



Chief Executive Officer & General Manager's
Report and Recommendation on

Rates and Services

June 21, 2018

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**Chief Executive Officer
& General Manager's Report
and Recommendation on**

Rates and Services

Residential and Commercial Rate Changes

June 21, 2018

A Sacramento Municipal Utility District Publication

Chief Executive Officer & General Manager's Report and Recommendation on Rates and Services

June 21, 2018

Prepared by: Sacramento Municipal Utility District's

Pricing Division of Planning, Pricing and Enterprise Performance

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Rate Requirements and Recommendations

Executive Summary

The Chief Executive Officer & General Manager's Report and Recommendation on Rates and Services (Report) explains staff's proposed changes to SMUD Rates, Rules and Regulations. This Report does not recommend any rate increases. Rather, it recommends changes to encourage regional economic development and load growth which should, in turn, ease upward pressure on rates for all customers, and supports the SMUD Board of Directors' (Board) policy to promote the economic vitality of our region and the growth of our customer base through Strategic Direction 13 (SD-13).

Over the last 10 years, SMUD's energy sales have been flat or declining while the number of customers has increased. Historically, utilities could rely on a steady increase in energy use with customer growth. However, with an influx of new distributed generation technologies and adoption of energy efficiency, that is no longer the case. To grow energy sales, SMUD must attract more new customers and incentivize new load growth.

SMUD continues to make necessary upgrades to its electric infrastructure system to ensure reliability, adapt to new technologies and serve load that powers our community. The need for new capital investments, such as three new substations and grid modernization to accommodate higher concentration of distributed energy sources such as solar, puts upward pressure on rates. Increasing the number of customers and promoting load growth will reduce rate pressure, helping keep SMUD rates among the lowest in California.

To this end, staff recommends economic development incentives for commercial customers to help incentivize growth in the Sacramento region. These incentives include modifying both the Economic Development Rate (EDR) and Rule and Regulation 16 – Extension of Facilities to Nonresidential Premises (Rule 16), which will also encourage new load growth.

The EDR recommendation includes increasing the discount, extending the term and removing some eligibility requirements for the rate, such as industry limitations. The proposal provides incentives to both attract new customers and grow existing commercial customers.

Additionally, to promote economic development, staff recommends modifying Rule 16. Under Rule 16, commercial customers are charged upfront fees for any extension or service upgrade of SMUD's infrastructure required to serve their business with electricity. The modification would create an offset to the cost of extensions to SMUD's infrastructure recognizing that new commercial development will increase load and revenues. Both recommendations are designed to attract and incentivize business and encourage new load growth in the Sacramento region, which will encourage regional economic development and result in higher electricity sales for SMUD.

Providing discounts to new businesses which would otherwise not have located in SMUD's service territory provides new revenues that will offset the proposed discounts and benefit existing customers by reducing the upward pressure on rates. Under certain conditions, SMUD will also provide discounts to existing customers who are considering relocating outside of the Sacramento region. The offset to the cost of SMUD distribution facilities is expected to be recovered, on average, within 3 to 6 years depending on the commercial customer. Increasing sales reduces cost pressures for existing customers by spreading fixed costs over a larger number of kilowatt hours (kWh) of energy sales. Staff believes the recommendations in this Report will help make Sacramento more attractive to new businesses as well as expansion of existing businesses, both of which will bring new jobs to the area. New jobs will contribute to the local economy through more home sales, retail activity, secondary load growth and further investment which all help improve the economic vitality of the region.

Staff believes the recommendations in this Report help achieve the Board's regional and economic development goals.

Other proposals in this Report include minor amendments to residential tariffs to allow proration of the System Infrastructure Fixed Charge (SIFC) for bills with less than 27 days and modifying the Hydro Generation Adjustment (HGA) Rate Schedule to more accurately reflect the value of hydroelectric generation. Staff believes that both of these recommendations will improve customer experience and reduce risk to SMUD.

SMUD invites customers and the community to learn more about the rate proposals and share feedback. Public workshops will be held at SMUD offices on July 17, 2018 and July 26, 2018, and the SMUD Board of Directors will hold a public hearing on the rates proposal on August 16, 2018. For more information, turn to the Workshops and Community Participation section on page 21.

Board Strategic Direction

SMUD’s Board established 19 Strategic Directions (SD) to guide business decisions and SMUD’s operations. The full description of all SDs can be found in the Strategic Direction section in this Report and at smud.org/Board. The recommendations in this Report are driven by the SDs summarized below.

Strategic Direction 1-B, Vision Statement

SD-1B defines SMUD’s vision as a trusted partner with our customers and community, providing innovative solutions to enhance the vitality of our community.

Strategic Direction 2, Competitive Rates

SD-2 establishes guidelines for setting rates, including:

- Establish rate targets that are 18% below Pacific Gas and Electric (PG&E) system rates and at least 10% below PG&E published rates for each customer class;
- Minimize “sticker” shock in the transition from one rate design to another;
- Encourage energy efficiency and conservation;
- Be simple and easy to understand; and
- Equitably allocate costs across and within customer classes.

Strategic Direction 3, Access to Credit Markets

SD-3 establishes guidelines for maintaining access to credit, including:

- When making resource decisions, SMUD shall weigh the impacts on long-term revenue requirements, debt, financial risk and flexibility; and
- SMUD’s goal is to maintain at least an “A” rating with credit rating agencies.

Strategic Direction 5, Customer Relations

SD-5 describes a core value of SMUD to be maintaining a high level of customer relations. The Board establishes an overall customer experience “value for what you pay” target of 80 percent by the end of 2021, with neither the average commercial customer score falling below 69 percent nor the average residential customer score falling below 65 percent in any year.

Strategic Direction 13, Economic Development

SD-13 defines promoting the economic vitality of our region and the growth of our customer base as a key SMUD value. Specifically:

- SMUD shall align its economic development activities with regional economic development initiatives;
- SMUD shall assist in retaining, recruiting and growing commercial and industrial rate-paying customers; and

- SMUD shall offer economic development rates and program incentives.

SMUD’s Financial Position

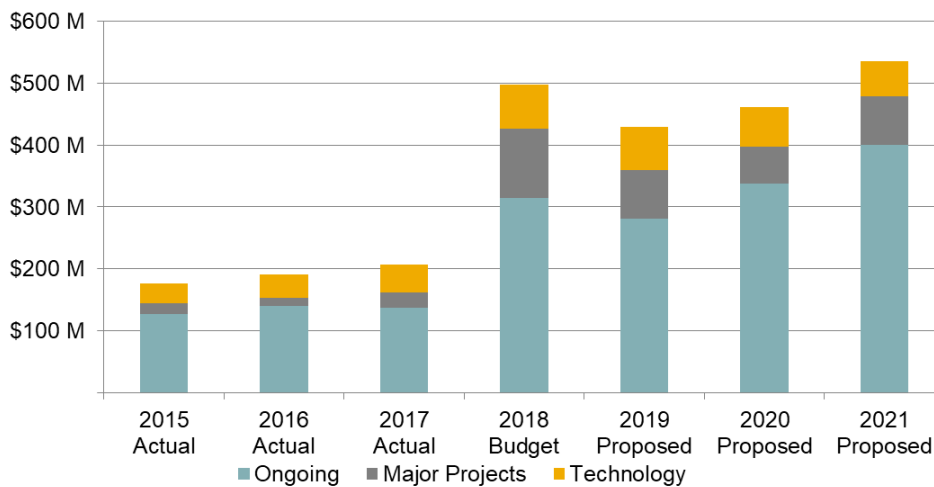
As technology, customer expectations, big data and climate change reshape our industry, SMUD is nimbly adapting to meet the challenges of a changing energy environment. We’re taking steps to lay the foundation for a successful future. In 2017, the SMUD Board approved making Time-of-Day Rates the standard rate for residential customers, starting in 2019, which further aligns rates with costs while giving customers greater control over their electricity costs. We revamped our low-income energy assistance program rate (EAPR) to ensure that rate relief and energy efficiency programs are targeted to help those customers who need it most.

Our rates are among the lowest in California. We’ve updated our 5-Year Strategic Plan 2018-2022 to provide continued focus on SMUD’s core purpose of enhancing the quality of life for our customers and community while strengthening our long term financial vitality and viability. The proposals in this rate process work towards those goals by encouraging economic development which helps the community and our customers.

Capital Expenditure Forecast

In addition to upgrading the electric system, SMUD is replacing aging infrastructure. Major projects planned include rebuilding two major substations serving the downtown load, improving capacity and reliability to this key area. A third major substation will be built to support growth in the southern part of SMUD’s service territory. Additionally, SMUD’s Headquarters building, which was at end-of-life, is being rehabilitated and is expected to be completed in 2019. Ongoing projects planned include improvements and overhauls to our natural gas fired power plants, improvements to hydro generation facilities, and distribution system enhancements for Load Serving Capability. Load Serving Capability is the maximum demand that can be served with all facilities in service while meeting all applicable reliability standards. Figure 1 shows capital expenditures through 2021.

Figure 1 – Capital Expenditures 2015-2021



Note: Capital excludes spending for Rancho Seco spent fuel – approximately \$7M per year

As SMUD invests in technology, grid modernization and system upgrade projects through 2021, staff believes that the recommendations on the EDR and Rule 16 changes will bring new retail load to help with the recovery of those investments.

Fixed Cost Recovery

SMUD has planned several system and infrastructure upgrades. These costs are distributed across SMUD's customer base through rates. While the necessary investment in infrastructure and technology places upward pressure on rates, SMUD's 5-Year Strategic Plan provides a rate increase limit for 2020 and 2021.

Attracting new customers will allow fixed costs to be distributed among a greater number of customers, which will help keep rates low. Staff believes the recommendations in this Report related to developer fees and economic development will help increase the number of customers in SMUD's service territory and offset increasing rate pressure associated with system and infrastructure updates. The recommendations are designed to help keep SMUD's rate increases low.

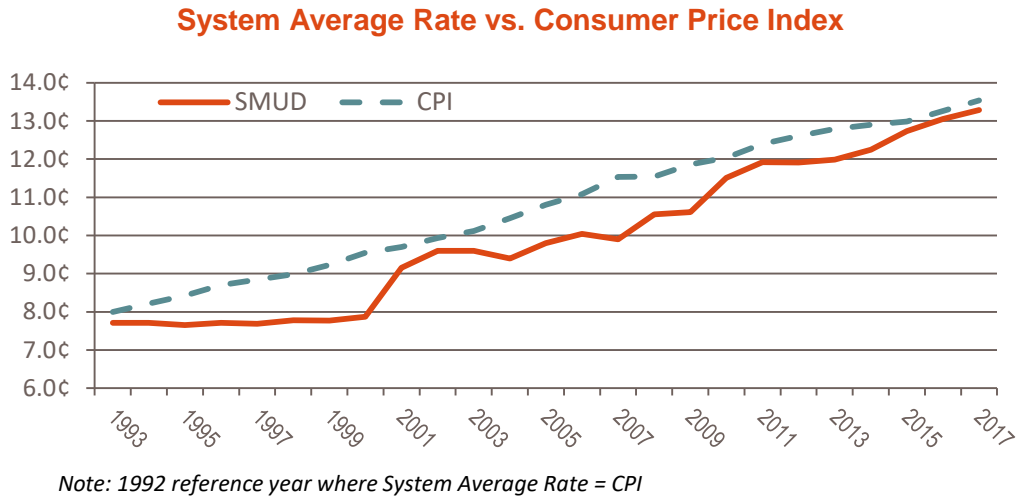
A thorough analysis of the proposed EDR discount showed that the change in rates will continue to be at or above marginal cost for customers on the EDR. Marginal cost reflects the change in total cost from adding an additional customer. Using the same methodology, analysis demonstrated that on average, the proposed Rule 16 offsets will be recovered through the associated new electric revenue in 3 to 6 years, depending on whether the commercial customer also qualifies for the EDR discount. Staff believes new load growth will bring additional revenues and spread the fixed costs over a larger amount of kWh energy sales and larger number of customers. Staff also expects the changes to encourage development activity in the region, resulting in new commercial and industrial customers, which will benefit the local economy by creating new jobs and secondary load growth.

Competitive Position

Strategic Direction 2, Competitive Rates

SD-2 establishes guidelines for SMUD's rates compared to neighboring utilities. SMUD has consistently met or exceeded SD-2 guidelines. Over the last 25 years, SMUD's system average rate per kilowatt-hour (kWh) has increased at or below the general inflation rate, as measured by the Consumer Price Index (CPI), shown in Figure 2. As a result, electric service in Sacramento has remained affordable.

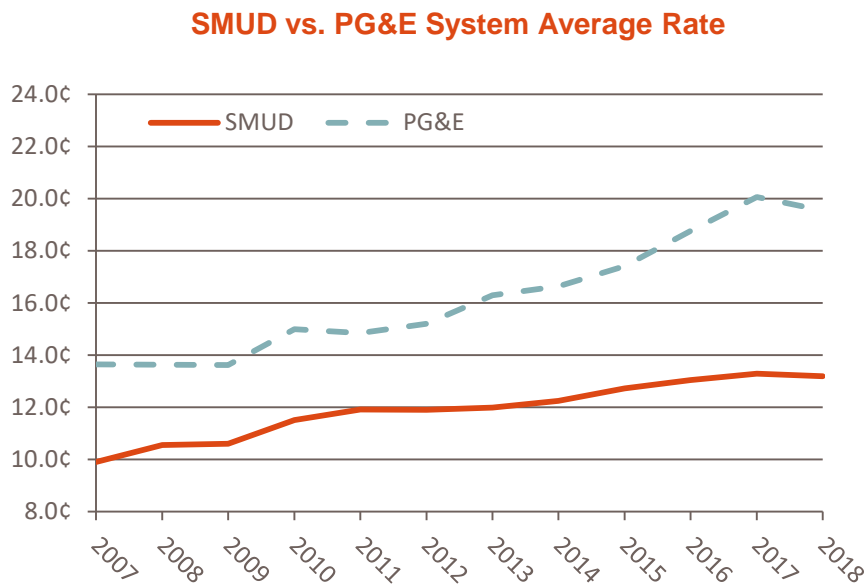
Figure 2 – System Average Rate vs. Consumer Price Index



Source: EIA 826 survey through 2017. CPI data from Bureau of Labor Statistics.

The Board’s SD-2 specifies that SMUD will maintain its system average price at a level that’s at least 18% below that of PG&E. SMUD’s projected 2018 system average rate is 13.20 cents per kWh, which is 32% lower than PG&E’s projected system average rate for the same year. As shown in Figure 3, SMUD’s rates have been significantly below PG&E’s rates for the last decade.

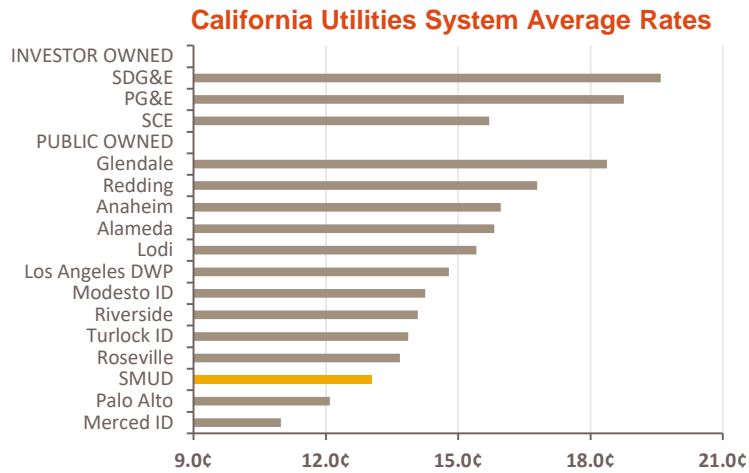
Figure 3 – SMUD vs. PG&E System Average Rate



Source: EIA 826 survey through 2017. 2018 rates from PG&E’s Advice Letter 5231-E dated Feb. 16, 2018 and SMUD’s 2018 forecasted system rate.

In addition, SMUD rates are significantly lower than those of most other California electric utilities. As shown in Figure 4, SMUD’s 2016 system average rate was 17% to 33% lower than that of the three large California investor-owned utilities: PG&E, San Diego Gas & Electric (SDG&E) and Southern California Edison (SCE). SMUD’s rates are also lower than the system average rate for most of the state’s publicly-owned utilities.

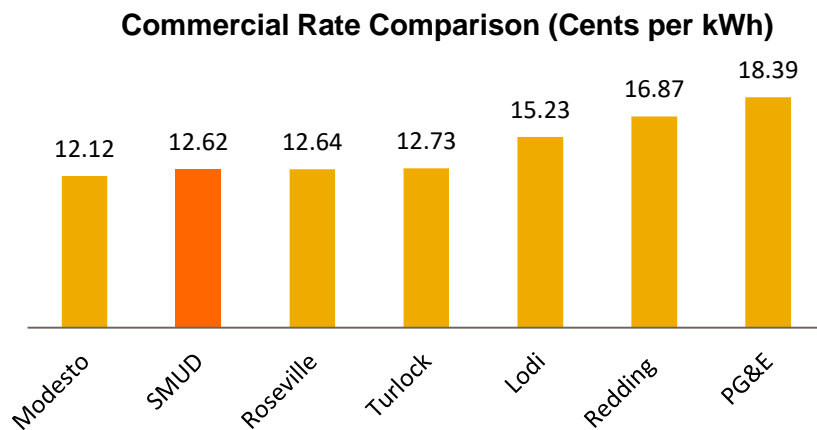
Figure 4 – California Utilities System Average Rates



Source: EIA 861 2016. The 2017 data will not be available until Nov. 2018

SMUD’s commercial rates are also among the lowest of the surrounding utilities, as shown in Figure 5.

Figure 5 – Commercial Class Average Rate Comparison (cents/kWh)

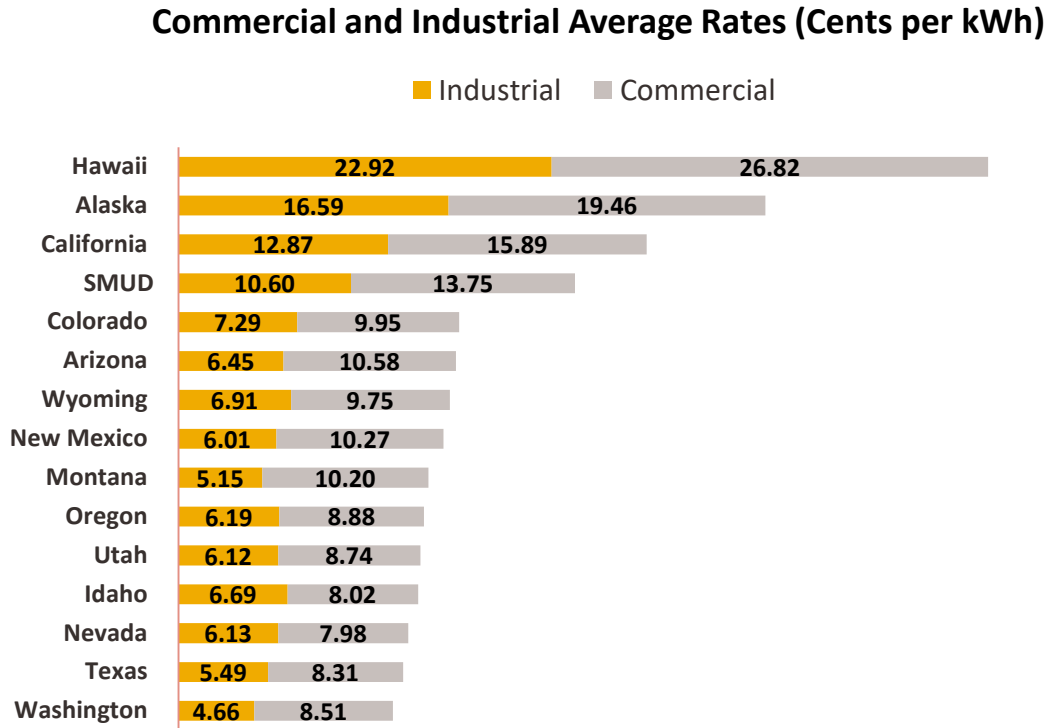


Source: 2017 reporting to EIA obtained from utilities, PG&E from Advice Letter 5011-E-A, dated Feb. 24, 2017

While maintaining local competitive rates within the state and region is very important to SMUD, it’s also important to note that other states such as Arizona, Washington, Nevada, Texas and Oregon often compete to attract high profile projects and businesses, offering very low electricity prices, as illustrated by Figure 6. However, while California’s system average rates are higher than other states, California

offers energy with a high percentage coming from renewable resources. Being able to choose power generated from carbon-free resources is attractive to companies looking for solutions and options to support their environmental and sustainability goals.

*Figure 6 – Commercial and Industrial Average Rates (cents/kWh), Western States**



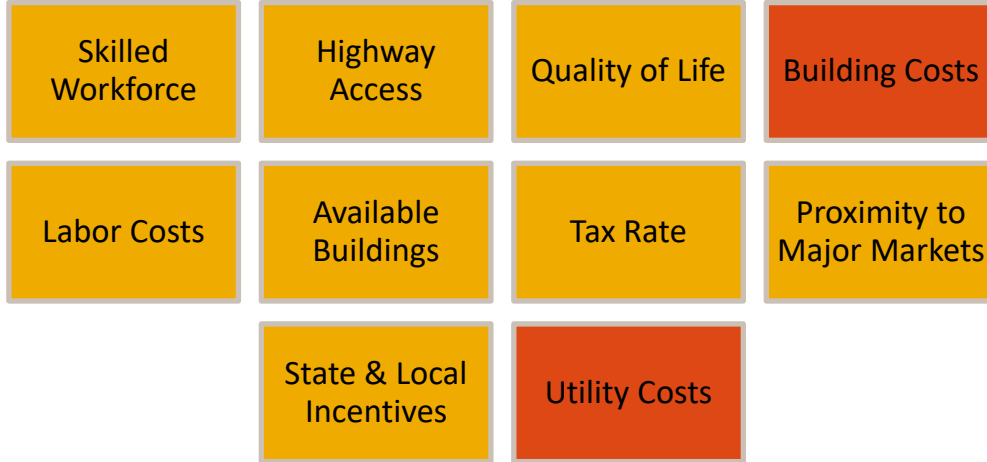
Source: EIA 2017 Data by State.

*Note the chart only includes western states to illustrate the rate variance.

Strategic Direction 13, Economic Development

While maintaining competitive rates is very important to SMUD, other factors besides the cost of energy can influence a customer’s decision to move into or expand within SMUD’s service territory. When developers and businesses consider where to build, locate or expand, other factors that affect their decision include potential discounts to initially help establish or grow their business and the cost to connect to the electric system, as shown in Figure 7. SD-13 directs SMUD to promote the economic vitality of our region through growing commercial and industrial rate-paying customers, by offering economic development rates and program incentives.

Figure 7 – Site Selection Factors



The red squares highlight areas SMUD can affect through the recommendations in this Report

SMUD currently offers an EDR, however over the last 10 years only 8 customers have enrolled in the rate. The existing EDR has several criteria which customers must meet to qualify for the rate, limiting customer eligibility. The changes proposed in this Report aim to simplify the EDR to increase participation, create additional incentives for economic growth in disadvantaged communities, provide a bigger electricity rate discount in the short-term and encourage economic development in the region by partnering with the local economic development council, which is designed to improve the local Sacramento area economy.

SMUD does not currently offset the cost to developers for the extension of SMUD’s infrastructure required to serve their business with electricity. In 2017, staff benchmarked 11 U.S. utilities with development considerations similar to those in SMUD’s service territory to understand how those utilities charge the development community for new or upgraded electrical service. The results showed that offsetting costs to commercial customers requiring infrastructure extensions is a common utility practice to promote new load growth and economic development, and is a key recommendation of this Report.

This Report recommends adjustments to charges for extensions of SMUD’s infrastructure to be more comparable to other benchmarked utilities. Staff believes this recommendation will help grow SMUD’s customer base and overall revenue, which will help maintain affordable rates for all customers.

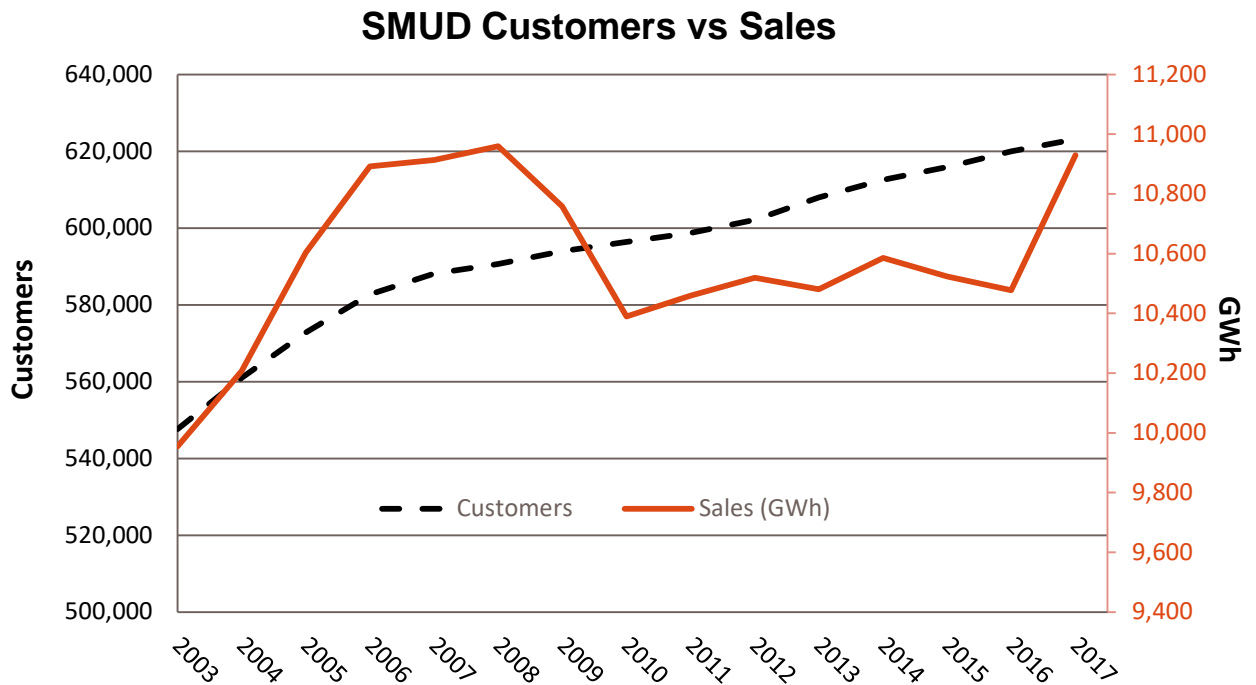
Historically, SMUD has collected higher revenue from commercial and industrial customers with demand of at least 300 kW as compared to marginal cost. Large grocery stores, manufacturing facilities and large fitness centers are examples of customers with demands of at least 300 kW. Staff performed a contribution margin analysis which resulted in the proposed Economic Development Rate discount and the adjustments to charges for extension of SMUD’s infrastructure. The recommendation in this Report ensures incremental retail revenue growth from expected new load growth comes from rates that do not fall below marginal cost.

Rate Action Drivers

Long Term Load Growth

Prior to the 2008 financial recession, SMUD had fairly consistent load growth. In the post-recessionary period, SMUD has experienced very low load growth and moderate growth in the number of customer accounts. For example, 2017's annual kWh sales are comparable to 2007 levels. Customer growth has been offset by lower average usage per customer, resulting in lower energy sales. Energy sales in 2017 exceeded the forecast due to unusually high summer temperatures, which drives higher air conditioning usage. See Figure 8 for details.

Figure 8 – Historical Number of Customers and Sales



Many factors have contributed to the drop in load growth, including growing energy efficiency and the installation of on-site renewable sources, primarily solar. Some of the energy efficiency regulations that customers are subject to include:

- Title 20, enacted in 1976 and most recently updated in May 2018, which regulates appliance efficiency; and
- Title 24, enacted in 1978 and most recently updated in January 2017, which regulates building energy efficiency standards.

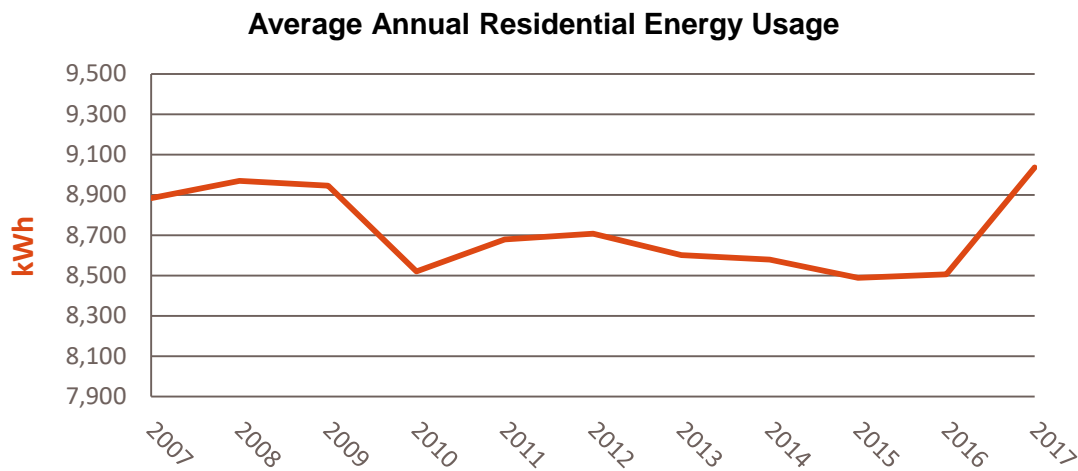
These energy efficiency regulations set standards for builders that require buildings to use less energy while maintaining the same performance, and also influence updates residential customers make to their

homes. For instance, Title 24 has substantially increased the required efficiency of air conditioners. When customers replace their air conditioners, they install more efficient models. They may also replace ducting or add more insulation to their attics to be more energy efficient. More efficient appliances and buildings mean that customers use less energy while getting the same benefit, which results in a decline in the average energy use per customer.

On May 9, 2018, the California Energy Commission (CEC) unanimously adopted its 2019 Building Efficiency Standards, putting in place new minimum efficiency levels for new homes and buildings constructed after 2019. The 2019 standards include a mandated level of solar photovoltaic (PV) generation on each new single family or low-rise residential home, with some exceptions, beginning in 2020. In Sacramento (CEC Climate Zone 12), a 2,000-square foot home would be required to have at least 2.5 kW of solar PV. Home sites that are too shaded are exempt, and a variety of other factors can result in smaller PV systems or community solar being allowed.

