value of the old and new debt service payments.

Component Unit Bond Defeasances. In September 2019, SCA defeased $12.9 million of 2009 Series Bonds maturing July 2020 and July 2021, along with the accrued interest using SCA's available funds and $7.9 million from SMUD. The corresponding amount was placed in an irrevocable trust which had a remaining balance of $6.9 million as of December 31, 2020. In July 2021, the remaining balance was paid down to zero.

Terms of Debt Indentures. Debt indentures contain a provision that in an event of default, the holders of the majority of the debt outstanding are entitled to declare the outstanding amounts due immediately.

Interest Rate Swap Agreements. A summary of SMUD's four interest rate swap agreements as of December 31, 2022 are as follows. The credit ratings listed are from S&P.

Notional Amount (thousands)	SMUD Pays	Fixed Rate	Floating Rate	Termination Date	Counterparty Credit Rating
$ 38,165	Variable	5.166%	SIFMA	07/01/24	BBB+
68,450	Fixed	2.894%	63% of 1 M LIBOR	08/15/28	A+
132,020	Fixed	0.7179%	70% of 1M LIBOR	08/15/41	A
75,680	Fixed	0.5543%	70% of 1M LIBOR	08/15/33	A

A summary of SMUD's five interest rate swap agreements as of December 31, 2021 are as follows:

Notional Amount (thousands)	SMUD Pays	Fixed Rate	Floating Rate	Termination Date	Counterparty Credit Rating
$ 55,835	Variable	5.166%	SIFMA	07/01/24	BBB+
74,375	Fixed	2.894%	63% of 1 M LIBOR	08/15/28	A+
157,785	Fixed	1.607%	SIFMA	08/15/33	A+
132,020	Fixed	0.7179%	70% of 1M LIBOR	08/15/41	A
75,680	Fixed	0.5543%	70% of 1M LIBOR	08/15/33	A

At December 31, 2022 and 2021, SMUD had a fixed-to-variable interest rate swap agreement with a notional amount of $38.2 million and $55.8 million, respectively, which is equivalent to the principal amount of SMUD's 1997 Series K Electric Revenue Bonds. Under this swap agreement, SMUD pays a variable rate equivalent to the Securities Industry and Financial Markets Association (SIFMA) Index (3.66 percent and .10 percent at December 31, 2022 and 2021, respectively) and receives fixed rate payments of 5.166 percent as of December 31, 2022 and 2021. In connection with the swap agreement, SMUD has a put option agreement, also with a notional amount of $38.2 million and $55.8 million as of December 31, 2022 and 2021, respectively, which gives the counterparty the right to sell to SMUD, at par, either the 1997 Series K Bonds, or a portfolio of securities sufficient to defease the 1997 Series K Bonds. SMUD receives fixed rate payments of 0.01 percent as of December 31, 2022 and 2021, in connection with the put option agreement. The exercise of the option terminates the swap at no cost to SMUD. The term of both the swap and the put is equal to the maturity of the 1997 Series K Bonds.

At December 31, 2022 and 2021, SMUD had one variable-to-fixed interest rate swap agreement with a notional amount of $68.5 million and $74.4 million, respectively. This swap was originally entered into for the purpose of fixing the effective interest rate associated with certain of its subordinated bonds that were refunded during 2008. The notional value of the swap is amortized over the life of the swap agreement. SMUD can terminate the swap agreement at any time, with payment or receipt of the fair market value of the swap as of the date of termination. The obligations of SMUD under the swap agreement are not secured by a pledge of revenues of SMUD's electric system or any other property of SMUD.

Additionally, in June 2020, SMUD executed a variable-to-fixed interest rate swap agreement with Barclays Bank PLC with a notional amount of $132.0 million for the purpose of fixing the effective interest rate associated with the potential refunding of

the 2013 Series A Bonds. The Barclays 2013 Series A swap becomes effective in July 2023. Also, in June 2020, SMUD executed a variable-to-fixed interest rate swap agreement with Barclays Bank PLC with a notional amount of $75.7 million for the purpose of fixing the effective interest rate associated with the potential refunding of the 2013 Series B Bonds. The Barclays 2013 Series B swap becomes effective in July 2023. The notional values of the two swaps are amortized over the life of their respective swap agreements. SMUD can terminate both swap agreements at any time, with payment or receipt of the fair market value of the swaps as of the date of termination. The obligations of SMUD under the swap agreements are not secured by a pledge of revenues of SMUD's electric system or any other property of SMUD.

In December 2019, SMUD executed a variable-to-fixed interest rate swap agreement with J. Aron with a notional amount of $127.0 million for the purpose of fixing the effective interest rate associated with the potential refunding of the 2011 Series X Bonds. The J. Aron swap became effective in July 2021. The J. Aron swap was terminated in July 2021. As part of the termination, SMUD made a termination payment to J. Aron in the amount of $3.0 million. Also, in December 2019, SMUD executed a variable-to-fixed interest rate swap agreement with Morgan Stanley Capital Services with a notional amount of $157.8 million for the purpose of fixing the effective interest rate associated with the potential refunding of the 2012 Series Y Bonds. The Morgan Stanley Capital Services swap was due to become effective in July 2022 but was terminated in June 2022.

Component Unit Interest Rate Swap Agreements. NCGA had one interest rate swap agreement as of December 31, 2022, which is summarized as follows. The credit ratings listed are from S&P.

Notional Amount (thousands)	NCGA Pays	Fixed Rate	Floating Rate	Termination Date	Credit Support Provider Credit Rating
$ 142,935	Fixed	4.304%	67% of LIBOR + .72%	07/01/27	A+

NCGA had one interest rate swap agreement as of December 31, 2021, which are summarized as follows:

Notional Amount (thousands)	NCGA Pays	Fixed Rate	Floating Rate	Termination Date	Credit Support Provider Credit Rating
$ 163,485	Fixed	4.304%	67% of LIBOR + .72%	07/01/27	A+

At December 31, 2022 and 2021, NCGA had a variable-to-fixed interest rate swap agreement with a counterparty for the purpose of fixing the effective interest rate associated with the 2007 Series B Bonds. NCGA pays the counterparty a fixed rate on the notional amount and receives a floating rate equal to 67 percent of the three-month LIBOR (4.77 percent and 0.10 percent at December 31, 2022 and 2021, respectively) plus an interest rate spread, as specified in the swap agreement. The total notional amount of the swap at December 31, 2022 and 2021 was $142.9 million and $163.5 million, respectively, and was equivalent to the outstanding principal balance on the NCGA Bonds. The swap is amortized over the life of the swap agreement in a manner corresponding to the principal repayment schedule of the NCGA Bonds. Early termination of the swap would occur upon termination of the prepaid agreement for any reason. Upon early termination, the swap would have no value to either party.

Subordinated Electric Revenue Bonds. Payment of and interest on the Subordinated Electric Revenue Bonds is subordinate to the payment of the principal and interest on SMUD's Electric Revenue Bonds.

Component Unit Bonds. The component units of SMUD have each issued bonds to finance their respective projects. The revenue stream to pay SFA bonds' debt service is provided by a "take-or-pay" power purchase agreement and is therefore not dependent on the successful operation of the project. SMUD guarantees to make payments sufficient to pay principal and interest and all other payments required to be made under SFA's indenture of trust. SFA is not required to repay SMUD for any amounts paid under this guarantee. The revenue stream to pay NCGA and NCEA bonds' debt service is provided by "take-and-pay" purchase agreements. Therefore, principal and interest associated with these bonds are paid solely from the

revenues and receipts collected in connection with the operation of the project. Most operating revenues earned by NCGA and NCEA are collected from SMUD in connection with the sale of gas or electricity to SMUD. The ability for NCGA and NCEA to service debt is dependent on various parties (particularly MSCG, as gas supplier for NCGA and J. Aron, as commodity supplier for NCEA) meeting their contractual obligations.

Callable Bonds. SMUD has $488.8 million of Electric Revenue Bonds that are currently callable, $450.0 million of which are fixed rate Build America Bonds debt and $38.8 million of 2016 Series D Bonds. SMUD also has $207.7 million of bonds that become callable from 2023 through 2027, and these bonds can be called until maturity. SMUD also has a four-month call period on the 2019 Series A and 2019 Series B Bonds in advance of their mandatory remarketing purchase date in 2023 and 2025, respectively.

Collateral. The principal and interest on SMUD's bonds are payable exclusively from, and are collateralized by, a pledge of the net revenues of SMUD's electric system. Neither the credit nor the taxing power of SMUD is pledged to the payment of the bonds and the general fund of SMUD is not liable for the payment thereof.

Covenants. SMUD's bond resolutions contain various covenants that include requirements to maintain minimum debt service coverage ratios, certain other financial ratios, stipulated minimum funding of revenue bond reserves, and various other requirements including a rate covenant to raise rates to maintain minimum debt service coverage.

SMUD has pledged future net electric revenues, component unit net project revenues, and net gas supply prepayment revenues to repay, in electric revenue, component unit project revenue, and gas supply prepayment revenue bonds issued from 1997 through 2022. Proceeds from the bonds provided financing for various capital improvement projects, component unit capital projects, and the prepayments of a twenty-year supply of natural gas and a thirty-year supply of commodity. The bonds are payable solely from the net revenues generated by SMUD's electrical sales, component unit project revenues, and gas supply prepayment revenues and are payable through 2050 at December 31, 2022.

GASB Statement No. 48, ***"Sales and Pledges of Receivables and Future Revenues and Intra-Entity Transfers of Assets and Future Revenues,"*** disclosures for pledged revenues are as follows:

	December 31,	
	2022	2021
	(thousands of dollars)	
Pledged future revenues	$ 2,814,000	$ 2,971,210
Principal and interest payments for the year ended	$ 438,725	$ 404,679
Total net revenues for the year ended	$ 574,300	$ 720,414
Total remaining principal and interest to be paid	$ 4,383,545	$ 4,693,100
Annual principal and interest payments as a percent of net revenues for the year ended	76%	56%

NOTE 11. COMMERCIAL PAPER NOTES

SMUD issues Commercial Paper Notes (Notes) to finance or reimburse capital expenditures. SMUD's commercial paper program is $400.0 million. At December 31, 2022, there were $150.0 million Notes outstanding and at December 31, 2021, there were no Notes outstanding. SMUD's commercial paper program is backed by $407.4 million in letter of credit agreements (LOCs) and a revolving credit agreement with three separate banks. The LOCs are calculated as the sum of the maximum principal amount of the Notes plus interest thereon at a maximum rate of ten percent per annum for a period of 90 days calculated on the basis of a year of 365 days and the actual number of days elapsed. There have not been any term advances under the LOCs or the revolving credit agreement. The LOCs and revolving credit agreement contain a provision that in an event of default, the outstanding amounts may become immediately due.

The summarized activity of SMUD's Notes during 2022 and 2021 is presented below:

	Balance at Beginning of Year	Additions	Reductions	Balance at End of Year
	(thousands of dollars)			
December 31, 2022	$ -0-	$ 150,000	$ -0-	$ 150,000
December 31, 2021	$ -0-	$ -0-	$ -0-	$ -0-

NOTE 12. FAIR VALUE MEASUREMENT

GASB No. 72 defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (an exit price). SMUD utilizes market data or assumptions that market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique.

GASB No. 72 establishes a fair value hierarchy that prioritizes the inputs used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy defined by GASB No. 72 are as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 inputs are inputs other than quoted prices included in Level 1 that are observable for an asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs that reflect SMUD's own assumptions about factors that market participants would use in pricing the asset or liability.

The valuation methods of the fair value measurements are as follows:

- LAIF – uses the fair value of the pool's share price multiplied by the number of shares held. This pool can include a variety of investments such as U.S. government securities, federal agency securities, negotiable certificates of deposit, bankers' acceptances, commercial paper, corporate bonds, bank notes, and other investments. The fair values of the securities are generally based on quoted and/or observable market prices.
- U.S. Government Agency Obligations – uses a market based approach which considers yield, price of comparable securities, coupon rate, maturity, credit quality and dealer-provided prices.
- U.S. Treasury Obligations – uses a market approach based on institutional bond quotes. Evaluations are based on various market and industry inputs.
- Corporate Notes – uses a market based approach. Evaluations are based on various market and industry inputs.
- Municipal Bonds – uses a market approach based on institutional bond quotes. Evaluations are based on various market and industry inputs.
- Investment and Hedging Derivative Instruments (see Note 9):
  - Interest rate swap agreements – uses the present value technique. The fair value of the interest rate swap agreements are calculated by discounting the expected cash flows at their corresponding zero coupon rate. The cash flows and discount rates are estimated based on a 1-month LIBOR forward curve from Bloomberg and assuming SIFMA is equal to 70.0 percent of 1-month LIBOR.
  - Electricity and Gas related agreements – uses the market approach based on monthly quoted prices from an independent external pricing service. The fair values for natural gas and electricity derivative financial instruments are estimated by comparing contract prices to prevailing market quotes in active markets (i.e., Henry Hub and So Cal) where identical contracts are available. When external quoted market prices are not available, SMUD uses an internally developed valuation model utilizing short-term observable inputs.

The following tables identify the level within the fair value hierarchy that SMUD's financial assets and liabilities were accounted for on a recurring basis as of December 31, 2022 and 2021, respectively. As required by GASB No. 72, financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement. SMUD's assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the valuation of the fair value of liabilities and their placement within the fair value hierarchy levels.

Recurring Fair Value Measures	At fair value as of December 31, 2022		
	Level 1	Level 2	Total
	(thousands of dollars)		
Investments, including cash and cash equivalents:			
LAIF	$ -0-	$ 85,502	$ 85,502
U.S. Government Agency Obligations	-0-	371,241	371,241
U.S. Treasury Obligations	63,841	-0-	63,841
Corporate Notes	-0-	48,490	48,490
Municipal Bonds	-0-	49,909	49,909
Total Investments, including cash and cash equivalents	$ 63,841	$ 555,142	$ 618,983
Investment Derivative Instrument Assets:			
Gas related agreements	$ 6,199	$ -0-	$ 6,199
Total Investment Derivative Instrument Assets	$ 6,199	$ -0-	$ 6,199
Hedging Derivative Instrument Assets:			
Gas related agreements	$ 200,941	$ -0-	$ 200,941
Interest rate swap agreements	-0-	36,083	36,083
Total Hedging Derivative Instrument Assets	$ 200,941	$ 36,083	$ 237,024
Investment Derivative Instrument Liabilities:			
Gas related agreements	$ 2,236	$ -0-	$ 2,236
Interest rate swap agreements	-0-	2,291	2,291
Total Investment Derivative Instrument Liabilities	$ 2,236	$ 2,291	$ 4,527
Hedging Derivative Instrument Liabilities:			
Gas related agreements	$ 28,438	$ -0-	$ 28,438
Interest rate swap agreements	-0-	-0-	-0-
Total Hedging Derivative Instrument Liabilities	$ 28,438	$ -0-	$ 28,438

Recurring Fair Value Measures	At fair value as of December 31, 2021		
	Level 1	Level 2	Total
	(thousands of dollars)		
Investments, including cash and cash equivalents:			
LAIF	$ -0-	$ 526,297	$ 526,297
U.S. Government Agency Obligations	-0-	65,005	65,005
U.S. Treasury Obligations	39,993	-0-	39,993
Corporate Notes	-0-	3,975	3,975
Municipal Bonds	-0-	62,798	62,798
Total Investments, including cash and cash equivalents	$ 39,993	$ 658,075	$ 698,068
Investment Derivative Instrument Assets:			
Gas related agreements	$ 2,157	$ -0-	$ 2,157
Total Investment Derivative Instrument Assets	$ 2,157	$ -0-	$ 2,157
Hedging Derivative Instrument Assets:			
Gas related agreements	$ 68,017	$ -0-	$ 68,017
Interest rate swap agreements	-0-	6,356	6,356
Total Hedging Derivative Instrument Assets	$ 68,017	$ 6,356	$ 74,373
Investment Derivative Instrument Liabilities:			
Gas related agreements	$ 245	$ -0-	$ 245
Interest rate swap agreements	-0-	7,298	7,298
Total Investment Derivative Instrument Liabilities	$ 245	$ 7,298	$ 7,543
Hedging Derivative Instrument Liabilities:			
Gas related agreements	$ 19,020	$ -0-	$ 19,020
Interest rate swap agreements	-0-	3,580	3,580
Total Hedging Derivative Instrument Liabilities	$ 19,020	$ 3,580	$ 22,600

NOTE 13. ACCRUED DECOMMISSIONING LIABILITY

Asset Retirement Obligations (ARO). SMUD recognizes AROs for its Rancho Seco nuclear power plant facility and the CVFA power plant facility. This statement requires measurement of the ARO be based on the best estimate of the current value of outlays expected to be incurred. The best estimate should be determined using all available evidence and requires probability weighting of potential outcomes when sufficient evidence is available. This statement also requires the current value be adjusted for the effects of the general inflation or deflation and an evaluation of relevant factors that may significantly change the estimated asset retirement outlays at least annually.