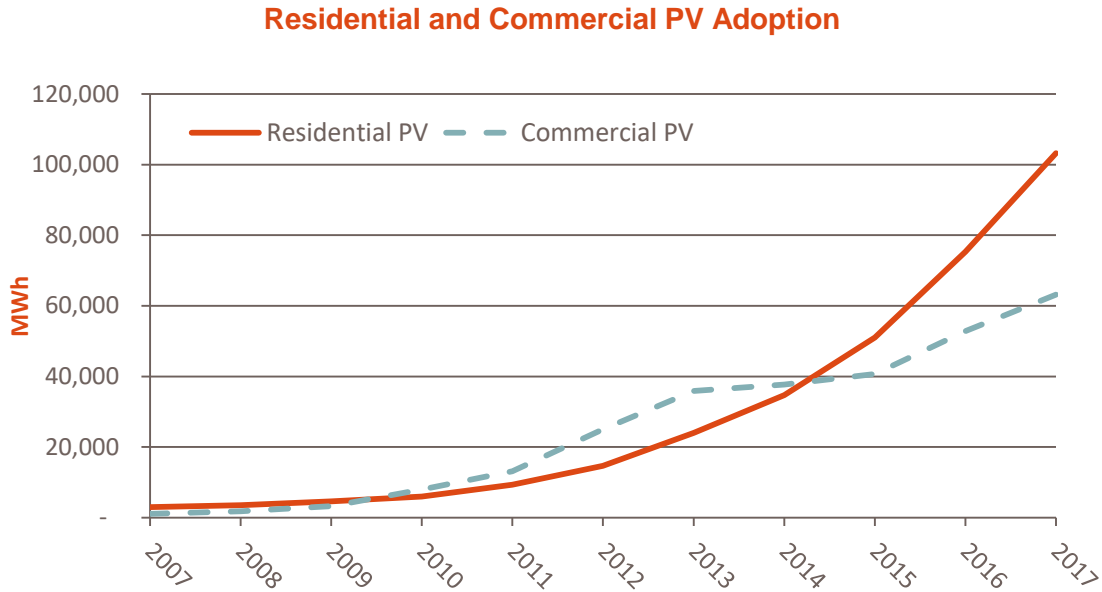
Energy usage in 2017 exceeded the forecast due to unusually high summer temperatures, which drives higher air conditioning usage. See Figure 9 below for historical average use per customer through 2017.

Figure 9 – Average Annual kWh Usage per Residential Customer



There has been an increase in the adoption of rooftop solar by customers in California and in SMUD’s service territory. By installing solar, customers reduce their energy purchases from SMUD, which results in lower revenue and lower commodity costs for SMUD. Figure 10 shows solar adoption for both residential and commercial SMUD customers.

Figure 10 – Residential and Commercial PV Adoption

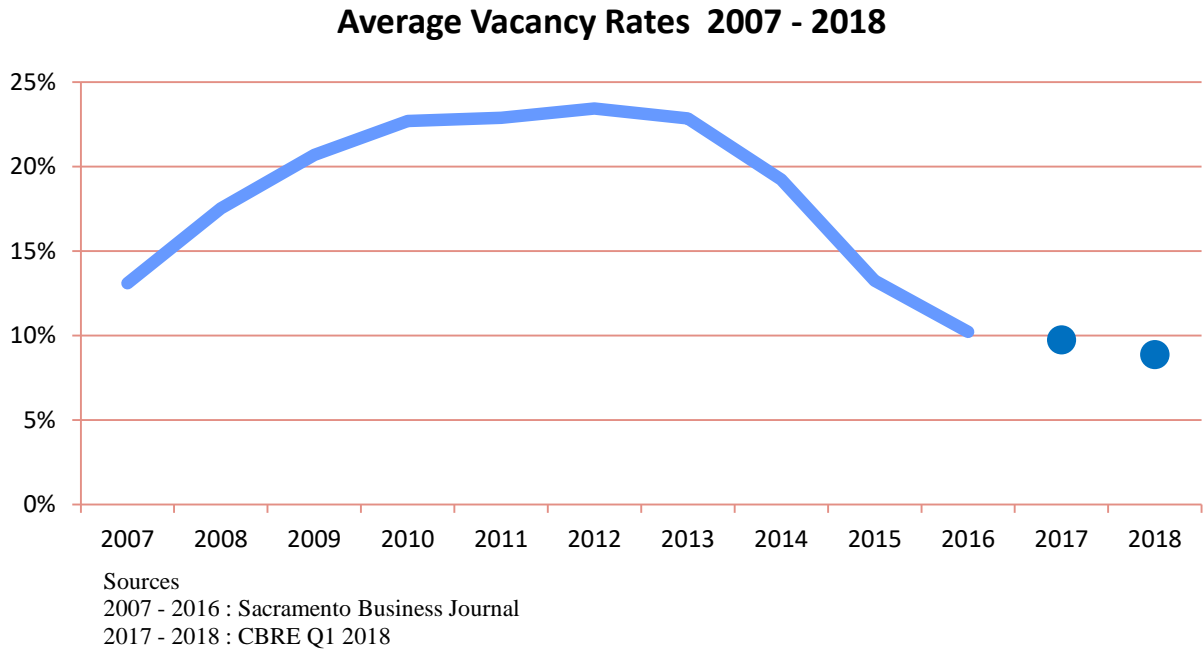


As customers decrease their average energy use from SMUD, one method of increasing revenue to cover SMUD’s fixed costs would be to increase the number of SMUD customers. The recommendations in this Report will help to grow SMUD’s customer base through two methods, 1) modifying the EDR by increasing the discount and removing many of the restrictions that limited participation, and 2) providing developers with an offset to the costs associated with the installation of SMUD equipment/facilities under Rule 16 to encourage development, incentivize new load and growth in the number of customers which will create jobs.

Current Sacramento Economy

Availability of commercial buildings is an important driver of economic development. If space is scarce, Sacramento and SMUD would suffer the impact of fewer new businesses, fewer new jobs and fewer electricity customers. The amount of commercial buildings that are vacant and available for businesses to move into is referred to as the vacancy rate. Development activity information in the Sacramento region shows the average vacancy rate of the combined retail-commercial-industrial sectors are the lowest they’ve been in the past decade. Figure 11 shows the combined vacancy rates since 2007. This translates into very few existing available spaces for new customers that are interested in relocating to the Sacramento region without waiting for new construction. In the absence of vacant space, the Sacramento region is less desirable for growth which results in less economic development and less new load and customer count growth to SMUD.

Figure 11 – Average Vacancy Rates in the Sacramento Region



The Brookings Metropolitan Policy Program recently released an independent assessment of the economy in the six-county Sacramento region. The report stressed the importance of building an inclusive economy for everyone in the region and supporting the growth of existing business as a means to attract new business. The proposed revisions to the EDR rate would align with the findings of their analysis by opening up opportunity to all industry sectors and providing an additional incentive for existing and new businesses to invest in disadvantaged communities.

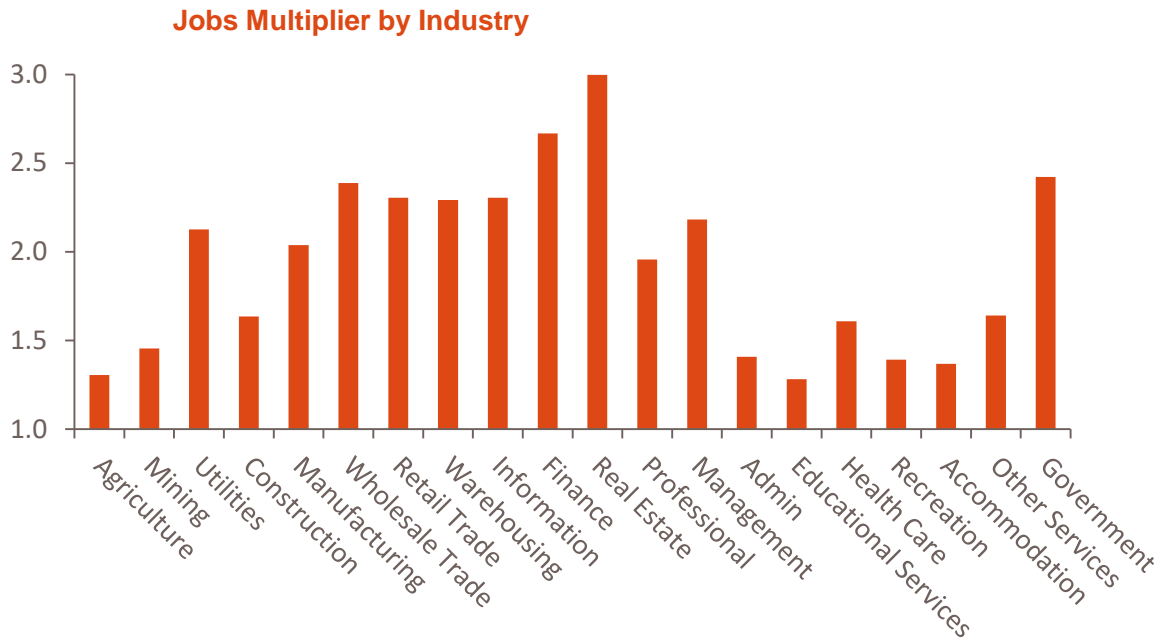
SMUD is typically one of the key public entities the development community engages with, and the high cost of electrical infrastructure can impact a developer's or business' decision to build in SMUD's service territory. While developers must work with a number of local agencies to move new constructions forward, staff believes SMUD plays a key role in contributing to conditions. By providing developers an offset to costs associated with the installation of electrical infrastructure, SMUD could incentivize new construction and new companies to pursue projects that could ultimately bring new businesses and new jobs to the greater Sacramento region.

If developers do not pursue new projects that result in more available space for retail, commercial and industrial businesses and new mixed-use facilities, SMUD would continue to see slow or even declining growth in the years to come. Staff believes the economic multiplier effect of new jobs from new construction projects and new companies locating in SMUD's service territory may also generate new load from residential units, additional retail businesses, new factories and industries. All of these will translate into steadier load growth and new marginal revenue from the new retail sales which would help reduce rate pressures by creating new revenues with existing infrastructure.

Job Creation

The economic multiplier effect is the economic benefit from additional jobs to an area from the money being spent in the local economy. Whenever one new job is created, additional new jobs may be created via additional demand for local goods and services. This multiplier effect helps contribute to a robust local economy. Each new employee needs housing, goods and services and electricity, which all contribute to local economic development and job creation. Different industry sectors provide different levels of benefits for the local economy. For instance, if an industry has a multiplier of 2 for every job created in that industry, 1 additional job is created as a result, for a total of 2 direct and indirect jobs. Figure 12 shows the number of direct and indirect jobs created as a result of one job created in various industries.

Figure 12 – Jobs Multiplier by Industry



Source: IMPLAN 2016 data for Sacramento County

The job multiplier reflects the additional quantitative estimate of how jobs are created in the economy through demand on supplies of goods and services and employee spending. For example, a hypothetical large manufacturing company with 3 MW of load could bring 300 direct jobs to the economy and another 300 indirect jobs as a result of the services and goods that new employees may demand from the local economy. Using current average salaries from the local cities within the Sacramento region, these hypothetical 600 new jobs could generate an annual estimate of \$31 to \$36 million in economic activity to the Sacramento metro area.

Workshops and Community Participation

SMUD will hold two public rate workshops and a final public hearing at SMUD on the dates noted below. At these meetings, staff will present details about the proposed rate changes and provide additional information on the expected impacts to individual customer classes.

SMUD invites customers and the community at large to attend these public forums to learn more about the proposed changes, offer comments and ask questions. These forums will also provide valuable feedback for SMUD Board members who will consider the proposed measures at the public hearing. The public hearing in August will provide the last opportunity for public discussion before the Board vote in September.

In addition, SMUD will make a number of presentations to groups and organizations throughout the community about the proposals in this Report.

Customers and other interested parties may also provide input or ask questions by contacting SMUD at 1-855-736-7655 or ContactUs@smud.org.

Workshops and Public Hearing Schedule

Date & Time	Event	Location	Address
July 17, 2018 10 a.m.	Public Workshop	SMUD Customer Service Center Rubicon Room	6301 S Street, Sacramento
July 26, 2018 6 p.m.	Public Workshop	SMUD Customer Service Center Rubicon Room	6301 S Street, Sacramento
August 16, 2018 6 p.m.	Public Hearing	SMUD Customer Service Center Rubicon Room	6301 S Street, Sacramento

Revenue Requirement

Summary of Changes

Staff is not recommending rate increases or decreases at this time. The recommendations in this Report are not expected to impact revenue in the short term. See Table 1 for the 2018 forecasted allocation of revenues among the customer classes.

Table 1 – 2018 Forecasted Revenue after Proposed Changes

Customer Class (\$ in Millions)	2018 Revenue Forecast	2018 Forecast with Proposed Changes	2018 Percent Impact
Residential	\$656.81	\$656.81	0.0%
Small Commercial < 300kW	\$360.46	\$360.46	0.0%
Small Commercial 300 – 500kW	\$73.79	\$73.79	0.0%
Medium Commercial 500 – 1,000kW	\$70.24	\$70.24	0.0%
Large Commercial >1,000kW	\$164.65	\$164.65	0.0%
Agricultural	\$9.60	\$9.60	0.0%
Lighting	\$7.69	\$7.69	0.0%
Total	\$1,343.25	\$1,343.25	0.0%

Revenue based on 21-cycle month vs calendar month and excludes special contracts. Excludes additional revenue from EDR proposal as revenue generated will be from new load resulting from either new SMUD customers or the expansion of current customers' energy use. Revenue from the SIFC proposal is excluded as budgeted revenue does not take into account additional revenue from move-ins and move-outs. Changes to Rule 16 are excluded as reductions in developer fees are not associated with operating revenue. The HGA proposal has no effect on budgeted rate revenues as the surcharge is currently zero. Total may not add due to rounding.

The remainder of this Report presents the detailed recommendations for rate changes and changes to SMUD's Rules and Regulations.

Changes to Commercial Rates

Economic Development Rate

SMUD is proposing revisions to its EDR that are designed to encourage new economic growth and expansion in SMUD’s service territory. SMUD’s current EDR has low usage due to a limited discount and restrictive eligibility requirements. Only 8 companies have taken advantage of the EDR over the past 10 years. The current EDR requires a 5-year contract and offers the discount shown below in Table 2.

Table 2 – Current SMUD Economic Development Rate Discount

	Year 1	Year 2	Year 3	Year 4	Year 5
Discount	5%	3%	1%	0%	0%

The *current* EDR requires customers to

- Take service of at least 300 kW on a single meter; and
- Be a designated industry in North American Industry Classification System (NAICS) in one of the following areas: agriculture, mining, utilities, construction, manufacturing, wholesale trade, transportation, information, real estate, finance, professional and technical services, management of companies and enterprises, administrative and support services and health care; and
- Create or retain at least 50 full-time equivalent jobs, or 25 full-time equivalent jobs in areas of high unemployment and poverty.

The current EDR also requires that customers receive “full service from SMUD.” Full service is defined as purchasing all electricity for the applicable facility from SMUD. The customer may not augment or offset any electric requirements from solar or any other form of distributed generation not provided by SMUD.

When compared to other electric utilities in California, SMUD currently offers a lower EDR incentive and has greater eligibility requirements. For example, various other utilities in California are shown in Table 3.

Table 3 – Economic Development Rate Discount by Utility

	Year 1	Year 2	Year 3	Year 4	Year 5
SMUD (current)	5%	3%	1%	0%	0%
PG&E	12%	12%	12%	12%	12%
SCE	12%	12%	12%	12%	12%
Anaheim	15%	10%	5%	0%	0%
LADWP	7.6%	5%	2.5%	0%	0%
Lodi	2-8%	Varies by rate and number of jobs			
Redding	25%	20%	15%	10%	5%
Riverside	40%	20%	0%	0%	0%
Roseville	Does not have a formal EDR tariff				

Source: Utility websites

Purpose

The recommended changes are designed to help enhance Sacramento’s competitiveness as a location for companies to create and retain jobs, providing benefits for both SMUD’s customers and residents in the greater Sacramento region. These changes support Sacramento’s efforts to compete for, retain and attract businesses, which help encourage regional economic growth.

When companies consider where to locate, they frequently look at locations throughout the United States. California’s electric rates on average exceed those in other states due to increased regulatory requirements, higher labor costs and a greener resource mix. Staff recommends increasing and extending the discount as well as changing the requirements to qualify for the rate. The proposed revisions to the EDR would allow SMUD and the region to compete on a broader scale.

Staff recommends a 10-year contract period for the EDR because most businesses looking to relocate consider a planning horizon of 10 years and are interested in locking in rates for that period of time. Additionally, 10 years is a longer horizon to allow customers to start and grow their business, move to full operation and eventually transition from the discount rate to the standard rate without significant rate shock.

Staff recommends modifying the requirements to qualify for the EDR rate as follows:

- Remove the industry requirements so that all industries may qualify for the EDR rate;
- Remove the minimum jobs requirements;

- Require verification from a 3rd party entity responsible for attracting new businesses to the Sacramento area to ensure that a discount on electricity would have a meaningful impact on the business;
- Remove the “full service from SMUD” requirement to allow customers to receive power from solar and/or other distributed generation options; and
- Clarify that a retention customer will require a company executive and/or owner to certify that the company is exploring other locations and electricity cost is a factor in their decision. A 3rd party entity will review and verify the information.

The proposal does not include any cap in the amount of total aggregated load in MW that could be eligible for the proposed EDR.

Staff recommends a larger discount for businesses locating in disadvantaged communities as growth in those areas deliver a range of other community and economic benefits. Disadvantaged communities are areas with high unemployment and poverty, as determined by the Disadvantaged Community designation under the California Office of Environmental Health and Hazard Assessment.

Bill Impact

Companies that sign the 10-year agreement with SMUD may select from one of the two EDR discount options shown below in the Table 4, while customers located in disadvantaged communities can select from one of the two discount options shown below in Table 5. This is effective for companies who are approved for the EDR after the effective date of the recommended changes.

Table 4 – Proposed SMUD Economic Development Rate Discount Options

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Option 1 Discount	6%	6%	6%	6%	6%	5%	4%	3%	2%	1%
Option 2 Discount	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%

Table 5 – Proposed SMUD Economic Development Rate Discount Options for Disadvantaged Communities

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Option 1 Discount	8%	8%	8%	8%	8%	6.5%	5%	3.5%	2%	0.5%
Option 2 Discount	6%	6%	6%	6%	6%	6%	6%	6%	6%	6%

Revenue Impact

Revenue generated as a result of the EDR updates will be from new load resulting from either new SMUD customers or the expansion of current customers’ energy use. Therefore, implementing the recommended changes will not impact rates for residential customers or current commercial customers.

The changes to the EDR would benefit SMUD customers by increasing SMUD's customer base, which helps to keep rates low by spreading SMUD's fixed costs over a larger number of customers.

Economic development program experts estimate that, on average, about 15-20% of prospects looking at a specific area decide to establish their business in that location. The estimates below are based on the assumption that approximately 20% of the new eligible customers would move to SMUD and get the EDR. It is expected that the EDR changes could generate approximately \$421 million of new electric retail sales over 10 years after the discount is applied. The discount resulting from the changes is expected to be approximately \$4.7 million annually. Over 10 years, additional customers would be added to the rate, so the total cumulative discount is expected to be approximately \$31 million.

Staff calculated the maximum allowable discount based on the marginal cost to serve electricity to commercial customers. New businesses must pay at least their marginal cost of service in order to not negatively impact existing customers. At the conclusion of the 10 year contract, participating EDR customers will transition to SMUD's standard retail rates.

Recommendation

Staff recommends amendments to the 2019 EDR Rate Schedule as indicated below. All the rate changes will be effective no later than Dec. 31, 2019. Once effective, this EDR Rate Schedule replaces the existing 2019 EDR Rate Schedule.

Amend Section I in Rate Schedule EDR by replacing the last sentence with the following:

This Rate Schedule EDR is effective no later than December 31, 2019, and when effective it replaces the 2019 Rate Schedule EDR at that time.

Replace Section II, Subsection B in Rate Schedule EDR with the following language:

B. Third party verification by a leading Sacramento area economic development organization will validate the legitimacy of the attraction, retention or expansion effort. The following criteria may be considered in the decision process:

- 1. Alternative locations under consideration (within and outside of California)*
- 2. Workforce requirements*
- 3. Other tax or cash incentives*
- 4. Logistical requirements*
- 5. Infrastructure or site improvement costs*
- 6. Timeline for creating new load and jobs*

Amend Section II in Rate Schedule EDR by deleting Subsections C and D.

Amend Section III, Pricing Structures of Rate Schedule EDR as follows:

- A. Eligible customers ~~will~~ **will have two options (either Option A or B) to receive a reduction of the System Infrastructure Fixed Charge, Site Infrastructure Charge, Summer Super Peak Infrastructure Demand Charge and electricity usage charges on their bill, based on the table below.***

<i>Economic Development Discount</i>										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Option A	6.0%	6.0%	6.0%	6.0%	6.0%	5.0%	4.0%	3.0%	2.0%	1.0%
Option B	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%

Add Subsection B to Section III, Pricing Structures, in Rate Schedule EDR with the following language:

B. Eligible customers locating in areas of high unemployment and poverty as determined by the Disadvantaged Community designation under the California Office of Environmental Health and Hazard Assessment have two options (either Option A or B) to receive a reduction of the System Infrastructure Fixed Charge, Site Infrastructure Charge, Summer Super Peak Demand Charge and electricity usage charges on their bill, based on the table below.

<i>Disadvantaged Communities Economic Development Discount</i>										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Option A	8.0%	8.0%	8.0%	8.0%	8.0%	6.5%	5.0%	3.5%	2.0%	0.5%
Option B	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%

Modify Section IV Conditions of Service, Subsection A in the EDR tariff as follows

IV. Conditions of Service

A. Customers must execute an Economic Development Rate (EDR) Option Agreement ~~to receive full service from SMUD~~ for ~~five~~ ten years commencing on the agreement effective date.

Modify Section IV Conditions of Service, Subsection D in the EDR tariff as follows

IV. Conditions of Service

D. Retention customers will require the execution of an ~~affidavit~~ certificate by a company executive and/or owner certifying that the company is exploring other locations and electricity costs are a factor in its decision to do business in a location. The certification ~~and~~ requires review and verification by a senior executive of ~~the Greater Sacramento Area Economic Council (Greater Sacramento)~~ a leading Sacramento area economic development organization. Retention customers specify in the Economic Development Rate Option Agreement the date when the existing load will be retained with only the portion of load deemed likely to relocate or cease operations qualifying for the EDR. The effective start date is the first billing period with the EDR following the specified date of the retained load.

Revisions described above are detailed in the EDR Rate Schedule included in Appendix 1 of this Report.

Changes to Rules and Regulations

Extension of Facilities to Nonresidential Premises

Rule 16 regulates electric distribution facilities to the boundary of nonresidential developments. It applies to public agencies and developments with nonresidential and residential mixed-use electric service.

In early 2017, the Commercial Development team initiated a review of SMUD's Rule 16 and surveyed developers building projects in the Sacramento region. Additionally, SMUD staff benchmarked 11 utilities from representative cities around the country to understand how these utilities charge fees to the development community to determine whether SMUD's policies are comparable.

The themes that the development community shared with SMUD's Commercial Development team related to costs associated with doing a project. SMUD is typically one of the key public entities that developers engage with, and often the high cost of extension of distribution infrastructure impacts their business decisions. As indicated by the benchmarking study, SMUD is one of the few utilities without a reimbursement mechanism policy to support business development. As such, SMUD staff reviewed various reimbursement options based on the current approach to development fees as specified in Rule 16.

Staff is recommending changes to Rule 16 fees for medium and large commercial, industrial, and mixed-use projects to be more competitive with other utilities and to encourage growth in the local Sacramento area economy.

Purpose

In analyzing the proposed change to the Rule 16 fees, staff determined that a demand-based offset would represent a meaningful impact to development projects in SMUD's service territory and this mechanism does not create complexity with the current billing process. Under the current Rule 16 structure, a customer pays the entire cost for SMUD to extend its facilities to the development.

A customer's demand is the amount of energy required at any given time measured in kilowatts (kW). Demand-based offsets are a standard industry mechanism to support load growth and development. The proposed change to Rule 16 will allow for a per kW offset to commercial, industrial and mixed-use projects that have an expected diversified load of at least 300 kW. Diversified load is the SMUD estimated amount of power that the customer will use for a given project. Typically the actual total demand in kW is less than the total connected load. Based on that, SMUD will diversify, or reduce the estimate amount of power required for a given project. The proposed per kW offset will be applied to the total estimated diversified load in kW that a customer will require to operate their business as determined by SMUD.

The approach to estimate each project's diversified load will take into account industry best practices, staff technical expertise and is at SMUD's sole discretion.

The proposed revisions to Rule 16 are intended to encourage economic development within SMUD's service territory which would bring new development. New development will result in new load and new customers, which helps to spread SMUD fixed costs and keep electric rates lower for all customers.

The proposed offset applies only to new load and does not result in increased charges to existing customers.

Staff recommends amending Rule 16 to allow for the offset of the SMUD cost estimate as described below. All rate changes are effective Sept. 21, 2018.

1. SMUD provides a cost estimate to the developer as described in Rule 16.
2. The estimated kW demand for the per kW offset amount will be determined by SMUD based on diversified load or as determined by SMUD.
3. Projects must have an estimated diversified load of at least 300 kW as determined by SMUD.
4. The developer furnished and installed underground duct system (including necessary conduits, ducts, manholes, vaults, pads and concrete encasement of conduit where required), is not eligible for reimbursement.
5. The developer will not receive an offset of more than 100% of the estimated cost for SMUD installed facilities.
6. The per kW offset amount will be determined by SMUD and will be reviewed on a yearly basis based on system and budget considerations. The initial kW offset will be set at \$125/kW based on the diversified load as determined by SMUD.

Bill Impact

For qualifying projects, developers will receive a per kW offset to the estimated cost of SMUD installing the required infrastructure for the project. Depending on the design and requirements, the offset will range from covering a portion of the estimated cost to covering the entire estimated cost, minus the nonrefundable design fee.

Revenue Impact

In 2017, SMUD collected \$5.5 million in Rule 16 costs from commercial projects of at least 300 kW in size. The anticipated revenue impact may vary in the future and is based on the amount of construction activity for a given year.

While SMUD budgets for the cost of installing the distribution infrastructure, the revenue generated from the Rule 16 costs is not factored into the budget or the revenue requirement. The revenue requirement determines rate increases needed, therefore, implementing this recommendation will not significantly impact rates.

Furthermore, it is expected that the increase in development as a result of this recommendation will increase the revenue collected over the long term due to the addition of new load. The offset to the cost of SMUD distribution facilities is expected to be recovered within 3 to 6 years by new revenue.

In the case of the developer fee kW offset proposal, staff used the same contribution margin approach to ensure the cost of the offset is recovered in an average of 3 to 6 years from the moment of starting

service through the retail revenue that new customers will bring to SMUD. The average 3 to 6 year payback is relatively short when compared to the 30 year average service life of electric assets being installed.

Recommendation

Based on the above, staff recommends the following amendments to Rule 16. The rate changes will be effective Sept. 21, 2018.

Modify Section IV, Subsection d of Rule and Regulation 16 Extension of Facilities to Nonresidential Premises as follows:

d. The developer will deposit with SMUD 100 percent of the ~~Estimated~~ Cost of SMUD-installed facilities upon completion of the system design and prior to system installation. At the discretion of SMUD, ~~Estimated~~ Cost may be determined by application of standard unit costing or by job specific estimates. Standard unit costing may be reviewed and updated at SMUD's discretion. SMUD may extend at its option, financing terms for no longer than 12 months for no more than 50 percent of the ~~required deposit~~ Cost. Availability of the financing option will depend on the financial viability and credit-worthiness of the firm, as determined by SMUD. These costs are limited to SMUD's costs of providing distribution facilities within the boundaries of the development and the development-related distribution facilities adjacent to the development. For customers with connected loads of 1 megawatt and greater, these costs will include costs related to the last transformation before delivery to the customer, whether that transformation is from an off-site distribution substation or an on-site SMUD-dedicated substation. SMUD will supply, install, own, and maintain all conductors, switchgear, transformers, and related equipment for the secondary and primary distribution system.

Add Section V to Rule and Regulation 16 Extension of Facilities to Nonresidential Premises as follows:

V. SMUD Cost for Distribution Systems

The developer of a non-residential development with an estimated demand of at least 300kW as determined by SMUD is eligible for certain offsets of costs in accordance with the following specifications:

- a. Based on Section IV(D), SMUD will supply, install, own, and maintain all conductors, transformers, and related equipment for the secondary and primary distribution system.*
- b. SMUD will apply a Per kW Offset Amount to offset the developer Cost for the SMUD-installed facilities and distribution system.*
- c. The estimated kW demand for the Per kW Offset Amount will be determined by SMUD based on diversified load.*
- d. The developer furnished and installed underground duct system (including necessary conduits, ducts, manholes, vaults, equipment, pads, and concrete encasement of conduit where required), are not eligible for the Per KW Offset Amount.*
- e. The developer will not receive more than 100% of the SMUD total cost for the SMUD-installed facilities and distribution system.*

f. The Per kW Offset Amount is determined by SMUD annually based on system impact and budget.

Revisions described above are detailed in the Rule 16 in Appendix 1 of this Report.

Changes to Residential Rates

System Infrastructure Fixed Charge

The current (2018) residential System Infrastructure Fixed Charge is \$20.30 per billing period. Customer bills are calculated by “billing periods” rather than on a calendar month basis. A standard billing period is 27 to 34 days, though billing periods can be shorter or longer depending on customer move-in or move-out dates.

Purpose

SMUD does not currently prorate the SIFC for residential customers for any nonstandard billing period. While most SMUD customers’ bills fall within the standard billing period, an unintended consequence of not prorating the SIFC is that customers may be charged the full SIFC twice if they move out of one location and into a new location within the same billing period. In these cases, customers can contact SMUD to request a bill credit in the amount of the additional SIFC charged.

Customer experience and fairness is very important to SMUD, and while all customers should contribute to the fixed costs of providing energy, a customer should not incur those fixed costs more than once during a single billing period.

Accordingly, staff is recommending the SIFC be prorated for residential customers when the billing period is shorter than 27 days. The prorated SIFC will be less than the current standard \$20.30 SIFC when a customer moves in or out of their premises if the bill period is shorter than 27 days. However, staff is recommending that the SIFC not be prorated for bill periods longer than 34 days. By not prorating longer bills, the SIFC will not be higher than the monthly charges adopted by the Board, even if the billing period is longer than 34 days.

For residential customers enrolled in SMUD’s EAPR, the EAPR discount on the SIFC will also be prorated for bill periods less than 27 days.

Bill Impact

The SIFC may be less than the monthly amount adopted by the Board if the bill period is less than 27 days. If the bill period is greater than 34 days, there will be no bill impact. The SIFC will not appear in full on both customer bills when a move-in and move-out occurs and will be more reflective of the number of days the customer utilized SMUD electrical service.

For residential customers on EAPR, prorating the SIFC discount will not affect the EAPR maximum electricity usage discount.

The SIFC discount is currently prorated for commercial customers on EAPR, so there will be no change as a result of the approval of this recommendation.

Revenue Impact

SMUD collects approximately \$1.6 million annually as a result of not prorating the SIFC. However, SMUD does not include this revenue in the budget because customer moves are unplanned; therefore, prorating the SIFC will not significantly impact rates.

Recommendation

Staff recommends the following amendments to the residential and EAPR tariff sheets. All rate changes will be effective as early as June 1, 2019 and no later than Dec. 31, 2019.

Amend Section V of Rate Schedule R as follows:

V. Billing

*KWh usage may be prorated for nonstandard billing periods, when billing period spans a price change, and/or when the billing period spans more than one season. **Effective as early as June 1, 2019 and no later than December 31, 2019, the monthly System Infrastructure Fixed Charge SIFC will be prorated when the bill period is shorter than 27 days.** The following table shows the basis for the proration in these circumstances. ~~The monthly System Infrastructure Fixed Charge will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The monthly System Infrastructure Fixed Charge is determined by the billing period end date.~~*

Billing Circumstance	Basis for Proration
<i>Bill period is shorter than 27 days (SIFC and kWh)</i>	<i>Relationship between the length of the billing period and 30 days.</i>
<i>Bill period is longer than 34 days (kWh)</i>	
<i>Seasons overlap and price changes within bill period</i>	<i>Relationship between the length of the billing period and the number of days that fall within the respective season or pricing periods.</i>

Amend Section VI of Rate Schedule R-TOD as follows:

VI. Billing

A. Proration of Charges

*The electricity usage charge ~~and the monthly System Infrastructure Fixed Charge~~ will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. **Effective as early as June 1, 2019 and no later than December 31, 2019, the monthly System Infrastructure Fixed Charge will be prorated when the bill period is shorter than 27 days as shown in the following table** is determined by the billing period end date.*

<i>Billing Circumstance</i>	<i>Basis for Proration</i>
<i>Bill period is shorter than 27 days</i>	<i>Relationship between the length of the billing period and 30 days.</i>

Amend Section VIII of the 2019 Rate Schedule EAPR as follows:

VIII. Billing

*The effective date of EAPR will be the beginning of the billing period in which the request is approved. If participation is terminated, the effective termination date will be the beginning of the billing period in which the request is received or the cancellation date. The maximum **electricity usage discount** ~~EAPR discount~~ will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The discount may be reflected on the customer's bill with a rate-based identifier code or line item description. **Effective as early as June 1, 2019 and no later than December 31, 2019, the monthly System Infrastructure Fixed Charge discount will be prorated for bill periods shorter than 27 days as shown in the table below.***

<i>Billing Circumstance</i>	<i>Basis for Proration</i>
<i>Bill period is shorter than 27 days</i>	<i>Relationship between the length of the billing period and 30 days.</i>

Amend Section VIII of the 2020 Rate Schedule EAPR as follows:

VIII. Billing

*The effective date of EAPR will be the beginning of the billing period in which the request is approved. If participation is terminated, the effective termination date will be the beginning of the billing period in which the request is received or the cancellation date. The maximum **electricity usage discount** ~~EAPR discount~~ will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The discount may be reflected on the customer's bill with a rate-based identifier code or line item description. **The monthly System Infrastructure Fixed Charge discount will be prorated for bill periods shorter than 27 days as shown in the table below.***

<i>Billing Circumstance</i>	<i>Basis for Proration</i>
<i>Bill period is shorter than 27 days</i>	<i>Relationship between the length of the billing period and 30 days.</i>

Amend Section VIII of the 2021 Rate Schedule EAPR as follows:

VIII. Billing

*The effective date of EAPR will be the beginning of the billing period in which the request is approved. If participation is terminated, the effective termination date will be the beginning of the billing period in which the request is received or the cancellation date. The maximum **electricity usage discount** ~~EAPR discount~~ will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The discount may be reflected on the customer's bill with a rate-based identifier code or line item description. **The monthly System Infrastructure Fixed Charge discount will be prorated for bill periods shorter than 27 days as shown in the table below.***

<i>Billing Circumstance</i>	<i>Basis for Proration</i>
<i>Bill period is shorter than 27 days</i>	<i>Relationship between the length of the billing period and 30 days.</i>

Revisions described above are detailed in the Rate Schedule R, Rate Schedule R-TOD and Rate Schedule EAPR included in Appendix 1 of this Report.

Other Rate Changes

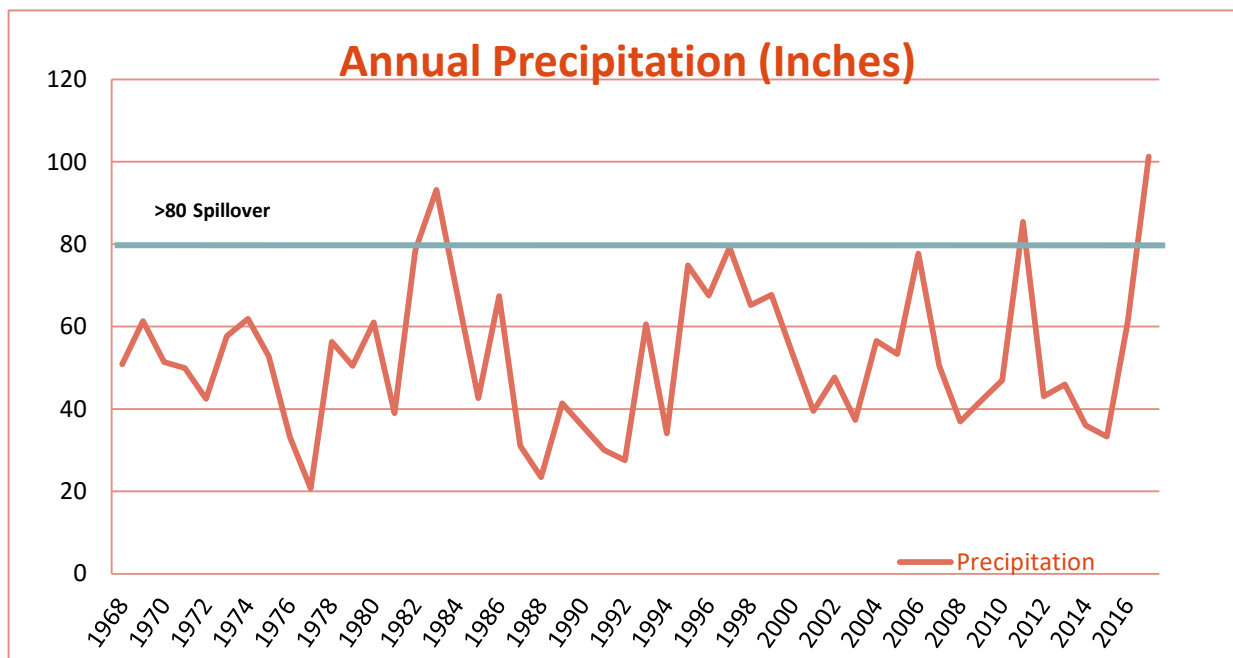
Hydro Generation Adjustment

Purpose

SMUD owns hydroelectric generation in the south fork of the American River. Hydroelectric generation is highly impacted by precipitation levels. SMUD can generate more electricity from its hydroelectric facilities in years with a lot of precipitation, and less electricity in dry years. The more electricity that SMUD can generate, the less energy SMUD needs to purchase from the market. Market prices of power are typically higher than SMUD's cost of generating power in the hydroelectric facilities. Based on data from the last 50 years, one inch of rain allows SMUD to generate approximately 35,000 megawatt hours (MWh) of energy. That is enough energy to supply approximately 3,800 houses (using approximately 750 kWh per month) with energy for one year. Based on the current market value of energy, every inch of rain is worth around \$1 million to SMUD in avoided power purchases.

In an average year, the National Weather Service site at the Pacific House measuring station receives about 50 inches of precipitation which consists of water content from snow and/or rain. However, precipitation can vary widely from year to year. For example, 101 inches of precipitation was received in the 2017 water year, but only 21 inches was received in 1977. As shown in Figure 13, 88% of water years fall between 30 and 80 inches of precipitation.

Figure 13 – Annual Precipitation in Inches



Sources: U.S. Department of Commerce Record of Climatological Observations National Oceanic & Atmospheric Administration (NOAA) and California Data Exchange Center (CDEC)

SMUD defines its water year for the HGA as April through March. In order to reduce financial volatility from swings in precipitation, SMUD established a Hydro Rate Stabilization Fund (HRSF) on May 15, 2008, by Board Resolution 08-05-11. The HRSF was initially funded with a \$30 million dollar transfer from SMUD's general Rate Stabilization Fund.

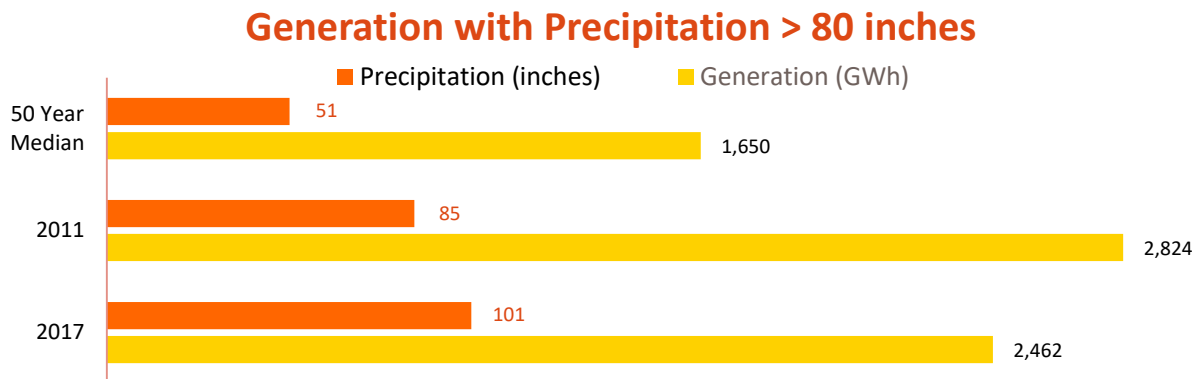
Resolution 08-05-11 also authorized an HGA as a means to fund the HRSF. The HGA provides the mechanism to transfer money into and out of the HRSF, as well as to put a surcharge or credit on customer bills. In water years with precipitation above the 50-year median inches of precipitation at Pacific House, a transfer is made from revenue into the HRSF of up to 4% of budgeted annual gross retail revenue. Currently, the HRSF is allowed to grow until it reaches 5% of budgeted annual gross retail revenue. Once the balance of the HRSF reaches 5%, any excess funds will be returned to customers through the mechanism established in HGA tariff. Since the inception of the HGA in 2008, no excess funds have been returned to customers as SMUD has never hit the 5% of budgeted annual gross retail revenue limit.

In water years with precipitation below the 50 year median, a transfer is made out of the HRSF into revenue up to 4% of budgeted annual gross retail revenue. When the HRSF reaches zero, customers are levied an HGA surcharge up to 4% budgeted annual gross retail revenue.

In order to more accurately reflect the value of hydroelectric generation and its effect on SMUD's budget, staff recommends the following changes.

- Increase the cap on the HRSF from 5% to 6%. This will allow the HRSF to grow larger and reduce the risk of an HGA surcharge if below median precipitation persists for several years. A higher balance in the HRSF would be seen as a positive financial signal with credit rating agencies and has a positive impact on SMUD's finances, which is in line with the Board's SD-3.
- Give the Board the option to refund customers through the HGA if the HRSF is over the cap; this change would benefit customers by reducing the potential of sticker shock when a credit would run off of the bill at the same time as a rate increase is scheduled to occur. Additionally, any dollars retained at SMUD reduce future rate increase pressure. The Board may choose to invest savings from hydroelectric generation above the total cap in their strategic initiatives.
- Cap precipitation at 80 inches when calculating the HGA transfer. Too much precipitation in the form of rain, rather than snow, causes the reservoirs to fill quickly. If the reservoirs fill too quickly, some of the water may go over the top of the dams rather than through the hydroelectric generators. Water that spills over the tops of the dams does not provide any value to SMUD. For example, in 2011 SMUD was able to generate 2,824 GWh from 85 inches of precipitation, but only 2,462 GWh from 101 inches of precipitation in 2017, as shown in Figure 14

Figure 14 – Generation with Precipitation Greater than 80 inches



Sources for precipitation: U.S. Department of Commerce Record of Climatological Observations National Oceanic & Atmospheric Administration (NOAA) and California Data Exchange Center (CDEC)

Bill Impact

This recommendation will not affect customer bills at this time, but will vary with future precipitation levels.

Revenue Impact

There is no impact to revenue at this time.

Recommendation

Staff recommends the following amendments to the Hydro Generation Adjustment Rate Schedule HGA. The rate changes will be effective Jan. 1, 2019.

Amend Section II of Rate Schedule HGA as follows:

- A. *SMUD estimates that each inch of precipitation results in 35,000 megawatt hours (MWh) of generation.*
- B. *The HGA precipitation period begins April 1 of the previous year and ends on March 31 of the current year (**Water Year**).*
- C. *The actual **inches of precipitation (AP)** for each period shall be measured at the National Weather Service Pacific House Cooperative Observer measuring station or suitable replacement.*
- D. *The ~~actual precipitation~~ **AP** will be compared to the 50-year median (midpoint) ~~for inches of precipitation (MP)~~ **MP** measured at Pacific House.*
- E. *The price of power delivered into the area designated as North Path 15 (NP15) will be used to determine the dollar impact of any excess or shortfall of energy. If NP15 is no longer available, then a suitable replacement will be used.*
- F. *The AP will be capped at a maximum of 80 inches per Water Year to accommodate for spill.*

Amend Section III of Rate Schedule HGA to read:

The following calculations will be used to determine SMUD's budget impact (BI) from precipitation variances:

Replace Section III, Subsection A of Rate Schedule HGA with the following:

A. Precipitation Variance

Inches of Precipitation Variance (\pm IPV) = MP – AP

The variance of precipitation equals the difference between the 50-year median and the actual inches of precipitation.

Amend Section IV of Rate Schedule HGA as follows:

*The ~~Budget Impact (BI)~~ will first be compared to the Hydro Rate Stabilization Fund (HRSF), which was initially funded in 2008 at \$30 million. Any excess funds from **In Water Years with above median hydro-generation precipitation, funds** shall be deposited to the HRSF from **Operating Revenues** until ~~the HRSF~~ reaches a maximum of **56%** of budgeted annual gross retail revenue, at which time subsequent excesses may be returned to the customer through the Hydro Generation Adjustment (HGA). ~~The HRSF will be drawn down to~~ **In Water Years with below median precipitation, funds will be withdrawn from the HRSF and applied to Operating Revenues until the HRSF balance reaches zero before, at which time the HGA will be levied as a surcharge on electricity usage.***

Amend Section V of Rate Schedule HGA as follows:

*The BI will not exceed ± 4 percent of budgeted **annual gross** retail revenue.*

Amend Section VI, Subsection A of Rate Schedule HGA as follows:

*The Accountant will transfer the remaining **balance of the HRSF** to ~~customer revenue~~ **Operating Revenues** and the HGA will be set at:*

$$- \frac{\text{Calculated (HRSF-BI)}}{\text{Budgeted calendar year retail kWh sales}} = \text{HGA}$$

~~The Accountant will defer purchase power expense into the next calendar year equal to minus 27 percent of the Calculated HRSF.~~

Amend Section VI, Subsection B of Rate Schedule HGA as follows:

*If Calculated HRSF is ≥ 0 and ≤ 56 percent of budgeted **annual gross** retail revenue:*

*The Accountant will transfer the positive BI out of the HRSF and **into Operating Revenues** and transfer the negative BI into the HRSF **from Operating Revenues.***

Amend Section VI, Subsection C of Rate Schedule HGA as follows:

A. *If the Calculated HRSF is > 56 percent of budgeted **annual gross** retail revenue:*

*The Accountant will transfer **the negative BI** into the HRSF from ~~customer revenue~~ **Operating Revenues up to** ~~(56 percent of budgeted annual gross retail revenue. –HRSF)~~ **and The Board may authorize the HGA or direct the funds for another purpose. At the Board's direction, the HGA will be set at:***

$$- \frac{(\text{Calculated HRSF} - 56\% \text{ of budgeted annual gross retail revenue})}{\text{Budgeted calendar year retail kWh sales}} = \text{HGA}$$

The Accountant will defer customer revenues into the next calendar year equal to 27 percent of (Calculated HRSF — 5 percent of budgeted retail revenue).

Amend Section VII of Rate Schedule HGA as follows:

*The ~~Hydro Generation Adjustment~~ **HGA** became effective July 1, 2008. **The HGA is recalculated for each Water Year.** ~~Each subsequent year the calculated HGA and~~ will be applied to the rate schedules ~~April 10 May 1~~ until April 30 of the following year.*

Revisions described above are detailed in the Hydro Generation Adjustment Rate Schedule HGA included in Appendix 1 of this Report.

Environmental Assessment

- 1.0 Section 21080(b)(8) 21080(b)(8) of the California Public Resources Code and Section 15273 of the California Environmental Quality Act (CEQA) Guidelines (California Code of Regulations, Title 14, Sections 15000, et seq.) provide that CEQA does not apply to the establishment, modification, structuring, restructuring, or approval of rates, tolls, fares, and other charges by public agencies which the public agency finds are for the purpose of:
- (1) Meeting operating expenses, including employee wage rates and fringe benefits;
 - (2) Purchasing or leasing supplies, equipment, or materials;
 - (3) Meeting financial reserve needs and requirements;
 - (4) Obtaining funds for capital projects necessary to maintain service within existing service areas; or
 - (5) Obtaining funds that are necessary to maintain such intra-city transfers as are authorized by city charter.
- 2.0 Section 15061(b) (3) of the CEQA Guidelines provides that where it can be said with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.
- 3.0 The proposed action to increase the discount and expand eligibility for the Economic Development Rate, is for the purposes set forth in (1) through (4) of Section 1.0 of the Environmental Assessment. Therefore, this rate action is exempt from the requirements of CEQA.
- 4.0 The proposed action to provide a demand-based offset under Rule and Regulation 16 for development fees, is for the purposes set forth in (1) through (4) of Section 1.0 of the Environmental Assessment. Therefore, this rate action is exempt from the requirements of CEQA.
- 5.0 The proposed action to pro-rate the System Infrastructure Fixed Charge, is for the purposes set forth in (1) through (4) of Section 1.0 of the Environmental Assessment. Therefore, this rate action is exempt from the requirements of CEQA.
- 6.0 The proposed action to change the Hydro Generation Adjustment Rate Schedule, is for the purposes set forth in (1) through (4) of Section 1.0 of the Environmental Assessment. Therefore, this rate action is exempt from the requirements of CEQA.

SMUD Programs and Web Links

SMUD has information regarding a variety programs and bill assistance available to customers that can be found at the following links:

Rebates, Incentives and Financing

<https://www.smud.org/en/residential/save-energy/rebates-incentives-financing/>

Calculate Energy Consumption

<https://www.smud.org/en/residential/save-energy/calculate-energy-consumption.htm>

Learn energy efficiency

<https://www.smud.org/en/residential/save-energy/learn-energy-efficiency/index.htm>

Payment assistance programs

<https://www.smud.org/en/Customer-Support/Financial-assistance>

Economic Development

www.smud.org/econdev

Design and Construction Services

<https://www.smud.org/en/Business-Solutions-and-Rebates/Design-and-Construction-Services>

Smart Homes

<https://www.smud.org/en/Going-Green/Smart-Homes>

Commercial Solutions & Rebates

<https://www.smud.org/en/Business-Solutions-and-Rebates>

Strategic Direction

Our Strategic Direction guides us in the decisions we make about SMUD's policies and operations. Our Board continually reviews and refines these guidelines to make sure we'll meet customers' energy needs, both now and in the future.

SD-1A

SMUD is community-owned. Our purpose is to enhance the quality of life for our customers and community through creative energy solutions.

SD-1B

SMUD's vision is to be the trusted partner with our customers and community, providing innovative solutions to ensure energy affordability and reliability, improve the environment, reduce our region's carbon footprint, and enhance the vitality of our community.

SD-2

Maintaining competitive rates is a core value of the District.

Therefore:

- a) The Board establishes a rate target of 18 percent below Pacific Gas & Electric Company's published rates on a system average basis. In addition, the Board establishes a rate target of at least 10 percent below PG&E's published rates for each customer class.
- b) SMUD's rate of change for both rates and bills shall be competitive with other local utilities on a system average basis.
- c) In addition, SMUD's rates shall be designed to balance and achieve the following goals:
 - i) Reflect the cost of energy when it is used;
 - ii) Reduce use on peak;
 - iii) Encourage energy efficiency and conservation;
 - iv) Minimize "sticker" shock in the transition from one rate design to another;
 - v) Offer flexibility and options;
 - vi) Be simple and easy to understand;
 - vii) Meet the needs of people with fixed low incomes and severe medical conditions; and
 - viii) Equitably allocate costs across and within customer classes.

SD-3

Maintaining access to credit is a core value of SMUD.

Therefore:

- a) For SMUD’s annual budgets, the Board establishes a minimum target of cash coverage of all debt service payments (fixed charge ratio) of 1.5 times.
- b) When making resource decisions, SMUD shall weigh the impacts on long-term revenue requirements, debt, financial risk and flexibility.
- c) SMUD’s goal is to maintain at least an “A” rating with credit rating agencies.

SD-4

Meeting customer energy requirements is a core value of SMUD.

Therefore:

- a) SMUD will assure all customer energy requirements are met. This will be accomplished through the use of: (i) its generation resources and purchase power portfolio 100 percent of the time; and (ii) its transmission assets to assure an overall availability of at least 99.99 percent.

- b) SMUD will achieve distribution system reliability by:

Limiting the average frequency of outage per customer per year to:

- With major event: 0.99 – 1.33
- Excluding major event: 0.85 – 1.14

Limiting the average duration of outages per customer per year to:

- With major event: 67.5 – 93.3 minutes
- Excluding major event: 49.7 – 68.7 minutes

Ensuring that no individual circuits exceed these targets for more than two consecutive years. For circuits that exceed these targets for two consecutive years, a remedial action plan will be issued and completed within eighteen months.

- c) SMUD will maintain the electric system in good repair and make the necessary upgrades to maintain load serving capability and meet regulatory standards.

SD-5

Maintaining a high level of customer relations is a core value of SMUD. Additionally, the Board sets a customer satisfaction target of 95 percent with no individual component measured falling below 85 percent. In addition, the Board establishes an overall customer experience “value for what you pay” target of 80 percent by the end of 2021, with neither the average commercial customer score falling below 69 percent nor the average residential customer score falling below 65 percent in any year.

As part of this policy:

- a) SMUD customers shall be treated in a respectful, dignified and civil manner.
- b) SMUD shall communicate a procedure for customers who believe they have not received fair treatment from SMUD to be heard.

SD-6

Creating a safe environment for employees and the public is a core value of SMUD.

Through continuous improvement, SMUD will be recognized as a leader in employee safety while also assuring the safety of the public related to SMUD operations and facilities. This includes a comprehensive approach to monitoring organizational and public safety performance.

Therefore, SMUD will continue to improve safety results to:

Workplace Safety

- a) Reduce SMUD's injury severity rate to 1.4 by 2020, as measured by OSHA's Days Away Restricted Time (DART), a rate that demonstrates strong safety performance.
- b) Provide timely, quality health care for injured employees that aids their recovery while maintaining positive financial performance of the workers' compensation program.

Public Safety

- a) Track and report injuries to the public related to SMUD operations or facilities.
- b) Implement measures to protect the public from injuries related to SMUD operations or facilities.

SD-7

Environmental leadership is a core value of SMUD. The Board is committed to environmental leadership through community engagement, continuous improvement in pollution prevention, carbon reduction, energy efficiency, and conservation.

Therefore:

- a) SMUD will conduct its business affairs and operations in a manner that reduces adverse environmental impacts, reduces pollution, and enhances resource conservation and stewardship.
- b) SMUD will provide leadership in the reduction of the region's total emissions of greenhouse gases through proactive programs in all SMUD activities and development and support of national, State, and regional climate change policies and initiatives.
- c) SMUD will promote the efficient use of energy by its customer-owners.
- d) SMUD will proactively engage its customer-owners and other stakeholders in meeting this directive.

SD-8

Developing and maintaining a high quality, inclusive workplace that engages and inspires employees to commit to SMUD's purpose, vision and values is a core value of SMUD.

Therefore:

- a) SMUD shall attract and retain a highly qualified workforce.
- b) SMUD shall engage its workforce in personal and professional development.

- c) SMUD shall maintain and communicate written policies that define procedures and expectations for staff and provide for effective handling of grievances.
- d) SMUD’s percentage of engaged employees as measured through the Engagement Index shall exceed 80%.
- e) Annually, and consistent with State and Federal law, the Board shall receive a report detailing the demographics of the SMUD workforce, the available workforce, and the Sacramento region. The report shall also provide information on veterans as a part of SMUD’s workforce.

SD-9

It is a core value of SMUD to provide its customer-owners with a sustainable power supply through the use of an integrated resource planning process. A sustainable power supply is defined as one that reduces SMUD’s net long-term greenhouse gas (GHG) emissions to serve retail customer load to 350,000 tonnes (10% of its 1990 carbon dioxide emission levels) by 2050, while assuring reliability of the system, minimizing environmental impacts on land, habitat, water quality, and air quality, and maintaining a competitive position relative to other California electricity providers. In reducing its net GHG emissions, SMUD will utilize energy efficiency, renewable and net carbon free resources, including large hydroelectric resources and biogas. SMUD may also use offsets to support these goals to the extent their use is cost effective and beneficial to SMUD customers and the region.

To guide SMUD in its resource evaluation and investment, the Board sets the following interim goal:¹

Year	Net Greenhouse Gas Emissions (metric tonnes)
2020	2,318,000

In keeping with this policy, SMUD shall also achieve the following:

- a) SMUD’s goal is to achieve Energy Efficiency equal to 15% of retail load over the next 10-year period. On an annual basis, SMUD will achieve energy efficiency savings of 1.5% of the average annual retail energy sales over the three-year period ending with the current year.

To do this, SMUD will acquire as much cost effective and reliable energy efficiency as feasible through programs that optimize value across all customers. SMUD shall support additional energy efficiency acquisition by targeting one percent (1%) of retail revenues for above market costs associated with education, market transformation, and programs for hard to reach or higher cost customer segments. The market value of energy efficiency will include environmental attributes, local capacity value and other customer costs reduced by an efficiency measure.

- b) Provide dependable renewable resources to meet 33% of SMUD’s load by 2020, and 50% of its load by 2030, excluding additional renewable energy acquired for certain customer programs. In acquiring renewable resources, SMUD shall emphasize local and regional environmental benefits.

¹ Note: This goal does not take into account the potential impacts of the electrification of transportation.

- c) Promote cost effective, clean distributed generation through SMUD programs.

SD-10

To assure SMUD’s long-term competitiveness and its ability to deliver innovative products and services, SMUD shall invest in research and development projects that support its core and key values, based on an analysis of the projects’ relative risks and their potential benefits to SMUD customers.

SD-11

Supporting and strengthening the public power business model is a core value. Local decision making and flexibility are essential to effective and responsible local governance. Community-owned utilities are primarily accountable to customers, not stockholders. Community citizens have a direct voice in public power decisions.

Preservation of this business model is vital to ensure public power systems continue to provide innovative solutions tailored to best meet the needs of their customers and communities.

SD-12

Maintaining the public trust and confidence in the integrity and ethical conduct of the Board and SMUD employees is a core value. Therefore, to ensure the public interest is paramount in all official conduct, the Board shall adopt and update, as necessary: a Conflict of Interest Code as required by State law. SMUD shall also maintain and enforce a code of conduct applicable to all employees.

Among other things the code of conduct shall:

- a) Require high ethical standards in all aspects of official conduct;
- b) Establish clear guidelines for ethical standards and conduct by setting forth those acts that may be incompatible with the best interests of SMUD and the public;
- c) Require disclosure and reporting of potential conflicts of interest; and
- d) Provide a process for (i) reporting suspected violations of the code of conduct and policies through multiple channels, including an anonymous hotline, and (ii) investigating suspected violations.

SD-13

Promoting the economic vitality of our region and the growth of our customer base is a key value of SMUD. Therefore, SMUD shall exercise strategic leadership and actively participate in regional economic development.

Specifically:

- a) SMUD shall promote innovation while maintaining rate affordability and balancing the other strategic directions.
- b) SMUD shall align its economic development activities with regional economic development initiatives.
- c) SMUD shall assist in retaining, recruiting and growing commercial and industrial rate-paying customers.

- d) SMUD shall offer economic development rates and program incentives.
- e) SMUD shall offer a contracting program for certified small businesses who are rate-paying customers.

SD-14

As a community-owned utility, SMUD recognizes that the relocation or underground placement of primary voltage power lines may be desirable to local jurisdictions to improve aesthetics, economic vitality, safety and disabled access. Therefore, it is a key value of SMUD to make selected distribution system enhancements, such as permanent relocation or underground placement of primary power lines below 69 kV.

- a) SMUD will, at its expense and where technically feasible, permanently relocate or underground existing overhead distribution facilities provided the governing body of the city or county in which the electric facilities are and will be located has:
 - i) Identified, after consultation with SMUD, a specific system enhancement project;
 - ii) Determined the project is in the public interest;
 - iii) Ensured all existing overhead communication facilities related to the project will also be permanently relocated or placed underground;
 - iv) Obtained and provided SMUD with all easements necessary for the project.
- b) After achievement of core financial targets, SMUD will annually commit up to one-half of one percent of its annual gross electric sales revenue to system enhancements. The proposed projects will be subject to the SMUD's annual budget approval process, and uncommitted funds from any given year will not be carried over to future years. Funding will be assigned to projects brought forward by local cities or counties based on applying the following criteria (not in order of preference):
 - i) Project scale and/or cost when measured against available District resources.
 - ii) Requesting entity has developed full scope, obtained all necessary easements, and development plan for customer service conversion from overhead to underground, as required.
 - iii) Extent to which the costs are borne by others.

SD-15

Providing broad outreach and communication to SMUD's customers and the community is a key value of SMUD.

Specifically:

- a) SMUD shall provide its customers the information, education and tools they need to best manage their energy use according to their needs.
- b) SMUD will use an integrated and consistent communication strategy that recognizes the unique customer segments that SMUD serves.

c) SMUD’s communication and community outreach activities shall reflect the diversity of the communities we serve. SMUD shall use a broad mix of communication channels to reach all customer segments. This communication shall be designed to ensure that all groups are aware of SMUD’s major decisions and programs.

SD-16

Proper management of cyber and physical information, as well as physical security, is a core value. Robust information management and physical security practices are critical to effective risk management and to ensure regulatory compliance, business resiliency and customer satisfaction. SMUD shall take prudent and reasonable measures to accomplish the following:

- a) Information Security: SMUD will protect customer, employee and third party information, and SMUD information systems are protected from unauthorized access, use, disclosure, disruption, modification, or destruction.
- b) Physical Security: SMUD will safeguard its employees while at work as well as customers and visitors at SMUD facilities. SMUD will also protect its facilities and functions that support the reliability of the electric system and overall operation of the organization from unauthorized access or disruption or business operations.
- c) Customer Privacy: SMUD will annually notify customers about the collection, use and dissemination of sensitive and confidential customer information. Except as provided by law or for a business purpose, SMUD will not disseminate sensitive and confidential customer information to a third party for non-SMUD business purposes unless the customer first consents to the release of the information. Where sensitive and confidential information is disseminated for a business purpose, SMUD will ensure: (i) the third party has robust information practices to protect the sensitive and confidential customer information, and (ii) use of the information by the third party is limited to SMUD’s business purpose. SMUD will maintain a process that identifies the business purposes for which SMUD will collect, use and disseminate sensitive and confidential customer information.
- d) Records Management: SMUD will maintain the efficient and systematic control of the creation, capture, identification, receipt, maintenance, use, disposition, and destruction of SMUD records, in accordance with legal requirements and Board policies.