Rancho Seco Nuclear Power Plant. With the completion of nuclear decommissioning of the former 913 MW nuclear power plant, and the subsequent termination of the 10 Code of Federal Regulations (CFR) 50 license by the Nuclear Regulatory Commission (NRC) effective August 31, 2018, all remaining Rancho Seco decommissioning liability relates to the Independent Spent Fuel Storage Installation (ISFSI) licensed under 10 CFR Part 72. Nuclear decommissioning is the process of safely removing nuclear facilities from service and reducing residual radioactivity to a level that permits termination of the NRC licenses and release of the property for unrestricted use. Final decommissioning of the ISFSI will occur after the spent nuclear fuel (SNF) and Greater Than Class C (GTCC) radioactive waste are removed from the site and SMUD demonstrates that the site is suitable for release in accordance with release criteria specified in 10 CFR 20, Subpart E and an approved License Termination Plan.

The Department of Energy (DOE), under the Nuclear Waste Policy Act (NWPA) of 1982 as amended, is responsible for permanent disposal of spent nuclear fuel and GTCC radioactive waste, which are currently stored in the Part 72 licensed ISFSI. SMUD has a contract with the DOE for the removal and disposal of SNF and GTCC waste. All SMUD's SNF and GTCC waste are currently stored in sealed canisters in the ISFSI. However, the date when DOE will remove the fuel and GTCC waste is uncertain. In 2010, the DOE formally withdrew the application for licensing of Yucca Mountain as a

high-level waste repository. While the court-ordered reinstatement of NRC license review activities of Yucca Mountain have yielded generally positive results, Yucca Mountain remains speculative as a disposal option for SMUD's used nuclear fuel. The DOE also announced in January 2010 the creation of a Blue-Ribbon Commission to study alternatives for developing a repository for the nation's used nuclear fuel. The Commission provided a final report on alternatives in January 2012. The DOE evaluated the recommendations and published the report "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste" in January 2013.

The next phase of the process will be for Congress and the President of the United States to consider the recommendations and enact legislation to implement the recommendations. At this time, two license applications have been submitted to the NRC for the construction and operation of Consolidated Interim Storage Facility(s) that would store SNF and GTCC waste on an interim basis. One of these applications has been approved (and a license issued) and one application is currently under review by the NRC. Should the NRC license one or both facilities, Congress will have to modify the NWPA to allow for its use. In May 2018, the U.S. House of Representatives passed H.R. 3053 – the Nuclear Waste Policy Amendments Act, which was co-sponsored by Representative Doris Matsui and 109 other members of Congress. This bill includes a provision to allow a Consolidated Interim Storage Facility to store fuel from permanently shut down sites like Rancho Seco. The U.S. Senate did not act on the bill. Until legislation is passed which includes a significant step towards removal of the used nuclear fuel at the Rancho Seco facility, SMUD is committed to the safe and secure storage of its SNF and GTCC waste under its Part 72 license until DOE fulfills its obligation to dispose of this material in accordance with NWPA. In support of this commitment, SMUD submitted its ISFSI license renewal application to the NRC in March of 2018. The NRC issued Renewed Licensee No. SNM-2510 on March 9, 2020. This renewed license authorizes the continued storage of SMUD's SNF and GTCC until June 30, 2060.

The Rancho Seco decommissioning liability is based on an internal study of the remaining decommissioning costs, which consist of: 1) annual spent fuel management costs, 2) transportation of the canisters in the ISFSI and 3) termination of the Part 72 license. The largest part of the decommissioning estimate is the annual spent fuel management costs; next year's annual budget is used for the estimate. The other costs were estimated based on prior experience and studies and prepared by management representatives of the nuclear power plant facility. The costs in the estimate were in 2019 dollars. An employment cost index was used to adjust the other costs portion of the obligation for inflation in 2022. Probability weighting was assigned for two scenarios: 1) spent nuclear fuel will be removed from the site by 2028 and 2) spent nuclear fuel will be removed from the site by 2035. SMUD uses its Trust Fund (see Note 2) to demonstrate financial assurance to the NRC that there are enough funds to complete the termination of the Part 72 license; the balance of the Trust Fund at December 31, 2022 is $9.0 million.

SFA's Carson Power Plant (Carson). SFA's ground lease agreement with the Sacramento Regional County Sanitation District for Carson requires SFA to restore the premises to its original condition upon termination of the contract. A new study to determine the current value of the asset retirement obligation was conducted by an external contractor who specializes in decommissioning studies. The expected costs and scope of work were based on the most recent cost estimate and assumes a contractor will be responsible for the work and that decommissioning would take place between 2025 and 2027. The estimated costs were in 2018 dollars. The result of this study was used to determine the new balance of the ARO and the deferred outflows at January 1, 2018, in order to account for the 2018 activity. The annual All Urban Consumer Price Index was used to adjust this obligation for inflation in 2022. The remaining useful life of Carson's assets is three years at December 31, 2022.

The current portion of the Accrued Decommissioning liability represents SMUD's estimate of actual expenditures for Rancho Seco in the next year, as set forth in the annual budget.

At December 31, 2022 and 2021, SMUD's Accrued Decommissioning balance in the Statements of Net Position was $95.9 million and $95.1 million, respectively.

NOTE 14. PENSION PLANS

Summary of Significant Accounting Policies. For purposes of measuring net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the pension plans and additions to/deductions from the fiduciary net position have been determined on the same basis as they are reported by the California Public Employees' Retirement System (PERS) Financial Office. For this purpose, benefit payments (including refunds of employee contributions) are recognized when currently due and payable in accordance with the benefit terms. Investments are reported at fair value.

Plan Description and Benefits Provided. SMUD participates in PERS, an agent multiple-employer public employee defined benefit pension plan (PERS Plan). PERS provides retirement and disability benefits, annual cost-of-living adjustments, and death benefits to plan members and beneficiaries. PERS acts as a common investment and administrative agent for participating public entities within the State. Benefit provisions and all other requirements are established by State statute and SMUD policies. The pension plan provides retirement benefits, survivor benefits, and death and disability benefits based upon employee's years of credited service, age, and final compensation. A full description of the pension plan regarding number of employees covered, benefit provision, assumptions (for funding, but not accounting purposes), and membership information are included in the annual actuarial valuation reports as of June 30, 2021 and June 30, 2020.

GASB No. 68 requires that the reported results must pertain to liability and asset information within certain defined timeframes. The following timeframes are used for the year ended:

PERS Plan	December 31,	
	2022	2021
Valuation date	June 30, 2021	June 30, 2020
Measurement date	June 30, 2022	June 30, 2021

Employees Covered by Benefit Terms. The following employees were covered by the benefit terms for the year ended:

PERS Plan	December 31,	
	2022	2021
Inactive employees or beneficiaries currently receiving benefit payments	3,116	3,068
Inactive employees entitled to but not yet receiving benefit payments	987	974
Active employees	2,168	2,214
Total employees covered by benefit terms	6,271	6,256

Contributions. Section 20814(c) of the California Public Employees' Retirement Law requires that the employer contribution rates for all public employers be determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. The total plan contributions are determined through PERS' annual actuarial valuation process. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The employer is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. For the PERS fiscal years ended June 30, 2022 and 2021, the average active employee contribution rate is 6.8 percent of annual pay. For the PERS fiscal year ended June 30, 2022, the employer's contribution rate is 9.0 percent of annual payroll plus $36.3 million for the unfunded accrued liability contribution. For the PERS fiscal year ended June 30, 2021, the employer's contribution rate is 9.1 percent of annual payroll plus $33.5 million for the unfunded accrued liability contribution. Employer contribution rates may change if plan contracts are amended. For the fiscal years ended June 30, 2022 and 2021, SMUD made contributions recognized by the PERS Plan in the amount of $114.5 million and $229.4 million, respectively.

Net Pension Asset (NPA) or Liability (NPL). SMUD's NPA or NPL at December 31, 2022 and 2021 was measured at June 30, 2022 and 2021, respectively. The total pension liability used to calculate the NPA or NPL was determined by actuarial valuations as of June 30, 2021 and 2020 rolled forward using generally accepted actuarial procedures to the June 30, 2022 and 2021 measurement dates for the PERS Plan.

Actuarial Methods and Assumptions. The actuarial methods and assumptions used for the December 31, 2022 and December 31, 2021 total pension liabilities are as follows for the PERS Plan:

December 31, 2022:

Actuarial Cost Method	Entry age actuarial cost method
Discount Rate	6.90%
Inflation	2.30%
Salary Increases	Varies by entry age and service
Mortality Rate Table	The mortality table used was developed based on PERS' specific data. The probabilities of mortality are based on the 2021 PERS' Experience Study for the period from 2001 to 2019. Pre-retirement and Post-retirement mortality rates include generational mortality improvement using the Society of Actuaries Scale 80% of scale MP-2020.
Post Retirement Benefit Increase	For 2022 and 2021, the lesser of contract COLA or 2.30% until Purchasing Power Protection Allowance floor on purchasing power applies, 2.30% thereafter

December 31, 2021:

Actuarial Cost Method	Entry age normal
Discount Rate	7.15%
Inflation	2.50%
Salary Increases	Varies by entry age and service
Mortality Rate Table	The mortality table used was developed based on PERS' specific data. The probabilities of mortality are based on the 2017 PERS' Experience Study for the period from 1997 to 2015. Pre-retirement and Post-retirement mortality rates include 15 years of projected mortality improvement using the Society of Actuaries Scale 90% of scale MP-2016.
Post Retirement Benefit Increase	For 2021 and 2020, the lesser of contract COLA or 2.50% until Purchasing Power Protection Allowance floor on purchasing power applies, 2.50% thereafter

Discount Rates. For the PERS Plan, the discount rate used to measure the total pension liability for the years ended December 31, 2022 and 2021 was 6.90 percent and 7.15 percent, respectively. For the year ended December 31, 2022, the projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current member contribution rates and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the PERS Plan 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 plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Using historical returns of all the funds' asset classes, expected compound (geometric) returns were calculated over the next 20 years using a building-block approach. The expected rate of return was then adjusted to account for assumed administrative expenses of 10 Basis points.

The expected real rates of return by asset class used for December 31, 2022 are as follows:

Asset Class	Assumed Asset Allocation	Real Return
Global Equity – Cap-weighted	30.0%	4.54%
Global Equity – Non-Cap-weighted	12.0%	3.84%
Private Equity	13.0%	7.28%
Treasury	5.0%	0.27%
Mortgage-backed Securities	5.0%	0.50%
Investment Grade Corporates	10.0%	1.56%
High Yield	5.0%	2.27%
Emerging Market Debt	5.0%	2.48%
Private Debt	5.0%	3.57%
Real Estate	15.0%	3.21%
Leverage	(5.0%)	(0.59%)

The expected real rates of return by asset class used for December 31, 2021 are as follows:

Asset Class	Current Target Allocation	Real Return Years 1-10	Real Return Years 11+
Global Equity	50.0%	4.80%	5.98%
Global Fixed Income	28.0%	1.00%	2.62%
Inflation Assets	0%	0.77%	1.81%
Private Equity	8.0%	6.30%	7.23%
Real Estate	13.0%	3.75%	4.93%
Liquidity	1.0%	0%	(0.92%)

Changes in the NPA or NPL. The following table shows the changes in NPA or NPL recognized over the year ended December 31, 2022:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension (Asset) Liability (a) – (b)
		(thousands of dollars)	
Balances at January 1, 2022	$ 2,486,667	$ 2,514,405	$ (27,738)
Changes recognized for the measurement period:			
Service cost	41,885	-0-	41,885
Interest	167,926	-0-	167,926
Changes in assumptions	26,275	-0-	26,275
Differences between expected and actual experience	(31,370)	-0-	(31,370)
Contributions - employer	-0-	114,476	(114,476)
Contributions - employee	-0-	18,096	(18,096)
Net investment income	-0-	(189,479)	189,479
Benefit payments	(137,603)	(137,603)	-0-
Administrative expense	-0-	(1,566)	1,566
Net changes	67,133	(196,076)	263,189
Balances at December 31, 2022	$ 2,553,780	$ 2,318,329	$ 235,451

The following table shows the changes in NPA or NPL recognized over the year ended December 31, 2021:

	Total Pension Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net Pension (Asset) Liability (a) – (b)
		(thousands of dollars)	
Balances at January 1, 2021	$ 2,415,034	$ 1,945,214	$ 469,820
Changes recognized for the measurement period:			
Service cost	38,900	-0-	38,900
Interest	168,984	-0-	168,984
Changes in assumptions	-0-	-0-	-0-
Differences between expected and actual experience	(5,875)	-0-	(5,875)
Contributions - employer	-0-	229,440	(229,440)
Contributions - employee	-0-	17,552	(17,552)
Net investment income	-0-	454,518	(454,518)
Benefit payments	(130,376)	(130,376)	-0-
Administrative expense	-0-	(1,943)	1,943
Net changes	71,633	569,191	(497,558)
Balances at December 31, 2021	$ 2,486,667	$ 2,514,405	$ (27,738)

Sensitivity of the NPA or NPL to Changes in the Discount Rate. The following presents the NPA or NPL of the Plan as of the measurement date, calculated using the current discount rate, as well as what the NPA or NPL would be if it were calculated using a discount rate that is 1 percentage-point lower or 1 percentage-point higher than the current discount rate:

PERS Plan	1% Decrease (5.90%)	Current Discount Rate (6.90%)	1% Increase (7.90%)
		(thousands of dollars)	
Plan's NPL (NPA), December 31, 2022	$ 562,974	$ 235,451	$ (36,397)
	1% Decrease (6.15%)	Current Discount Rate (7.15%)	1% Increase (8.15%)
Plan's NPL (NPA), December 31, 2021	286,474	(27,738)	(289,153)

Pension Plan Fiduciary Net Position. Detailed information about the PERS Plan's fiduciary net position is available in the separately issued PERS Plan financial statements. This report, the audited financial statements, and other reports can be obtained at the PERS' website at www.calpers.ca.gov.

Pension Expense or Income and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions. For the year ended December 31, 2022 SMUD recognized pension expense of $41.0 million and for the year ended December 31, 2021, SMUD recognized a credit to pension expense of $27.9 million.

At December 31, 2022 and 2021, SMUD reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	December 31,	
	2022	2021
	(thousands of dollars)	
Deferred outflows of resources:		
Changes of assumptions	19,866	-0-
Differences between expected and actual experience	2,495	9,710
Differences between projected and actual earnings on pension plan investments	121,257	-0-
Employer's contributions to the Plan subsequent to the measurement of total pension liability	31,860	71,624
Total deferred outflows of resources	$ 175,478	$ 81,334
Deferred inflows of resources:		
Changes of assumptions	$ -0-	$ -0-
Differences between expected and actual experience	26,656	4,406
Differences between projected and actual earnings on pension plan investments	-0-	225,301
Total deferred inflows of resources	$ 26,656	$ 229,707

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be subject to regulatory accounting as follows (see Note 8):

Year ended December 31:	
2023	$ 20,052
2024	15,538
2025	8,976
2026	72,396
2027	-0-
Thereafter	-0-

Other Plans. SMUD provides its employees with two cash deferred compensation plans: one pursuant to Internal Revenue Code (IRC) Section 401(k) (401(k) Plan) and one pursuant to IRC Section 457 (457 Plan) (collectively, the Plans). The Plans are contributory plans in which SMUD's employees contribute the funds. Each of SMUD's eligible full-time or permanent part-time employees may participate in either or both Plans, and amounts contributed are vested immediately. Such funds are held by a Trustee in trust for the employees upon retirement from SMUD service and, accordingly, are not subject to the general claims of SMUD's creditors. SMUD is responsible for ensuring compliance with IRC requirements concerning the Plans and has the fiduciary duty of reasonable care in the selection of investment alternatives, but neither SMUD, nor its Board or officers have any liability for market variations in the Plans' asset values. SMUD employees are responsible for determining how their funds are to be invested and pay all ongoing fees related to the Plans. The Plans are currently not subject to discrimination testing, nor the requirements of the Employee Retirement Income Security Act of 1974. SMUD employees participating in the Plans are allowed to contribute a portion of their gross income not to exceed the annual dollar limits prescribed by the IRC.