SD-17

Effectively balancing and managing risk to further SMUD’s policies and business goals is a core value of SMUD.

Therefore:

SMUD will implement and maintain an integrated enterprise risk management process that identifies, assesses, prudently manages and mitigates a variety of risks facing SMUD, including financial, supply, operational, physical security, climate change, legal, legislative and regulatory, and reputational risk.

SD-18

New technologies enable multi-directional customer business relationships. These technologies include, but are not limited to, distributed generation, storage, electricity used as transportation fuel, micro grids and future smart grid applications. SMUD shall integrate emerging technologies into SMUD's customer offerings in a way that balances risk and opportunity in order to benefit our community.

SD-19

Broadening and diversifying the products and services that SMUD offers is a key value. The desired results are to: a) generate new revenues that contribute to SMUD's long-term financial health; b) spur the creation of innovative products and services; c) capture the value of SMUD's brand and intellectual property; d) better leverage and optimize SMUD's assets; and e) enable SMUD to continue to attract and retain a talented workforce.

Therefore:

a) SMUD shall broaden and diversify its lines of business, which may include:

i) Being an external service provider;

ii) Expanding wholesale energy market opportunities;

iii) Capitalizing on intellectual property and assets to develop products and services either solely or through strategic partnerships;

iv) Selling products and services aligned with SMUD's purpose and Strategic Directions.

b) SMUD shall ensure any new lines of business:

i) Benefit SMUD's customers and our community;

ii) Achieve a balanced, diversified portfolio of rewards and risks;

iii) Create economic value without compromising SMUD's financial health;

iv) Do not pose unreasonable risk to SMUD's reputation;

v) Align with, leverage, and optimize SMUD's strengths, assets and expertise;

vi) Position SMUD for the future.

Compliance

Introduction

California voters approved Proposition 26 in November 2010, and that measure provides that every “levy, charge, or exaction of any kind imposed by a local government” is treated as a tax subject to voter approval, with exceptions discussed below. (Cal. Const., art. XIII C, § 1, subd. (e).) Proposition 26 therefore applies only to charges that are “imposed” by local government. SMUD rates are not “imposed” on customers for purposes of Proposition 26, because that language requires some exercise of government force or authority, which is not involved when a public agency such as SMUD provides services to customers in a competitive market. SMUD customers pay only for the voluntary use of service, and they have meaningful alternatives to that service, such as solar, hydro, fuel cell, wind and geothermal power.

Proposition 26 Does Not Apply to SMUD Rates

Although Proposition 26 therefore does not govern SMUD electric rates, the rate structure developed for this Chief Executive and General Manager’s Report and Recommendation on Rates and Services (“Report”) complies with Proposition 26, which includes seven exceptions that treat certain charges imposed by local government agencies as fees rather than taxes, four of which are relevant to SMUD charges.

Cost-Justified Fees for Benefits and Services

First, charges for benefits conferred upon the payor, or for specific government services provided directly to the payor, are excepted under Cal. Const., art. XIII C, subdivisions (e)(1) and (e)(2), respectively, provided that the charge does not exceed the reasonable cost of providing that benefit or service. The proposed rate adjustments are based upon cost of service principles, because these adjustments bring charges closer to recovering the cost of service and the extent to which they exceed cost is the result of grandfathered rate-making legislative choices which predate Proposition 26 which it does not disturb.

The cost-of-service analysis which demonstrates the cost-justification for the rates now in place is the SMUD Rate Costing Study (September 2016) and is incorporated herein by this reference.

Proposed Adjustments

The four rate proposals in this Report include: 1) expansion of the Economic Development (ED) Rate for certain eligible commercial customers, 2) waiver of Rule 16 developer fees for certain eligible

customers 3) proration of the System Infrastructure Fixed Charge (SIFC), and 4) amendment to the Hydro Generation Adjustment rate.

1) Economic Development Rate

The current ED Rate program was originally adopted on April 19, 2001 by Board Resolution No. 01-04-19, and amended on July 16, 2015 by Board Resolution No. 15-07-06. This program provides power at discounted rates to users who promote the economic development objectives of SMUD. The current ED Rate provides a temporary discount from the standard rate for commercial/industrial customers with a demand of at least 300 kW who create or retain a minimum of 50 new jobs and add load at a new or expanded site, or establish at least 25 jobs for customers located in a high unemployment and poverty area in SMUD's service territory. If a customer agrees to be a full-service customer for five years, SMUD will provide a 5% discount in year one, a 3% discount in year two, a 1 % discount in year three, and no discount for the last two years. SMUD limits eligibility for the economic development rate to those customers in fourteen North American Industrial Classification System (NAICS) designations.

The Report proposes four main changes to the ED Rate. First, the Report proposes to increase the rate discount and provide two options for discounts, one option providing a starting discount of 6% which decreases during the latter part of the term, and the second option providing a fixed 4.5% discount over the entire term. For customers in disadvantaged communities, the first option would start at 8% and decrease during term, while the second option is fixed at 6% over the entire term. Secondly, the Report proposes to extend the contract term from five years to ten years. Third, the Report proposes to eliminate the NAICS designations for eligibility. And fourth, the Report proposes to remove the jobs requirements.

SMUD historically has over-recovered costs from rates paid by commercial/industrial customers with a demand of at least 300 kW and its policy to do so is pre-Proposition 26 legislation that is grandfathered by the measure, as that legislation existed in November 2010. SMUD's existing rates for the commercial/industrial customers that are eligible for the ED discount all exceed the cost of service consistently with that pre-Proposition 26 policy, and therefore comply with Proposition 26. The proposed changes to the ED rate reduce restrictions and broaden the number of customers who are eligible to receive the discount. However, even under the ED Rate, these customers will still be paying above their cost of service as permitted by pre-Proposition 26 legislative choices which survive it. Consequently, because the proposed rate changes decrease the extent to which newly eligible customers pay more than the cost of service (i.e., bringing them closer to service cost), they do not violate Proposition 26.

Finally, because the ED rate applies only when customers voluntarily enroll in this program, these rates are not "imposed" for purposes of Proposition 26.

2) Rule 16 Fees

As part of SMUD's economic development objectives, the Report proposes a new demand-based fee waiver under its Rule 16 non-residential development fee program that may be taken in addition to the ED rate discount (see number 1 above). The proposed change would allow for a \$125/kW offset to new commercial/industrial projects that have a demand of at least 300 kW.

The proposal applies to new load only and the offset amount will be recovered from that new load over time, because SMUD's existing rates for the commercial/industrial customers that are eligible for the fee offset exceed the cost of service, as permitted by a legislative policy that pre-dates Proposition 26. Moreover, to the extent that existing rates for customers receiving the waiver do not exceed the cost of service, the waiver will be funded by grandfathered rates that were in place prior to the adoption of Proposition 26. Thus, the proposal reflects a reasonable rate that brings eligible customers closer to the cost of service without increasing charges to existing customers.

Furthermore, while the proposed fee waiver reflects cost of service principles, fees assessed as a condition of property development, such as SMUD's Rule 16 fees, are not subject to Proposition 26. (Cal. Const. art. XIII C, §1, subd. (e)(6).)

3) Pro-ration of System Infrastructure Fixed Charge

The rates proposed to be adopted also include a proration of the residential System Infrastructure Fixed Charge (SIFC) for customer bills of less than 27 days as described in this Report. The proposed change will prorate the SIFC based on the number of days in the customer's billing period less than 27 days, which better reflects the cost of service.

4) Hydro Generation Adjustment

The current Hydro Generation Adjustment (HGA) rate schedule was adopted on May 15, 2008 by Board Resolution No. 08-05-11. The HGA established a mechanism to fund replacement wholesale energy when variation in precipitation affects SMUD's hydro generation. The Report proposes to raise the five percent cap to six percent of budgeted retail revenue from the Hydro Rate Stabilization Fund, remove requirement for refunding through the HGA, and cap precipitation at 80 inches for calculating the HGA transfer. These changes will provide a greater buffer in the event of more drastic weather patterns that are expected in the future, and therefore reducing the chances that HGA surcharge would be assessed to customers. Because the Hydro Rate Stabilization Fund is essentially a reserve that is used to stabilize rates in the event of drought, it may be funded by rate revenue as a cost of service. As this reflects a good faith, reasonable estimate of a cost to provide service, it may be recovered from rates consistently with Proposition 26.

Non-Cost-Justified Fees for Use of SMUD Property; Fines and Penalties

In addition to the exceptions applicable to charges for benefits and services, Proposition 26 also provides exceptions for the following categories of charges, which are not treated as taxes subject to voter approval: (1) charges for the use of government property and (2) fines and penalties. Cal. Const., art XIII C, § 1, subdivisions (e)(4) and (e)(5). Unlike charges for benefits and services, which cannot exceed the reasonable cost of providing those benefits and services, Proposition 26 does not limit charges for use of property and fines and penalties to the cost of service. Therefore, to the extent that SMUD's charges are for the use of SMUD property (such as wholesale rates) or fines and penalties (such as late-payment charges), those charges would comply with Proposition 26 if it applied (which, as explained above, it does not) even without a showing that such charges are limited to SMUD's costs.

Glossary

Core values

SMUD's core values are part of the Board's Strategic Direction and are a component of all solutions for meeting customers' electrical needs. SMUD core values include competitive rates, access to credit markets, reliability, customer relations, safety, environmental leadership, employee relations, resource planning, public power business model, ethics, information management and security, enterprise risk management, and emerging technologies.

Consumer Price Index (CPI)

Government-produced monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services.

Credit Markets

A financial market where participants buy and sell debt securities, usually in the form of bonds.

Days Cash On Hand

A financial metric that indicates the number of days of operating expenses that could be paid with the current cash available.

Disadvantaged Community

Areas with high unemployment and poverty, as determined by SB 535 Disadvantaged Community Designation under the Office of environmental Health and Hazard Assessment.

Distributed Generation

Distributed generation, also called on-site generation or decentralized generation, typically generates electricity from either sunlight or natural gas combustion. Distributed generation systems are small-scale power generation technologies (typically in the range of 3 to 10,000 kW) that may provide electricity directly for customer use onsite, or deliver electricity back into the distribution grid.

Diversified Demand

The estimated amount of power/load that a customer will use for a given project. Typically the actual total demand in kW is less than the total connected load. Based on that, SMUD diversifies, or reduces the estimated amount of power required for a given project. The per kW offset in rule 16 will be applied to the total estimated diversified load in kW that a customer will require to operate their business as determined by SMUD.

Energy Assistance Program Rate (EAPR)

A SMUD program that offers eligible low-income customers a discount on their monthly energy bills.

Energy Information Administration (EIA)

An independent agency within the U.S. Department of Energy that develops surveys, collects energy data, and analyzes and models energy issues.

Fixed Charge Coverage or Fixed Charge Ratio

The fixed charge ratio is a measure of cash flow available for debt service payments.

Key Values

Key Values, part of the Board's Strategic Direction, define SMUD's course of action regarding research and development, economic development, system enhancement, and outreach and communication.

Jobs Multiplier

The jobs multiplier effect is the economic benefit from additional jobs to an area from the money being spent in the local economy. Whenever one new job is created, additional new jobs may be created via additional demand for local goods and services. This multiplier effect helps contribute to a robust local economy. Each new employee needs housing, goods and services and electricity, which all contribute to local economic development and job creation.

Load

The amount of power carried by a utility system or subsystem, or the amount of power consumed by an electric device, at a specified time. Load may also be referred to as demand.

Load Service Capability

The maximum demand that can be served with all facilities in service while meeting all applicable reliability standards.

Marginal Cost

The economic concept of the change in total costs that result when output is increased or decreased by a single unit.

NAICS

North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. Information on this classification is available at www.census.gov.

Photovoltaic (PV)

Photovoltaic is a generation technology that uses semiconductors to convert solar radiation into electricity.

Rates book

A legal document that codifies prices and fees for SMUD electric rates.

Standard Customer Bill

Refers to customers who are on the standard residential rate and are not receiving any Energy Assistance Program Rate (EAPR) discount or the Medical Equipment Discount (MED).

Strategic Direction (SD)

Guidelines used by SMUD's Board of Directors in the decisions made about SMUD's policies and operations. The Board continually reviews and refines these guidelines to make sure SMUD will meet customer's energy needs, both now and in the future.

System Infrastructure Fixed Charge (SIFC)

A fixed monthly charge that helps cover the cost of infrastructure, including poles, lines, transformers, service drop and meter equipment, as well as billing and customer service expenses such as the contact center.

System Average Rate

Total retail revenue divided by the total kilowatt-hours sold.

Time-of-Day (TOD) Rate

SMUD name for a residential time-based rate that charges different prices based on the time-of-day electricity is used. With time-based rates such as the TOD (5-8 p.m. Peak) Rate, the price charged per kilowatt-hour depends on the time of day and reflects energy supply and demand. Power is typically most expensive between 5 and 8 p.m. on weekdays, especially in the summer, when heavy air-conditioning use causes spikes in electricity consumption.

Tariff

A schedule of prices and fees including terms, conditions, rules and regulations for any given electric service rate or electric rule. Tariff sheets are listed in the rates book, which is available on www.smud.org.

Time-of-Use (TOU)

Rates in which energy prices vary by season and time of day to better reflect costs. TOU is an acronym widely used in the electric utility industry that refers to electric rates that charges different prices by time period to reflect cost of providing service. At SMUD, for residential customers, it is called Time-of-Day.

Vacancy Rate

The percentage of all available units in a rental property that are vacant or unoccupied at a particular time.

Unaudited Financial Statistics

SMUD Retail Energy Sales Forecast

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Table 6 – SMUD Retail Energy Sales Forecast

SMUD Retail Energy Sales Forecast
Managed Monthly Megawatt Hours (MWh) by Rate Class

Year	Month	Residential		Agricultural	General Service					Street and Traffic	Night Lighting	Total Sales (MWh)
		Elec Heat	Std Heat		<=20 kW	21-299 kW	300-499 kW	500-999 kW	1000+ kW			
2019	1	133,967	307,666	2,386	67,462	147,058	50,125	69,438	176,801	4,543	289	959,735
	2	114,905	267,208	2,387	65,171	145,335	49,745	68,585	166,825	4,550	289	885,000
	3	91,434	239,992	2,388	60,814	143,987	49,540	68,130	167,552	4,557	288	828,682
	4	75,821	222,044	3,628	56,776	142,840	49,273	65,575	159,523	4,564	288	780,332
	5	70,891	231,237	5,849	57,143	146,629	50,263	67,550	160,272	4,571	288	794,693
	6	81,626	288,922	9,562	62,507	155,627	52,145	71,177	174,162	4,578	287	900,593
	7	100,111	373,504	11,974	68,576	170,395	55,232	74,427	179,508	4,585	287	1,038,599
	8	99,818	378,577	12,812	70,369	174,735	56,176	75,120	181,429	4,592	287	1,053,915
	9	95,385	354,738	10,267	67,892	169,063	55,359	75,056	179,922	4,598	286	1,012,566
	10	76,881	275,929	5,889	62,537	156,305	53,583	74,319	175,967	4,605	286	886,301
	11	75,387	236,880	3,519	57,737	145,211	51,431	70,652	170,430	4,611	286	816,144
	12	108,922	281,227	2,392	62,961	146,924	51,212	70,551	170,682	4,618	286	899,775
2020	1	131,063	303,597	2,390	67,654	148,121	50,747	69,360	181,507	4,625	284	959,348
	2	112,073	261,963	2,390	65,389	146,388	49,840	68,272	171,226	4,631	284	882,456
	3	92,494	243,430	2,477	63,226	150,231	51,173	69,410	177,661	4,804	293	855,199
	4	73,540	215,662	3,579	56,902	143,682	48,678	64,909	163,196	4,644	283	775,075
	5	68,622	224,325	5,977	57,246	147,413	49,429	66,733	163,967	4,651	282	788,645
	6	79,009	280,340	9,536	62,593	156,310	51,046	70,222	177,983	4,658	282	891,979
	7	97,262	364,727	12,071	68,652	171,135	54,235	73,483	183,010	4,664	282	1,029,521
	8	97,265	371,108	12,671	70,494	175,607	55,251	74,348	184,897	4,671	282	1,046,594
	9	92,933	347,588	10,115	68,066	170,019	54,594	74,521	183,705	4,677	281	1,006,499
	10	74,928	270,490	6,130	62,755	157,373	53,248	74,071	180,317	4,684	281	884,277
	11	73,466	232,008	3,593	58,006	146,363	51,324	70,575	174,918	4,690	281	815,224
	12	106,482	276,741	2,396	63,242	148,058	51,214	70,549	175,427	4,697	280	899,086

Pro Forma Tables

Table 7 – Pro Forma Consolidated Income Statement

PRO FORMA CONSOLIDATED INCOME STATEMENT 2018-2021 (\$ Millions)				
	2018 Budget	2019 Projection	2020 Projection	2021 Projection
Operating Revenues:				
Billed Sales*	1,433.2	1,429.5	1,475.0	1,512.5
EAPR/MED Discounts	(41.1)	(39.6)	(37.0)	(37.0)
Uncollectable Electric Sales	(5.4)	(5.3)	(5.3)	(5.3)
Net Sales	1,386.8	1,384.5	1,432.7	1,470.2
Other Revenue	33.5	32.7	33.0	33.0
Total Revenue	1,420.3	1,417.2	1,465.7	1,503.2
Operating Expenses:				
Commodity	435.1	448.8	461.8	437.9
Energy Operations	79.2	95.1	99.8	113.7
Energy Delivery	209.0	212.8	210.7	211.2
Customer/Community	113.7	123.2	126.7	132.1
Internal	43.1	51.4	51.7	51.4
Technology	37.5	46.9	41.7	42.2
Corporate	63.0	63.1	63.6	66.4
Public Good (excluding EAPR/MED Discount)	55.0	59.4	59.5	60.5
Total Operations	1,035.6	1,100.7	1,115.5	1,115.5
Depreciation, Depletion, and Amortization	199.9	232.0	251.3	257.9
Total Operating Expenses	1,235.5	1,332.8	1,366.8	1,373.4
Net Operating Income	184.8	84.4	98.8	129.8
Other (Income) Expenses:				
Interest Income and Other	(16.7)	(19.5)	(19.7)	(13.9)
Other Non Cash	(15.1)	(9.5)	(9.3)	(8.1)
Total Interest Income & Other	(31.8)	(29.0)	(29.0)	(22.1)
Interest Expense				
Interest Expense	87.5	83.2	100.6	115.1
Net Interest Charges	87.5	83.2	100.6	115.1
Change in net position - Net Income (Loss)	129.2	30.3	27.2	36.7
Cash Available for Fixed Debt Service				
	436.4	368.8	398.4	427.2
Interest Payments	97.5	100.8	114.8	127.0
Principal Payments	123.0	117.7	123.3	130.2
Total Fixed Debt Service	220.5	218.5	238.1	257.2
Fixed Charge Coverage Ratio	1.98	1.69	1.67	1.66

*Includes assumed 2.25% rate increase in 2020 & 2021.

Table 8 – Pro Forma Capital Expenditures

PRO FORMA CAPITAL EXPENDITURES 2018-2021 (\$ Millions)				
	2018 Budget	2019 Projection	2020 Projection	2021 Projection
Energy Operations	13.2	10.2	47.6	159.1
Energy Delivery	283.9	299.0	327.8	256.6
Customer/Community	3.3	4.5	4.7	4.8
Internal	88.2	51.7	22.1	63.4
Technology	72.4	69.3	65.3	57.1
Corporate	42.9	-	-	-
Total Capital	503.9	434.7	467.6	541.0

Table 9 – Pro Forma Consolidated Sources and Uses of Cash

PRO FORMA CONSOLIDATED SOURCES AND USES OF CASH 2018-2021 (\$ Millions)				
	2018 Budget	2019 Projection	2020 Projection	2021 Projection
Operating Sources of Funds:				
Receipt from Customers	1,386.8	1,384.5	1,432.6	1,470.2
Recommended Revenue Adjustment			-	-
Other Electric Revenue	35.7	41.6	41.9	35.8
Total Operating Sources of Funds:	1,422.4	1,426.0	1,474.6	1,506.0
Operating Uses of Funds:				
Net Operating Expenses	591.8	644.4	647.2	672.0
Commodity Expenses	405.6	420.5	435.0	411.0
Total Operating Uses of Funds:	997.4	1,064.9	1,082.2	1,083.0
Net Source of Funds from Operations:	425.1	361.2	392.4	423.0
Financing Sources of Funds:				
Issuance of Debt	200.0	250.0	300.0	350.0
Total Financing Sources of Funds:	200.0	250.0	300.0	350.0
Financing Uses of Funds:				
Capital & Reserve Expenditures	504.4	434.7	467.6	541.0
Principal Payments on Debt	115.8	110.5	117.3	124.3
Net Loans	2.7	1.4	1.6	1.8
Interest Payments on Debt	96.1	90.7	107.1	120.6
Total Use of Funds from Financing:	719.0	637.4	693.5	787.7
Net Use of Funds from Financing:	519.0	387.4	393.5	437.7
Investing Sources of Funds:				
Interest Income	12.1	8.3	8.4	8.7
Net Source of Funds from Investing:	12.1	8.3	8.4	8.7
Net Source/ (Use) of Funds	(81.8)	(17.9)	7.2	(6.0)

Annual Sales Data Tables

Table 10 – Annual Sales Data by Rate Schedule – 2016

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
ANNUAL SALES DATA BY RATE SCHEDULE - 2016
UNAUDITED**

RATE CATEGORY	2016 MONTHLY AVERAGE OF CUSTOMERS (a)	BILLED THIS YEAR		ESTIMATED UNBILLED - DEC. 31, 2016	
		KWH	REVENUE	KWH	REVENUE
AGRICULTURAL					
AOD	4	259,006	46,577.51	873	1,001.41
AON	4	54,379	6,581.59	0	0.00
ASD	542	52,832,266	6,526,809.31	1,899,160	272,548.48
ASN	1,892	19,991,530	2,816,177.34	529,009	81,527.99
ASN-BH	1	21,840	2,866.28	1,950	245.31
(b) Various*	0	0	(90.04)	0	0.00
TOTAL AGRICULTURAL	2,444	73,159,021	9,398,921.99	2,430,992	355,323.19
COMMERCIAL AND INDUSTRIAL					
SMALL					
GEV_FC	4	37,174	6,415.41	0	0.00
GFN	466	64,623	56,846.41	2,834	2,658.61
GSN	1	20,125	3,358.46	0	0.00
GSN_T	55,352	761,094,447	111,996,765.23	43,459,835	6,347,789.33
(b) Various*	0	(24,739,000)	(1,288,084.44)	0	0.00
TOTAL SMALL	55,822	736,477,369	110,775,301.07	43,462,669	6,350,447.94
LARGE					
GSS_S	0	(2,482)	(381.12)	0	0.00
GSS_T	7,833	1,806,911,513	244,016,887.32	104,191,571	13,887,389.88
GUP_S	64	27,634,068	3,882,130.37	1,710,805	185,624.64
GUS_S	404	551,826,094	69,079,403.29	33,996,131	3,490,951.67
Sub-total	8,301	2,386,369,193	316,978,039.86	139,898,507	17,563,966.19
GUP_M	13	22,906,459	2,716,545.15	1,726,546	168,300.45
GUS_M	224	554,338,161	65,058,812.68	33,468,649	3,249,398.16
GUT_M	4	3,104,562	419,979.81	203,369	24,782.58
Sub-total	241	580,349,182	68,195,337.64	35,398,564	3,442,481.19
GDT_99	2	121,005,659	10,150,075.33	9,325,594	726,406.88
GNT_05	2	209,396,873	17,772,110.71	7,188,215	607,492.25
GNT_06	0	3,525,883	380,162.90	1,041,016	113,003.11
GNT_07	0	14,907,305	1,822,000.49	7,530,203	815,730.52
GUP_L	39	367,991,291	38,553,141.01	20,805,859	2,006,354.26
GUS_L	91	632,124,010	73,230,373.10	36,251,287	3,807,575.44
GUT_L	22	565,088,892	55,706,166.06	37,631,962	3,403,086.71
GUT_L19	1	700,128	655,793.34	0	54,289.00
(b) Various*	0	0	(894,737.21)	0	0.00
Sub-total	158	1,914,739,841	197,175,085.73	119,774,136	11,533,938.17
TOTAL LARGE	8,700	4,881,458,216	582,348,463.23	295,071,207	32,540,385.55
TOTAL COMMERCIAL AND INDUSTRIAL	64,522	5,617,935,585	693,123,764.30	338,533,876	38,890,833.49
STREET LIGHTS					
SL_CODM	40	729,997	98,822.66	21,266	2,859.87
SL_COM	312	44,865,705	3,566,586.22	1,624,337	126,947.95
SL_COM_M	70	333,816	31,898.83	30,707	3,017.03
SL_DOM	647	6,124,127	2,541,889.50	197,899	89,004.57
SL_TSF	6	622,560	106,488.15	17,260	2,998.86
(b) Various*	0	0	(1,475.99)	0	0.00
TOTAL STREET LIGHTS	1,076	52,676,205	6,344,209.17	1,891,469	224,828.28
INTERSECTION LGHT					
TS	1,779	5,771,118	676,729.87	404,033	46,678.39
TS_F	53	75,804	10,757.21	3,028	454.34
(b) Various*	0	0	0.00	0	0.00
TOTAL INTERSECTION LIGHTS	1,832	5,846,922	687,487.08	407,061	47,132.73
NIGHT LIGHTS					
NLGT @	4,637	3,682,669	1,157,817.43	172,149	54,793.07
(b) Various*	0	0	0.00	0	0.00
TOTAL NIGHT LIGHTS	4,637	3,682,669	1,157,817.43	172,149	54,793.07

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
ANNUAL SALES DATA BY RATE SCHEDULE - 2016
UNAUDITED**

	RATE CATEGORY	2016 MONTHLY AVERAGE OF CUSTOMERS (a)	BILLED THIS YEAR		ESTIMATED UNBILLED - DEC. 31, 2016	
			KWH	REVENUE	KWH	REVENUE
RESIDENTIAL	RPEV_1	542	7,985,567	988,719.24	390,851	46,242.31
	RSCH	11,657	132,845,200	17,863,433.46	7,974,547	969,926.14
	RSCH_E	1,220	12,087,024	1,096,866.08	679,238	56,556.68
RESIDENTIAL	RSCH_E_SP	30	263,933	22,661.40	14,680	1,198.02
	RSCH_EL	88	1,042,561	80,272.23	67,806	5,222.33
	RSCH_L	187	2,430,467	285,340.89	148,044	15,481.13
	RSCH_SP	210	2,295,531	306,689.35	138,098	16,960.95
	RSEH	77,507	659,423,230	95,674,992.92	39,045,760	5,276,306.38
	RSEH_E	25,625	212,193,553	19,437,001.84	11,240,728	958,802.76
	RSEH_E_SP	261	2,287,356	209,149.61	113,626	9,839.98
	RSEH_EL	1,140	10,662,252	794,353.71	607,588	40,807.13
	RSEH_L	682	7,738,876	941,768.05	461,232	50,922.14
	RSEH_SP	507	4,944,440	684,737.44	291,720	37,872.42
	RSMM	92	29,296,169	3,800,758.41	1,648,933	213,119.48
	RTCH	0	14,264	1,652.60	0	0.00
	RTE5	0	20,759	2,370.20	0	0.00
	RTEH	5	240,285	27,601.50	0	0.00
	RTEV4S	0	479	39.03	0	0.00
	RWCH	1,557	27,010,243	3,529,342.18	1,924,884	225,029.64
	RWCH_E	81	1,293,871	119,193.38	94,795	8,537.48
	RWCH_E_SP	3	48,922	4,139.85	2,818	247.29
	RWCH_EL	6	90,465	7,360.20	6,427	441.82
	RWCH_L	28	541,929	64,847.24	35,360	3,837.52
	RWCH_SP	28	456,719	58,470.00	35,417	4,185.37
	RWEH	2,468	42,953,442	5,860,958.39	3,189,640	408,237.09
	RWEH_E	255	4,582,480	447,005.93	298,647	25,185.08
	RWEH_E_SP	4	69,853	6,198.77	3,814	299.06
	RWEH_EL	9	189,721	18,558.42	13,181	1,102.17
	RWEH_L	39	722,462	88,508.59	57,296	6,105.11
	RWEH_SP	31	483,981	63,351.81	35,858	4,477.70
	(b) Various*	0	0	0.00	0	0.00
	Sub-total	124,258	1,164,216,034	152,486,342.72	68,520,988	8,386,943.18
	RSGH	342,594	2,857,291,628	431,929,516.71	142,343,943	21,073,754.46
	RSGH_E	66,301	489,534,888	46,832,765.07	22,072,053	1,947,563.52
	RSGH_E_SP	876	6,347,696	590,995.55	265,813	23,270.19
	RSGH_EL	2,842	24,900,921	1,948,288.52	1,171,289	79,937.07
	RSGH_L	3,854	39,515,184	5,052,705.22	1,948,435	237,272.36
	RSGH_SP	3,913	32,868,728	4,805,000.10	1,610,795	231,066.64
	RTG5	1	74,847	8,893.56	0	0.00
	RTGH	9	224,497	26,515.53	0	0.00
	RWGH	3,505	48,293,364	6,096,931.18	3,208,147	440,788.51
	RWGH_E	292	3,779,588	380,914.24	250,660	23,690.88
	RWGH_E_SP	5	69,911	6,158.85	4,502	382.44
	RWGH_EL	12	204,754	18,959.60	14,243	1,284.28
	RWGH_L	54	734,430	94,152.17	54,571	5,918.19
	RWGH_SP	44	546,786	74,105.93	32,221	4,223.74
	(b) Various*	0	0	(2,838,326.59)	0	0.00
	Subtotal	424,302	3,504,387,222	495,927,575.64	172,976,672	24,069,152.28
	RT01	1,162	10,299,339	1,380,942.69	997,175	125,332.14
	RT01_E	48	310,868	32,605.77	36,473	3,874.82
	RT01_EL	2	16,186	426.08	1,347	49.85
	RT01_L	14	125,613	15,051.01	15,344	1,599.57
	(b) Various*	0	0	0.00	0	0.00
	(d) Subtotal	1,226	10,752,006	1,429,026	1,050,339	130,856.38
TOTAL RESIDENTIAL		549,787	4,679,355,262	649,842,944	242,547,999	32,586,951.84
TOTAL ALL CLASSES	(c)	624,297	10,432,655,664	1,360,555,144	585,983,546	72,159,862.60

(a) Customer count is defined as the number of active electric contracts per the Monthly General Ledger Balancing Report, excluding SMUD properties.

(b) Manual adjustments to billings and other adjustments.

(c) Night Light customers contracts are included in "Total All Classes" count beginning in 2016.

(d) New time of use rate categories beginning in January 2016.

Table 11 – Annual Sales Data by Rate Schedule – 2017

SACRAMENTO MUNICIPAL UTILITY DISTRICT
ANNUAL SALES DATA BY RATE SCHEDULE - 2017
UNAUDITED

	RATE CATEGORY	2017 MONTHLY AVERAGE OF CUSTOMERS (a)	BILLED THIS YEAR		ESTIMATED UNBILLED - DEC. 31, 2017		
			KWH	REVENUE	KWH	REVENUE	
AGRICULTURAL	AOD	4	252,933	46,509.54	2,675	818.38	
	AON	4	54,509	6,756.96	0	0.00	
	ASD	538	50,605,198	6,419,100.30	1,864,229	274,503.23	
	ASN	1,883	19,263,334	2,781,855.90	528,794	82,157.38	
	ASN-BH	1	18,160	2,452.69	1,385	180.41	
	(b) Various	0	0	(194.18)	0	0.00	
TOTAL AGRICULTURAL		2,430	70,194,134	9,256,481.21	2,397,083	357,659.40	
COMMERCIAL AND INDUSTRIAL							
SMALL	GEV_FC	9	66,604	13,933.96	0	0.00	
	GFN	468	70,163	58,401.60	3,573	3,625.61	
	GSN	1	6,347	994.96	0	0.00	
	GSN_T	55,397	771,632,610	115,114,433.30	40,847,826	6,104,829.28	
	GSN_1	0	0	0.00	0	0.00	
	GSN_2	0	0	0.00	0	0.00	
	GSN_3	0	0	0.00	0	0.00	
	GT4S1	0	0	0.00	0	0.00	
	(b) Various	0	(48,790,000)	(2,102,978.68)	0	0.00	
	TOTAL SMALL		55,875	722,985,724	113,084,785.14	40,851,399	6,108,454.89
LARGE	GSS_S	0	0	0.00	0	0.00	
	GSS_T	7,986	1,838,371,751	253,088,889.73	104,444,053	14,446,228.78	
	GSS_S1	0	0	0.00	0	0.00	
	GSS_S2	0	0	0.00	0	0.00	
	GT4S2	0	0	0.00	0	0.00	
	GUP_S	63	27,724,858	3,847,123.22	1,945,309	212,642.55	
	GUS_S	409	549,286,416	70,596,036.47	34,142,899	3,633,503.68	
	GUS_S1	0	0	0.00	0	0.00	
	GUS_S2	0	0	0.00	0	0.00	
	Sub-total	8,458	2,415,383,025	327,532,049.42	140,532,261	18,292,375.01	
	GUP_M	14	22,092,353	2,755,584.91	1,473,035	148,077.86	
	GUP_M1	0	0	0.00	0	0.00	
	GUS_M	226	548,000,760	66,159,313.16	32,597,296	3,297,112.56	
	GUS_M1	0	0	0.00	0	0.00	
	GUS_M2	0	0	0.00	0	0.00	
	GUT_M	5	3,011,769	483,605.88	200,888	37,227.09	
	Sub-total	244	573,104,882	69,398,503.95	34,271,219	3,482,417.51	
	GDT_99	2	121,441,023	10,379,568.84	10,400,326	834,570.75	
	GNT_04	0	0	0.00	0	0.00	
	GNT_05	2	279,143,320	23,534,652.05	4,517,869	368,566.40	
	GNT_06	1	10,138,806	1,444,331.60	820,170	130,126.26	
	GNT_07	1	91,214,107	10,896,111.32	7,062,059	788,603.18	
	GUP_L	36	351,261,758	38,061,713.20	23,512,007	2,337,132.14	
	GUP_L1	0	0	0.00	0	0.00	
	GUS_L	92	559,512,312	66,479,306.63	35,522,562	3,844,710.58	
	GUS_L1	0	0	0.00	0	0.00	
	GUS_L2	0	0	0.00	0	0.00	
	GUT_L	22	561,714,025	56,770,944.35	43,573,184	4,043,734.59	
	GUT_L19	1	2,568,677	828,595.18	0	52,989.00	
	GUT_L2	0	0	0.00	0	0.00	
	GUT_L99	0	0	0.00	0	0.00	
	(b) Various	0	0	(1,532,631.71)	0	0.00	
	Sub-total	158	1,976,994,028	206,862,591.46	125,408,177	12,400,432.90	
	TOTAL LARGE		8,861	4,965,481,935	603,793,144.83	300,211,657	34,175,225.42
	TOTAL COMMERCIAL AND INDUSTRIAL		64,735	5,688,467,659	716,877,929.97	341,063,056	40,283,680.31
STREET LIGHTS	SL_CODM	39	696,634	97,038.93	22,647	3,214.08	
	SL_COM	314	41,641,819	3,264,555.99	1,686,084	134,858.61	
	SL_COM_M	118	545,564	54,141.95	38,005	3,846.44	
	SL_DOM	638	4,930,410	2,375,420.60	199,607	98,746.53	
	SL_TSF	6	536,910	90,551.89	17,002	2,930.44	
	(b) Various	0	0	(4,558.00)	0	0.00	
TOTAL STREET LIGHTS		1,115	48,351,337	5,877,151.36	1,963,346	243,596.10	
INTERSECTION LGHT	TS	1,803	5,845,979	699,094.89	386,681	45,744.95	
	TS_F	53	74,520	10,835.08	4,296	623.92	
	(b) Various	0	0	0.00	0	0.00	
TOTAL INTERSECTION LIGHTS		1,856	5,920,499	709,929.97	390,977	46,368.87	
NIGHT LIGHTS	NLGT	4,532	3,595,827	1,137,327.53	199,897	63,802.77	
	(b) Various	0	0	0.00	0	0.00	
TOTAL NIGHT LIGHTS	(c)	4,532	3,595,827	1,137,327.53	199,897	63,802.77	

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
ANNUAL SALES DATA BY RATE SCHEDULE - 2017
UNAUDITED**

	RATE CATEGORY	2017 MONTHLY AVERAGE OF CUSTOMERS (a)	BILLED THIS YEAR		ESTIMATED UNBILLED - DEC. 31, 2017	
			KWH	REVENUE	KWH	REVENUE
RESIDENTIAL	RPEV_1	464	7,131,495	904,984.58	318,971	39,886.88
	RSCH	11,046	133,690,761	18,678,795.04	6,747,277	897,137.96
	RSCH_E	1,077	11,141,565	1,093,580.01	503,590	46,936.19
	RSCH_E_SP	27	250,103	23,373.22	10,799	981.81
	RSCH_EL	92	1,095,582	93,437.27	55,203	4,791.60
	RSCH_L	177	2,391,484	293,826.49	122,969	14,345.74
	RSCH_SP	168	2,038,682	278,992.69	100,048	13,402.43
	RSEH	80,014	726,932,489	107,395,086.75	36,051,550	5,201,467.82
	RSEH_E	23,641	203,529,792	19,743,807.81	9,131,983	829,053.77
	RSEH_E_SP	199	1,770,800	166,896.46	71,342	6,583.35
	RSEH_EL	1,159	10,818,118	854,813.74	525,107	37,618.91
	RSEH_L	730	8,714,775	1,091,094.37	456,682	54,091.67
	RSEH_SP	397	4,110,107	580,834.36	199,315	27,829.86
	RSMM	92	31,997,996	4,429,232.59	1,470,069	200,459.64
	RWCH	1,478	27,201,606	3,608,709.90	1,646,955	205,186.34
	RWCH_E	73	1,275,267	124,940.20	83,838	8,170.15
	RWCH_E_SP	2	29,335	2,720.37	2,236	220.78
	RWCH_EL	5	84,494	7,140.37	5,463	428.40
	RWCH_L	26	517,662	63,338.40	32,827	3,845.48
	RWCH_SP	28	474,632	62,598.32	30,350	3,929.16
	RWEH	2,562	48,677,807	6,461,991.89	2,941,930	373,112.79
	RWEH_E	212	4,016,975	396,029.03	211,688	18,795.35
	RWEH_E_SP	5	72,087	6,710.54	4,232	355.17
	RWEH_EL	10	213,481	19,491.16	10,306	858.76
	RWEH_L	34	765,908	96,004.65	48,572	6,747.73
	RWEH_SP	26	472,494	62,053.44	30,486	3,977.05
	(b) Various	0	0	0.00	0	0.00
	Sub-total	123,745	1,229,415,497	166,540,483.65	60,813,788	8,000,214.79
	RSGH	350,161	3,094,380,911	463,594,046.34	136,857,495	20,589,862.65
	RSGH_E	60,807	461,127,746	45,232,372.48	18,613,707	1,661,663.68
	RSGH_E_SP	626	4,663,424	443,134.20	194,019	17,263.90
	RSGH_EL	2,828	25,273,004	2,021,137.86	1,083,180	71,137.61
	RSGH_L	4,054	42,531,234	5,460,115.92	1,940,322	237,402.06
	RSGH_SP	3,126	27,811,689	4,078,626.63	1,329,622	196,004.38
	RWGH	3,531	52,101,445	7,221,469.27	3,084,804	411,962.49
	RWGH_E	263	3,689,581	359,111.31	203,214	17,563.59
	RWGH_E_SP	4	49,478	4,340.78	3,732	311.94
	RWGH_EL	12	226,284	21,136.51	12,139	993.11
	RWGH_L	59	881,522	111,632.98	59,107	8,037.71
	RWGH_SP	41	525,840	71,793.84	30,796	4,247.63
	(b) Various*	0	0	(1,557,758.10)	0	0.00
	Subtotal	425,511	3,713,262,158	527,061,160.02	163,412,137	23,216,450.75
	RT01	3,239	28,675,781	3,812,944.06	2,497,868	346,033.53
	RT01_E	135	1,127,638	110,889.35	91,818	7,525.68
	RT01_EL	8	57,306	4,166.34	9,228	780.74
	RT01_L	39	394,383	49,294.55	31,993	3,041.27
	(b) Various	0	0	0.00	0	0.00
	Subtotal	3,422	30,255,108	3,977,294	2,630,907	357,381.22
TOTAL RESIDENTIAL		552,678	4,972,932,763	697,578,938	226,856,832	31,574,046.76
TOTAL ALL CLASSES	(c)	627,345	10,789,462,219	1,431,437,758	572,871,190	72,569,154.21

(a) Customer count is defined as the number of active electric contracts per the Monthly General Ledger Balancing Report, excluding SMUD properties.

(b) Manual adjustments to billings and other adjustments.

(c) Night Light customers contracts are included in "Total All Classes" count beginning in 2016.

Appendix 1

Rates, Rules and Regulations

**2018-2021
Rates, Rules and
Regulations**

Table of Contents

The following listed sheets contain all effective rates, rules and regulations affecting rates and service, and information relating thereto, in effect on and after the date indicated. All rates are applicable to the territory served by SMUD.

	<u>Effective Date</u>	<u>Sheet Number</u>	<u>Page Number</u>
Rate Schedules and Rules & Regulations			
EDR Economic Development.....	Dec 31, 2019	1-EDR-1-2	1
Rule 16 Extension of Facilities to Nonresidential Premises	Sept 21, 2018	2-16-1-3	3
R Residential Service	Jan 1, 2019	1-R-1-4	6
R-TOD Residential Time-Of-Day Service	Jan 1, 2019	1-R-TOD-1-4	10
EAPR Residential and General Service Energy Assistance Program Rate.....	Jan 1, 2019	1-EAPR-1-2	14
EAPR Residential and General Service Energy Assistance Program Rate.....	Jan 1, 2020	1-EAPR-1-2	16
EAPR Residential and General Service Energy Assistance Program Rate.....	Jan 1, 2021	1-EAPR-1-2	18
HGA Hydro Generation Adjustment	Jan 1, 2019	1-HGA-1-2	20

Economic Development Rate Schedule EDR

I. Applicability

This Rate Schedule EDR is available to qualifying commercial customers locating, expanding, or retaining business in SMUD’s service territory with a maximum demand of at least 300 kW on a single meter that meet all eligible criteria. This Rate Schedule EDR is effective no later than December 31, 2019, and when effective it replaces the 2019 Rate Schedule EDR at that time.

II. Eligibility

- A. Eligible customers are those taking service under Rate Schedules GS-TOU1, GS-TOU2 or GS-TOU3.
- B. Third party verification by a leading Sacramento area economic development organization will validate the legitimacy of the attraction, retention or expansion effort. The following criteria may be considered in the decision process:
 - 1. Alternative locations under consideration (within and outside of California)
 - 2. Workforce requirements
 - 3. Other tax or cash incentives
 - 4. Logistical requirements
 - 5. Infrastructure or site improvement costs
 - 6. Timeline for creating new load and jobs

III. Pricing Structures

- A. Eligible customers have two options (either Option A or B) to receive a reduction of the System Infrastructure Fixed Charge, Site Infrastructure Charge, Summer Super Peak Demand Charge and electricity usage charges on their bill, based on the table below.

<i>Economic Development Discount</i>										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Option A	6.0%	6.0%	6.0%	6.0%	6.0%	5.0%	4.0%	3.0%	2.0%	1.0%
Option B	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%

- B. Eligible customers locating in areas of high unemployment and poverty as determined by the Disadvantaged Community designation under the California Office of Environmental Health and Hazard Assessment have two options (either Option A or B) to receive a reduction of the System Infrastructure Fixed Charge, Site Infrastructure Charge, Summer Super Peak Demand Charge and electricity usage charges on their bill, based on the table below.

<i>Disadvantaged Communities Economic Development Discount</i>										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Option A	8.0%	8.0%	8.0%	8.0%	8.0%	6.5%	5.0%	3.5%	2.0%	0.5%
Option B	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%

IV. Conditions of Service

- A. Customers must execute an Economic Development Rate (EDR) Option Agreement for ten years commencing on the agreement effective date.

Economic Development Rate Schedule EDR

- B.** New customers must apply for the EDR option prior to commencement of service with SMUD. Temporary service is not eligible for the EDR option. Applicants will have 12 months from the agreement date to reach the maximum demand of at least 300 kW load requirement. The effective start date for the EDR for new customers is the date of the first meter read for billing after three consecutive months with a maximum demand of at least 300 kW.
- C.** Existing customers must apply for the EDR option prior to the installation of new load with only additional load qualifying for the EDR. Existing customers specify in the Economic Development Rate Option Agreement the date when the new load will be added. The effective start date of the EDR is the first billing period following the specified date of load addition.
- D.** Retention customers will require the execution of a certificate by a company executive and/or owner certifying that the company is exploring other locations and electricity costs are a factor in its decision to do business in a location. The certification requires review and verification by a senior executive of a leading Sacramento area economic development organization. Retention customers specify in the Economic Development Rate Option Agreement the date when the existing load will be retained with only the portion of load deemed likely to relocate or cease operations qualifying for the EDR. The effective start date is the first billing period with the EDR following the specified date of the retained load.

(End)

Extension of Facilities to Nonresidential Premises Rule and Regulation 16

I. Conditions of Service

Applicants for new and upgraded electric service will be required to provide SMUD sufficient advance notice so that service can be rendered by the time such service is desired. By applying for or accepting service from SMUD, a customer agrees to abide by all of SMUD's rates, rules and regulations concerning such service, to provide any rights of way across the customer's own property that SMUD may deem necessary to supply such service, and to cooperate with SMUD in its construction and maintenance of the facilities needed for such service. SMUD may bill the customer for any costs resulting from the customer's failure to comply with the provisions of this paragraph. This rule and regulation shall also apply to public agencies and developments with both nonresidential and residential mixed-use electric service.

II. Extensions of SMUD Distribution Facilities

Line extensions of electric distribution facilities to the boundary of a nonresidential development (at standard voltages specified in Rule and Regulation 2) will normally be constructed, owned, and maintained by SMUD at its expense. Line extensions will be subject to the provisions of SMUD's rules and regulations and the provisions of the applicable rates.

III. Overhead Distribution Facilities within a Development

Generally, overhead facilities will not be extended into new developments. However, when they are extended SMUD will construct, own, and maintain all necessary overhead facilities required to provide service.

IV. Underground Distribution Facilities within a Development

The developer of a nonresidential development will, in accordance with SMUD's specifications:

- a. Perform all necessary excavating and backfilling, including furnishing of any imported backfill material required.
- b. Furnish and install the underground duct system (including necessary conduits, ducts, manholes, vaults, switchgear, pads, and concrete encasement of conduit where required).
- c. Transfer ownership of such facilities to SMUD upon acceptance by SMUD. In the case of approved residential high rise construction, ownership and maintenance of secondary to final service voltage equipment within the customer's building will remain the responsibility of the customer. The customer shall provide open and free access to SMUD meters in designated panel locations throughout the building.
- d. The developer will deposit with SMUD 100 percent of the Cost of SMUD-installed facilities upon completion of the system design and prior to system installation. At the discretion of SMUD, Cost may be determined by application of standard unit costing or by job specific estimates. Standard unit costing may be reviewed and updated at SMUD's discretion. SMUD may extend at its option, financing terms for no longer than 12 months for no more than 50 percent of the Cost. Availability of the financing option will depend on the financial viability and credit-worthiness of the firm, as determined by SMUD. These costs are limited to SMUD's costs of providing distribution facilities within the boundaries of the development and the development-related distribution facilities adjacent to the development. For customers with connected loads of 1 megawatt and greater, these costs will include costs related to the last transformation before delivery to the customer, whether that transformation is from an off-site distribution substation or an on-site SMUD-dedicated substation. SMUD will supply, install, own, and maintain all conductors, switchgear, transformers, and related equipment for the secondary and primary distribution system.
- e. If the applicant does not, within 12 months from the date on which SMUD provided a commitment for service, complete construction so that SMUD facilities can be installed, work authorizations under this rule may be canceled along with any related jobs. The on-site development cost shall be subject to increase in accordance with any change in this rule.
- f. Pay SMUD a nonrefundable design fee at the time of project submittal to SMUD. SMUD may require additional fees as needed to accommodate change-orders or unanticipated design costs.

Extension of Facilities to Nonresidential Premises Rule and Regulation 16

V. SMUD Cost for Distribution Systems

The developer of a non-residential development with an estimated demand of at least 300kW as determined by SMUD is eligible for certain offsets of costs in accordance with the following specifications:

- a. Based on Section IV(D), SMUD will supply, install, own, and maintain all conductors, transformers, and related equipment for the secondary and primary distribution system.
- b. SMUD will apply a Per kW Offset Amount to offset the developer Cost for the SMUD-installed facilities and distribution system.
- c. The estimated kW demand for the Per kW Offset Amount will be determined by SMUD based on diversified load.
- d. The developer furnished and installed underground duct system (including necessary conduits, ducts, manholes, vaults, equipment, pads, and concrete encasement of conduit where required), are not eligible for the Per kW Offset Amount.
- e. The developer will not receive more than 100% of the SMUD total cost for the SMUD-installed facilities and distribution system.
- f. The Per kW Offset Amount is determined by SMUD annually based on system impact and budget.

VI. Service at Secondary Voltage

A. Overhead Service

In those areas where it has been determined that SMUD will continue to serve its customer's overhead distribution and where SMUD's distribution pole line is located on a street, highway, lane, alley, road, or private easement immediately contiguous to the customer's premises, SMUD will, at its expense, furnish and install a service drop from its pole line to the nearest point of attachment to the customer's building or other permanent support provided by the customer, at a point to be approved by SMUD.

B. Underground Service

In designated underground areas, SMUD will connect to underground service runs furnished and installed by the customer, at the customer's expense, at a service location specified by SMUD. Service run facilities shall include conductor to reach the service location, shall be subject to applicable City and County ordinances, and shall be subject to approval by SMUD as to design and specifications. No customer will be required to install facilities beyond a location in the public utility right of way adjacent to his or her property. Cost recovery of underground distribution facilities within a development will conform to the provisions of section IV. of this Rule and Regulation.

VII. Service at Primary or Subtransmission Voltage

Wherever adequate service to a customer requires and where, in SMUD's judgment, it is desirable and practicable to do so, SMUD will install on the customer's premises a primary or subtransmission voltage supply line. This supply line will extend to the metering installations or other terminal point, as designated by SMUD.

A. Overhead Conductors

Where the supply line is to be overhead, SMUD will, at its expense, furnish and install the entire line and will make the necessary connections.

B. Underground Conductors

Where the customer requests and SMUD agrees, or where SMUD determines that the primary or subtransmission voltage supply line be underground or otherwise in conduit, in whole or in part, the customer shall furnish and install the entire conduit system including manholes, pull boxes, and pull wires as designated by SMUD. All such facilities shall be subject to approval by SMUD as to design and specifications. No customer will be required to install facilities beyond a location in the public utility right of way adjacent to the customer's property. SMUD will furnish and install the electrical conductors and make the necessary connections. Cost recovery of underground distribution facilities within a development will conform to the provisions of section IV. of this Rule and Regulation.

Extension of Facilities to Nonresidential Premises Rule and Regulation 16

VIII. Service Connections

SMUD will not connect to any one building more than one service for each voltage classification, either overhead or underground, except for SMUD's operating convenience, or where, in SMUD's judgment, such additional services may be warranted because of the load requirements, or where the customer is required by law to install emergency lighting facilities. Connections of such service to or disconnection of such service from SMUD's lines shall be made only by authorized SMUD employees.

IX. Requests for Change in Service Voltage

Where the customer requests and SMUD consents, a change in service voltage may occur provided that all SMUD costs including unrecovered costs less salvage value, relocation costs, and site restoration costs are at the requesting customer's expense. Such change may involve all voltage level classes as defined under the applicable general service rate schedule.

X. Extensions for Temporary Service

Extension for temporary service will be made under the provisions of Rule and Regulation 13, Temporary Service.

XI. SMUD Ownership of Facilities, Right of Access, and Right of Way

All facilities installed on a customer's premises, including but not limited to conductors, transformer, poles, meters, etc., which SMUD furnishes in order to render electric service, shall remain the sole property of SMUD. SMUD will maintain such facilities and shall have the right of access to the customer's premises, without payment of any charge or rent therefore, at all reasonable hours for any purpose related to the furnishing of electric service. This shall include but is not limited to meter reading, testing, inspection, construction, maintenance, and repair of facilities. Upon termination of service, and for a reasonable period thereafter, SMUD shall have the right of access to the customer's premises to remove its facilities installed thereon. The customer shall grant to SMUD rights of way and rights of access, satisfactory to SMUD, for the installation and maintenance of the necessary electrical conductors and their connections.

XII. Service to Annexation Customers

SMUD will maintain existing service conductor previously installed by Pacific Gas and Electric Company to commercial/industrial services until such time as the customer modifies, alters, or changes the existing electrical service equipment. It will be the customer's responsibility to provide additional duct when necessary.

XIII. Customer Responsibility for Facilities

A. SMUD Facilities

The customer shall exercise reasonable care to prevent facilities of SMUD installed on the customer's premises from being damaged or destroyed and shall refrain from tampering or interfering with such facilities, and if any defect therein is discovered by the customer, the customer shall promptly notify SMUD thereof.

B. Customer Facilities

The customer shall be solely responsible for the transmission and delivery of all electric energy over or through the customer's wires and equipment, and SMUD shall not be responsible for any loss or damage occasioned thereby. The customer shall be responsible for the installation and maintenance of all facilities not transferred to SMUD ownership, including customer-owned conduits, manholes, and vaults.

(End)

Residential Service Rate Schedule R

I. Applicability

This Rate Schedule 1-R applies to single- and three-phase service for the following types of residential premises:

1. Individually metered residences including single-family homes, duplexes, apartments, and condominiums; and
2. General farm service where the meter also serves the residence or additional meters on a farm where the electricity consumed is solely for domestic purposes; and
3. Master-metered service to a qualifying multifamily accommodation or mobile home park that is submetered to all single-family units or individual mobile homes.

For the purposes of this schedule a “month” is considered to be a single billing period of 27 to 34 days.

A. Fixed Rate (rate category RF01)

1. The Fixed Rate is the alternative rate to SMUD’s Time-of-Day (TOD) (5-8 p.m.) Rate (rate category RT02) under Rate Schedule R-TOD.
2. The Fixed Rate is required for customers serviced with analog meters and digital non-communicating meters. These customers will transition to the Fixed rate as determined by SMUD no later than December 31, 2019
3. Customers who have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD after December 31, 2017 are not eligible to enroll in the Fixed Rate.
4. Customers who have master meters, including those enrolled on the RSMM rate category, are not eligible to enroll in the Fixed Rate.

B. Legacy Rate (rate categories RSCH, RWCH, RSEH, RWEH, RSGH and RWGH) Closed

1. The Legacy Rate is closed for enrollment to all residential customers who do not have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD before January 1, 2018.
2. The Legacy rate will no longer be an available rate option to residential customers once a customer has been transitioned to the TOD (5-8 p.m.) Rate. Eligible customers can elect the Fixed Rate under Rate Schedule R as an alternative rate.
3. Customers who have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD before January 1, 2018, and are enrolled on the Legacy Rate may remain on this closed rate until December 31, 2022. If an eligible generation facility customer in this rate category elects an open rate, the customer cannot return to the Legacy Rate.
4. Customers in the Legacy Rate who do not have an eligible renewable electrical generation facility under Rate Schedule 1-NEM, will gradually transition as determined by SMUD to the TOD (5-8 p.m.) Rate (rate category RT02) under Rate Schedule R-TOD, if eligible, as early as September 1, 2018, and no later than December 31, 2019.
5. All other existing customers not eligible for Rate Schedule R-TOD will transition to the alternative Fixed Rate under this Rate Schedule R no later than December 31, 2019.
6. Customers with wells will begin transitioning to Rate Schedule R-TOD in January 2019.

C. Master-Metered Multifamily Accommodation and Mobile Home Park Billing (Rate Category RSMM)

1. This rate is closed to new customers unless SMUD determines that it is not reasonable or feasible to provide service and meter the individual units directly.

Residential Service Rate Schedule R

2. The master-metered customer's electricity consumption will be billed using the total kWh usage of the master-meter divided by the number of occupied single-family accommodations. The billing calculation will include applicable discounts to all kWh Usage Charges and System Infrastructure Fixed Charge (SIFC) for qualifying energy assistance and medical equipment discount program participants. The customer must advise SMUD within 15 days following any change in the number of occupied single-family accommodations wired for electric service.
3. Master-metered customers on the Legacy Rate (rate categories RSCH, RWCH, RSEH, RWEH, RSGH and RWGH) will be transitioned to the new rate category RSMM no later than December 31, 2019.

II. Firm Service Rates

A. Fixed Rate Customers (rate categories RF01)

Non-Summer Season* – October 1 through May 31

System Infrastructure Fixed Charge per month \$20.30

Electricity Usage Charge:

All kWh usage per month \$/kWh \$0.1032

Summer Season – June 1 through September 30

System Infrastructure Fixed Charge per month \$20.30

Electricity Usage Charge:

All kWh usage per month \$/kWh \$0.1649

* Non-Summer Season includes Fall (Oct 1 – Nov 30), Winter (Dec 1 – Mar 31) and Spring (Apr 1 – May 31) periods.

B. Legacy Rate Customers (rate categories RSCH, RWCH, RSEH, RWEH, RSGH, RWGH) Closed

Winter Season* – October 1 through May 31

System Infrastructure Fixed Charge per month \$20.30

Electricity Usage Charge:

All kWh usage per month \$/kWh \$0.1145

Summer Season – June 1 through September 30

System Infrastructure Fixed Charge per month \$20.30

Electricity Usage Charge:

All kWh usage per month \$/kWh \$0.1310

* All seasons with the exclusion of summer (June 1 – September 30), include the following residential Smart Pricing Pilot rate categories: RSCH_SP, RSEH_SP, RSGH_SP, RWCH_SP, RWEH_SP, and RWGH_SP. Winter Season includes Fall (Oct 1 – Nov 30) and Spring (Apr 1 – May 31) periods for Electric Heat rate customers (RSCH, RWCH, RSEH, RWEH).

C. Master-Metered Multifamily Accommodation and Mobile Home Park Billing (Rate Category RSMM) Closed

Non-Summer Season* – October 1 through May 31

System Infrastructure Fixed Charge per month \$20.30

Electricity Usage Charge:

All kWh usage per month \$/kWh \$0.1145

Residential Service Rate Schedule R

Summer Season – June 1 through September 30

System Infrastructure Fixed Charge per month \$20.30

Electricity Usage Charge:

All kWh usage per month \$/kWh \$0.1310

* Non-Summer Season includes Fall (Oct 1 – Nov 30), Winter (Dec 1 – Mar 31) and Spring (Apr 1 – May 31) periods.

III. Electricity Usage Surcharges

Refer to the following rate schedules for details on electricity usage surcharges that apply to all kWh.

A. Hydro Generation Adjustment (HGA). Refer to Rate Schedule 1–HGA.

IV. Rate Option Menu

A. Energy Assistance Program. Refer to Rate Schedule 1–EAPR.

B. Medical Equipment Discount Program. Refer to Rate Schedule 1–MED.

C. Joint Participation in Medical Equipment Discount and Energy Assistance Programs. Refer to Rate Schedule 1–MED.

D. Time-of-Day Rate. Refer to Rate Schedule 1- R-TOD.

E. Generator Standby Service Option

Generator Standby Service applies when all of the following conditions are met:

1. The customer has generation, sited on the customer’s premises, that serves all or part of the customer’s load; and
2. The generator(s) are not fueled by a renewable resource; and
3. The generator(s) have a combined nameplate rating of less than 100 kW; and
4. The generator(s) are connected to SMUD’s electrical system; and
5. SMUD is required to have resources available to provide supplemental service, backup electricity and/or to supply electricity during generator(s) maintenance service.

Generator Standby Charge January 1 through December 31

\$/kW of Contract Capacity per month.....\$6.67

In addition to the Generator Standby Charge, SMUD will continue to bill for all applicable charges under this rate. These charges include SIFC and electricity usage charges for SMUD-provided power.

The Generator Standby Charge will be waived for qualifying net metered generation. Refer to Rate Schedule 1-NEM.

F. Net Energy Metering Option. Refer to Rate Schedule 1-NEM.

G. Green Pricing Options

1. SMUD Community Solar Option

Under this premium service option, customers elect to contribute monthly payments toward opportunities to use solar power to educate our community about the importance of renewable energy through partnering with schools, non-profit

Residential Service Rate Schedule R

organizations and low-income housing. Refer to the SMUD website, www.smud.org, for further information on monthly contribution options and currently identified projects.

2. SMUD Renewable Energy Option

Customers electing power service will receive an additional monthly electricity usage charge of no less than 1/4 cent and no greater than 3 cents per kWh. SMUD may offer multiple rate options representing various blends of renewable resources and/or renewable energy credits within the rate range. The actual prices will be published each November on www.smud.org and will be based on the expected above market cost of renewable resources for the upcoming year. Participation will be limited to the amount of resources that SMUD is able to secure at or below the 3 cent limit.

3. Fixed Greenergy® Fee Options

Customers may opt to support SMUD renewable energy purchases through one of the following monthly fees:

Greenergy Partner Plus – 100%	\$6.00
Greenergy Partner Plus – 50%	\$3.00

H. Special Metering Charge

For customers who purchase and install additional equipment and software identified by SMUD meter specialists as necessary for load data collection and transfer to electronic media outside SMUD, SMUD will charge a monthly service fee to cover maintenance, software support and licensing fees. Payment for this nonstandard equipment and service will be made through provisions in Rule and Regulation 2, Section IV. Special Facilities. The fee schedule is available at SMUD’s website, www.smud.org.