SMUD makes annual contributions to the 401(k) Plan on behalf of certain employees pursuant to a memorandum of understanding with both of its collective bargaining units. SMUD also matches non-represented employee contributions to the 401(k) Plan up to a set amount. SMUD made contributions into the 401(k) Plan of $7.0 million in 2022 and $6.1 million in 2021. SMUD does not match employee contributions, nor make contributions on behalf of its employees to the 457 Plan. Participating employees made contributions into both Plans totaling $32.4 million in 2022 and $30.6 million in 2021.

NOTE 15. OTHER POSTEMPLOYMENT BENEFITS

Summary of Significant Accounting Policies. For purposes of measuring the net OPEB asset or liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the OPEB plan and additions to/deductions from the OPEB plan's fiduciary net position have been determined on the same basis as they are reported by the California Employers' Retiree Benefit Trust (CERBT). For this purpose, SMUD recognizes benefit payments when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Plan Description and Benefits Provided. SMUD is a member of CERBT. The CERBT Fund is an IRC Section 115 Trust set up for the purpose of receiving employer contributions to prefund OPEB for retirees and their beneficiaries. CERBT is an agent multiple-employer defined benefit OPEB plan (OPEB Plan) administered by PERS. The OPEB Plan provides medical, dental and long-term disability benefits for retirees and their beneficiaries, in accordance with SMUD policy and negotiated agreements with employee representation groups. The benefit, benefit levels, retiree contributions and employer contributions are governed by SMUD and can be amended by SMUD through its personnel manual and union contracts. Any changes to these benefits would be approved by SMUD's Board and unions.

Employees Covered by Benefit Terms. The following employees were covered by the benefit terms:

	December 31,	
	2022	2021
Inactive employees or beneficiaries currently receiving benefit payments	2,349	2,302
Inactive employees entitled to but not yet receiving benefit payments	46	42
Active employees	2,144	2,114
Total employees covered by benefit terms	4,539	4,458

Contributions. OPEB contributions are elective and not required. In December 2018, SMUD split its CERBT assets across two asset strategies to better align trust assets with liabilities (Strategy 1 for active employees and retirements after June 30, 2018 and Strategy 3 for retirements before July 1, 2018). SMUD contributes the normal cost to the CERBT, but annually receives reimbursement for cash benefit payments from the CERBT. SMUD may also elect to put additional contributions into the OPEB Plan. For the OPEB Plan's fiscal years ended June 30, 2022 and 2021, SMUD made contributions recognized by the OPEB Plan in the amounts of $0.9 million and $0.8 million, respectively.

Net OPEB Asset (NOA) or Liability (NOL). SMUD's NOL at December 31, 2022 and NOA at December 31, 2021 were measured as of June 30, 2022 and 2021, respectively, and the total OPEB liability used to calculate the NOA/NOL was determined by actuarial valuations as of those dates.

Actuarial Methods and Assumptions. The actuarial methods and assumptions used for the December 31, 2022 and December 31, 2021 total OPEB liabilities are as follows:

Discount Rate	5.88% (2022). Blended discount rate based on projected benefit streams expected to be paid from each Strategy. 5.84% (2021)
Inflation	2.50% (2022 and 2021)
Salary Increases	Aggregate – 2.75%; Merit - PERS 2000-2019 Experience Study (2022); PERS 1997-2015 Experience Study (2021)
Mortality, Retirement, Disability, Termination	PERS 2000-2019 Experience Study (2022); PERS 1997-2015 Experience Study (2021)
Mortality Improvement	Mortality projected fully generational with Scale MP-21 (2022), MP-20 (2021)
Healthcare Cost Trend Rates	Non-Medicare: 6.25% for 2024, decreasing to an ultimate rate of 3.75% in 2076 (2022); 6.5% for 2022, decreasing to an ultimate rate of 3.75% in 2076 (2021) Medicare: 5.45% for 2024, decreasing to an ultimate rate of 3.75% in 2076 (2022); 5.65% for 2022, decreasing to an ultimate rate of 3.75% in 2076 (2021) Kaiser Medicare: 4.45% for 2024, decreasing to an ultimate rate of 3.75% in 2076 (2022); 4.6% for 2022, decreasing to an ultimate rate of 3.75% in 2076 (2021)

Discount Rates. For the OPEB Plan, the discount rate used to measure the total OPEB liability was 5.88 percent and 5.84 percent for the years ended December 31, 2022 and 2021, respectively. This rate is a blended discount rate based on projected benefit streams expected to be paid from Strategies 1 and 3. The projection of cash flows used to determine the discount rate assumed that SMUD contributes the full normal cost to the trust and only takes reimbursement from the trust of the cash benefit payments. Because the implied subsidy benefit payments have a larger present value than the payments toward the unfunded accrued liability, there should be sufficient plan assets to pay all benefits from the trust. Based on those assumptions, the OPEB Plan's fiduciary net position was projected to be available to make all projected OPEB payments for current active and inactive employees. The long-term expected rate of return of 6.25percent for Strategy 1 and 5.25 and 4.75 percent for Strategy 3 was applied to all periods of projected benefit payments to determine the total OPEB liability for the years ended December 31, 2022 and 2021, respectively.

The expected real rates of return by asset class used and presented as geometric means for December 31, 2022 are as follows:

Asset Class	Target Allocation CERBT Strategy 1	Expected Real Rate of Return
Global Equity	49.0%	4.56%
Long US Treasuries	5.1%	0.29%
Mortgage-Backed Securities	5.1%	0.49%
Investment Grade Corporates	3.9%	1.56%
High Yield	3.9%	3.00%
Sovereigns	5.1%	2.76%
TIPS	5.0%	(0.08%)
Commodities	3.0%	1.22%
REITS	20.0%	4.06%

Asset Class	Target Allocation CERBT Strategy 3	Expected Real Rate of Return
Global Equity	23.0%	4.56%
Long US Treasuries	11.2%	0.29%
Mortgage-Backed Securities	11.2%	0.49%
Investment Grade Corporates	8.7%	1.56%
High Yield	8.7%	3.00%
Sovereigns	11.2%	2.76%
TIPS	9.0%	(0.08%)
Commodities	3.0%	1.22%
REITS	14.0%	4.06%

The expected real rates of return by asset class used and presented as geometric means for December 31, 2021 are as follows:

Asset Class	Target Allocation CERBT Strategy 1	Expected Real Rate of Return
Global Equity	59%	4.56%
Fixed Income	25%	0.78%
TIPS	5%	(0.08%)
Commodities	3%	1.22%
REITS	8%	4.06%

Asset Class	Target Allocation CERBT Strategy 3	Expected Real Rate of Return
Global Equity	22%	4.56%
Fixed Income	49%	0.78%
TIPS	16%	(0.08%)
Commodities	5%	1.22%
REITS	8%	4.06%

Changes in the NOA or NOL. The following table shows the changes in NOA or NOL recognized over the year ended December 31, 2022:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB (Asset) Liability (a) – (b)
		(thousands of dollars)	
Balances at January 1, 2022	$ 392,519	$ 450,051	$ (57,532)
Changes recognized for the measurement period:			
Service cost	8,744	-0-	8,744
Interest	22,728	-0-	22,728
Changes in assumptions	(7,127)	-0-	(7,127)
Differences between expected and actual experience	(12,231)	-0-	(12,231)
Contributions - employer	-0-	860	(860)
Net investment income	-0-	(52,917)	52,917
Benefit payments	(24,169)	(24,169)	-0-
Administrative expense	-0-	(114)	114
Net changes	(12,055)	(76,340)	64,285
Balances at December 31, 2022	$ 380,464	$ 373,711	$ 6,753

The following table shows the changes in in NOA or NOL recognized over the year ended December 31, 2021:

	Total OPEB Liability (a)	Increase (Decrease) Plan Fiduciary Net Position (b)	Net OPEB (Asset) Liability (a) – (b)
		(thousands of dollars)	
Balances at January 1, 2021	$ 396,209	$ 396,979	$ (770)
Changes recognized for the measurement period:			
Service cost	8,426	-0-	8,426
Interest	25,008	-0-	25,008
Changes in assumptions	5,895	-0-	5,895
Differences between expected and actual experience	(18,938)	-0-	(18,938)
Contributions - employer	-0-	818	(818)
Net investment income	-0-	76,479	(76,479)
Benefit payments	(24,081)	(24,081)	-0-
Administrative expense	-0-	(144)	144
Net changes	(3,690)	53,072	(56,762)
Balances at December 31, 2021	$ 392,519	$ 450,051	$ (57,532)

Sensitivity of the NOA or NOL to Changes in the Discount Rate. The following presents the NOA or NOL of SMUD as of the measurement date, calculated using the current discount rate, as well as what the NOA or NOL would be if it were calculated using a discount rate that is 1 percentage-point lower or 1 percentage-point higher than the current discount rate:

	1% Decrease (4.88%)	Current Discount Rate (5.88%)	1% Increase (6.88%)
		(thousands of dollars)	
NOL/(NOA), December 31, 2022	$ 52,612	$ 6,753	$ (31,557)

	1% Decrease (4.84%)	Current Discount Rate (5.84%)	1% Increase (6.84%)
		(thousands of dollars)	
(NOA), December 31, 2021	$ (9,249)	$ (57,532)	$ (97,772)

Sensitivity of the NOA or NOL to Changes in the Healthcare Cost Trend Rates. The following presents the NOA or NOL of SMUD as of the measurement date, calculated using the current healthcare cost trend rate, as well as what the NOA or NOL would be if it were calculated using a healthcare cost trend rate that is 1 percentage-point lower or 1 percentage-point higher than the current healthcare trend rate (see assumptions above for healthcare trend rate):

	1% Decrease	Current Healthcare Trend Rate	1% Increase
		(thousands of dollars)	
(NOA)/ NOL, December 31, 2022	$ (35,780)	$ 6,753	$ 58,812
(NOA), December 31, 2021	$ (102,004)	$ (57,532)	$ (3,060)

OPEB Plan Fiduciary Net Position. Detailed information about the OPEB Plan's fiduciary net position is available in the separately issued OPEB Plan's report. This report can be obtained at the PERS' website at www.calpers.ca.gov.

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB. For the years ended December 31, 2022 and 2021, SMUD recognized a credit to OPEB expense of $8.2 million and $18.8 million, respectively.

At December 31, 2022 and 2021, SMUD reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	December 31,	
	2022	2021
	(thousands of dollars)	
Deferred outflows of resources:		
Changes of assumptions	$ 8,919	$ 13,132
Differences between projected and actual earnings on OPEB plan investments	32,477	-0-
Employer's contributions to the OPEB Plan subsequent to the measurement of total OPEB liability	12,278	11,981
Total deferred outflows of resources	$ 53,674	$ 25,113
Deferred inflows of resources:		
Changes of assumptions	$ 11,428	$ 7,504
Differences between expected and actual experience	38,410	48,300
Differences between projected and actual earnings on OPEB plan investments	-0-	39,098
Total deferred inflows of resources	$ 49,838	$ 94,902

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be subject to regulatory accounting as follows (see Note 8):

Year ended December 31:	
2023	$ (5,788)
2024	(4,849)
2025	(5,472)
2026	10,337
2027	(2,670)
Thereafter	-0-

NOTE 16. INSURANCE PROGRAMS AND CLAIMS

SMUD is exposed to various risks of loss related to torts, theft of and destruction to assets, errors and omissions, cyber activities, natural disasters, employee injuries and illnesses, and other exposures. SMUD carries commercial insurance coverage to cover most claims in excess of specific dollar thresholds, ranging from $5.0 thousand to $5.0 million per claim. General liability limits are $140.0 million, excess of a $5.0 million self-insured retention. As of December 31, 2022, wildfire liability limits are $255.0 million ($192.5 million commercial insurance plus $62.5 million self-insured retention). As of December 31, 2021, SMUD had $176.0 million commercial coverage plus $74.0 million self-insured retention within a $250.0 million total program value. SMUD's property insurance coverage is based on the replacement value of the asset. There have been no significant reductions in insurance coverage. In 2022, 2021, and 2020, the insurance policies in effect have adequately covered all settlements of the claims against SMUD. No claims have exceeded the limits of property or liability insurance in any of the past three years. In 2022, SMUD filed a partial claim under business interruption insurance for the Cosumnes Power Plant outage and received a $50.0 million advance on that claim in 2022.

The claims liability is included as a component of Self Insurance and Other in the Statements of Net Position.

SMUD's total claims liability, comprising claims received and claims incurred but not reported, at December 31, 2022, 2021 and 2020 is presented below:

	2022	2021	2020
		(thousands of dollars)	
Workers' compensation claims	$ 7,554	$ 8,666	$ 9,166
General and auto claims	3,178	3,596	3,766
Short and long-term disability claims	58	47	92
Claims liability	$ 10,790	$ 12,309	$ 13,024

Changes in SMUD's total claims liability during 2022, 2021 and 2020 are presented below:

	2022	2021	2020
		(thousands of dollars)	
Claims liability, beginning of year	$ 12,309	$ 13,024	$ 14,073
Add: provision for claims, current year	1,556	1,450	1,419
(Decrease) increase in provision for claims in prior years	1,826	(122)	(8)
Less: payments on claims attributable to current and prior years	(4,901)	(2,043)	(2,460)
Claims liability, end of year	$ 10,790	$ 12,309	$ 13,024

NOTE 17. COMMITMENTS

Electric Power and Gas Supply Purchase Agreements. SMUD has numerous power purchase agreements with other power producers to purchase capacity, transmission, and associated energy to supply a portion of its load requirements. SMUD has minimum take-or-pay commitments for energy on some contracts. SMUD has numerous long-term natural gas supply, gas transportation and gas storage agreements with Canadian and U.S. companies to supply a portion of the consumption needs of SMUD's natural gas-fired power plants.

At December 31, 2022, the approximate minimum obligations for the "take-or-pay" contracts over the next five years are as follows:

	Electric	Gas
	(thousands of dollars)	
2023	$ 71,863	$ 10,238
2024	58,905	7,588
2025	46,634	5,633
2026	47,111	4,234
2027	47,489	4,273

At December 31, 2022, the approximate minimum obligations for the remaining contracts, assuming the energy or gas is delivered over the next five years, are as follows:

	Electric	Gas
	(thousands of dollars)	
2023	$ 289,097	$ 215,951
2024	306,551	135,011
2025	294,714	108,226
2026	277,785	48,798
2027	219,986	44,590

Contractual Commitments beyond 2027 - Electricity. Several of SMUD's purchase power and transmission contracts extend beyond the five-year summary presented above. These contracts expire between 2028 and 2054 and provide for power under various terms and conditions. SMUD estimates its annual minimum commitments under the take-or-pay contracts ranges between $48.0 million in 2028 and $21.0 million in 2054. SMUD estimates its annual minimum commitments under the remaining contracts, assuming the energy is delivered, ranges between $221.3 million in 2028 and $29.0 million in 2050. SMUD's largest purchase power source (in volume) is the Calpine Sutter contract, where SMUD has contracted ownership of 258 MW's of thermal generation capacity. The Calpine Sutter contract expires on December 31, 2026.

Contractual Commitments beyond 2027 - Gas. Several of SMUD's natural gas supply, gas transportation and gas storage contracts extend beyond the five-year summary presented above. These contracts expire between 2028 and 2049 and provide for transportation and storage under various terms and conditions. SMUD estimates its annual minimum commitments under the take-or-pay contracts ranges between $4.3 million in 2028 and $2.7 million in 2049. SMUD estimates its annual minimum commitments under the remaining contracts, assuming the gas is delivered, ranges between $40.7 million in 2028 and $11.7 million in 2049.

Gas Price Swap Agreements. SMUD has entered into numerous variable-to-fixed rate swaps with notional amounts totaling 99,222,500 Dths for the purpose of fixing the rate on SMUD's natural gas purchases for its gas-fueled power plants and gas indexed electric contracts. These gas price swap agreements result in SMUD paying fixed rates ranging from $2.319 to $4.161 per Dth. The swap agreements expire periodically from January 2023 through December 2026.

Gas Transport Capacity Agreements. SMUD has numerous long-term natural gas transport capacity agreements with Canadian and U.S. companies to transport natural gas to SMUD's natural gas-fired power plants from the supply basins in

Alberta to the California-Oregon border and from supply basins in the southwest and Rocky Mountains to the Southern California border. These gas transport capacity agreements provide for the delivery of gas into SMUD-owned pipeline capacity within California. The gas transport capacity agreements provide SMUD with 53,265 Dth per day (Dth/d) of natural gas pipeline capacity from the North, including the Canadian Basins through 2023 and 39,710 Dth/d from the Southwest or Rocky Mountain Basins through at least 2023.

Gas Storage Agreements. SMUD also has an agreement for the storage of up to 2.0 million Dth of natural gas at regional facilities through March 2023, dropping to 1.0 million Dth through March 2026.

Hydro License Agreements. SMUD has a hydro license for a term of 50 years effective July 1, 2014 (see Note 2). SMUD entered into four contracts with government agencies whereby SMUD makes annual payments to them for various services for the term of the license. Each contract is adjusted annually by an inflation index. The present value of the sum of the annual payments is $58.5 million at December 31, 2022.

Construction Contracts. SMUD has entered into various construction contracts for the construction of a new substation, control building, and improvements to the Union Valley bike trail in the UARP. As of December 31, 2022, the not-to-exceed price for these contracts totaled $235.8 million. The remaining contract obligations for these contracts as of December 31, 2022 was $191.1 million.

NOTE 18. CLAIMS AND CONTINGENCIES

FERC Administrative Proceedings. SMUD is involved in a number of FERC administrative proceedings related to the operation of wholesale energy markets, regional transmission planning, gas transportation, and the development of NERC reliability standards. While these proceedings are complex and numerous, they generally fall into the following categories: (i) filings initiated by the California Independent System Operator Corporation (CAISO) (or other market participants) to adopt/modify the CAISO Tariff and/or establish market design and behavior rules; (ii) filings initiated by existing transmission owners (i.e., PG&E and the other Investor Owned Utilities) to pass through costs to their existing wholesale transmission customers; (iii) filings initiated by FERC on market participants to establish market design and behavior rules or to complain about or investigate market behavior by certain market participants; (iv) filings initiated by transmission owners under their transmission owner tariffs for the purpose of establishing a regional transmission planning process; (v) filings initiated by providers of firm gas transportation services under the Natural Gas Act; and (vi) filings initiated by NERC to develop reliability standards applicable to owners, users, and operators of the bulk electric system. In addition, SMUD is an active participant in other FERC administrative proceedings, including those related to reliability and cybersecurity standards, variable resource integration, and transmission planning and cost allocation. SMUD's management believes that the ultimate resolution of these matters will not have a material adverse effect on SMUD's financial position, liquidity or results of operations.

Environmental Matters. SMUD was one of many potentially responsible parties that had been named in a number of actions relating to environmental claims and/or complaints. SMUD has resolved these environmental claims and/or complaints and entered into settlement agreements and/or consent orders. These settlement agreements and consent orders have statutory reopener provisions which allow regulatory agencies to seek additional funds for environmental remediation under certain limited circumstances. While SMUD believes it is unlikely that any of the prior settlements or consent orders will be reopened, the possibility exists. If any of the settlements or consent orders were to be reopened, SMUD management does not believe that the outcome will have a material adverse effect on SMUD's financial position, liquidity or results of operations.

Other Matters. Currently, SMUD is party to various claims, legal actions and complaints relating to its operations, including but not limited to: property damage and personal injury, contract disputes, torts, and employment matters. SMUD's management believes that the ultimate resolution of these matters will not have a material adverse effect on SMUD's financial position, liquidity or results of operations.

NOTE 19. SUBSEQUENT EVENTS

SMUD evaluated subsequent events through February 24, 2023, the date that the financial statements were available to be issued, for events requiring recording or disclosure in the financial statements. In January 2023, SMUD experienced a series of winter storms that brought heavy rains and high winds causing significant damage to SMUD's grid and widespread outages for SMUD's customers. By the time the storm response was complete, SMUD had experienced the largest mobilization of personnel and restoration crews in its history. SMUD incurred costs related to removing downed trees, restoring power from downed poles and broken lines, replenishing inventory, communicating with and providing assistance to customers, maintaining IT systems, and coordinating with local emergency agencies. SMUD is pursuing claims with Federal and State agencies.

Required Supplementary Information – Unaudited
For the Years Ended December 31, 2022 and 2021

Schedule of Changes in Net Pension Liability and Related Ratios
During the Measurement Period - PERS Plan

	December 31,								
	2022	2021	2020	2019	2018	2017	2016	2015	2014
	(thousands of dollars)								
Total pension liability:									
Service cost	$ 41,885	$ 38,900	$ 38,901	$ 38,061	$ 36,029	$ 35,040	$ 29,044	$ 27,991	$ 28,170
Interest	167,926	168,984	164,044	157,976	151,354	150,119	147,497	142,468	137,546
Changes of assumptions	26,275	-0-	-0-	-0-	(61,585)	123,043	-0-	(34,228)	-0-
Differences between expected and actual experience	(31,370)	(5,875)	9,981	18,877	1,293	(29,276)	(8,357)	(10,613)	-0-
Benefit payments, including refunds of employee contributions	(137,603)	(130,376)	(125,581)	(117,548)	(111,763)	(104,428)	(99,155)	(94,636)	(90,175)
Net change in total pension liability	67,113	71,633	87,345	97,366	15,328	174,498	69,029	30,982	75,541
Total pension liability, beginning of year	2,486,667	2,415,034	2,327,689	2,230,323	2,214,995	2,040,497	1,971,468	1,940,486	1,864,945
Total pension liability, end of year (a)	$ 2,553,780	$ 2,486,667	$ 2,415,034	$ 2,327,689	$ 2,230,323	$ 2,214,995	$ 2,040,497	$ 1,971,468	$ 1,940,486
Plan fiduciary net position:									
Contributions - employer	$ 114,476	$ 229,440	$ 98,344	$ 69,119	$ 90,141	$ 32,389	$ 27,645	$ 22,499	$ 21,511
Contributions - employee	18,096	17,552	18,095	17,411	16,832	15,845	15,271	14,503	15,346
Net investment income	(189,479)	454,518	92,534	115,867	138,739	171,596	8,316	35,797	245,659
Benefit payments, including refunds of employee contributions	(137,603)	(130,376)	(125,581)	(117,548)	(111,763)	(104,428)	(99,155)	(94,636)	(90,175)
Administrative expense	(1,566)	(1,943)	(2,628)	(1,270)	(7,474)	(2,275)	(969)	(1,795)	(2,028)
Other miscellaneous income/(expense)	-0-	-0-	-0-	4	(4)	-0-	34	(25)	-0-
Net change in plan fiduciary net position	(196,076)	569,191	80,764	83,583	126,471	113,127	(48,858)	(23,657)	190,313
Plan fiduciary net position, beginning of year	2,514,405	1,945,214	1,864,450	1,780,867	1,654,396	1,541,269	1,590,127	1,613,784	1,423,471
Plan fiduciary net position, end of year (b)	$ 2,318,329	$ 2,514,405	$ 1,945,214	$ 1,864,450	$ 1,780,867	$ 1,654,396	$ 1,541,269	$ 1,590,127	$ 1,613,784
Net pension liability/(asset), ending (a) - (b)	$ 235,451	$ (27,738)	$ 469,820	$ 463,239	$ 449,456	$ 560,599	$ 499,228	$ 381,341	$ 326,702
Plan fiduciary net position as a percentage of the total pension liability	90.8%	101.1%	80.5%	80.1%	79.8%	74.7%	75.5%	80.7%	83.2%
Covered payroll	$ 256,965	$ 257,613	$ 254,756	$ 247,759	$ 235,902	$ 223,685	$ 207,119	$ 197,481	$ 191,439
Net pension liability/(asset) as a percentage of covered payroll	91.6%	-10.8%	184.4%	187.0%	190.5%	250.6%	241.0%	193.1%	170.7%

PERS Plan. The schedule of changes in NPL/NPA and related ratios is presented above for the years for which SMUD has available data. SMUD will add to this schedule each year and when it reaches 10 years it will contain the last 10 years data which will then be updated each year going forward.

Notes to Schedule:

Benefit Changes: The figures above do not include any liability impact that may have resulted from plan changes which occurred after the June 30, 2021 valuation date. This applies for voluntary benefit changes as well as any offers of two years additional service credit.

Changes in Assumptions: Effective with the June 30, 2021 valuation date (2022 measurement date), the accounting discount rate was reduced from 7.15% to 6.90%. In determining the long-term expected rate of return, CalPERS took into account long-term market return expectations as well as the expected pension fund cash flows. Projected returns for all asset classes are estimated, combined with risk estimates, and are used to project compound (geometric) returns over the long term. The discount rate used to discount liabilities was informed by the long-term projected portfolio return. In addition, demographic assumptions and the inflation rate assumption were changed in accordance with the 2021 CalPERS Experience Study and Review of Actuarial Assumptions. The accounting discount rate was 7.15% for measurement dates 2017 through 2021, 7.65% for measurement dates 2015 through 2016, and 7.50% for measurement date 2014.

Schedule of Plan Contributions for Pension – PERS Plan

	December 31,								
	2022	2021	2020	2019	2018	2017	2016	2015	2014
	(thousands of dollars)								
Actuarially determined contribution	$ 44,599	$ 54,315	$ 52,276	$ 49,119	$ 40,142	$ 32,389	$ 27,645	$ 22,499	$ 21,511
Contributions in relation to the actuarially determined contribution	(114,476)	(229,440)	(98,344)	(69,119)	(90,142)	(32,389)	(27,645)	(22,499)	(21,511)
Contribution excess	$ (69,877)	$ (175,125)	$ (46,068)	$ (20,000)	$ (50,000)	$ -0-	$ -0-	$ -0-	$ -0-
Covered payroll	$ 256,965	$ 257,613	$ 254,756	$ 247,759	$ 235,902	$ 223,685	$ 207,119	$ 197,481	$ 191,439
Contributions as a percentage of covered payroll	44.5%	89.1%	38.6%	27.9%	38.2%	14.5%	13.4%	11.4%	11.2%

PERS Plan. The schedule of pension contributions is presented above for the years for which SMUD has available data. SMUD will add to this schedule each year and when it reaches 10 years it will contain the last 10 years data which will then be updated each year going forward.

Notes to Schedule

The actuarial methods and assumptions used to set the actuarially determined contributions for the year ended December 31, 2022 was derived from the June 30, 2019 funding valuation report.

Actuarial cost method	Entry age Actuarial Cost Method
Amortization method/period	For details, see June 30, 2019 Funding Valuation Report
Asset valuation method	Fair value of assets. For details, see June 30, 2019 Funding Valuation Report
Inflation	2. 5%
Salary increases	Varies by entry age and service
Payroll growth	2.75%
Investment rate of return	7.00% Net of pension plan investment and administrative expenses; includes inflation
Retirement age	The probabilities of retirement are based on the 2017 PERS Experience Study for the period from 1997 to 2015
Mortality	The probabilities of mortality are based on the 2017 PERS Experience Study for the period from 1997 to 2015. Pre-retirement and post-retirement mortality rates include 15 years of projected mortality improvement using Scale MP-2016 published by the Society of Actuaries.

In 2021, the investment rate of return was 7.00%. In 2020, the investment rate of return was 7.25%. Prior to 2020, the probabilities of mortality are based on the 2014 PERS Experience Study for the period from 1997 to 2011. Pre-retirement and post-retirement mortality rates include 20 years of projected mortality improvement using Scale BB published by the Society of Actuaries. Prior to 2017, the retirement age and mortality assumptions were based on the 2010 PERS Experience Study for the period from 1997 to 2007. In addition, the mortality assumption for pre-retirement and post-retirement rates included 5 years of projected mortality improvement using Scale AA published by the Society of Actuaries.

Schedule of Changes in Net OPEB Asset or Liability and Related Ratios During the Measurement Period

OPEB. The schedule of changes in NOA or NOL and related ratios is presented above for the years for which SMUD has available data. SMUD will add to this schedule each year and when it reaches 10 years it will contain the last 10 years data which will then be updated each year going forward.

	December 31,					
	2022	2021	2020	2019	2018	2017
	(thousands of dollars)					
Total OPEB liability:						
Service cost	$ 8,744	$ 8,426	$ 8,903	$ 8,946	$ 9,263	$ 8,993
Interest on total OPEB liability	22,728	25,008	26,653	26,766	29,656	28,676
Changes of assumptions	(7,127)	5,895	(11,453)	15,332	3,105	-0-
Differences between expected and actual experience	(12,231)	(18,938)	(23,529)	(6,885)	(59,921)	-0-
Benefit payments	(24,169)	(24,081)	(23,848)	(24,521)	(24,672)	(22,192)
Net change in total OPEB liability	(12,055)	(3,690)	(23,274)	19,638	(42,569)	15,477
Total OPEB liability, beginning of year	392,519	396,209	419,483	399,845	442,414	426,937
Total OPEB liability, end of year (a)	$ 380,464	$ 392,519	$ 396,209	$ 419,483	$ 399,845	$ 442,414
Plan fiduciary net position:						
Contributions - employer	$ 860	$ 818	$ 13,299	$ 13,963	$ 34,243	$ 114,573
Net investment income	(52,917)	76,479	20,447	20,132	27,295	24,104
Benefit payments	(24,169)	(24,081)	(23,848)	(24,521)	(24,672)	(22,192)
Administrative expense	(114)	(144)	(191)	(81)	(635)	(123)
Net change in plan fiduciary net position	(76,340)	53,072	9,707	9,493	36,231	116,362
Plan fiduciary net position, beginning of year	450,051	396,979	387,272	377,779	341,548	225,186
Plan fiduciary net position, end of year (b)	$ 373,711	$ 450,051	$ 396,979	$ 387,272	$ 377,779	$ 341,548
Net OPEB (asset) or liability, ending (a) - (b)	$ 6,753	$ (57,532)	$ (770)	$ 32,211	$ 22,066	$ 100,866
Plan fiduciary net position as a percentage of the total OPEB liability	98.2%	114.7%	100.2%	92.3%	94.5%	77.2%
Covered payroll	$ 301,746	$ 289,014	$ 287,001	$ 282,993	$ 269,753	$ 252,211
Net OPEB (asset) or liability as a percentage of covered payroll	2.2%	-19.9%	-0.3%	11.4%	8.2%	40.0%

Notes to Schedule

Benefit Changes: There were no changes to benefits.

Changes in Assumptions: In 2022, the long-term rate of return for Strategy 3 was updated based on newer target asset allocation, the discount rate was updated based on crossover test, the demographic assumptions were updated to CalPERS 2000-2019 Experience Study, and the mortality improvement scale was updated to Scale MP-2021. In 2021, the discount rate was updated due to weighting of Strategy 1 and Strategy 3 and updated capital market assumptions, the mortality improvement scale was updated to Scale MP-2020, the inflation rate was changed to 2.5% and the implied subsidy was removed for Medicare Advantage Plans. In 2020, the discount rate reflected the split of assets between Strategy 1 and Strategy 3, the mortality improvement scale was updated to Scale MP-2019, and the Kaiser Medicare trend rates were updated.

Schedule of Plan Contributions for OPEB

OPEB Plan. The schedule of OPEB contributions is presented below for the years for which SMUD has available data. SMUD will add to this schedule each year and when it reaches 10 years it will contain the last 10 years data which will then be updated each year going forward.