I. Plug-In Electric Vehicle (PEV) Option. Refer to Rate Schedule 1-R-TOD.

J. Residential Three-Phase Service Option

This option is open to customers located in areas where three-phase service is available. A Special Facilities fee is charged to cover the additional costs for providing this service. This charge is in addition to the SIFC.

Three-Phase Service – January 1 through December 31

Special Facilities fee per month.....	\$43.60
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V. Billing

KWh usage may be prorated for nonstandard billing periods, when billing period spans a price change, and/or when the billing period spans more than one season. Effective as early as June 1, 2019 and no later than December 31, 2019, the monthly SIFC will be prorated when the bill period is shorter than 27 days. The following table shows the basis for the proration in these circumstances.

Billing Circumstance	Basis for Proration
Bill period is shorter than 27 days (SIFC and kWh)	Relationship between the length of the billing period and 30 days.
Bill period is longer than 34 days (kWh)	
Seasons overlap and price changes within bill period	Relationship between the length of the billing period and the number of days that fall within the respective season or pricing periods.

(End)

Residential Time-of-Day Service Rate Schedule R-TOD

I. Applicability

This Rate Schedule 1-R-TOD applies to single- and three-phase service for the following types of residential premises:

1. Individual or dual metered residences with digital communicating meter installed, including single-family homes, duplexes, apartments, and condominiums; and
2. General farm service where the meter also serves the residence or additional meters on a farm where the electricity consumed is solely for domestic purposes.

Master-metered service to a qualifying multifamily accommodation or mobile home parks are not eligible for Time-of-Day rates under rate schedule R-TOD.

For the purposes of this schedule a “month” is considered to be a single billing period of 27 to 34 days.

A. Time-of-Day (5-8 p.m.) Rate (rate category RT02)

1. The TOD (5-8 p.m.) Rate is the standard rate for SMUD’s residential customers. Customers who have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD after December 31, 2017 must be on the TOD (5-8 p.m.) Rate.
2. Existing eligible customers on the Legacy Rate, with rate categories RSCH, RWCH, RSEH, RWEH, RSGH and RWGH under Rate Schedule R, will gradually transition as determined by SMUD to the TOD (5-8 p.m.) Rate beginning the first full billing cycle in January 2019, and complete transition no later than December 31, 2019.
3. After being transitioned to the TOD (5-8 p.m.) Rate, eligible customers can elect the Fixed Rate under Rate Schedule R as an alternative rate.
4. Customers who move-in or transfer service to premises with an eligible renewable electrical generation facility after December 31, 2017 must be on the TOD (5-8 p.m.) Rate.
5. This rate has five kilowatt-hour (kWh) prices, depending on the time-of-day and season as shown below. Holidays are detailed in Section V. Conditions of Service.

Summer (Jun 1 - Sept 30)	Peak	Weekdays between 5:00 p.m. and 8:00 p.m.
	Mid-Peak	Weekdays between noon and midnight except during the Peak hours.
	Off-Peak	All other hours, including weekends and the holidays ¹ .
Non-Summer (Oct 1 - May 31)	Peak	Weekdays between 5:00 p.m. and 8:00 p.m.
	Off-Peak	All other hours, including weekends and holidays ¹ .

¹ See Section V. Conditions of Service

B. Optional Time-of-Day (4-7 p.m.) Rate (rate category RT01) Closed

1. The TOD (4-7 p.m.) Rate is closed for enrollment to residential customers who did not have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD before January 1, 2018.
2. Customers who have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD before January 1, 2018, and are enrolled on the TOD (4-7 p.m.) Rate may remain on this closed rate until December 31, 2022.
3. The TOD (4-7 p.m.) Rate will terminate for customers with an eligible renewable electrical generation facility under Rate Schedule 1-NEM on their first full billing cycle that closes in 2023, and customers will then transition to SMUD’s residential standard rate.
4. If a customer with an eligible renewable electrical generation facility under Rate Schedule 1-NEM on this rate category elects an open rate, the customer cannot return to the TOD (4-7 p.m.) Rate.

Residential Time-of-Day Service Rate Schedule R-TOD

5. Existing customers who have an eligible renewable electrical generation facility under Rate Schedule 1-NEM that was approved for installation by SMUD before January 1, 2018 may enroll in the TOD (5-8 p.m.) Rate at any time; however, once enrolled in the TOD (5-8 p.m.) Rate, the customer cannot return to the TOD (4-7 p.m.) Rate.
6. Existing customers on the TOD (4-7 p.m.) Rate who do not have an eligible renewable electrical generation facility under Rate Schedule 1-NEM will transition as determined by SMUD to the TOD (5-8 p.m.) Rate no later than December 31, 2019 and will no longer be eligible for the TOD (4-7 p.m.) Rate.
7. This rate has three kilowatt-hour (kWh) prices, depending on the time-of-day and season as shown below. Holidays are detailed in Section V. Conditions of Service.

Jun 1 - Sep 30	Summer Super Peak	Weekdays between 4:00 p.m. and 7:00 p.m.
Year-round (Jan 1 - Dec 31)	Peak	Weekdays between 9:00 a.m. and 9:00 p.m. except during the Summer Super Peak hours.
	Off-Peak	All other hours, including weekends and the holidays ¹ .

¹See Section V. Conditions of Service

II. Firm Service Rates

A. Time-of-Day (5-8 p.m.) Rate	Rate Category RT02
System Infrastructure Fixed Charge per month	\$20.30
Non-Summer Prices* – October 1 through May 31	
Electricity Usage Charge	
Peak \$/kWh	\$0.1338
Off-Peak \$/kWh	\$0.0969
Summer Prices - June 1 through September 30	
Electricity Usage Charge	
Peak \$/kWh	\$0.2835
Mid-Peak \$/kWh	\$0.1611
Off-Peak \$/kWh	\$0.1166

* Non-Summer Season includes Fall (Oct 1 – Nov 30), Winter (Dec 1 – Mar 31) and Spring (Apr 1 – May 31) periods.

B. Optional Time-of-Day(4-7 p.m.) Rate	Rate Category RT01
System Infrastructure Fixed Charge per month	\$20.30
Winter Prices – October 1 through May 31	
Electricity Usage Charge	
Peak \$/kWh	\$0.1481
Off-Peak \$/kWh	\$0.0853
Summer Prices - June 1 through September 30	
Electricity Usage Charge	
Summer Super Peak \$/kWh	\$0.3704
Peak \$/kWh	\$0.1481
Off-Peak \$/kWh	\$0.0853

Residential Time-of-Day Service Rate Schedule R-TOD

C. Plug-In Electric Vehicle Credit (rate categories RT02 and RT01)

This credit is for residential customers who have a licensed passenger battery electric plug-in or plug-in hybrid electric vehicles.

Credit applies to all electricity usage charges from midnight to 6:00 a.m. daily

Electric Vehicle Credit..... ~~-\$0.0150~~/kWh

III. Electricity Usage Surcharges

Refer to the following rate schedules for details on these surcharges.

A. Hydro Generation Adjustment (HGA). Refer to Rate Schedule 1–HGA.

IV. Rate Option Menu

A. Energy Assistance Program. Refer to Rate Schedule 1-EAPR.

B. Medical Equipment Discount Program. Refer to Rate Schedule 1-MED.

C. Joint Participation in Medical Equipment Discount and Energy Assistance Program. Refer to Rate Schedule 1-MED.

D. Generator Standby Service Option

Generator Standby Service applies when all of the following conditions are met:

1. The customer has generation, sited on the customer’s premises, that serves all or part of the customer’s load; and
2. The generator(s) are not fueled by a renewable resource; and
3. The generator(s) have a combined nameplate rating less than 100 kW; and
4. The generator(s) are connected to SMUD’s electrical system; and
5. SMUD is required to have resources available to provide supplemental service, backup electricity and/ or to supply electricity during generator(s) maintenance service.

Generator Standby Service – January 1 through December 31

\$/kW of Contract Capacity per month.....\$6.67

In addition to the Generator Standby Service Charge, SMUD will continue to bill for all applicable charges under the selected residential TOD rate. These charges include System Infrastructure Fixed Charges and electricity usage charges for SMUD-provided power. All energy provided to the customer by SMUD will be billed at the applicable residential TOD rates.

The Generator Standby Service Charge will be waived for qualifying net metered generation. Refer to Rate Schedule 1–NEM.

D. Net Energy Metering Option. Refer to Rate Schedule 1-NEM for further details.

E. Green Pricing Options

1. SMUD Community Solar Option

Under this premium service option, customers elect to contribute monthly payments toward opportunities to use solar power to educate our community about the importance of renewable energy through partnering with schools, non-profit organizations and low-income housing. Refer to the SMUD website, www.smud.org, for further information on monthly contribution options and currently identified projects.

2. SMUD Renewable Energy Option

Customers electing power service will receive an additional monthly electricity usage charge of no less than 1/4 cent and no greater than 3 cents per kWh. SMUD may offer multiple rate options representing various blends of renewable resources and/or renewable energy credits within the rate range. The actual prices will be published each November on www.smud.org and will be based on the expected above market cost of renewable resources for the upcoming year. Participation will be limited to the amount of resources that SMUD is able to secure at or below the 3 cent limit.

Residential Time-of-Day Service Rate Schedule R-TOD

3. Fixed Greenergy® Fee Options

Customers may opt to support SMUD renewable energy purchases through one of the following monthly fees:

Greenergy Partner Plus – 100%	\$6.00
Greenergy Partner Plus – 50%	\$3.00

F. Special Metering Charge

For customers who purchase and install additional equipment and software identified by SMUD meter specialists as necessary for load data collection and transfer to electronic media outside SMUD, SMUD will charge a monthly service fee to cover maintenance, software support and licensing fees. Payment for this nonstandard equipment and service will be made through provisions in Rule and Regulation 2, Section IV. Special Facilities. The fee schedule is available at SMUD’s website, www.smud.org.

G. Residential Three-Phase Service Option

This option applies to customers located in areas where three-phase service is available. A Special Facilities fee is charged to cover the additional costs for providing this service. This charge is in addition to the System Infrastructure Fixed Charge.

Three-Phase Service – January 1 through December 31

Special Facilities fee per month	\$43.60
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V. Conditions of Service

A. Time-of-Day Billing Periods

Off-Peak pricing shall apply during the following holidays:

<u>Holiday</u>	<u>Month</u>	<u>Date</u>
New Year’s Day	January	1
Martin Luther King Jr. Day	January	Third Monday
Lincoln’s Birthday	February	12
Presidents Day	February	Third Monday
Memorial Day	May	Last Monday
Independence Day	July	4
Labor Day	September	First Monday
Columbus Day	October	Second Monday
Veterans Day	November	11
Thanksgiving Day	November	Fourth Thursday
Christmas Day	December	25

VI. Billing

A. Proration of Charges

The electricity usage charge will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. Effective as early as June 1, 2019 and no later than December 31, 2019, the monthly System Infrastructure Fixed Charge will be prorated when the bill period is shorter than 27 days as shown in the following table.

Billing Circumstance	Basis for Proration
Bill period is shorter than 27 days	Relationship between the length of the billing period and 30 days.

(End)

Residential and General Service Energy Assistance Program Rate Schedule EAPR

I. Applicability

This Rate Schedule 1-EAPR applies to customers receiving service under residential or general service rates who meet specific eligibility requirements.

II. Eligibility for Residential Customers

Eligibility for the Energy Assistance Program (EAPR) is determined by the following:

- A. The total gross household income must conform to the Income Guidelines as specified on the application;
- B. The customer must not be claimed as a dependent on another person's income tax return; and
- C. The service address on the application must be the customer's primary residence.

III. Discount for Residential Customers

Eligible residential customers will receive a discount based on qualifying federal poverty level income guidelines beginning as early as the first full bill cycle in 2019. The EAPR discount will include two components:

1. A \$10 System Infrastructure Fixed Charge discount per month; and
2. An additional discount is applied as a 100% reduction in the electricity usage cost per kilowatt hour up to the maximum discount according to the following income guidelines:

Federal Poverty Level	2019 Maximum Electricity Usage Discount
0-50%	\$40
>50 to 100%	\$30
>100 to 150%	\$20
>150 to 200%	\$20

IV. Eligibility for Nonprofit Organizations

To be eligible for EAPR the nonprofit organization must meet the following requirements:

- A. The organization's qualifying site takes service directly from SMUD; and
- B. The organization meets the qualifications for a nonprofit public or private organization, as specified on the application; and
- C. The organization operates the qualifying site as residential unit(s) whose residents meet EAPR income guidelines.
 1. The primary function of the site shall be to provide a home (sleeping quarters) for low-income residents who would otherwise meet the residential EAPR guidelines defining low-income if permanently residing in a residence.
 2. In support of the primary function that is provided by the nonprofit organization, associated facilities that provide daytime services for the homeless (such as personal hygiene facilities, laundry facilities, kitchen and/or dining facilities, etc.) may also qualify for the discount. At least 75 percent of the facility's square footage must be directly related to meeting these functions.

An energy survey of the residential unit(s) is recommended at the time of being placed on this program and implementation of recommended cost-effective energy efficiency measures is encouraged.

V. Discount for Nonprofit Organization

All eligible non-profit organization accounts on a residential rate will receive the maximum residential discount.

Eligible commercial customers will receive discounts as follows:

Residential and General Service Energy Assistance Program Rate Schedule EAPR

- A. All eligible commercial customers will receive a discount of 15 percent of the Electricity Usage Charge (kWh), Site Infrastructure Charge (kW) and summer super peak demand charge (kW) each billing period.
- B. The GSN_T System Infrastructure Fixed Charge will receive a discount of 35 percent each billing period.
- C. The GSS_T System Infrastructure Fixed Charge will receive a discount of 35 percent each billing period.
- D. The General Service rate schedules GS-TOU1, GS-TOU2, GS-TOU3 System Infrastructure Fixed Charge will receive a 15 percent discount applied each billing period.

VI. Electricity Usage Surcharges

Refer to the following rate schedules for details on electricity usage surcharges that apply to all kWh.

- A. **Hydro Generation Adjustment (HGA).** Refer to Rate Schedule 1–HGA.

VII. Conditions of Service

A. Application

To qualify for EAPR, the customer must complete a SMUD application and submit requested supporting documents. Applications are processed by SMUD or SMUD’s designated agent.

Residential applications are available at SMUD’s website, www.smud.org, or by calling SMUD customer service at 1-888-742-7683.

Nonprofit organizations must provide a copy of a valid determination or ruling letter from the Internal Revenue Service attesting to their charitable nonprofit status. Nonprofit Organization applications are available by calling SMUD customer service at 1-888-742-7683.

B. Verification

Upon request, applicants shall provide proof, satisfactory to SMUD or its designated agent, that they meet the eligibility requirements. Failure to provide proof as requested will be considered just cause for denial to enroll in EAPR. It is the customer’s responsibility to immediately notify SMUD or its designated agent when eligibility requirements change to the extent that the applicant no longer qualifies for this program. Applicants served under this program may be subject to annual review and/or verification. Any intent to defraud SMUD will result in rebilling of the applicant’s bill and removal from EAPR. SMUD reserves the right to take appropriate legal action as warranted.

VIII. Billing

The effective date of EAPR will be the beginning of the billing period in which the request is approved. If participation is terminated, the effective termination date will be the beginning of the billing period in which the request is received or the cancellation date. The maximum electricity usage discount will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The discount may be reflected on the customer’s bill with a rate-based identifier code or line item description. Effective as early as June 1, 2019 and no later than December 31, 2019, the monthly System Infrastructure Fixed Charge discount will be prorated for bill periods shorter than 27 days as shown in the table below.

Billing Circumstance	Basis for Proration
Bill period is shorter than 27 days	Relationship between the length of the billing period and 30 days.

(End)

Residential and General Service Energy Assistance Program Rate Schedule EAPR

I. Applicability

This Rate Schedule 1-EAPR applies to customers receiving service under residential or general service rates who meet specific eligibility requirements.

II. Eligibility for Residential Customers

Eligibility for the Energy Assistance Program (EAPR) is determined by the following:

- A. The total gross household income must conform to the Income Guidelines as specified on the application;
- B. The customer must not be claimed as a dependent on another person's income tax return; and
- C. The service address on the application must be the customer's primary residence.

III. Discount for Residential Customers

Eligible residential customers will receive a discount based on qualifying federal poverty level income guidelines beginning as early as the first full bill cycle in 2020. The EAPR discount will include two components:

1. A \$10 System Infrastructure Fixed Charge discount per month; and
2. An additional discount is applied as a 100% reduction in the electricity usage cost per kilowatt hour up to the maximum discount according to the following income guidelines:

Federal Poverty Level	2020 Maximum Electricity Usage Discount
0-50%	\$50
>50 to 100%	\$31
>100 to 150%	\$15
>150 to 200%	\$10

IV. Eligibility for Nonprofit Organizations

To be eligible for EAPR the nonprofit organization must meet the following requirements:

- A. The organization's qualifying site takes service directly from SMUD; and
- B. The organization meets the qualifications for a nonprofit public or private organization, as specified on the application; and
- C. The organization operates the qualifying site as residential unit(s) whose residents meet EAPR income guidelines.
 1. The primary function of the site shall be to provide a home (sleeping quarters) for low-income residents who would otherwise meet the residential EAPR guidelines defining low-income if permanently residing in a residence.
 2. In support of the primary function that is provided by the nonprofit organization, associated facilities that provide daytime services for the homeless (such as personal hygiene facilities, laundry facilities, kitchen and/or dining facilities, etc.) may also qualify for the discount. At least 75 percent of the facility's square footage must be directly related to meeting these functions.

An energy survey of the residential unit(s) is recommended at the time of being placed on this program and implementation of recommended cost-effective energy efficiency measures is encouraged.

V. Discount for Nonprofit Organization

All eligible non-profit organization accounts on a residential rate will receive the maximum residential discount.

Eligible commercial customers will receive discounts as follows:

Residential and General Service Energy Assistance Program Rate Schedule EAPR

- A. All eligible commercial customers will receive a discount of 15 percent of the Electricity Usage Charge (kWh), Site Infrastructure Charge (kW) and summer super peak demand charge (kW) each billing period.
- B. The GSN_T System Infrastructure Fixed Charge will receive a discount of 35 percent each billing period.
- C. The GSS_T System Infrastructure Fixed Charge will receive a discount of 35 percent each billing period.
- D. The General Service rate schedules GS-TOU1, GS-TOU2, GS-TOU3 System Infrastructure Fixed Charge will receive a 15 percent discount applied each billing period.

VI. Electricity Usage Surcharges

Refer to the following rate schedules for details on electricity usage surcharges that apply to all kWh.

- A. **Hydro Generation Adjustment (HGA).** Refer to Rate Schedule 1–HGA.

VII. Conditions of Service

A. Application

To qualify for EAPR, the customer must complete a SMUD application and submit requested supporting documents. Applications are processed by SMUD or SMUD’s designated agent.

Residential applications are available at SMUD’s website, www.smud.org, or by calling SMUD customer service at 1-888-742-7683.

Nonprofit organizations must provide a copy of a valid determination or ruling letter from the Internal Revenue Service attesting to their charitable nonprofit status. Nonprofit Organization applications are available by calling SMUD customer service at 1-888-742-7683.

B. Verification

Upon request, applicants shall provide proof, satisfactory to SMUD or its designated agent, that they meet the eligibility requirements. Failure to provide proof as requested will be considered just cause for denial to enroll in EAPR. It is the customer’s responsibility to immediately notify SMUD or its designated agent when eligibility requirements change to the extent that the applicant no longer qualifies for this program. Applicants served under this program may be subject to annual review and/or verification. Any intent to defraud SMUD will result in rebilling of the applicant’s bill and removal from EAPR. SMUD reserves the right to take appropriate legal action as warranted.

VIII. Billing

The effective date of EAPR will be the beginning of the billing period in which the request is approved. If participation is terminated, the effective termination date will be the beginning of the billing period in which the request is received or the cancellation date. The maximum electricity usage discount will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The discount may be reflected on the customer’s bill with a rate-based identifier code or line item description. The monthly System Infrastructure Fixed Charge discount will be prorated for bill periods shorter than 27 days as shown in the table below.

Billing Circumstance	Basis for Proration
Bill period is shorter than 27 days	Relationship between the length of the billing period and 30 days.

(End)

Residential and General Service Energy Assistance Program Rate Schedule EAPR

I. Applicability

This Rate Schedule 1-EAPR applies to customers receiving service under residential or general service rates who meet specific eligibility requirements.

II. Eligibility for Residential Customers

Eligibility for the Energy Assistance Program (EAPR) is determined by the following:

- A. The total gross household income must conform to the Income Guidelines as specified on the application;
- B. The customer must not be claimed as a dependent on another person's income tax return; and
- C. The service address on the application must be the customer's primary residence.

III. Discount for Residential Customers

Eligible residential customers will receive a discount based on qualifying federal poverty level income guidelines beginning as early as the first full bill cycle in 2021. The EAPR discount will include two components:

- 1. A \$10 System Infrastructure Fixed Charge discount per month; and
- 2. An additional discount is applied as a 100% reduction in the electricity usage cost per kilowatt hour up to the maximum discount according to the following income guidelines:

Federal Poverty Level	2021 Maximum Electricity Usage Discount
0-50%	\$60
>50 to 100%	\$32
>100 to 150%	\$10
>150 to 200%	\$0

IV. Eligibility for Nonprofit Organizations

To be eligible for EAPR the nonprofit organization must meet the following requirements:

- A. The organization's qualifying site takes service directly from SMUD; and
- B. The organization meets the qualifications for a nonprofit public or private organization, as specified on the application; and
- C. The organization operates the qualifying site as residential unit(s) whose residents meet the EAPR income guidelines.
 - 1. The primary function of the site shall be to provide a home (sleeping quarters) for low-income residents who would otherwise meet the residential EAPR guidelines defining low-income if permanently residing in a residence.
 - 2. In support of the primary function that is provided by the nonprofit organization, associated facilities that provide daytime services for the homeless (such as personal hygiene facilities, laundry facilities, kitchen and/or dining facilities, etc.) may also qualify for the discount. At least 75 percent of the facility's square footage must be directly related to meeting these functions.

An energy survey of the residential unit(s) is recommended at the time of being placed on this program and implementation of recommended cost-effective energy efficiency measures is encouraged.

V. Discount for Nonprofit Organization

All eligible non-profit organization accounts on a residential rate will receive the maximum residential discount.

Eligible commercial customers will receive discounts as follows:

Residential and General Service Energy Assistance Program Rate Schedule EAPR

- A. All eligible commercial customers will receive a discount of 15 percent of the Electricity Usage Charge (kWh), Site Infrastructure Charge (kW) and summer super peak demand charge (kW) each billing period.
- B. The GSN_T System Infrastructure Fixed Charge will receive a discount of 35 percent each billing period.
- C. The GSS_T System Infrastructure Fixed Charge will receive a discount of 35 percent each billing period.
- D. The General Service rate schedules GS-TOU1, GS-TOU2, GS-TOU3 System Infrastructure Fixed Charge will receive a 15 percent discount applied each billing period.

VI. Electricity Usage Surcharges

Refer to the following rate schedules for details on electricity usage surcharges that apply to all kWh.

- A. **Hydro Generation Adjustment (HGA).** Refer to Rate Schedule 1–HGA.

VII. Conditions of Service

A. Application

To qualify for EAPR, the customer must complete a SMUD application and submit requested supporting documents. Applications are processed by SMUD or SMUD’s designated agent.

Residential applications are available at SMUD’s website, www.smud.org, or by calling SMUD customer service at 1-888-742-7683.

Nonprofit organizations must provide a copy of a valid determination or ruling letter from the Internal Revenue Service attesting to their charitable nonprofit status. Nonprofit Organization applications are available by calling SMUD customer service at 1-888-742-7683.

B. Verification

Upon request, applicants shall provide proof, satisfactory to SMUD or its designated agent, that they meet the eligibility requirements. Failure to provide proof as requested will be considered just cause for denial to enroll in EAPR. It is the customer’s responsibility to immediately notify SMUD or its designated agent when eligibility requirements change to the extent that the applicant no longer qualifies for this program. Applicants served under this program may be subject to annual review and/or verification. Any intent to defraud SMUD will result in rebilling of the applicant’s bill and removal from EAPR. SMUD reserves the right to take appropriate legal action as warranted.

VIII. Billing

The effective date of EAPR will be the beginning of the billing period in which the request is approved. If participation is terminated, the effective termination date will be the beginning of the billing period in which the request is received or the cancellation date. The maximum electricity usage discount will not be prorated, regardless of the number of days in the billing period or the spanning of multiple seasons. The discount may be reflected on the customer’s bill with a rate-based identifier code or line item description. The monthly System Infrastructure Fixed Charge discount will be prorated for bill periods shorter than 27 days as shown in the table below.

Billing Circumstance	Basis for Proration
Bill period is shorter than 27 days	Relationship between the length of the billing period and 30 days.

(End)

Hydro Generation Adjustment Rate Schedule HGA

I. Applicability

This Rate Schedule 1-HGA applies to all customers receiving retail electric service from SMUD. Annually, SMUD will calculate how the yearly variation of precipitation affects hydro generation from the Upper American River Project (UARP) and impacts the SMUD budget.

II. Conditions

- A. SMUD estimates that each inch of precipitation results in 35,000 megawatt hours (MWh) of generation.
- B. The HGA precipitation period begins April 1 of the previous year and ends on March 31 of the current year (Water Year).
- C. The actual inches of precipitation (AP) for each period shall be measured at the National Weather Service Pacific House Cooperative Observer measuring station or suitable replacement.
- D. The AP will be compared to the 50-year median (midpoint) inches of precipitation (MP) measured at Pacific House.
- E. The price of power delivered into the area designated as North Path 15 (NP15) will be used to determine the dollar impact of any excess or shortfall of energy. If NP15 is no longer available, then a suitable replacement will be used.
- F. The AP will be capped at a maximum of 80 inches per Water Year to accommodate for spill.

III. Budget Impact Determination

The following calculations will be used to determine SMUD's budget impact (BI) from precipitation variances:

A. Precipitation Variance

$$\text{Inches of Precipitation Variance } (\pm \text{IPV}) = \text{MP} - \text{AP}$$

The variance of precipitation equals the difference between the 50-year median and the actual inches of precipitation.

B. Generation Conversion

$$\pm \text{IPV} \quad \times \quad 35,000 \text{ MWh/inch} \quad = \quad \pm \text{MWh}$$

The variance of hydro generation, in megawatt hours, equals the inches of precipitation variance x 35,000 MWh/inch.

C. Calculation of Budget Effects

The market cost of energy is the simple average of the actual first quarter monthly NP15 prices as of April 1 and the second, third and fourth quarters monthly forecast NP15 prices. If NP15 is no longer available, then a suitable replacement will be used.

$$\pm \text{MWh} \quad \times \quad \text{market cost of energy } (\$/\text{MWh}) \quad = \quad \pm \text{budget impact } (\$)$$

IV. Hydro Rate Stabilization Fund

The BI will first be compared to the Hydro Rate Stabilization Fund (HRSF). In Water Years with above median precipitation, funds shall be deposited to the HRSF from Operating Revenues until the HRSF reaches a maximum of 6% of budgeted annual gross retail revenue, at which time subsequent excesses may be returned to the customer through the Hydro Generation Adjustment (HGA). In Water Years with below median precipitation, funds will be withdrawn from the HRSF and applied to Operating Revenues until the HRSF balance reaches zero, at which time the HGA will be levied as a surcharge on electricity usage.

V. Budget Impact Limitations

SACRAMENTO MUNICIPAL UTILITY DISTRICT
Resolution No. XX-XX-XX adopted September 20, 2018

Sheet No. 1-HGA-1
Effective: September 21, 2018
Edition: September 21, 2018

Hydro Generation Adjustment Rate Schedule HGA

The BI will not exceed ± 4 percent of budgeted annual gross retail revenue.

VI. Rate Charges

The HGA deposits into or transfers out of the Hydro Rate Stabilization Fund will be calculated as follows:

HRSF – BI = Calculated HRSF

- A. If Calculated HRSF is < 0

The Accountant will transfer the remaining balance of the HRSF to Operating Revenues and the HGA will be set at:

$$- \frac{\text{Calculated HRSF}}{\text{Budgeted calendar year retail kWh sales}} = \text{HGA}$$

- B. If Calculated HRSF is ≥ 0 and ≤ 6 percent of budgeted annual gross retail revenue:

The Accountant will transfer the positive BI out of the HRSF and into Operating Revenues and transfer the negative BI into the HRSF from Operating Revenues.

- C. If the Calculated HRSF is > 6 percent of budgeted annual gross retail revenue:

The Accountant will transfer the negative BI into the HRSF up to 6 percent of budgeted annual gross retail revenue. The Board may authorize the HGA or direct the funds for another purpose. At the Board's direction, the HGA will be set at:

$$- \frac{(\text{Calculated HRSF} - 6\% \text{ of budgeted annual gross retail revenue})}{\text{Budgeted calendar year retail kWh sales}} = \text{HGA}$$

VII. Application

The HGA became effective July 1, 2008. The HGA is recalculated for each Water Year and will be applied to the rate schedules May 1 until April 30 of the following year.

(End)

Audited Financial Statements

December 31, 2017 and 2016

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INDEPENDENT AUDITORS' REPORT

To the Board of Directors of
Sacramento Municipal Utility District
Sacramento, California

Report on the Financial Statements

We have audited the accompanying consolidated financial statements of Sacramento Municipal Utility District and its blended component units, which comprise the Consolidated Statements of Net Position as of December 31, 2017 and 2016, and the related Consolidated Statements of Revenues, Expenses and Changes in Net Position, and Consolidated Statements of Cash Flows for the years then ended and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control over financial reporting relevant to the Sacramento Municipal Utility District's preparation and fair presentation of the consolidated financial statements 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, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Sacramento Municipal Utility District and its blended component units at December 31, 2017 and 2016, and the changes in their financial position and their cash flows for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

Other Matter

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and Schedule of Funding Progress information as listed in the table of contents be presented to supplement the financial statements. Such information, although not a part of the consolidated financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the consolidated 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 consolidated financial statements, and other knowledge we obtained during our audit of the consolidated 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 will also issue a report on our consideration of Sacramento Municipal Utility District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements, and other matters. The purpose of that report is 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 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 Sacramento Municipal Utility District's internal control over financial reporting and compliance.

Baker Tilly Virchow Krause, LLP

Madison, Wisconsin
February 16, 2018

Sacramento Municipal Utility District Management's Discussion and Analysis (Unaudited)

Using this Financial Report

This annual financial report for Sacramento Municipal Utility District (SMUD) consists of management's discussion and analysis and the consolidated financial statements, including notes to the financial statements. The Consolidated 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, 2017 and 2016. This discussion and analysis should be read in conjunction with the consolidated financial statements and accompanying notes, which follow this section.

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

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

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

Nature of Operations

Under provisions of California's Municipal Utility District Act, the citizens of Sacramento voted in 1923 to form their own electric utility – SMUD. The independently run community-owned utility began operations on December 31, 1946 and is not subject to regulation or oversight by the California Public Utilities Commission. It is now the sixth largest community-owned electric utility in the nation.