	December 31,					
	2022	2021	2020	2019	2018	2017
	(thousands of dollars)					
Actuarially determined contribution	$ 5,425	$ 8,661	$ 12,201	$ 10,710	$ 15,366	$ 16,472
Contributions in relation to the actuarially determined contribution	(1,157)	(853)	(13,233)	(13,155)	(35,128)	(116,181)
Contribution deficiency (excess)	$ 4,268	$ 7,808	$ (1,032)	$ (2,445)	$ (19,762)	$ (99,709)
Covered payroll	$ 318,094	$ 285,425	$ 289,552	$ 286,835	$ 277,193	$ 260,210
Contributions as a percentage of covered payroll	0.4%	0.3%	4.6%	4.6%	12.7%	44.6%

Notes to Schedule

The actuarial methods and assumptions used to set the actuarially determined contributions for the year ended December 31, 2022 were derived from the June 30, 2021 funding valuation report.

Actuarial cost method	Entry age normal
Amortization method	Level percent of pay
Amortization period	24-year fixed period for 2022
Asset valuation method	Market value of assets
Discount rate	6.25% for all actives and retirements after 6/30/2018, 5.0% for all retirements before 6/30/2018
Inflation	2.5%
Medical trend	Non-Medicare: 6.5% for 2023, decreasing to an ultimate rate of 3.75% in 2076 Medicare (Non-Kaiser): 5.65% for 2023, decreasing to an ultimate rate of 3.75% in 2076 Medicare (Kaiser): 4.6% for 2023, decreasing to an ultimate rate of 3.75% in 2076
Mortality	PERS 1997-2015 experience study
Mortality improvement	Post-retirement mortality projected fully generational with Scale MP-20

In 2022, the amortization period was for a 24-year fixed period. Mortality assumption used PERS 1997-2015 experience study. The mortality improvement projected fully generational with Scale MP-20. In 2021, the amortization period was for a 25-year fixed period. Mortality assumption used PERS 1997-2015 experience study. The mortality improvement projected fully generational with Scale MP-19. In 2020, the amortization period was for a 26-year fixed period. Mortality assumption used PERS 1997-2015 experience study. The mortality improvement projected fully generational with Scale MP-18. In 2019, the amortization period was for a 27-year fixed period. Mortality assumption used PERS 1997-2015 experience study. The mortality improvement projected fully generational with Scale MP-17. In 2018, the amortization period was for a 28-year fixed period. Mortality assumption used PERS 1997-2011 experience study. The mortality improvement projected fully generational with Scale MP-16. In 2017, the amortization period was for a 29-year fixed period. The inflation rate was 3.0% and the discount rate was 7.25%. The mortality projected fully generational with Scale MP-14, modified to converge in 2022.

APPENDIX C

BOOK-ENTRY SYSTEM

The information in this Appendix regarding DTC has been provided by DTC, and SMUD takes no responsibility for the accuracy or completeness thereof. SMUD cannot and does not give any assurances that DTC, DTC Participants or Indirect Participants will distribute the Beneficial Owners either (a) payments of interest or principal with respect to the 2023D Subordinated Bonds or (b) certificates representing ownership interest in or other confirmation of ownership interest in the 2023D Subordinated Bonds, or that they will so do on a timely basis or that DTC, DTC Participants or DTC Indirect Participants will act in the manner described in this Official Statement.

The Depository Trust Company ("DTC") New York, NY, will act as securities depository for the 2023D Subordinated Bonds. The 2023D Subordinated Bonds will be issued as fully registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully registered Bond certificate will be issued for the 2023D Subordinated Bonds, each in the aggregate principal amount of such series, and will be deposited with DTC.

DTC, the world's largest depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues and money market instruments from over 100 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has a Standard & Poor's rating of AA+. The DTC rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com.

Purchases of the 2023D Subordinated Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the 2023D Subordinated Bonds on DTC's records. The ownership interest of each actual purchaser of each 2023D Subordinated Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the 2023D Subordinated Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their beneficial ownership interests in the 2023D Subordinated Bonds, except in the event that use of the book-entry system for the 2023D Subordinated Bonds is discontinued.

To facilitate subsequent transfers, all 2023D Subordinated Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. or such other name as may be requested by an authorized representative of DTC. The deposit of the 2023D Subordinated Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the 2023D Subordinated Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such 2023D Subordinated Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the 2023D Subordinated Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the 2023D Subordinated Bonds, such as redemptions, tenders, defaults, and proposed amendments to the bond documents. For example, Beneficial Owners of the 2023D Subordinated Bonds may wish to ascertain that the nominee holding the 2023D Subordinated Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners.

Redemption notices shall be sent to DTC. If less than all of the 2023D Subordinated Bonds are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in the 2023D Subordinated Bonds of such series to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the 2023D Subordinated Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to SMUD as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the 2023D Subordinated Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, premium, redemption proceeds and interest payments on the 2023D Subordinated Bonds will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts, upon DTC's receipt of funds and corresponding detail information from SMUD or the Trustee, on a payment date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participants and not of DTC, its nominee, the Trustee or SMUD, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, premium, redemption proceeds and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Trustee. Disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of the Direct and Indirect Participants.

A Beneficial Owner shall give notice to elect to have its 2023D Subordinated Bonds purchased or tendered, through its Participant, to the Underwriters, and shall effect delivery of such 2023D Subordinated Bonds by causing the Direct Participant to transfer the Participant's interest in the 2023D Subordinated Bonds, on DTC's records, to the Underwriters. The requirement of physical delivery of 2023D Subordinated Bonds in connection with an optional tender or a mandatory purchase will be deemed satisfied when the ownership rights in the 2023D Subordinated Bonds are transferred by Direct Participants on

DTC's records and followed by a book-entry credit of tendered 2023D Subordinated Bonds to the applicable Underwriter's DTC account.

DTC may discontinue providing its services as depository with respect to the 2023D Subordinated Bonds at any time by giving reasonable notice to SMUD or the Trustee. Under such circumstances, in the event that a successor depository is not obtained, bond certificates are required to be printed and delivered.

SMUD may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, bond certificates for such 2023D Subordinated Bonds will be printed and delivered to DTC.

Neither SMUD or the Trustee will have any responsibility or obligation to Participants, to Indirect Participants or to any Beneficial Owner with respect to (i) the accuracy of any records maintained by DTC, any Participant, or any Indirect Participant; (ii) the payment by DTC or any Participant or Indirect Participant of any amount with respect to the principal of or premium, if any, or interest on the 2023D Subordinated Bonds; (iii) any notice which is permitted or required to be given to Holders under the Resolution; (iv) the selection by DTC, any Participant or any Indirect Participant of any person to receive payment in the event of a partial redemption of 2023D Subordinated Bonds; (v) any consent given or other action taken by DTC as Bondholder; or (vi) any other procedures or obligations of DTC, Participants or Indirect Participants under the book-entry system.

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX D

SUMMARY OF CERTAIN PROVISIONS OF THE SUBORDINATE RESOLUTION

The following is a summary of certain provisions of the Subordinate Resolution. Other provisions of the Subordinate Resolution are described under the caption "SECURITY FOR THE SUBORDINATED BONDS." This summary is not to be considered a full statement of the terms of the Subordinate Resolution and accordingly is qualified by reference thereto and is subject to the full text thereof. Capitalized terms not otherwise defined in this Official Statement shall have the meanings ascribed thereto in the Subordinate Resolution.

Certain Definitions

"Assumed Interest Payments" means, for any fiscal year or period, interest which would accrue during such fiscal year or period on an amount equal to the then unamortized balance of the remaining sum of Assumed Principal Payments and at the interest rate on the date of such calculation on the Parity Subordinated Debt to which such Assumed Principal Payments relate.

"Assumed Interest Rate" for any Parity Bond or Parity Subordinated Debt means, for any fiscal year or period, the interest rate thereon on the date of such calculation.

"Assumed Principal Payments" means for any fiscal year or period the sum of the following amounts falling within such fiscal year or period: each Excluded Principal Payment amortized equally over the years (pro rata in the case of a partial year) in the period commencing on the stated due date for such Excluded Principal Payment and ending on the date 30 years from the date of issuance of the Parity Subordinated Debt to which such Excluded Principal Payment relates.

"Bond Debt Service" means all amounts required to be paid under the Subordinate Resolution from Net Revenues for principal, interest and reserve fund requirements on the Senior Bonds and all Parity Bonds then outstanding, as the same become due and payable.

"Defeasance Securities" shall mean and include any of the following securities, if and to the extent the same are at the time legal for investment of SMUD's funds:

(i) any bonds or other obligations which as to principal and interest constitute direct obligations of, or are unconditionally guaranteed by, the United States of America, including obligations of any of the federal agencies set forth in clause (iii) below to the extent unconditionally guaranteed by the United States of America;

(ii) any bonds or other obligations of any state of the United States of America or of any agency, instrumentality or local governmental unit of any such state (a) which are not callable prior to maturity or as to which irrevocable instructions have been given to the trustee of such bonds or other obligations by the obligor to give due notice of redemption and to call such bonds for redemption on the date or dates specified in such instructions, (b) which are secured as to principal and interest and redemption premium, if any, by a fund consisting only of cash or bonds or other obligations of the character described in the clause (i) above which fund may be applied only to the payment of such principal of and interest and redemption premium, if any, on such bonds or other obligations on the maturity date or dates thereof or the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate, and (c) as to which the principal of and interest on the bonds and obligations of the character described in the clause (i) above which have been deposited in such fund along with any cash on deposit in such

fund are sufficient to pay principal of and interest and redemption premium, if any, on the bonds or other obligations described in this clause (ii) on the maturity date or dates thereof or on the redemption date or dates specified in the irrevocable instructions referred to in subclause (a) of this clause (ii), as appropriate;

(iii) bonds, debentures, or other evidences of indebtedness issued or guaranteed by any agency or corporation which has been or may thereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America; and

(iv) with respect to the defeasance of any particular series of Bonds, any other securities specified in the Supplemental Resolution providing for their issuance.

"Electric System" and "Enterprise" means the entire electric system of SMUD, together with all additions, betterments, extensions and improvements to said system or any part thereof. The entire electric system of SMUD shall be deemed to be and to constitute a single unified and integrated system for the furnishing of electric energy to consumers of SMUD and a single enterprise. The terms "Electric System" and "Enterprise" shall have the same meaning and may be used interchangeably.

"Energy Payments" means, when used with respect to the Electric System, all actual costs incurred, or charges made therefor, by SMUD in any particular fiscal year or period to which said term is applicable for purchased power (including power purchased from any special district included within the boundaries of SMUD), electric and thermal energy and capacity and under contracts providing for payments by SMUD for electric or thermal energy or capacity whether or not such energy or capacity is delivered or capable of being delivered or otherwise made available to or received by or for the account of SMUD.

"Excluded Principal Payments" shall mean each payment of principal of Parity Subordinated Debt which the Board of Directors of SMUD determines (on a date not later than the date of issuance of such Parity Subordinated Debt) that SMUD intends to pay with moneys which are not Revenues. No such determination shall affect the security for such Parity Subordinated Debt or the obligation of SMUD to pay such payments from Revenues.

"Financial Products Agreement" means an interest rate swap, cap, collar, option, floor, forward or other hedging agreement, arrangement or security, however denominated, entered into by SMUD with a Qualified Provider not for investment purposes but with respect to specific Parity Bonds, Subordinated Bonds or Parity Subordinated Debt for the purpose of (1) reducing or otherwise managing SMUD's risk of interest rate changes or (2) effectively converting SMUD's interest rate exposure, in whole or in part, from a fixed rate exposure to a variable rate exposure, or from a variable rate exposure to a fixed rate exposure.

"Financial Product Payments" means payments periodically required to be paid to a counterparty by SMUD pursuant to a Financial Products Agreement. For the purpose of complying with any coverage test under the Subordinate Resolution, SMUD (or its consultant) may assume, with respect to any prospective Financial Product Payments that may adjust or vary pursuant to the terms of the related Financial Products Agreement, that the index or benchmark upon which the prospective Financial Product Payments are based shall be fixed for the prospective calculation period at the lesser of (a) the index or benchmark in effect as of the date of calculation, or (b) average rate of such index or benchmark over the most recent twelve calendar months preceding the date of calculation. If a twelve-month average index or benchmark as described in clause (b) is not calculable due to insufficient historic data or other reasons, SMUD (or its consultant) shall use the index or benchmark in effect as of the date of calculation.

"Financial Product Receipts" means amounts periodically required to be paid to SMUD by a counterparty pursuant to a Financial Products Agreement. For the purpose of complying with any coverage

test under the Subordinate Resolution, SMUD (or its consultant) may assume, with respect to any prospective Financial Product Receipts that may adjust or vary pursuant to the terms of the related Financial Products Agreement, that the index or benchmark upon which the prospective Financial Product Receipts are based shall be fixed for the prospective calculation period at the lesser of (a) the index or benchmark in effect as of the date of calculation, or (b) average rate of such index or benchmark over the most recent twelve calendar months preceding the date of calculation. If a twelve-month average index or benchmark as described in clause (b) is not calculable due to insufficient historic data or other reasons, SMUD (or its consultant) shall use the index or benchmark in effect as of the date of calculation.

"Maintenance and Operation Costs" means, when used with respect to the Electric System, all actual maintenance and operation costs incurred, or charges made therefor, by SMUD in any particular fiscal year or period to which said term is applicable, but only if said charges are made in conformity with generally accepted accounting principles, and exclusive in all cases of depreciation or obsolescence charges or reserves therefor, amortization of intangibles or other bookkeeping entries of a similar nature, and also exclusive of all interest charges and charges for the payment of principal, or amortization, of bonded or other indebtedness of SMUD.

Such maintenance and operation costs of the Electric System include, generally, purchased power (including power purchased from any special district included within the boundaries of SMUD), and such part of the cost of fuel of any type or character (including nuclear fuel), taxes, salaries and wages, fees for services, materials and supplies, rents, office supplies and all other costs as are charged directly or apportioned to the operation and maintenance of the generation, transmission and distribution system, customer accounts, sales and administrative functions, or to the general operation of SMUD. Said term does not include costs, or charges made therefor, for capital additions, replacements, betterments, extensions or improvements to or retirements from the Electric System, which under generally accepted accounting principles are properly chargeable to the capital account or the reserve for depreciation, and does not include losses from the sale, abandonment, reclassification, revaluation or other disposition of any properties of SMUD nor such property items, including taxes and fuel, which are capitalized pursuant to the then existing accounting practice of SMUD.

"Net Revenues" for any fiscal period means the sum of (a) the Revenues for such fiscal period plus (b) the amounts, if any, withdrawn by SMUD from the Rate Stabilization Fund for treatment as Revenues for such fiscal period, less the sum of (c) all Maintenance and Operation Costs for such fiscal period, (d) all Energy Payments for such fiscal period not included in Maintenance and Operation Costs for such fiscal period, and (e) the amounts, if any, withdrawn by SMUD from Revenues for such fiscal period for deposit in the Rate Stabilization Fund pursuant to the Subordinate Resolution.

"Net Subordinated Revenues" means Net Revenues less Bond Debt Service.

"Parity Bonds" includes the Senior Bonds and all revenue bonds issued on a parity with the Senior Bonds as provided or permitted in the Senior Bond Resolution. No Parity Bonds (other than the Senior Bonds) are currently outstanding.

"Parity Subordinated Debt" means the Subordinated Bonds and all revenue bonds of SMUD having an equal lien and charge upon Net Subordinated Revenues and therefore payable on a parity with the Subordinated Bonds and junior to the Parity Bonds.

"Qualified Provider" means any counterparty to a Financial Products Agreement if the unsecured long-term debt obligations of such counterparty (or of the parent or a subsidiary of such counterparty if such parent or subsidiary unconditionally guarantees the performance of such counterparty under such Financial Products Agreement and the Trustee receives an opinion of counsel to the effect that such

guarantee is a valid and binding agreement of such parent or subsidiary), or obligations secured or supported by a letter of credit, contract, guarantee, agreement, insurance policy or surety bond issued by such counterparty (or such guarantor parent or subsidiary), are rated in one of the three highest rating categories of a national rating agency (without regard to any gradation or such rating category) at the time of the execution and delivery of the Financial Products Agreement.