Governed by an elected board of directors (Board), SMUD has the rights and powers to fix rates and charges for commodities and services it furnishes, incur indebtedness, and issue bonds or other obligations. 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. Its purpose is to enhance the quality of life for its customers and community through creative energy solutions. 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. In July 2015, the Board approved a 2.5 percent rate increase for both 2016 and 2017 to allow for additional investments in technology and infrastructure and declared its intent to make time-of-day (TOD) rates the default rate for

residential customers in 2018. In July 2017, the Board approved a 1 percent rate increase in both 2018 and 2019 for commercial customers and a 1.5 percent rate increase in 2018 for residential customers and approved the TOD rate as the standard rate for residential customers in 2019. TOD rates better align with the cost of providing electricity, send more accurate price signals to customers, and give customers the opportunity to better manage their electricity bills by shifting usage to lower-cost time periods. Even with these increases, SMUD's rates continue to remain amongst the lowest in the state. In 2017, the average system rate was 32 percent below the average rate of the nearest investor owned utility.

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 on a consolidated basis, taking into consideration the impact of capital expenditures and other factors on cash flow.

Financial & Operational Highlights

In 2017, SMUD focused on meeting customers' expectations for reliable, affordable and environmentally responsible energy, while adapting to a rapidly changing industry, technology advances and growing customer expectations. SMUD began implementing its 5-Year Strategic plan with an increased focus on operational excellence throughout the organization and embarked on exploring new business opportunities that open the door to new markets and revenue sources, such as providing Community Choice Aggregator services and launching the SMUD Energy Store. It experienced the strongest bond ratings in more than 30 years by having its credit ratings upgraded to AA by two of the three major rating agencies, making SMUD one of the highest credit rated publicly-owned utilities in California. In addition to exceeding the fixed debt service coverage goal, SMUD refinanced a portion of variable rate bonds with fixed rate bonds in order to reduce risk and provide additional options and savings opportunities in the future.

SMUD was recognized by its residential customers as the top California utility by J.D. Power and was ranked highest in both California and the West region for commercial customers. SMUD was also recognized nationally as the top-ranked electric utility for brand trust in the "2017 Utility Most Trusted Brands & Customer Engagement: Residential Customers" in the Cogent Reports study by Market Strategies International. SMUD celebrated 70 years of community service through its "70 Years Bright" campaign and launched the Shine community development awards program, awarding grants totaling \$400,000 to 23 organizations across the region. SMUD is on target to exceed the Board's 2020 carbon reduction goals bringing its energy portfolio to more than 50% carbon free. The Greenergy® program celebrated 20 years of bringing renewable power to customers, providing 750 GWh of renewable energy to over 74,000 customers. In addition it continued a 27-year partnership with the Sacramento Tree Foundation where almost 600,000 trees have been planted in the community – reducing carbon by nearly 600 million pounds. The Commercial SolarShares program exceeded its goals with the execution of nearly 100 MW of 20-year SolarShare contracts with some of SMUD's largest commercial customers, including both the State of California and the City of Sacramento. SMUD also played a major role in supporting the "Green City" designation for Sacramento which will result in the investment of \$44.0 million by Volkswagen over a 30 month period to support the expansion of electric vehicles. Through its economic development program, SMUD played a key role in the attraction, retention and expansion of several companies in its service territory which led to the creation of over 700 jobs.

In July 2014, FERC issued a new fifty year license for the Upper American River Project (UARP) which consists of three relatively large storage reservoirs and eight powerhouses containing eleven turbines. The UARP is one of SMUD's lowest cost power sources. In addition to providing clean hydroelectric power and operational flexibility, it 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 673 MW and represents about 15 percent of SMUD's average annual retail energy requirements. SMUD's other power generation facilities include a 3 MW of solar photovoltaic installations, a 102 MW Solano Wind Project, and five local gas-fired power plants with total

capacity of approximately 1,017 MW. In addition, SMUD has entered into several power purchase agreements to help meet its remaining power requirements.

As part of the hydro relicensing process, SMUD entered into long-term contracts to provide certain services to four different government agencies – U.S. Department of Interior Bureau of Land Management, U.S. Department of Agriculture Forest Service, El Dorado County, and the California Department of Parks and Recreation. At December 31, 2017 and 2016, the liability for these contract payments was \$57.8 million.

In 2017, California's governor issued an order to officially end the then-current drought state of emergency for most parts of the state. SMUD's total reservoir storage in the UARP reached 111 percent of the historical average for the water year period ended October 1, 2017. Although reservoir levels in the UARP have increased since 2015, there remains the potential for wide swings in precipitation from year to year and dry conditions could return again in any year. A Hydro Rate Stabilization Fund (HRSF) was established to help absorb higher energy costs when hydroelectric production is down and to serve as a buffer against unexpected financial developments. In April 2017 and 2016, \$52.4 million and \$10.0 million were transferred into the HRSF, respectively, due to above average precipitation. The balance in the HRSF at December 31, 2017 and 2016 was \$62.4 million and \$10.0 million, respectively, and is an indicator of the significant impact of the rainfall and snowfall in 2017 and 2016.

SMUD also has a long-term agreement with the Western Area Power Administration (WAPA) to purchase power generated by the Central Valley Project, a series of federal hydroelectric facilities operated by the U.S. Bureau of Reclamation. SMUD uses a Rate Stabilization Fund (RSF) to offset any excess or deficits in WAPA energy deliveries. In 2017 due to excess deliveries by WAPA, \$12.3 million was transferred to the RSF. In 2016, WAPA's deliveries fell short which resulted in a \$5.1 million transfer from the RSF. At December 31, 2017 and 2016, the balance of the RSF was \$37.5 million and \$25.2 million, respectively.

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 expects termination of the possession-only license to be completed in early 2018. The Accrued Decommissioning balance in the Consolidated Statements of Net Position includes \$149.8 million and \$148.0 million for costs related to Rancho Seco as of December 31, 2017 and 2016, respectively.

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 \$104.0 million, including \$28.9 million received in 2017. SMUD will continue to pursue cost recovery claims until the DOE fulfills its obligation.

Employee Relations and Benefits

In 2017, SMUD was successful in negotiating a new four year memorandum of understanding (MOU) with both of its collective bargaining units, the International Brotherhood of Electrical Workers Local Union 1245 and the Organization of SMUD Employees, effective January 2018.

SMUD participates in the California Public Employees' Retirement System (PERS), an agent multiple-employer public employee defined benefit pension plan. In 2015, SMUD implemented GASB Statement of Governmental Accounting Standards (SGAS) No. 68, "*Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27,*" and in 2017, SGAS No. 73, "*Accounting and Financial Reporting for Pensions and Related Assets that are not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68*". The primary objective of these standards is to improve accounting and financial reporting by state and local governments for pensions. SMUD is required to report the Net Pension Liability (NPL), which 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, in its Consolidated Statements of Net Position. At December 31, 2017 and 2016, the NPL was \$565.8 million and \$499.2 million, respectively. SMUD elected to follow accounting for regulated operations under GASB SGAS No. 62, "*Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements,*" (GASB No. 62) and recorded a regulatory asset as of December 31, 2014, in the amount of \$425.7 million to account for the net effect of required prior period adjustments to recognize the net pension liability. Amortization of the regulatory asset will begin in 2018 over a period of 25 years.

SMUD provides postemployment healthcare benefits (OPEB) to all employees who retire from SMUD and their dependents, in accordance with SMUD policy and MOUs. These benefits are funded through the PERS California Employer's Retiree Benefit Trust, an agent multiple-employer plan. SMUD opted to make additional \$84.7 million and \$17.9 million contributions to the trust in 2017 and 2016, respectively. At June 30, 2017, the plan was 77.2 percent funded and the balance of the OPEB asset at December 31, 2017 and 2016 was \$229.2 million and \$127.9 million, respectively.

Developments in the Energy Market

New developments in the energy market at both the federal and state level kept SMUD on high alert as it continued to monitor and address the potential impacts on the organization. Legislation at the federal level include policies on cyber security, regulations related to regional transmission planning, the North American Electric Reliability Corporation reliability standards, anti-market manipulation rules, and greenhouse gas emissions (GHG). Legislation at the state level includes bills that provide for GHG standards and greater investment in energy efficient and environmentally friendly generation alternatives through more stringent renewable portfolio standards. Additionally, ongoing regulatory proceedings address water flow and quality issues related to Sacramento – San Joaquin River Delta.

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, and pension costs. As of December 31, 2017 and 2016, total regulatory assets were \$594.4 and \$598.4, respectively. SMUD also has regulatory credits that cover costs related to contributions in aid of construction, the RSF and HRSF, Energy Assistance Program Rate (EAPR) reserves, SB-1, grant revenues, and Transmission Agency of Northern California operations costs. As of December 31, 2017 and 2016, total regulatory credits were \$445.7 million and \$370.2 million, respectively.

FINANCIAL POSITION

CONDENSED CONSOLIDATED STATEMENTS OF NET POSITION

	<u>2017</u>	<u>December 31,</u> <u>2016</u>	<u>2015</u>
		(millions of dollars)	
Assets			
Electric Utility Plant - net	\$ 3,354	\$ 3,345	\$ 3,324
Restricted and Designated Assets	121	57	47
Current Assets	1,200	1,084	1,021
Noncurrent Assets	<u>1,114</u>	<u>1,188</u>	<u>1,236</u>
Total Assets	\$ 5,789	\$ 5,674	\$ 5,628
Deferred Outflows of Resources	<u>280</u>	<u>279</u>	<u>263</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 6,069</u>	<u>\$ 5,953</u>	<u>\$ 5,891</u>
Liabilities			
Long-Term Debt - net	\$ 2,342	\$ 2,504	\$ 2,674
Current Liabilities	607	630	650
Noncurrent Liabilities	<u>895</u>	<u>840</u>	<u>766</u>
Total Liabilities	\$ 3,844	\$ 3,974	\$ 4,090
Deferred Inflows of Resources	710	645	662
Net Position			
Net Investment in Capital Assets	980	816	658
Restricted	58	77	72
Unrestricted	<u>477</u>	<u>441</u>	<u>409</u>
Total Liabilities, Deferred Inflows of Resources, and Net Position	<u>\$ 6,069</u>	<u>\$ 5,953</u>	<u>\$ 5,891</u>

ASSETS AND DEFERRED OUTFLOWS OF RESOURCES

Electric Utility Plant - net

2017 compared to 2016

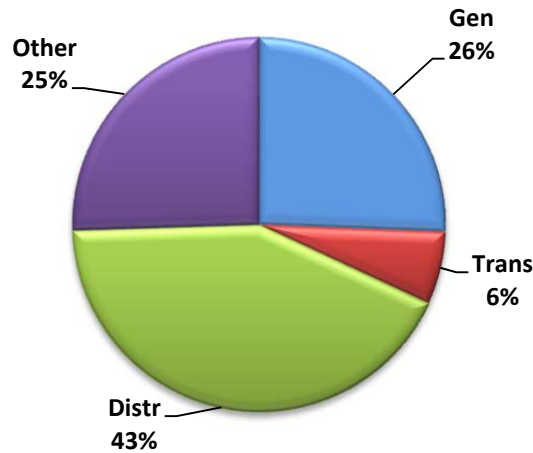
As of December 31, 2017, SMUD has invested approximately \$3,354.0 million in electric utility plant assets and construction work in progress (CWIP) net of accumulated depreciation. Electric Utility Plant - net makes up about 55 percent of SMUD's Total Assets and Deferred Outflows of Resources, which is similar to 2016. In 2017, SMUD capitalized approximately \$147.2 million of additions to electric utility plant in the Consolidated Statements of Net Position. The additions were primarily due to distribution line work, major overhauls in the Joint Power Authorities (JPAs), investments in software and hardware and purchases related to the replacement of bulk substations. These additions were offset by the retirement of communication equipment, distribution assets, and software and hardware equipment.

2016 compared to 2015

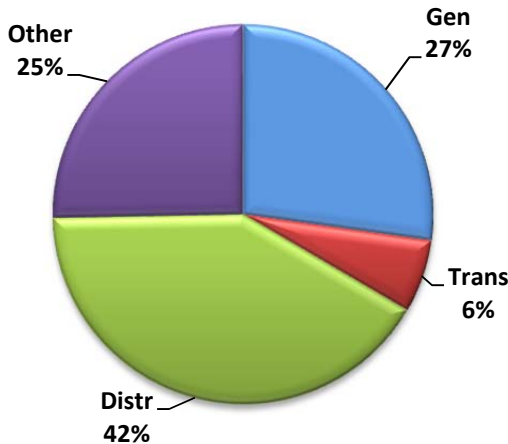
As of December 31, 2016, SMUD has invested approximately \$3,345.0 million in electric utility plant assets and construction work in progress (CWIP) net of accumulated depreciation. Electric Utility Plant - net makes up about 56 percent of SMUD's Total Assets and Deferred Outflows of Resources, which is similar to 2015. In 2016, SMUD capitalized approximately \$173.1 million of additions to electric utility plant in the Consolidated Statements of Net Position. The additions were primarily due to distribution line work, major overhauls in the JPAs and purchases related to the replacement of bulk substations. These additions were offset by the retirement of communication equipment, fleet assets, and hardware equipment.

The following charts show the breakdown of Electric Utility Plant - net by major plant category – Generation (Gen), Transmission (Trans), Distribution (Distr), and Other:

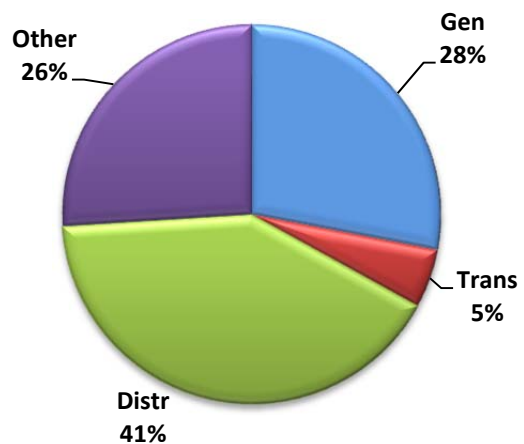
December 31, 2017



December 31, 2016



December 31, 2015



Restricted and Designated Assets

2017 compared to 2016

SMUD’s restricted and designated assets are comprised of debt service reserves, nuclear decommissioning trust funds, rate stabilization reserves, and other third party agreements or Board actions, less the current portion. These assets increased \$64.4 million during 2017. The increase was due to a net transfer of \$64.7 million to the RSF (including the HRSF) as a result of higher precipitation and higher energy deliveries from WAPA, and a decrease of \$22.0 million in current portion, offset by a decrease of \$22.2 million in the revenue bond and debt service reserves.

2016 compared to 2015

SMUD’s restricted and designated assets are comprised of debt service reserves, nuclear decommissioning trust funds, rate stabilization reserves, and other third party agreements or Board actions, less the current portion. These assets increased \$9.3 million during 2016. The increase was due to a net transfer of \$4.9 million to the RSF (including the HRSF) as a result

of higher precipitation and lower energy deliveries from WAPA, an increase of \$2.5 million in both the revenue bond and debt service reserves and other funds, and a decrease of \$1.9 million in current portion.

Current Assets

2017 compared to 2016

Total current assets increased \$115.6 million in 2017. Prepayments and other increased by \$123.0 million. SMUD submitted its notice of intent to exercise the option to buy back the Solano Wind plant and recorded the prepayment for purchased power as current. Unrestricted cash and cash equivalents and regulatory costs to be recovered within one year increased \$27.0 million. These increases were offset by a total decrease of restricted and designated cash and cash equivalents and restricted and designated investments of \$35.1 million.

2016 compared to 2015

Current assets increased \$63.7 million in 2016. The unrestricted investments increased by \$101.7 million, along with a total increase of \$6.9 million in receivables - net and prepaid gas to be delivered within one year. This increase was offset by total decreases of \$23.2 million in unrestricted cash and cash equivalents, regulatory costs to be recovered within one year, inventories, and prepayments and other, along with a decrease of \$20.5 million in credit support collateral deposits.

Noncurrent Assets

2017 compared to 2016

Total noncurrent assets decreased \$73.7 million. Prepaid power and capacity decreased by \$128.6 million partially due to the prepayment for purchased power for Solano being recorded as current (see Current Assets). In addition, prepaid gas and regulatory costs for future recovery decreased by \$47.3 million. These decreases were offset by an increase in prepayments and other of \$103.0 million primarily due to the increase in the OPEB asset as a result of additional contributions.

2016 compared to 2015

Total noncurrent assets decreased \$47.4 million. There were reductions in regulatory costs for future recovery, prepaid gas, prepaid power and capacity, energy efficiency loans - net and credit support collateral deposits of \$80.6 million offset by increases in due from affiliated entity and prepayments and other of \$34.3 million.

Deferred Outflows of Resources

2017 compared to 2016

Total deferred outflows of resources for 2017 was comparable to 2016 due to a \$26.8 million increase in deferred pension outflows, offset by a total decrease of \$26.8 million in the value of hedging derivative instruments and amortization of bond losses.

2016 compared to 2015

Total deferred outflows of resources increased \$15.9 million due to a total of \$90.6 million increase in deferred pension outflows and amortization of bond losses, offset by a decrease of \$74.7 million in the value of hedging derivative instruments.

LIABILITIES AND DEFERRED INFLOWS OF RESOURCES

Long-Term Debt - net

2017 compared to 2016

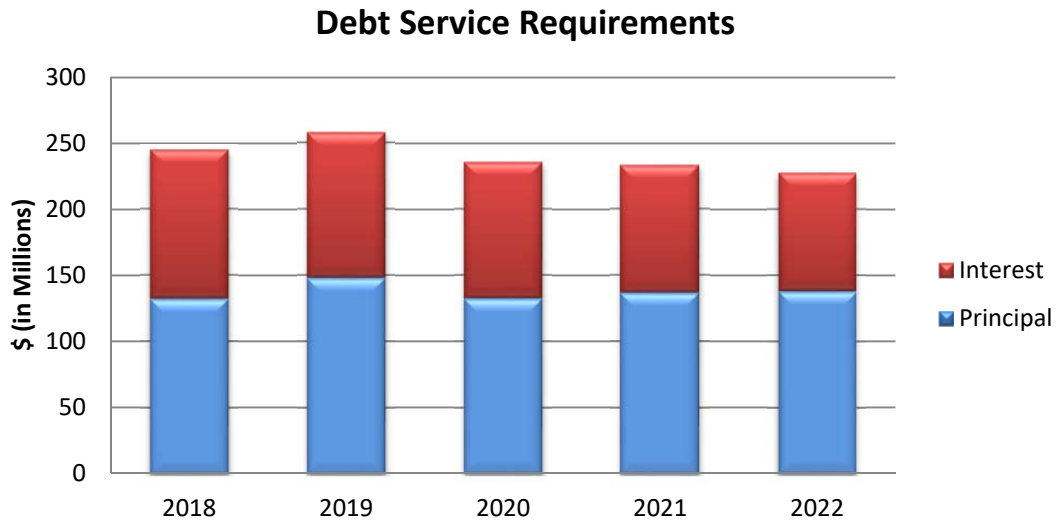
In December 2017, SMUD issued \$202.5 million of 2017 Series E Electric Revenue Refunding Bonds. The purpose of this transaction was to refund variable rate debt with fixed rate debt to reduce the risk of increased interest rates. Proceeds from the 2017 Series Bonds, in addition to \$13.0 million of funds on hand, were used to defease \$26.1 million of a portion of the Series 2016 N bonds, \$26.1 million of a portion of the Series 2016 O bonds, \$120.0 million of all of the outstanding 2016 Series P bonds, and \$77.9 million of all of the outstanding Series 2016 Q bonds. A total of \$250.1 million 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 loss of \$5.5 million, which is being amortized over the life of the refunding issue. Based on an assumed LIBOR rate of 1.7 percent for the life of the debt, the 2017 refunding increased future aggregate debt service payments by \$0.6 million and resulted in a total economic loss of \$1.4 million, which is the difference between the present value of the old and new debt service payments.

2016 compared to 2015

In June 2016, SMUD issued \$149.9 million of 2016 Series D Electric Revenue Refunding Bonds. Proceeds from the 2016 Series Bonds were used to refund \$125.4 million of the outstanding 2008 Series U Bonds, and \$43.6 million of outstanding 2011 Series X Bonds, 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 loss of \$12.6 million, which is being amortized over the life of the refunding issue. The 2016 refunding reduced future aggregate debt service payments by \$27.2 million and resulted in a total economic gain of \$23.4 million, which is the difference between the present value of the old and new debt service payments.

In October and November of 2016, SMUD completed transactions to convert all of the outstanding 2008 Series J, 2008 Series K, 2012 Series L, and 2012 Series M Bonds to direct placements, totaling \$341.9 million (see Note 10). As part of each transaction, new bonds were issued to defease the old bonds, and as a result, the reimbursement agreements with Bank of America, State Street, and US Bank were terminated. The scheduled principal payments remain unchanged unless the bonds aren't successfully remarketed at the end of the term. Accordingly, SMUD has recorded such bonds as long-term debt - net, less amounts due within one year in the Consolidated Statements of Net Position. No additional deferred gain or loss or economic gain resulted from these transactions.

The following table shows SMUD’s future debt service requirements through 2022 as of December 31, 2017:



As of December 31, 2017, 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.

Current Liabilities

2017 compared to 2016

Total current liabilities decreased \$22.4 million during 2017. The decrease was mainly due to decreases in long-term debt due within one year, interest payable and investment and hedging derivative instruments maturing within one year of \$35.2 million, offset by an increase in accounts payable of \$11.2 million.

2016 compared to 2015

Total current liabilities decreased \$19.8 million during 2016. The decrease was mainly due to decreases in investment and hedging derivative instruments maturing within one year of \$43.0 million, offset by increases in long-term debt due within one year and customer deposits and other totaling \$24.1 million.

Noncurrent Liabilities

2017 compared to 2016

Total noncurrent liabilities increased \$54.0 million during 2017. The increase was mainly due to a \$66.6 million increase in the net pension liability, offset by a total decrease of \$16.5 million in investment and hedging derivative instruments.

2016 compared to 2015

Total noncurrent liabilities increased \$74.3 million during 2016. The increase was mainly due to a \$117.9 million increase in the net pension liability, offset by a \$47.5 million decrease in investment and hedging derivative instruments.

Deferred Inflows of Resources

2017 compared to 2016

Total deferred inflows of resources increased \$65.1 million. Regulatory credits increased \$75.4 million due to a total of \$64.7 million transfer to the rate stabilization funds as a result of higher precipitation and higher energy deliveries from WAPA and a \$10.1 increase of SB-1. This increase was offset by a reduction of \$10.9 million for Solano Phase 3 wind facilities.

2016 compared to 2015

Total deferred inflows of resources decreased \$17.9 million due to a \$22.4 million reduction in deferred pension inflows and \$10.6 million for Solano Phase 3 wind facilities. These reductions were offset by a \$16.4 million increase in regulatory credits due to a \$4.9 million net transfer to the rate stabilization funds as a result of higher precipitation and lower energy deliveries from WAPA, and a \$10.0 million reserve for future expenditures for energy efficiency programs for EAPR customers.

RESULTS OF OPERATIONS

CONDENSED CONSOLIDATED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	<u>2017</u>	<u>December 31,</u> <u>2016</u>	<u>2015</u>
		(millions of dollars)	
Operating revenues	\$ 1,559	\$ 1,495	\$ 1,479
Operating expenses	<u>(1,339)</u>	<u>(1,240)</u>	<u>(1,271)</u>
Operating income	220	255	208
Other revenues	58	43	35
Interest charges	<u>(97)</u>	<u>(103)</u>	<u>(113)</u>
Change in net position	181	195	130
Net position - beginning of year	<u>1,334</u>	<u>1,139</u>	<u>1,009</u>
Net position - end of year	<u>\$ 1,515</u>	<u>\$ 1,334</u>	<u>\$ 1,139</u>

Operating Revenues

2017 compared to 2016

Total operating revenues increased \$64.5 million in 2017. An increase of \$69.3 million from retail sales includes the 2.5 percent rate increase that went into effect January 1, 2017. As of December 31, 2017, the number of customers increased to 628,952 at a slightly higher average revenue per kilowatt hour as compared to the end of 2016.

In 2017, SMUD transferred \$52.4 million to the HRSF and \$12.3 million to the RSF. In 2016, \$10.0 million was transferred to the HRSF, while \$5.1 million was transferred from the RSF.

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 2017, surplus gas sales were higher than 2016 by \$59.0 million due to higher gas prices and an increase in the volume of gas sold. Energy sales were lower in 2017 by \$2.6 million as compared to 2016 due to lower prices and lower energy sales.

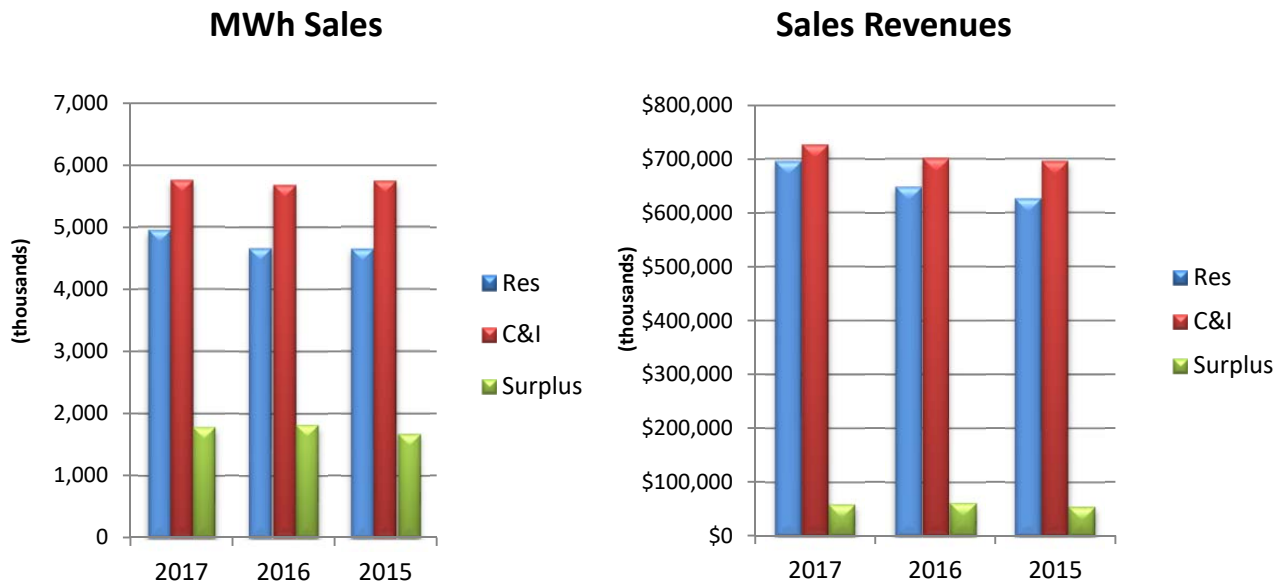
2016 compared to 2015

Total operating revenues decreased \$16.1 million in 2016 mainly due to higher retail revenues of \$29.2 million offset by a \$10.0 million deferral for public good. As of December 31, 2016, the number of customers remained flat at 626,460.

In 2016, SMUD transferred \$5.1 million from the RSF and \$10.0 million to the HRSF. In 2015, transfers from both the RSF and HRSF were made in the amounts of \$12.0 million and \$3.1 million, respectively. The 1.3 percent HGA surcharge that was implemented in 2015 was removed from customers' billings in 2016 as a result of higher precipitation.

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 2016, surplus gas sales were lower than 2015 by \$55.2 million due to lower gas prices and less gas sold. Energy sales were higher in 2016 by \$7.2 million as compared to 2015 due to higher prices and higher energy sales.

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



Operating Expenses

2017 compared to 2016

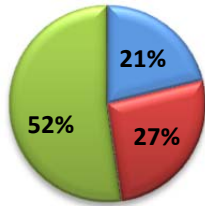
Total operating expenses increased \$99.5 million compared to 2016. Administrative, general and customer increased \$43.5 million. Operations which includes purchased power, production, transmission and distribution, and depletion, increased by \$35.3 million mainly due to higher purchased power volumes. Maintenance increased by \$15.8 million.

2016 compared to 2015

Total operating expenses decreased \$31.0 million compared to 2015. Operations which includes purchased power, production, transmission and distribution, and depletion, decreased by \$40.9 million mainly due to lower gas and power prices as well as lower volumes. This decrease was offset by a \$9.9 million increase in the remaining other operating costs.

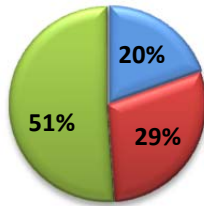
The following charts show the breakdown of operating expenses:

2017 Operating Expenses



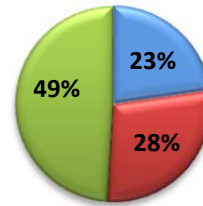
■ Purchased Power
■ Production
■ Other

2016 Operating Expenses



■ Purchased Power
■ Production
■ Other

2015 Operating Expenses



■ Purchased Power
■ Production
■ Other

Other Revenues

2017 compared to 2016

Total other revenues were \$15.5 million higher in 2017, which was partially attributable to the difference of \$9.2 million received for the judgment for Rancho Seco nuclear waste disposal litigation in 2017 and the PG&E refund received in 2016, and \$6.7 million of higher interest and lower ineffective gas and interest rate swaps.

2016 compared to 2015

Total other revenues were \$8.0 million higher in 2016, which was mainly attributable to a \$17.9 million refund from PG&E, offset by higher ineffective gas swaps, lower equity earnings from affiliate and lower grant revenues.