"Revenues" means all charges received for, and all other income and receipts derived by SMUD from, the operation of the Electric System, or arising from the Electric System, including income derived from the sale or use of electric energy generated, transmitted or distributed by any facilities of the Electric System, together with any receipts derived from the sale of any property pertaining to the Electric System or incidental to the operation of the Electric System or from any services performed by SMUD in connection with or incidental to the Electric System, or from any other source whatsoever directly or indirectly derived from the Electric System, but exclusive in every case of any moneys derived from the levy or collection of taxes upon any taxable property in SMUD.

The term "Revenues" also includes any income or revenues derived from the wholesale sale of water developed by the White Rock Project (as defined in Resolution No. 4775), or the Upper American River Project (as defined in Resolution No. 4938), but does not include revenues or income derived from the retail distribution of water through any distribution facility thereafter acquired by SMUD.

The term "Revenues" also includes all interest, profits or other income derived from the investment of any moneys in any fund or account established under the Subordinate Resolution or the Senior Bond Resolution.

Additional Covenants

The Subordinate Resolution contains the following additional covenants, among others:

(a) That the Electric System will be maintained in good repair, working order and condition at all times, and will be continuously operated in an efficient and economical manner.

(b) That SMUD will comply with all lawful orders of any governmental agency or authority having jurisdiction in the premises (except while the validity or application thereof is being contested in good faith).

(c) That proper records and accounts will be maintained of all transactions relating to the Electric System and the Revenues (open to inspection by the Trustee and the Holders of not less than 10 percent in principal amount of the Subordinated Bonds), to be audited annually by an independent certified public accountant within 90 days after close of the fiscal year, and copies of such financial statements supplied to Bondholders on request.

Tax Covenants

SMUD agrees in the Subordinate Resolution not to take any action which would result in interest on the 2023D Subordinated Bonds not being excluded from gross income for federal income tax purposes. SMUD also agrees to establish a separate Rebate Fund for the 2023D Subordinated Bonds and to deposit therein such amounts as are necessary to make the required rebate payments to the United States Government under the Internal Revenue Code of 1986. Such deposits will be made from any Revenues legally available to SMUD after payment of maintenance and operation costs and Energy Payments, principal of and interest on the Parity Bonds, principal of and interest on the Subordinated Bonds, and any

other obligations secured by the Revenues. Amounts in the Rebate Fund, and any earnings thereon, shall be paid to the United States Government as provided in the Tax Certificate.

Amendment of the Subordinate Resolution

The Subordinate Resolution and the rights and obligations of SMUD and of the Holders of the Subordinated Bonds may be modified or amended at any time pursuant to the affirmative vote at a meeting of Bondholders, or with the written consent without a meeting, of the Holders of 60% in aggregate principal amount of the Subordinated Bonds then outstanding, provided that no such modification or amendment shall (i) extend the fixed maturity of any Subordinated Bond, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon or reduce any premium payable upon the redemption thereof, without the consent of the Holder of each Subordinated Bond so affected, or (ii) reduce the aforesaid percentage of Subordinated Bonds required for consent to an amendment or modification, without the consent of the Holders of all the Subordinated Bonds then outstanding. Modifications or amendments may be made, without the consent of any Bondholders, to add covenants of SMUD or to surrender rights reserved by SMUD in the Subordinate Resolution, to cure ambiguities or defective or inconsistent provisions or in regard to questions arising under the Subordinate Resolution without adversely affecting the interests of the Bondholders, or to provide for the issuance of a Series of Subordinated Bonds, subject to the provisions contained in the Subordinate Resolution with respect thereto.

Events of Default and Remedies of Bondholders

Events of Default. The Subordinate Resolution declares each of the following to be an event of default:

(a) Failure to pay the principal of and premium on any Subordinated Bond when due and payable;

(b) failure to pay any installment of interest on any Subordinated Bond when due and payable, if such default continues for a period of 30 days;

(c) if the principal of any Parity Bonds shall be declared to be due and payable on account of the occurrence of a default under or breach of the terms thereof or the Senior Bond Resolution or a similar instrument; and

(d) if, under the provisions of any law for the relief or aid of debtors, any court of competent jurisdiction shall assume custody or control of SMUD or of the whole or any substantial part of its property, and such custody or control shall not be terminated or stayed within 60 days.

then and in each and every case during the continuance of such event of default, the Trustee or the Holders of not less than a majority in aggregate principal amount of the Subordinated Bonds at the time outstanding shall be entitled, upon notice in writing to SMUD, to declare the principal of all of the Subordinated Bonds then outstanding, and the interest accrued thereon, to be due and payable immediately, and upon any such declaration the same shall become and shall be immediately due and payable, anything in the Subordinate Resolution or in the Subordinated Bonds contained to the contrary notwithstanding.

Trustee to Represent Subordinated Bondholders. The Trustee is appointed as trustee to represent the Subordinated Bondholders in the matter of exercising and prosecuting on their behalf such rights and remedies as may be available to such Holders under the provisions of the Subordinated Bonds and the Subordinate Resolution, as well as under the Act or other provisions of applicable law. Upon any default or other occasion giving rise to a right of the Trustee to represent the Subordinated Bondholders, the Trustee

may take such action as may seem appropriate to it, and, upon the request in writing of the Holders of twenty-five percent (25%) in aggregate principal amount of the Subordinated Bonds then outstanding, which request shall specify such default or occasion and the action to be taken by the Trustee, and upon being furnished with indemnity satisfactory to it, the Trustee shall take such action on behalf of the Bondholders as may have been requested.

Remedies. In case one or more of the events of default shall happen, then and in every such case the Holder of any Subordinated Bond at the time outstanding shall be entitled to proceed to protect and enforce the rights vested in such Holder by the Subordinate Resolution by such appropriate judicial proceeding as such Holder shall deem most effectual to protect and enforce any such right, either by suit in equity or by action at law, whether for the specific performance of any covenant or agreement contained in the Subordinate Resolution, or in aid of the exercise of any powers granted in the Subordinate Resolution, or to enforce any other legal or equitable right vested in the Holders of Subordinated Bonds by the Subordinate Resolution or by law

Distribution of Assets. Upon any distribution of assets of SMUD upon any dissolution, winding up, liquidation or reorganization of SMUD, whether in bankruptcy, insolvency, reorganization or receivership proceedings or upon an assignment for the benefit of creditors or any other marshalling of the assets and liabilities of SMUD or upon any acceleration of maturity of the Subordinated Bonds by declaration or otherwise,

(a) the holders of all Parity Bonds shall first be entitled to receive payment in full of the principal thereof (and premium, if any) and interest due thereon, or provision shall be made for such payment in cash, before the Holders of the Subordinated Bonds are entitled to receive any payment on account of the principal of (or premium, if any) or interest on the indebtedness evidenced by the Subordinated Bonds;

(b) any payment by, or distribution of assets of, SMUD of any kind or character, whether in cash, property or securities, to which the Holders of the Subordinated Bonds or the Trustee would be entitled except for the provisions of the Subordinate Resolution shall be paid or delivered by the person making such payment or distribution, whether a trustee in bankruptcy, a receiver or liquidating trustee or otherwise, directly to the holders of Parity Bonds or their representative or representatives or to the trustee or trustees under the Senior Bond Resolution or any similar instrument under which any instruments evidencing any of such Parity Bonds may have been issued, ratably according to the aggregate amounts remaining unpaid on account of the Parity Bonds held or represented by each, to the extent necessary to make payment in full of all Parity Bonds remaining unpaid after giving effect to any concurrent payment or distribution (or provision therefor) to the holders of such Parity Bonds; and

(c) in the event that, notwithstanding the foregoing, any payment by, or distribution of assets of, SMUD of any kind or character, whether in cash, property or securities shall be received by the Trustee or the Holders of the Subordinated Bonds before all Parity Bonds are paid in full, such payment or distribution shall be held in Trust for the benefit of, and shall be paid over to the holders of such Parity Bonds or their representative or representatives or to the trustee or trustees under the Subordinate Resolution or any similar instrument under which any instruments evidencing any of such Parity Bonds may have been issued, ratably as aforesaid, for application to the payment of all Parity Bonds remaining unpaid until all such Parity Bonds shall have been paid in full, after giving effect to any concurrent payment or distribution (or provision therefor) to the holders of such Parity Bonds.

Discharge of Subordinate Resolution

The Subordinate Resolution may be discharged by depositing with the Trustee in trust, moneys or Defeasance Securities, in such amount as the Trustee shall determine will, together with the interest to accrue thereon, be fully sufficient to pay and discharge the indebtedness on all Subordinated Bonds at or before their respective maturity dates.

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX E

SUMMARY OF CERTAIN PROVISIONS OF THE SENIOR BOND RESOLUTION

The following is a summary of certain provisions of the Senior Bond Resolution. This summary is not to be considered a full statement of the terms of the Senior Bond Resolution and accordingly is qualified by reference thereto and is subject to the full text thereof. Capitalized terms not otherwise defined in this Official Statement shall have the meanings ascribed thereto in the Senior Bond Resolution.

Between July 1997 and August 2003, SMUD received consents to amend the Senior Bond Resolution from the owners of the requisite percentage of Outstanding Senior Bonds. Pursuant to the authority granted by such consents, SMUD amended the Senior Bond Resolution in October 2003 by adopting the Forty-Eighth Supplemental Resolution and the Forty-Ninth Supplemental Resolution. The following summary of the Senior Bond Resolution reflects such amendments.

Certain Definitions

"Energy Payments" means, when used with respect to the Electric System, all actual costs incurred, or charges made therefor, by SMUD in any particular fiscal year or period to which said term is applicable for purchased power (including power purchased from any special district included within the boundaries of SMUD), electric and thermal energy and capacity under contracts providing for payments by SMUD for electric or thermal energy or capacity whether or not such energy or capacity is delivered or capable of being delivered or otherwise made available to or received by or for the account of SMUD.

"Net Revenues" for any fiscal period means the sum of (a) the Revenues for such fiscal period plus (b) the amounts, if any, withdrawn by SMUD from the Rate Stabilization Fund for treatment as Revenues for such fiscal period, less the sum of (c) all Maintenance and Operation Costs for such fiscal period, (d) all Energy Payments for such fiscal period not included in Maintenance and Operation Costs for such fiscal period, and (e) the amounts, if any, withdrawn by SMUD from Revenues for such fiscal period for deposit in the Rate Stabilization Fund pursuant to the Senior Bond Resolution.

"Parity Bonds" includes the Senior Bonds and all revenue bonds issued on a parity with the Senior Bonds as provided or permitted in the Senior Bond Resolution. No Parity Bonds (other than the Senior Bonds) are currently outstanding.

"Revenues" means all charges received for, and all other income and receipts derived by SMUD from, the operation of the Electric System, or arising from the Electric System, including income derived from the sale or use of electric energy generated, transmitted or distributed by any facilities of the Electric System, together with any receipts derived from the sale of any property pertaining to the Electric System or incidental to the operation of the Electric System or from any services performed by SMUD in connection with or incidental to the Electric System, or from any other source whatsoever directly or indirectly derived from the Electric System, but exclusive in every case of any moneys derived from the levy or collection of taxes upon any taxable property in SMUD.

The term "Revenues" also includes any income or revenues derived from the wholesale sale of water developed by the White Rock Project (as defined in Resolution No. 4775), or the Upper American River Project (as defined in Resolution No. 4938), but does not include revenues or income derived from the retail distribution of water through any distribution facility thereafter acquired by SMUD. The term "Revenues" also includes all interest, profits or other income derived from the investment of any moneys in any fund or account established under the Senior Bond Resolution.

Allocation of Revenues

After making an allocation of Revenues to Maintenance and Operation Costs and to Energy Payments not included in Maintenance and Operation Costs, the Treasurer of SMUD is required (subject to the last paragraph of this section) to set aside, on an equal priority with sums set aside for all other Parity Bonds, Net Revenues as follows:

> First: To the Electric Revenue Bond Interest Fund, in approximately equal monthly installments on or before the first day of each month, an amount equal to at least one-fifth (1/5) of the aggregate amount of interest becoming due on the Senior Bonds on the next succeeding semiannual interest payment date, until an amount sufficient to meet said interest payment is accumulated.
>
> Second: To the Electric Revenue Bond Redemption Fund, to be set aside in the Principal Account and Sinking Fund, respectively, in approximately equal monthly installments on or before the first day of each month, an amount equal to at least one-tenth (1/10) of the aggregate amount of principal becoming due on serial Senior Bonds and the aggregate minimum sinking fund payments required to be made with respect to term Senior Bonds during the next ensuing 12 months, until an amount sufficient to meet the principal and sinking fund requirements on all Senior Bonds outstanding is accumulated in said accounts, respectively.
>
> Third: To the Electric Revenue Bond Reserve Fund, such amounts as any supplemental resolution authorizing the issuance of a series of Senior Bonds may require to build up and maintain said fund.

If interest on Senior Bonds of a series or maturity is payable more frequently than semiannually, the Treasurer of SMUD shall set aside out of Net Revenues in the Interest Fund such amounts as may be required to pay interest on the Senior Bonds of such series or maturity on each interest payment date at least one month prior to such interest payment date. Allocation to the Electric Revenue Bond Redemption Fund and Electric Revenue Bond Reserve Fund shall be made as set forth above.

All remaining Revenues, after making the foregoing allocations, will be available to SMUD for all lawful SMUD purposes. Such remaining Revenues will be used for the purpose of, among other things, making any required deposits to the Rebate Fund. See "Tax Covenants."

Reserve Fund

The Electric Revenue Bond Reserve Fund is a parity reserve fund for the equal benefit of all Parity Bonds outstanding. Moneys in such fund (except any excess over the required balance which may be withdrawn and used for any SMUD use) shall be used solely for the purpose of making good any deficiency in any fund established for the payment of interest, principal or sinking fund payments pursuant to the Senior Bond Resolution or any resolution authorizing the issuance of any Parity Bonds.

The Electric Revenue Bond Reserve Fund is required to be maintained in an amount such that the amount in the combined reserve funds of all Parity Bonds then outstanding will at no time be less than the current annual interest requirements on all then outstanding Parity Bonds (except bonds for which payment has been provided in advance). If SMUD's debt service ratio in any fiscal year (the ratio of Net Revenues

during said fiscal year to maximum annual debt service during the period of three fiscal years next following said fiscal year on all Parity Bonds then outstanding) shall fall below 1.40, there shall be set aside in the reserve funds from the first available Net Revenues not less than 15 percent of the total current monthly interest requirements of all Parity Bonds until the debt service ratio again exceeds 1.40, or until the aggregate amount on deposit in the reserve funds is equal to the maximum annual debt service on all Parity Bonds, whichever occurs first. The combined reserve funds cannot be required to exceed the maximum annual debt service on all outstanding Parity Bonds.

Rates and Charges

SMUD has covenanted in the Senior Bond Resolution to establish and at all times maintain and collect rates and charges for the sale or use of electric energy generated, transmitted, distributed or furnished by SMUD which, together with certain items of other income permitted under the Senior Bond Resolution, will yield Revenues at least sufficient, with respect to the ensuing 12 months, to pay and provide for all sums required for Maintenance and Operation Costs and Energy Payments not included in Maintenance and Operation Costs and, in addition, to provide an aggregate sum equal to at least 1.20 times the total amount required for the payment of principal and interest, together with any sinking fund or reserve fund payments, on all Parity Bonds, in each case during such 12 months.

SMUD has full power to establish rates and charges for all SMUD services, and the levels of such rates are not subject to review or regulation by any other governmental agency, either federal or state.

Limitations on Additional Obligations Payable from Revenues

The Senior Bond Resolution provides that SMUD will not, so long as any Senior Bonds are outstanding, issue any obligations payable in whole or in part from Revenues except the following:

(a) Senior Bonds of any series authorized pursuant to the Senior Bond Resolution;

(b) Refunding bonds issued solely to refund all or part of the Parity Bonds;

(c) General obligation bonds or other securities secured by the full faith and credit of SMUD;

(d) Additional revenue bonds (including additional Parity Bonds), payable on a parity with the Senior Bonds, with an equal lien and charge upon the Revenues, but only subject to the following conditions:

(1) Such additional revenue bonds shall have been authorized;

(2) The proceedings for the issuance of such additional revenue bonds shall require SMUD to fix and collect rates and charges in an amount not less, with respect to such bonds, than the amounts required with respect to Senior Bonds issued under the Senior Bond Resolution;

(3) SMUD shall not then be in default under the Senior Bond Resolution or other resolutions authorizing the issuance of Parity Bonds; and

(4) A certificate of SMUD, certifying--

(1) that the Net Revenues, after the completion of the additions, betterments, extensions or improvements proposed to be financed from the proceeds of such additional revenue bonds, will be sufficient to pay the principal of and interest (and bond reserve fund requirements, if any) on all Parity Bonds then outstanding and on such additional revenue bonds then proposed to be issued, and

(2) that the Net Revenues, for a period of twelve consecutive months during the twenty-four months immediately preceding the date upon which such additional revenue bonds will become outstanding, have been at least equal to 1.25 times the sum of

(i) the annual interest,
(ii) the principal amount of serial bonds falling due, and
(iii) the amount of minimum sinking fund payments required for the payment of term bonds,

as computed for the year in which such sum shall then be a maximum, including both the then outstanding Parity Bonds and the additional revenue bonds then proposed to be issued, provided that--

(A) if rates and charges in effect on the date upon which such additional revenue bonds will become outstanding will be greater than those in effect during the entire twelve months elected for the foregoing computation, then the Net Revenues for said period of twelve months may be augmented by 75% of the estimated increase in Net Revenues computed to accrue to the Electric System in the first twelve months during which such rates and charges shall be in effect; and

(B) if such additional revenue bonds or any thereof shall be issued for the purpose of acquiring an existing revenue-producing electric system, 75% of the estimated pro forma net revenues of such existing system (calculated on the basis of assumed SMUD ownership and operation during such period but otherwise on the basis of actual gross revenues of such existing system at the rates actually charged therefor) for the preceding twelve months may be added to the actual Net Revenues of the Electric System for the twelve months elected for said computation and treated as if actually received by the Electric System during those twelve months; and

(e) Revenue bonds junior and subordinate to the Parity Bonds.

Additional Covenants

The Senior Bond Resolution contains the following additional covenants, among others:

(a) SMUD will cause the Electric System to be maintained in good repair, working order and condition at all times, and will continuously operate the Electric System in an efficient and economical manner, and so that all lawful orders of any governmental agency or authority having jurisdiction in the premises shall be complied with, but SMUD shall not be required to comply with any such orders so long as the validity or application thereof shall be contested in good faith.

SMUD further covenants and agrees that it will at all times, while any of the Bonds are outstanding maintain and comply with all necessary permits and licenses issued by the Atomic Energy Commission.

(b) None of the electric energy owned, controlled or supplied by SMUD shall be furnished or supplied free, but on the contrary shall always be sold or furnished so as to produce Revenues.

If SMUD shall sell water developed or made available by the Electric System, a reasonable charge therefor shall be made and the revenue received by SMUD therefrom shall be Revenues and accounted for as such, except that SMUD may furnish water developed or impounded by the Electric System for any purpose (other than the use of such water for hydroelectric purposes) without charge as SMUD in its discretion deems advisable if such water is so furnished without any distribution cost to SMUD. SMUD may sell any water for consumption for domestic or other purposes (exclusive of the use thereof for hydroelectric purposes), but SMUD shall charge itself a reasonable wholesale rate for any water sold by SMUD. SMUD also may sell water at wholesale to any other person, for distribution by such other person for domestic or other purposes (except use for hydroelectric purposes), and SMUD shall likewise charge a reasonable wholesale rate to any such other person. In each case, all such wholesale rates shall be included in Revenues. The revenue received by SMUD from any retail sale of water distributed by SMUD shall not be deemed Revenues, but shall be available to SMUD for any SMUD purpose.

(c) That all taxes and governmental charges and other lawful claims which might become a lien on the Electric System or the Revenues or impair the security of the Senior Bonds will be paid and discharged when due.

(d) SMUD will not sell or otherwise dispose of any property essential to the proper operation of the Electric System or to the maintenance of the Revenues. SMUD will not enter into any lease or agreement which impairs or impedes the operation of the Electric System or which otherwise impairs or impedes the rights of the Bondholders with respect to Revenues. Nothing contained in the Senior Bond Resolution shall prevent SMUD from entering into sale and leaseback agreements pursuant to which SMUD may acquire the use of property subject to the terms of such sale and leaseback agreements.

(e) That insurance adequate in amounts and as to risks covered will be maintained against such risks as are usually insurable in connection with similar electric systems, and in addition public liability and property damage insurance in amounts not less than $1,000,000 per accident and adequate fidelity bonds on all officers and employees of SMUD handling or responsible for SMUD funds, subject in each case to the condition that such insurance is obtainable at reasonable rates and upon reasonable terms and conditions. See "Insurance" for a description of SMUD's insurance.

(f) That the net proceeds realized by SMUD in the event all or any part of the Electric System is taken by eminent domain proceedings will be applied to the redemption or retirement of all Parity Bonds if sufficient therefor, and, if not, then pro rata to the redemption or retirement of Parity Bonds or to new facilities if the additional Revenues to be derived therefrom will sufficiently offset the loss of Revenues resulting from such eminent domain so that the ability of SMUD to meet its obligations will not be substantially impaired.

(g) That SMUD will at all times use its best efforts to maintain the powers, functions and duties now reposed in it pursuant to law.

(h) That SMUD will establish and at all times maintain and collect rates and charges for the sale or use of its electric energy sufficient to permit SMUD to purchase power or issue and sell Parity Bonds to finance additions, betterments, extensions and improvements to the Electric System as may be reasonably necessary to satisfy its then projected electric demand upon its Electric System, and that unless the Board determines that SMUD will be able to satisfy such demand through the purchase of electric energy, SMUD will proceed with all reasonable diligence to issue and sell such Parity Bonds.

Tax Covenants

SMUD agrees in the Senior Bond Resolution not to take any action which would result in interest on the Senior Bonds not being excluded from gross income for federal income tax purposes. SMUD also agrees to establish a separate Rebate Fund for the Senior Bonds and to deposit therein such amounts as are necessary to make the required rebate payments to the United States Government under the Internal Revenue Code of 1986. Such deposits will be made from any Revenues legally available to SMUD after payment of maintenance and operation costs and Energy Payments, principal of and interest on the Parity Bonds and any other obligations secured by the Revenues. Amounts in the Rebate Fund, and any earnings thereon, shall be paid to the United States Government as provided in the Tax Certificate.

Amendment of the Senior Bond Resolution

The Senior Bond Resolution and the rights and obligations of SMUD and of the Holders of the Senior Bonds may be modified or amended at any time pursuant to the affirmative vote at a meeting of Bondholders, or with the written consent without a meeting, of the Holders of 60 percent in aggregate principal amount of the Senior Bonds then outstanding, provided that no such modification or amendment shall (i) extend the fixed maturity of any Senior Bond, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon or reduce any premium payable upon the redemption thereof, without the consent of the Holder of each Senior Bond so affected, or (ii) reduce the aforesaid percentage of Senior Bonds required for consent to an amendment or modification, without the consent of the Holders of all the Senior Bonds then outstanding. Modifications or amendments may be made, without the consent of any Bondholders, to add covenants of SMUD or to surrender rights reserved by SMUD in the Senior Bond Resolution, to cure ambiguities or defective or inconsistent provisions or in regard to questions arising under the Senior Bond Resolution without adversely affecting the interests of the Bondholders, or to provide for the issuance of a Series of Senior Bonds, subject to the provisions contained in the Senior Bond Resolution with respect thereto.

Events of Default and Remedies of Bondholders

The Senior Bond Resolution declares each of the following to be an event of default:

(a) Failure to pay the principal of and premium on any Senior Bond when due and payable;

(b) Failure to pay any installment of interest on any Senior Bond when due and payable, if such default continues for a period of 30 days;

(c) Default by SMUD in the observance of any of the covenants, agreements or conditions on its part in the Senior Bond Resolution or in the Senior Bonds, if such default continues for a period of 60 days after written notice thereof (specifying such default and requiring the same to be remedied) has been given to SMUD by the Trustee, or to SMUD and the Trustee by the Holders of not less than 25 percent in aggregate principal amount of the Senior Bonds at the time outstanding; and

(d) If, under the provisions of any law for the relief or aid of debtors, any court of competent jurisdiction shall assume custody or control of SMUD or of the whole or any substantial part of its property, and such custody or control shall not be terminated or stayed within 60 days.

In the event of default, the Trustee or the Holders of not less than a majority in aggregate principal amount of the outstanding Senior Bonds may, upon written notice to SMUD, declare the principal of all outstanding Senior Bonds, and the interest accrued thereon, to be due and payable immediately. The Trustee is appointed as trustee to represent Bondholders and may take such action as may seem appropriate to it,

and, upon the written request of the Holders of 25 percent in aggregate principal amount of the outstanding Senior Bonds, and upon being furnished with indemnity satisfactory to it, will take such action on behalf of Bondholders as is specified in such written request. Each Bondholder is entitled to proceed to protect and enforce the rights vested in such Holder by the Senior Bond Resolution by such appropriate judicial proceedings as such Holder deems most effectual.

The rights of Bondholders are limited and restricted to the use and application of Revenues as provided in the Senior Bond Resolution and do not extend to the levy of any attachment or execution upon or forfeiture of any of the properties of SMUD or to any moneys derived by SMUD from the levy or collection of taxes.

In addition to the limitations on remedies contained in the Senior Bond Resolution, the rights and remedies provided by the Senior Bonds and the Senior Bond Resolution, as well as the enforcement by SMUD of contracts with customers of the Electric System, may be limited by and are subject to bankruptcy, insolvency, reorganization and other laws affecting the enforcement of creditors' rights.

Discharge of Senior Bond Resolution

The Senior Bond Resolution may be discharged by depositing with the Trustee in trust, moneys or Federal Securities or general obligation bonds of the State of California, in such amount as the Trustee shall determine will, together with the interest to accrue thereon, be fully sufficient to pay and discharge the indebtedness on all Senior Bonds at or before their respective maturity dates.

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX F

PROPOSED FORM OF LEGAL OPINION FOR 2023D SUBORDINATED BONDS

[Closing Date]

Sacramento Municipal Utility District
Sacramento, California

Sacramento Municipal Utility District
Subordinated Electric Revenue Refunding Bonds, 2023 Series D
(Final Opinion)

Ladies and Gentlemen:

We have acted as bond counsel to the Sacramento Municipal Utility District ("SMUD") in connection with the issuance of $_____ aggregate principal amount of Sacramento Municipal Utility District Subordinated Electric Revenue Refunding Bonds, 2023 Series D (the "2023D Subordinated Bonds"), issued pursuant to Resolution No. 85-11-1 of the Board of Directors of SMUD, adopted November 7, 1985, as amended and restated pursuant to Resolution No. 01-06-10, adopted June 21, 2001 (the "Subordinate Master Resolution"), as supplemented and amended by later resolutions of said Board of Directors (as so supplemented and amended, the "Resolution"), including Resolution No. 23-05-08, adopted May 18, 2023 (the "Fifteenth Supplemental Resolution"). Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Resolution.

In such connection, we have reviewed the Resolution; the Tax Certificate, dated the date hereof (the "Tax Certificate"), executed by SMUD; opinions of counsel to SMUD and the Trustee; certificates of SMUD, the Trustee and others; and such other documents, opinions and matters to the extent we deemed necessary to render the opinions set forth herein.

The opinions expressed herein are based on an analysis of existing laws, regulations, rulings and court decisions and cover certain matters not directly addressed by such authorities. Such opinions may be affected by actions taken or omitted or events occurring after original delivery of the 2023D Subordinated Bonds on the date hereof. We have not undertaken to determine, or to inform any person, whether any such actions are taken or omitted or events do occur or any other matters come to our attention after original delivery of the 2023D Subordinated Bonds on the date hereof. Accordingly, this letter speaks only as of its date and is not intended to, and may not, be relied upon or otherwise used in connection with any such actions, events or matters. Our engagement with respect to the 2023D Subordinated Bonds has concluded with their issuance, and we disclaim any obligation to update this letter. We have assumed the genuineness of all documents and signatures provided to us and the due and legal execution and delivery thereof by, and validity against, any parties other than SMUD. We have assumed, without undertaking to verify, the accuracy of the factual matters represented, warranted or certified in the documents, and of the legal conclusions contained in the opinions, referred to in the second paragraph hereof. Furthermore, we have assumed compliance with all covenants and agreements contained in the Resolution and the Tax Certificate, including (without limitation) covenants and agreements compliance with which is necessary to assure that future actions, omissions or events will not cause interest on the 2023D Subordinated Bonds to be included in gross income for federal income tax purposes.

We call attention to the fact that the rights and obligations under the 2023D Subordinated Bonds, the Resolution and the Tax Certificate and their enforceability may be subject to bankruptcy, insolvency, receivership, reorganization, arrangement, fraudulent conveyance, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion in appropriate cases and to the limitations on legal remedies against governmental entities such as SMUD in the State of California. We express no opinion with respect to any indemnification, contribution, liquidated damages, penalty (including any remedy deemed to constitute or to have the effect of a penalty), right of set-off, arbitration, judicial reference, choice of law, choice of forum, choice of venue, non-exclusivity of remedies, waiver or severability provisions contained in the foregoing documents, nor do we express any opinion with respect to the state or quality of title to or interest in any of the assets described in or as subject to the lien of the Resolution or the accuracy or sufficiency of the description contained therein of, or the remedies available to enforce liens on, any such assets. Our services did not include financial or other non-legal advice. Finally, we undertake no responsibility for the accuracy, completeness or fairness of the Official Statement, dated June __, 2023, or other offering material relating to the 2023D Subordinated Bonds and express no opinion or view with respect thereto.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions:

1. The 2023D Subordinated Bonds constitute the valid and binding limited obligations of SMUD.

2. The Resolution, including the Fifteenth Supplemental Resolution, has been duly adopted by, and constitutes the valid and binding obligation of, SMUD. The Resolution creates a valid pledge, to secure the payment of the principal of and interest on the 2023D Subordinated Bonds, of the Net Subordinated Revenues, subject to the provisions of the Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Resolution.

3. Interest on the 2023D Subordinated Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986 and is exempt from State of California personal income taxes. Interest on the 2023D Subordinated Bonds is not a specific preference item for purposes of the federal individual alternative minimum tax. We observe that, for tax years beginning after December 31, 2022, interest on the 2023D Subordinated Bonds included in adjusted financial statement income of certain corporations is not excluded from the federal corporate alternative minimum tax. We express no opinion regarding other tax consequences related to the ownership or disposition of, or the amount, accrual or receipt of interest on, the 2023D Subordinated Bonds.

Faithfully yours,

ORRICK, HERRINGTON & SUTCLIFFE LLP

per

APPENDIX G

FORM OF CONTINUING DISCLOSURE AGREEMENT

This Continuing Disclosure Agreement (the "Disclosure Agreement") is executed and delivered by the Sacramento Municipal Utility District (the "Issuer") and U.S. Bank Trust Company, National Association in its capacity as Dissemination Agent (the "Dissemination Agent") in connection with the issuance of $_____ aggregate principal amount of the Issuer's Subordinated Electric Revenue Refunding Bonds, 2023 Series D (the "2023D Subordinated Bonds"). The 2023D Subordinated Bonds are being issued pursuant to the Issuer's Resolution No. 85-11-1, adopted on November 7, 1985, as amended and restated by Resolution No. 01-06-10 (the "Subordinate Master Resolution"), as supplemented by supplemental resolutions, including Resolution No. 23-05-08, adopted on May 18, 2023 (the "Fifteenth Supplemental Resolution"). The Subordinate Master Resolution and all supplemental resolutions, including the Fifteenth Supplemental Resolution, are collectively referred to herein as the "Subordinate Resolution." Pursuant to Section 92.11 of the Subordinate Resolution, the Issuer and the Dissemination Agent covenant and agree as follows:

SECTION 1. Purpose of the Disclosure Agreement. This Disclosure Agreement is being executed and delivered by the Issuer and the Dissemination Agent for the benefit of the Holders and Beneficial Owners of the 2023D Subordinated Bonds and in order to assist the Participating Underwriters in complying with S.E.C. Rule 15c2-12(b)(5).

SECTION 2. Definitions. In addition to the definitions set forth in the Subordinate Resolution, which apply to any capitalized term used in this Disclosure Agreement unless otherwise defined in this Section 2, the following capitalized terms shall have the following meanings:

"Annual Report" shall mean any Annual Report provided by the Issuer pursuant to, and as described in, Sections 3 and 4 of this Disclosure Agreement.

"Beneficial Owner" shall mean any person which has or shares the power, directly or indirectly, to make investment decisions concerning ownership of any 2023D Subordinated Bonds (including persons holding Bonds through nominees, depositories or other intermediaries).

"Disclosure Representative" shall mean the Treasurer of the Issuer or his or her designee, or such other officer or employee as the Issuer shall designate in writing to the Trustee from time to time.

"Dissemination Agent" shall mean U.S. Bank Trust Company, National Association, acting in its capacity as Dissemination Agent hereunder, or any successor Dissemination Agent designated in writing by the Issuer and which has filed with the Trustee a written acceptance of such designation.

"EMMA" shall mean the MSRB's Electronic Municipal Market Access system.

"Financial Obligation" shall mean, for purposes of the Listed Events set out in Section 5(a)(15) and Section 5(a)(16), a (i) debt obligation; (ii) derivative instrument entered into in connection with, or pledged as security or a source of payment for, an existing or planned debt obligation; or (iii) guarantee of (i) or (ii). The term "Financial Obligation" shall not include municipal securities (as defined in the Securities Exchange Act of 1934, as amended) as to which a final official statement (as defined in the Rule) has been provided to the MSRB consistent with the Rule.

"Listed Events" shall mean any of the events listed in Section 5(a) of this Disclosure Agreement.

"MSRB" shall mean the Municipal Securities Rulemaking Board.

"Participating Underwriter" shall mean any of the original underwriters of the 2023D Subordinated Bonds required to comply with the Rule in connection with offering of the 2023D Subordinated Bonds.

"Repository" shall mean the MSRB through EMMA or any other entity or system designated or authorized by the Securities and Exchange Commission to receive reports pursuant to the Rule.

"Rule" shall mean Rule 15c2-12(b)(5) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

"State" shall mean the State of California.

SECTION 3. Provision of Annual Reports.

(a) The Issuer shall, or shall cause the Dissemination Agent to, not later than one hundred eighty (180) days after the end of the Issuer's fiscal year (presently December 31), commencing with the report for the 2023 Fiscal Year, provide to each Repository an Annual Report which is consistent with the requirements of Section 4 of this Disclosure Agreement. The Annual Report may be submitted as a single document or as separate documents comprising a package, and may include by reference other information as provided in Section 4 of this Disclosure Agreement; provided that the audited financial statements of the Issuer may be submitted separately from the balance of the Annual Report and later than the date required above for the filing of the Annual Report if they are not available by that date. If the fiscal year changes for the Issuer, the Issuer shall give notice of such change in the same manner as for a Listed Event under Section 5 hereof.

(b) Not later than fifteen (15) Business Days prior to the dates specified in subsection (a) for providing the Annual Report to each Repository, the Issuer shall provide its respective Annual Report to the Dissemination Agent. If by such date, the Dissemination Agent has not received a copy of the Annual Report from the Issuer, the Dissemination Agent shall contact the Issuer to determine if the Issuer is in compliance with the first sentence of this subsection (b).

(c) If the Dissemination Agent is unable to verify that an Annual Report of the Issuer has been provided to each Repository by the date required in subsection (a), the Dissemination Agent shall send a notice to each Repository and the MSRB (if the MSRB is not a Repository) in substantially the form attached as Exhibit A.

(d) The Dissemination Agent shall:

(1) determine each year prior to the date for providing the Annual Report the name and address of each Repository and then-applicable rules and procedures for filing the Annual Report with each Repository, if any; and

(2) file a report with the Issuer certifying that the Annual Report has been provided pursuant to this Disclosure Agreement, stating the date it was provided and listing each Repository to which it was provided.

SECTION 4. Content of Annual Reports.

(a) The Issuer's Annual Report shall contain or include by reference the following:

(1) The audited financial statements of the Issuer for the prior fiscal year, prepared in accordance with generally accepted accounting principles as promulgated to apply to governmental entities from time to time by the Governmental Accounting Standards Board and where not in conflict with the Financial Accounting Standards Board ("FASB") pronouncements or accounting principles prescribed by FASB. If the Issuer's audited financial statements are not available by the time the Annual Report is required to be filed pursuant to Section 3(a), the Annual Report shall contain unaudited financial statements, and the audited financial statements shall be filed in the same manner as the Annual Report when they become available.

(2) An update of the following types of information contained in Appendix A to the official statement, dated June __, 2023 and related to the 2023D Subordinated Bonds:

(i) The table entitled "Power Supply Resources."

(ii) The table entitled "Projected Requirements and Resources to Meet Load Requirements."

(iii) The table entitled "Average Class Rates" (to the extent such table relates to rates and revenues of the Issuer).

(iv) The table entitled "Selected Operating Data."

(v) The table entitled "Unconsolidated Financial Data."

(vi) The balance in the Decommissioning Trust Fund, the current estimate of decommissioning costs, the decommissioning costs to date, and the annual contribution level to the Decommissioning Trust Fund, all relating to the Rancho Seco Nuclear Power Plant.

(vii) The table entitled "Estimated Capital Requirements."

(b) Any or all of the items listed above may be included by specific reference to other documents, including official statements of debt issues of the Issuer or public entities related thereto, which have been submitted to each Repository or the Securities and Exchange Commission. If the document included by reference is a final official statement, it must be available from the MSRB. The Issuer shall clearly identify each such other document so included by reference.

SECTION 5. Reporting of Listed Events.

(a) Pursuant to the provisions of this Section 5, the Issuer shall give, or cause to be given, notice of the occurrence of any of the following events with respect to the 2023D Subordinated Bonds not later than ten (10) business days after the occurrence of the event:

(1) principal and interest payment delinquencies;

(2) non-payment related defaults, if material;

(3) unscheduled draws on any applicable debt service reserves reflecting financial difficulties;

(4) unscheduled draws on credit enhancement reflecting financial difficulties;

(5) substitution of credit or liquidity providers, or their failure to perform;

(6) adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701 TEB) or other material notices or determinations with respect to the tax status of the 2023D Subordinated Bonds or other material events adversely affecting the tax status of the 2023D Subordinated Bonds;

(7) modifications to rights of Bondholders, if material;

(8) bond calls, if material, and tender offers;

(9) defeasances;

(10) release, substitution or sale of property securing repayment of the 2023D Subordinated Bonds, if material;

(11) rating changes;

(12) bankruptcy, insolvency, receivership or similar event of the Issuer;

(13) the consummation of a merger, consolidation, or acquisition involving the Issuer or the sale of all or substantially all of the assets of the Issuer, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material;

(14) appointment of a successor or additional trustee or the change of name of the Trustee, if material;

(15) incurrence of a Financial Obligation of the Issuer, if material, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation of the Issuer, any of which affect Bondholders, if material; and

(16) default, event of acceleration, termination event, modification of terms, or other similar events under the terms of a Financial Obligation of the Issuer, any of which reflect financial difficulties.

(b) For the purpose of the event identified in Section 5(a)(12), the event is considered to occur when any of the following occur: the appointment of a receiver, fiscal agent or similar officer for the Issuer in a proceeding under the U.S. Bankruptcy Code or in any other proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Issuer, or if such jurisdiction has been assumed by leaving the existing governmental body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the Issuer.

(c) Whenever the Issuer obtains knowledge of the occurrence of a Listed Event, the Issuer shall as soon as possible determine if such event is required to be reported pursuant to this Section 5.

(d) If the Issuer has determined that such event is required to be reported pursuant to this Section 5, the Issuer shall promptly notify the Dissemination Agent in writing. Such notice shall instruct the Dissemination Agent to report the occurrence pursuant to subsection (g).

(e) If the Dissemination Agent has been instructed by the Issuer to report the occurrence of a Listed Event, the Dissemination Agent shall file a notice of such occurrence with the MSRB (if the MSRB is not a Repository) and each Repository.

SECTION 6. Termination of Reporting Obligation. The obligations of the Issuer and the Dissemination Agent under this Disclosure Agreement shall terminate upon the legal defeasance, prior redemption or payment in full of all of the 2023D Subordinated Bonds. If such termination occurs prior to the final maturity of the 2023D Subordinated Bonds, the Issuer shall give notice of such termination in the same manner as for a Listed Event under Section 5.

SECTION 7. Dissemination Agent; Filings.

(a) The Issuer may, from time to time, appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Agreement, and may discharge any such Dissemination Agent, with or without appointing a successor Dissemination Agent. The Dissemination Agent shall not be responsible in any manner for the content of any notice or report prepared by the Issuer pursuant to this Disclosure Agreement. If at any time there is not any other designated Dissemination Agent, the Issuer shall be the Dissemination Agent. The initial Dissemination Agent shall be U.S. Bank Trust Company, National Association.

(b) Unless and until one or more different or additional Repositories are designated or authorized by the Securities and Exchange Commission, all filings with a Repository which are required by this Disclosure Agreement shall be filed with the MSRB through EMMA and shall be in an electronic format and accompanied by such identifying information as prescribed by the MSRB in accordance with the Rule.

SECTION 8. Amendment; Waiver. Notwithstanding any other provision of this Disclosure Agreement, the Issuer and the Dissemination Agent may amend this Disclosure Agreement, and any provision of this Disclosure Agreement may be waived, provided that the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions of Sections 3(a), 4, or 5(a), it may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law, or change in the identity, nature or status of an obligated person with respect to the 2023D Subordinated Bonds, or the type of business conducted;

(b) The undertaking, as amended or taking into account such waiver, would, in the opinion of nationally recognized bond counsel, have complied with the requirements of the Rule at the time of the original issuance of the 2023D Subordinated Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(c) The amendment or waiver either (1) is approved by the Holders of 60% of the 2023D Subordinated Bonds, or (2) does not, in the opinion of nationally recognized bond counsel, materially impair the interests of the Holders or Beneficial Owners of the 2023D Subordinated Bonds.

In the event of any amendment or waiver of a provision of this Disclosure Agreement, the Issuer shall describe such amendment in its next respective Annual Report, and shall include, as applicable, a narrative explanation of the reason for the amendment or waiver and its impact on the type (or, in the case of a change of accounting principles from those described in Section 4(a)(1), on the presentation) of financial information or operating data being presented by the Issuer. In addition, if the amendment relates to the accounting principles to be followed in preparing financial statements, (1) notice of such change shall be given in the same manner as for a Listed Event under Section 5, and (2) the Annual Report for the year in which the change is made should present a comparison (in narrative form and also, if feasible, in quantitative form) between the financial statements as prepared on the basis of the new accounting principles and those prepared on the basis of the former accounting principles.

SECTION 9. Additional Information. Nothing in this Disclosure Agreement shall be deemed to prevent the Issuer from disseminating any other information, using the means of dissemination set forth in this Disclosure Agreement or any other means of communication, or including any other information in any Annual Report or notice of occurrence of a Listed Event, in addition to that which is required by this Disclosure Agreement. If the Issuer chooses to include any information in any Annual Report or notice of occurrence of a Listed Event in addition to that which is specifically required by this Disclosure Agreement, the Issuer shall have no obligation under this Disclosure Agreement to update such information or include it in any future Annual Report or notice of occurrence of a Listed Event.

SECTION 10. Default. In the event of a failure of the Issuer or the Trustee to comply with any provision of this Disclosure Agreement, the Trustee shall, at the request of any Participating Underwriter or the Holders of at least 25% aggregate principal amount of Outstanding Bonds and upon being indemnified to its satisfaction from and against any costs, liability, expenses and fees of the Trustee, including, without limitation, fees and expenses of its attorneys, or any Holder or Beneficial Owner of the 2023D Subordinated Bonds may take such actions as may be necessary and appropriate, including seeking mandate or specific performance by court order, to cause the Issuer or the Dissemination Agent, as the case may be, to comply with its obligations under this Disclosure Agreement. A default under this Disclosure Agreement shall not be deemed an Event of Default under the Subordinate Resolution, and the sole remedy under this Disclosure Agreement in the event of any failure of the Issuer or the Dissemination Agent to comply with this Disclosure Agreement shall be an action to compel performance.

SECTION 11. Duties, Immunities and Liabilities of Dissemination Agent. The Dissemination Agent shall have only such duties as are specifically set forth in this Disclosure Agreement, and the Issuer agrees to indemnify and save the Dissemination Agent, its officers, directors, employees and agents, harmless against any loss, expense and liabilities which it may incur arising out of or in the exercise or performance of its powers and duties hereunder, including the costs and expenses (including attorneys' fees) of defending against any claim of liability, but excluding liabilities due to the Dissemination Agent's negligence or willful misconduct. The Dissemination Agent shall have only such duties as are specifically set forth in this Disclosure Agreement and no implied duties for obligation shall be read into this Disclosure Agreement against the Dissemination Agent. The Dissemination Agent has no power to enforce nonperformance on the part of the Issuer. The Dissemination Agent shall be paid compensation by the Issuer for its services provided hereunder in accordance with its schedule of fees provided to the Issuer and all expenses, legal fees and costs of the Dissemination Agent made or incurred by the Dissemination Agent in the performance of its duties hereunder. The obligations of the Issuer under this Section shall survive resignation or removal of the Dissemination Agent and payment of the 2023D Subordinated Bonds.

SECTION 12. Notices. Any notices or communications to or among any of the parties to this Disclosure Agreement may be given as follows:

To the Issuer:	Sacramento Municipal Utility District 6201 S Street, MS B405 Sacramento, California 95817 Attention: Treasurer Telephone: (916) 732-6509 Fax: (916) 732-5835
To the Dissemination Agent:	U.S. Bank Trust Company, National Association Global Corporate Trust One California Street, Suite 1000 San Francisco, California 94111 Telephone: (415) 677-3699 Fax: (415) 677-3769
To the Trustee:	U.S. Bank Trust Company, National Association Global Corporate Trust One California Street, Suite 1000 San Francisco, California 94111 Telephone: (415) 677-3699 Fax: (415) 677-3769

The Issuer, the Dissemination Agent and the Trustee may, by giving written notice hereunder to the other person listed above, designate a different address or telephone number(s) to which subsequent notices or communications should be sent. Unless specifically otherwise required by the context of this Disclosure Agreement, a party may give notice by any form of electronic transmission capable of producing a written record. Each such party shall file with the Trustee and Dissemination Agent information appropriate to receiving such form of electronic transmission.

SECTION 13. Beneficiaries. This Disclosure Agreement shall inure solely to the benefit of the Issuer, the Dissemination Agent, the Participating Underwriters and Holders and Beneficial Owners from time to time of the 2023D Subordinated Bonds, and shall create no rights in any other person or entity.

SECTION 14. Counterparts. This Disclosure Agreement may be executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Dated: June __, 2023.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

By_____
Treasurer

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION,
as Dissemination Agent

By_____
Authorized Officer

ACKNOWLEDGED:

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION, as Trustee

By: _____
Authorized Officer

EXHIBIT A

NOTICE TO REPOSITORIES OF FAILURE TO FILE ANNUAL REPORT

Name of Issuer: Sacramento Municipal Utility District

Name of Bond Issue: Subordinated Electric Revenue Refunding Bonds, 2023 Series D
Name of Borrower: Sacramento Municipal Utility District

Date of Issuance: June __, 2023

NOTICE IS HEREBY GIVEN that the Sacramento Municipal Utility District (the "Issuer") has not provided an Annual Report with respect to the above-named Bonds as required by Section 92.11 of Resolution No. 23-05-08, adopted May 18, 2023, by the Issuer. [The Issuer anticipates that the Annual Report will be filed by _____.]

Dated:_____

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION,
on behalf of Sacramento Municipal Utility District

_____

cc: Sacramento Municipal Utility District

[THIS PAGE INTENTIONALLY LEFT BLANK]

SACRAMENTO MUNICIPAL UTILITY DISTRICT • SUBORDINATED ELECTRIC REVENUE REFUNDING BONDS, 2023 SERIES D

SMUD™

Mixed Sources
Product group from well managed forests, controlled sources and recycled wood or fiber.

Printed by: ImageMaster, LLC
www.imagemaster.com