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**SACRAMENTO MUNICIPAL UTILITY DISTRICT
CONSOLIDATED STATEMENTS OF NET POSITION**

	December 31,	
	2017	2016
	(thousands of dollars)	
ASSETS		
ELECTRIC UTILITY PLANT		
Plant in service	\$ 5,914,377	\$ 5,781,353
Less accumulated depreciation and depletion	(2,841,294)	(2,652,574)
Plant in service - net	3,073,083	3,128,779
Construction work in progress	280,692	216,081
Total electric utility plant - net	3,353,775	3,344,860
RESTRICTED AND DESIGNATED ASSETS		
Revenue bond and debt service reserves	93,322	115,465
Nuclear decommissioning trust fund	8,411	8,357
Rate stabilization fund	99,899	35,154
Other funds	10,235	10,487
Less current portion	(90,757)	(112,722)
Total restricted and designated assets	121,110	56,741
CURRENT ASSETS		
Unrestricted cash and cash equivalents	227,657	209,282
Unrestricted investments	424,759	442,752
Restricted and designated cash and cash equivalents	38,262	43,104
Restricted and designated investments	52,495	69,618
Receivables - net:		
Retail customers	162,192	163,629
Wholesale and other	37,346	31,100
Regulatory costs to be recovered within one year	20,178	11,523
Investment derivative instruments maturing within one year	1	420
Hedging derivative instruments maturing within one year	2,868	7,881
Inventories	58,135	55,644
Prepaid gas to be delivered within one year	34,587	30,909
Prepayments and other	141,759	18,785
Total current assets	1,200,239	1,084,647
NONCURRENT ASSETS		
Regulatory costs for future recovery	574,197	586,895
Prepaid gas	222,348	256,935
Prepaid power and capacity	1,211	129,847
Investment derivative instruments	-0-	175
Hedging derivative instruments	18,359	20,389
Energy efficiency loans - net	21,817	23,586
Credit support collateral deposits	1,500	1,500
Due from affiliated entity	22,406	18,975
Prepayments and other	252,483	149,702
Total noncurrent assets	1,114,321	1,188,004
TOTAL ASSETS	5,789,445	5,674,252
DEFERRED OUTFLOWS OF RESOURCES		
Accumulated decrease in fair value of hedging derivatives	105,645	124,895
Deferred pension outflows	143,034	116,253
Unamortized bond losses	30,584	38,053
TOTAL DEFERRED OUTFLOWS OF RESOURCES	279,263	279,201
TOTAL ASSETS AND DEFERRED OUTFLOWS OF RESOURCES	\$ 6,068,708	\$ 5,953,453

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

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
CONSOLIDATED STATEMENTS OF NET POSITION**

	December 31,	
	2017	2016
	(thousands of dollars)	
LIABILITIES		
LONG-TERM DEBT - net	\$ 2,341,775	\$ 2,504,650
CURRENT LIABILITIES		
Commercial paper notes	200,000	200,000
Accounts payable	83,991	72,796
Purchased power payable	19,968	18,552
Credit support collateral obligation	3,364	3,937
Long-term debt due within one year	132,440	160,585
Accrued decommissioning	5,775	6,439
Interest payable	33,147	35,754
Accrued salaries and compensated absences	38,551	36,926
Investment derivative instruments maturing within one year	2,833	6,521
Hedging derivative instruments maturing within one year	27,500	28,234
Customer deposits and other	59,710	59,907
Total current liabilities	607,279	629,651
NONCURRENT LIABILITIES		
Net pension liability	565,800	499,228
Accrued decommissioning	156,431	153,121
Investment derivative instruments	11,697	9,641
Hedging derivative instruments	78,145	96,661
Self insurance and other liabilities	82,543	81,952
Total noncurrent liabilities	894,616	840,603
TOTAL LIABILITIES	3,843,670	3,974,904
DEFERRED INFLOWS OF RESOURCES		
Accumulated increase in fair value of hedging derivatives	21,227	28,270
Regulatory credits	445,657	370,212
Deferred pension inflows	32,921	25,187
Financing obligation and other	209,956	220,957
TOTAL DEFERRED INFLOWS OF RESOURCES	709,761	644,626
NET POSITION		
Net investment in capital assets	979,724	816,295
Restricted:		
Revenue bond and debt service	51,833	70,197
Other funds	7,031	6,710
Unrestricted	476,689	440,721
TOTAL NET POSITION	1,515,277	1,333,923
COMMITMENTS, CLAIMS AND CONTINGENCIES (Notes 17 and 18)		
TOTAL LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND NET POSITION	\$ 6,068,708	\$ 5,953,453

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

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

	Year Ended December 31,	
	2017	2016
	(thousands of dollars)	
OPERATING REVENUES		
Residential	\$ 689,806	\$ 645,430
Commercial and industrial	727,574	702,690
Street lighting and other	44,189	40,687
Wholesale	144,538	88,090
Senate Bill - 1 revenue deferral	(10,124)	(5,142)
AB-32 revenue	28,097	37,981
Public good deferral	-0-	(10,000)
Rate stabilization fund transfers	(64,744)	(4,903)
Total operating revenues	1,559,336	1,494,833
OPERATING EXPENSES		
Operations:		
Purchased power	283,693	243,031
Production	346,523	355,360
Transmission and distribution	78,922	71,312
Administrative, general and customer	235,147	191,658
Public good	59,081	65,210
Maintenance	120,759	104,913
Depreciation	194,925	184,043
Depletion	8,001	12,103
Regulatory amounts collected in rates	12,253	12,127
Total operating expenses	1,339,304	1,239,757
OPERATING INCOME	220,032	255,076
NON-OPERATING REVENUES AND EXPENSES		
Other revenues and (expenses):		
Interest income	11,848	8,646
Investment expense	(9,589)	(13,134)
Other income - net	56,314	47,565
Total other revenues and (expenses)	58,573	43,077
Interest charges:		
Interest on debt	100,485	105,141
Allowance for funds used during construction	(3,234)	(2,246)
Total interest charges	97,251	102,895
CHANGE IN NET POSITION	181,354	195,258
NET POSITION - BEGINNING OF YEAR	1,333,923	1,138,665
NET POSITION - END OF YEAR	\$ 1,515,277	\$ 1,333,923

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

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year Ended December 31,	
	2017	2016
	(thousands of dollars)	
CASH FLOWS FROM OPERATING ACTIVITIES		
Receipts from customers	\$ 1,458,707	\$ 1,387,897
Receipts from surplus power sales	60,592	61,370
Receipts from surplus gas sales	83,571	24,976
Receipts from steam sales	5,109	3,998
Other receipts	60,081	58,950
Payments/receipts for credit support collateral	(573)	43,568
Issuance/repayment of energy efficiency loans - net	2,659	5,824
Payments to employees - payroll and other	(287,607)	(279,360)
Payments for wholesale power	(284,960)	(249,919)
Payments for gas purchases	(194,675)	(194,279)
Payments to vendors/others	(372,033)	(300,456)
Payments for decommissioning	(7,055)	(9,111)
Net cash provided by operating activities	523,816	553,458
CASH FLOWS FROM NONCAPITAL FINANCING ACTIVITIES		
Repayment of debt	(28,395)	(25,925)
Receipts from federal and state grants	9,832	9,600
Interest on debt	(12,143)	(13,221)
Net cash used in noncapital financing activities	(30,706)	(29,546)
CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES		
Construction expenditures	(217,042)	(197,465)
Contributions in aid of construction	13,183	14,491
Net proceeds from bond issues	237,082	-0-
Repayments and refundings of debt	(382,290)	(126,855)
Interest on debt	(100,821)	(103,860)
Net cash used in capital and related financing activities	(449,888)	(413,689)
CASH FLOWS FROM INVESTING ACTIVITIES		
Sales and maturities of securities	316,145	227,820
Purchases of securities	(347,049)	(332,209)
Interest and dividends received	11,204	7,864
Investment revenue/expenses - net	(9,607)	(13,509)
Net cash used in investing activities	(29,307)	(110,034)
Net increase in cash and cash equivalents	13,915	189
Cash and cash equivalents at the beginning of the year	262,772	262,583
Cash and cash equivalents at the end of the year	\$ 276,687	\$ 262,772
Cash and cash equivalents included in:		
Unrestricted cash and cash equivalents	\$ 227,657	\$ 209,282
Restricted and designated cash and cash equivalents	38,262	43,104
Restricted and designated assets (a component of the total of \$121,110 and \$56,741 at December 31, 2017 and 2016, respectively)	10,768	10,386
Cash and cash equivalents at the end of the year	\$ 276,687	\$ 262,772

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

**SACRAMENTO MUNICIPAL UTILITY DISTRICT
SUPPLEMENTAL CASH FLOW INFORMATION**

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

	Year Ended December 31,	
	2017	2016
	(thousands of dollars)	
Operating income	\$ 220,032	\$ 255,076
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	194,925	184,043
Depletion	8,001	12,103
Regulatory amortization	12,253	12,127
Amortization of advance capacity and other	(1,427)	(1,427)
Amortization of prepaid gas supply	30,909	27,768
Revenue recognized from regulatory credits - net	74,868	20,045
Other receipts/payments - net	31,346	17,532
Changes in operating assets, deferred outflows, liabilities and deferred inflows:		
Receivables - retail customers, wholesale and other	6,099	4,929
Inventories, prepayments and other	(103,348)	(24,319)
Credit support collateral deposits	-0-	44,020
Deferred pension outflows	(26,781)	(88,610)
Payables and accruals	10,261	4,239
Credit support collateral obligation	(573)	(452)
Decommissioning	(7,055)	(9,111)
Net pension liability	66,572	117,887
Deferred pension inflows	7,734	(22,392)
Net cash provided by operating activities	\$ 523,816	\$ 553,458

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

	Year Ended December 31,	
	2017	2016
	(thousands of dollars)	
Amortization of debt related (expenses) and premiums - net	\$ 9,813	\$ 9,135
Unrealized holding loss	(2,033)	(543)
Change in valuation of derivative financial instruments	13,245	89,925
Amortization of revenue for assets contributed in aid of construction	19,437	18,988
Allowance for funds used during construction	3,234	2,246
Construction expenditures included in accounts payable	22,199	20,141
Bond proceeds deposited into an escrow account for purposes of refunding long-term debt	-0-	186,324

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

Sacramento Municipal Utility District Notes To Consolidated Financial Statements

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 California. 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 Consolidated 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 and liabilities 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 Consolidated 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), and the Northern California Gas Authority No. 1 (NCGA). The primary purpose of CVFA, SCA, SFA and SPA is to own and operate electric utility plants that supply power to SMUD. The primary purpose of NCGA is to prepay for natural gas and to sell the natural gas 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 three 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 Utility Plant, retirements are recorded against Accumulated Depreciation and the retired portion of 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 consolidated average annual composite depreciation rates for 2017 and 2016 were 3.5 and 3.3 percent, respectively. Depreciation is calculated using the following estimated lives:

Generation	5 to 80 years
Transmission and Distribution	15 to 50 years
Gas Pipeline	15 to 90 years
General	3 to 90 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 Consolidated 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 Consolidated Statements of Revenues, Expenses and Changes in Net Position (see Note 5).

Investment in Gas Properties. SMUD has an approximate 21 percent non-operating ownership interest in the Rosa Unit gas properties in New Mexico of which, SMUD's portion of the extracted gas is transported for use in its component unit natural gas-fired power plants (see Note 6). SMUD uses the successful efforts method of accounting for its investment in gas producing properties. Costs to acquire mineral interests in gas properties, to drill and equip exploratory wells that find proved reserves, and to drill and equip development wells are capitalized as a component of Plant in Service on the Consolidated Statements of Net Position. Costs to drill exploratory wells that do not find proved reserves, geological and geophysical costs, and costs of carrying and retaining unproved properties are expensed. SMUD has purchased proven reserves and has not participated in exploratory drilling. Capitalized costs of producing gas properties, after considering estimated residual salvage values, are depleted by the unit-of-production method based on the estimated future production of the proved developed producing wells. SMUD’s investment in gas properties is reported as a component of Plant in Service.

Restricted and Designated Assets. Cash, cash equivalents, and investments, which are restricted under terms of certain agreements for payments to third parties are included as restricted assets. Board actions limiting the use of such funds are included as designated assets. 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.

Accrued Decommissioning. SMUD accrues decommissioning costs related to Utility Plant when an obligation to decommission facilities is legally required. Adjustments are made to such liabilities based on estimates in accordance with FASB ASC 410, “*Asset Retirement and Environmental Obligations*” (FASB ASC 410). For active plants, such costs are included in the Utility Plant’s cost and as a component of Operating Expense over the Utility Plant’s life. Expenditures for decommissioning activities are recorded as reductions to Accrued Decommissioning liability. Changes in the Rancho Seco decommissioning liability estimates arising from inflation, annual accretion, and other changes to the cost assumptions are recorded to Accrued Decommissioning with a corresponding adjustment to the related regulatory deferral. The current portion of the Accrued Decommissioning liability represents SMUD’s estimate of actual expenditures in the next year, as set forth in the annual budget.

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. Since the timing and extent of any potential asset retirements are unknown, the fair value of any obligations associated with these facilities cannot be reasonably estimated. Accordingly, a liability has not been recorded.

At December 31, 2017 and 2016, SMUD’s Accrued Decommissioning balance in the Consolidated Statements of Net Position relating to Rancho Seco was \$149.8 million and \$148.0 million, respectively (see Note 13). The Accrued Decommissioning balance in the Consolidated Statements of Net Position relating to other electricity generation and gas production facilities totaled \$12.4 million and \$11.6 million as of December 31, 2017 and 2016, respectively.

Cash and Cash Equivalents. Cash and cash equivalents include all debt instruments purchased with an original maturity of 90 days or less, 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. SMUD’s deposits with LAIF comprise cash representing demand deposits up to a \$65.0 million maximum and cash equivalents representing amounts which may be withdrawn once per month after a thirty-day period (see Note 7).

Investments. SMUD’s investments are reported at fair value in accordance with Statement of Governmental Accounting Standards (SGAS) No. 72, “*Fair Value Measurement and Application*” (see Note 12). Realized and unrealized gains and losses are included in Other Income - Net in the Consolidated 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, 2017 and 2016, unbilled revenues were \$72.6 million and \$72.2 million, respectively.

Purchased Power Expenses. A portion of SMUD’s power needs are provided through power purchase agreements. Expenses from such agreements, along with associated transmission costs paid to other utilities, are charged to Purchased Power expense on the Consolidated 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 payment. Such costs are generally recorded as an asset and amortized over the length of the contract.

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 unit, NCGA, entered into a guaranteed investment contract and is exposed to credit risk related to nonperformance by its investment provider. The investment provider provides collateral if their credit ratings fall below agreed upon levels. At December 31, 2017 and 2016, respectively, SMUD held \$3.4 million and \$3.9 million on deposit by counterparties and an investment provider. The amount is recorded as unrestricted cash and current restricted cash with an associated current liability. At December 31, 2017 and 2016, SMUD posted cash collateral of \$1.5 million with counterparties.

Accounts Receivable and Allowance for Doubtful Accounts. 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. SMUD records bad debts for its estimated uncollectible accounts related to electric service as a reduction to the related operating revenues in the Consolidated 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 Consolidated Statements of Revenues, Expenses and Changes in Net Position.

The summarized activity of the changes in the allowance for doubtful accounts during 2017 and 2016 is presented below:

	Balance at beginning of Year	Additions	(Write-offs) and Recoveries	Balance at end of Year
	(thousands of dollars)			
Other Non-Electric:				
December 31, 2017	\$ 831	\$ 1,326	\$ (633)	\$ 1,524
December 31, 2016	\$ 1,771	\$ 663	\$ (1,603)	\$ 831
Retail Customers:				
December 31, 2017	\$ 2,397	\$ 6,760	\$ (5,985)	\$ 3,172
December 31, 2016	\$ 3,116	\$ 3,920	\$ (4,639)	\$ 2,397
Energy Efficiency Loans:				
December 31, 2017	\$ 804	\$ (675)	\$ 548	\$ 677
December 31, 2016	\$ 1,041	\$ (953)	\$ 716	\$ 804

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 FASB and AICPA Pronouncements,”* which requires that the effects of the rate-making 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 rate-making 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. At December 31, 2017 and 2016, the total estimated liability for vacation and other compensated absences was \$26.0 million and \$24.9 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 on the Consolidated Statements of Net Position and amortized as a component of Interest on Debt in the Consolidated 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 Consolidated Statements of Revenues, Expenses and Changes in Net Position.

Allowance for Funds Used During Construction (AFUDC). SMUD capitalizes, as an additional cost of Construction Work In Progress (CWIP), AFUDC, which represents the cost of borrowed funds used for such purposes. The amount capitalized is determined by a formula prescribed by FERC. The AFUDC rate for 2017 and 2016 was 2.4 percent and 2.3 percent, of eligible CWIP, respectively.

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 on its Consolidated 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 on the Consolidated 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).

Solano Wind Sale. SMUD entered into an agreement to sell the Solano Wind Phase 3 plant in December 2011 with a corresponding Power Purchase Agreement for all output of the plant (see Note 17). The prepayment for purchased power over the life of the contract has been recorded as Prepaid Power and Capacity on the Consolidated Statements of Net Position and is amortized as Purchased Power expense on the Consolidated Statements of Revenues, Expenses and Changes in Net Position over the life of the agreement. In April 2012, under the terms of the Construction Management Agreement, SMUD, on behalf of the purchaser, completed construction of the plant, which was accounted for as a financing agreement, and the revenue recognition from the transaction, would occur over the life of the contracts. The sale proceeds have been recorded as Deferred Inflows of Resources on the Consolidated Statements of Net Position and are amortized as Purchased Power expense on the Consolidated Statements of Revenues, Expenses and Changes in Net Position over the life of the agreement. Pursuant to the

Facility Administration Agreement, SMUD will perform services at the facility under the direction and for the benefit of the purchaser. Pursuant to the ground and property lease, SMUD is leasing the site to the purchaser for a term of twenty years with an option to extend for five additional years.

SMUD has the option to buy the plant back. In October 2017, SMUD submitted its notice of intent to exercise this option which will occur in April 2018. As a result of SMUD's intent to purchase Solano, the prepayment for purchased power at December 31, 2017 is recorded as Prepayments and Other under Current Assets.

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 on the Consolidated 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 its Headquarters building that is being renovated. In 2017 and 2016, SMUD identified and recorded pollution remediation obligations for land sites, including one where it will be building a substation (see Note 18). At December 31, 2017 and 2016, the total pollution remediation liability was \$33.6 million and \$35.3 million, respectively, and recorded as either Current Liabilities, Customer Deposits and Other or Noncurrent Liabilities, Self Insurance and Other Liabilities in the Consolidated 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 new 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, 2017 and 2016, the liability for these contract payments was \$57.8 million and recorded as either Current Liabilities, Customer Deposits and Other or Noncurrent Liabilities, Self Insurance and Other Liabilities in the Consolidated Statements of Net Position (see Note 17).

Assembly Bill 32. California Assembly Bill 32 (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% 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 participated in the program auctions in 2016 and 2017. In a normal water year, SMUD expects its free allocation of allowances from the Air Resources Board 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.

Net Pension Liability (NPL). SMUD implemented SGAS No. 73, “*Accounting and Financial Reporting for Pensions and Related Assets that are not within the Scope of GASB Statement 68, and Amendments to Certain Provisions of GASB Statements 67 and 68,*” (GASB No. 73) in 2017 (see Note 3) and SGAS No. 68, “*Accounting and Financial Reporting for Pensions – An Amendment of GASB Statement No. 27,*” (GASB No. 68) in 2015. The 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. At December 31, 2017 and 2016, the NPL was \$565.8 million and \$499.2 million, respectively (see Note 14).

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 capital, 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 - Net in the Consolidated Statements of Revenues, Expenses and Changes in Net Position. Contributions of capital are valued at acquisition value. For rate-making 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.

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. When applicable, these programs may be subject to financial and compliance audits pursuant to regulatory requirements. SMUD considers the possibility of any material disallowances to be remote. During 2017, SMUD recorded \$4.9 million of grant proceeds and recognized \$3.0 million as a component of Other Income - Net, in the Consolidated Statements of Revenues, Expenses and Changes in Net Position, and \$1.9 million as a Regulatory Credit. During 2016, SMUD recorded \$0.5 million of grant proceeds and recognized \$0.3 million as a component of Other Income - Net, in the Consolidated Statements of Revenues, Expenses and Changes in Net Position, and \$0.2 million as a Regulatory Credit (see Note 8).

In 2010, SMUD issued taxable Build America Bonds. SMUD 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 2017 and 2016 due to budget sequestration by the federal government. SMUD recognized \$9.1 million in revenues in 2017 and also in 2016 for its Build America Bonds, as a component of Other Income - Net, in the Consolidated 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 Consolidated Statements of Revenues, Expenses and Changes in Net Position.

Rancho Seco Litigation. In June 1983, SMUD and the U.S. Department of Energy (DOE) entered into a contract whereby the DOE would build a repository for the acceptance and disposal of SMUD's spent nuclear fuel (SNF) and/or high-level radioactive waste (HLW). SMUD paid the DOE a total of approximately \$40.0 million in fees under the contract, thus satisfying its obligation of performance under the contract. The DOE did not build a repository and therefore breached its obligation under the contract to commence acceptance of SNF and HLW by January 31, 1998. As a result, SMUD incurred costs to design, license, and fabricate its own on-site storage facility for the long term dry storage of its spent fuel at Rancho Seco. In June 2015, SMUD filed a suit against DOE which covered the costs incurred from 2010 through June 2015. In June 2017, SMUD received an award for \$28.9 million from the U.S. Court of Claims of which 27.1 million was recorded as Other Income - Net in the Consolidated Statements of Revenues, Expenses and Changes in Net Position and \$1.7 million was recorded as CIAC since a portion of the award constituted a reimbursement for the cost of capital assets.

Pacific Gas & Electric (PG&E) Refund. In June 2016, SMUD received a \$17.9 million refund from PG&E in association with the PG&E 2010 natural gas transmission pipeline explosion in San Bruno. The California Public Utilities Commission imposed a penalty on PG&E requiring them to provide a one-time bill credit to natural gas customers on their June 2016 bills based on usage for a prescribed time period. The \$17.9 million refund was recorded as Other Income - Net in the Consolidated Statements of Revenues, Expenses and Changes in Net Position and passed through to the component units.

Subsequent Events. Subsequent events for SMUD have been evaluated through February 16, 2018, which is the date that the financial statements were available to be issued.

Reclassifications. Certain amounts in the 2016 Consolidated Financial Statements have been reclassified in order to conform to the 2017 presentation.

Recent Accounting Pronouncements. In June 2015, GASB issued SGAS No. 75, "*Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*" (GASB No. 75). The primary objective of GASB No. 75 is to improve accounting and financial reporting by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). This statement replaces the requirements of SGAS No. 45, "*Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*," as amended, and SGAS No. 57, "*OPEB Measurements by Agent Employers and Agent Multiple-Employer Plans*." This statement establishes standards for measuring and recognizing liabilities, deferred outflows and deferred inflows of resources, and expenses. For defined benefit OPEB, GASB No. 75 identifies the methods and assumptions that are required to be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information requirements about defined benefit OPEB also are addressed. In addition, this statement details the recognition and disclosure requirements for employers with payables to defined benefit OPEB plans that are administered through trusts that meet the specified criteria. This statement is effective for SMUD in 2018. SMUD is currently assessing the financial statement impact of adopting this statement.

In November 2016, GASB issued SGAS No. 83, "*Certain Asset Retirement Obligations*" (GASB No. 83). An Asset Retirement Obligation (ARO) is a legally enforceable liability associated with the retirement of a tangible capital asset. A

government that has legal obligations to perform future asset retirement activities related to its tangible capital assets should recognize a liability based on the guidance in this statement. GASB No. 83 establishes the criteria for determining the timing and pattern of recognition of a liability and a corresponding deferred outflow of resources for AROs. Recognition occurs when the liability is both incurred and reasonably estimable. The determination of when the liability is incurred should be based on the occurrence of external laws, regulations, contracts, or court judgments, together with the occurrence of an internal event that obligates the government to perform the asset retirement activities. GASB No. 83 requires the measurement of the ARO be based on the probability weighted best estimate of the current value of outlays expected to be incurred, and adjusted for general inflation or deflation at least annually. It requires a government to evaluate all relevant factors at least annually to determine whether the effects of one or more of the factors are expected to significantly change the estimated asset retirement outlays. The ARO should only be remeasured when the result of the evaluation indicates a significant change in the estimated outlays. GASB No. 83 also requires disclosures of descriptive information about the nature of a government's AROs including the methods and assumptions used for the estimates of the liabilities, the estimated remaining useful life of the associated tangible capital assets, how any funding and assurance requirements are being met, and the amount of any assets restricted for payment of the AROs (if not separately displayed in the financial statements). If a liability for an ARO (or portions thereof) has been incurred by a government but is not yet recognized because it is not reasonably estimable, the government should disclose that fact and the reasons therefor. This statement is effective for SMUD in 2019. SMUD is currently assessing the financial statement impact of adopting this statement. SMUD currently records AROs following the FASB guidance (see **Accrued Decommissioning** under Note 2).

In January 2017, GASB issued SGAS No. 84, "*Fiduciary Activities*" (GASB No. 84). This statement establishes standards of accounting and financial reporting for fiduciary activities. GASB No. 84 establishes criteria for identifying fiduciary activities of all state and local governments. The focus of the criteria generally is on (1) whether a government is controlling the assets of the fiduciary activity and (2) the beneficiaries with whom a fiduciary relationship exists. An activity meeting the criteria should be reported in a fiduciary fund in the basic financial statements. Governments with activities meeting the criteria should present a statement of fiduciary net position and a statement of changes in fiduciary net position. The statement of fiduciary net position reports the assets, deferred outflows of resources, liabilities, deferred inflows of resources, and fiduciary net position of the fiduciary activities. The statement of changes in fiduciary net position reports the additions to and deductions from the fiduciary fund(s). This statement also provides for the recognition of a liability to the beneficiaries in a fiduciary fund when an event has occurred that compels the government to disburse fiduciary resources. This statement is effective for SMUD in 2019. SMUD is currently assessing the financial statement impact of adopting this statement.

In March 2017, GASB issued SGAS No. 85, "*Omnibus 2017*" (GASB No. 85). GASB No. 85 addresses a variety of topics including issues related to blending component units, goodwill, fair value measurement and application, and postemployment benefits (pensions and other postemployment benefits). This statement is effective for SMUD in 2018. SMUD is currently assessing the financial statement impact of adopting this statement but does not expect it to be material.

In May 2017, GASB issued SGAS No. 86, "*Certain Debt Extinguishment Issues*" (GASB No. 86). The primary objective of this statement is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources (resources other than the proceeds of refunding debt) are placed in an irrevocable trust for the sole purpose of extinguishing debt. GASB No. 86 also improves accounting and financial reporting for prepaid insurance on debt that is extinguished and notes to financial statements for debt that is defeased in substance. This statement is effective for SMUD in 2018. SMUD is currently assessing the financial statement impact of adopting this statement.

In June 2017, GASB issued SGAS No. 87, "*Leases*" (GASB No. 87). The objective of this statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. GASB No. 87 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. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use

an underlying asset. Under 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. The lease liability should be measured at the present value of payments expected to be made during the lease term. As payments are made the lease liability is reduced and an outflow of resources (interest expense) is recognized for the interest on the liability. The lease asset should be amortized in a systematic and rational manner over the shorter of the lease term or the useful life of the underlying asset. The lease receivable should be measured at the present value of the lease payments expected to be received during the lease term. Any payments received are first allocated to accrued interest receivable and then to lease receivable. The deferred inflow of resources should be recognized as inflows of resources (revenue) in a systematic and rational manner over the term of the lease. The lessor should not derecognize the asset underlying the lease. A lease is defined as a contract that conveys control of the right to use another entity's nonfinancial asset (the underlying asset) as specified in the contract for a period of time in an exchange or exchange-like transaction. Examples of nonfinancial assets include buildings, land, vehicles, and equipment. Any contract that meets this definition should be accounted for under the leases guidance, unless specifically excluded in this statement. The lease term is defined as the period during which a lessee has a noncancellable right to use an underlying asset, plus the following periods, if applicable. A short-term lease is defined as a lease that, at the commencement of the lease term, has a maximum possible term under the lease contract of 12 months (or less), including any options to extend, regardless of their probability of being exercised. Lessees and lessors should recognize short-term lease payments as outflows of resources (expenses) or inflows of resources (revenues), respectively, based on the payment provisions of the lease contract. This statement is effective for SMUD in 2020. SMUD is currently assessing the financial statement impact of adopting this statement.

NOTE 3. ACCOUNTING CHANGE

In June 2015, GASB issued GASB No. 73, which extends the approach to accounting and financial reporting established in GASB No. 68 to all pensions. It also requires that information similar to that required by GASB No. 68 be included in the notes to consolidated financial statements and required supplementary information.

SMUD implemented GASB No. 73 in 2017 for a supplemental benefit in lieu of California Public Employees' Retirement System (PERS) Single Highest Year. The implementation impacted the Consolidated Statements of Net Position when the net pension liability and corresponding deferred outflows and deferred inflows of resources were recorded. The implementation also impacted the Consolidated Statements of Revenues, Expenses and Changes in Net Position as pension expense was also recorded (see Note 14 and the Required Supplementary Information).

NOTE 4. UTILITY PLANT

The summarized activity of SMUD's Utility Plant during 2017 is presented below:

	Balance January 1, <u>2017</u>	<u>Additions</u>	Transfers and <u>Disposals</u>	Balance December 31, <u>2017</u>
	(thousands of dollars)			
Nondepreciable Utility Plant:				
Land and land rights	\$ 135,340	\$ 2,822	\$ (15)	\$ 138,147
CWIP	<u>216,081</u>	<u>209,506</u>	<u>(144,895)</u>	<u>280,692</u>
Total nondepreciable utility plant	<u>351,421</u>	<u>212,328</u>	<u>(144,910)</u>	<u>418,839</u>
Depreciable Utility Plant:				
Generation	1,669,687	28,730	(3,200)	1,695,217
Transmission	305,426	3,505	1,264	310,195
Distribution	2,179,486	75,318	(8,650)	2,246,154
Investment in gas properties	206,621	-0-	(4)	206,617
Investment in JPAs	15,649	-0-	(439)	15,210
Intangibles	388,049	25,913	(717)	413,245
General	<u>881,095</u>	<u>13,759</u>	<u>(5,262)</u>	<u>889,592</u>
	5,646,013	147,225	(17,008)	5,776,230
Less: accumulated depreciation and depletion	(2,646,547)	(204,603)	16,196	(2,834,954)
Less: accumulated amortization on JPAs	<u>(6,027)</u>	<u>(313)</u>	<u>-0-</u>	<u>(6,340)</u>
	(2,652,574)	(204,916)	16,196	(2,841,294)
Total depreciable plant	<u>2,993,439</u>	<u>(57,691)</u>	<u>(812)</u>	<u>2,934,936</u>
Total Utility Plant - net	<u>\$ 3,344,860</u>	<u>\$ 154,637</u>	<u>\$ (145,722)</u>	<u>\$ 3,353,775</u>

The summarized activity of SMUD's Utility Plant during 2016 is presented below:

	Balance January 1, 2016	Additions	Transfers and Disposals	Balance December 31, 2016
	(thousands of dollars)			
Nondepreciable Utility Plant:				
Land and land rights	\$ 130,052	\$ 5,324	\$ (36)	\$ 135,340
CWIP	<u>176,071</u>	<u>217,050</u>	<u>(177,040)</u>	<u>216,081</u>
Total nondepreciable utility plant	<u>306,123</u>	<u>222,374</u>	<u>(177,076)</u>	<u>351,421</u>
Depreciable Utility Plant:				
Generation	1,651,815	19,736	(1,864)	1,669,687
Transmission	301,944	3,521	(39)	305,426
Distribution	2,112,536	77,576	(10,626)	2,179,486
Investment in gas properties	206,579	42	-0-	206,621
Investment in JPAs	16,448	-0-	(799)	15,649
Intangibles	357,283	32,083	(1,317)	388,049
General	<u>860,992</u>	<u>40,183</u>	<u>(20,080)</u>	<u>881,095</u>
	5,507,597	173,141	(34,725)	5,646,013
Less: accumulated depreciation and depletion	(2,484,106)	(195,844)	33,403	(2,646,547)
Less: accumulated amortization on JPAs	<u>(5,714)</u>	<u>(313)</u>	<u>-0-</u>	<u>(6,027)</u>
	(2,489,820)	(196,157)	33,403	(2,652,574)
Total depreciable plant	<u>3,017,777</u>	<u>(23,016)</u>	<u>(1,322)</u>	<u>2,993,439</u>
Total Utility Plant - net	<u>\$ 3,323,900</u>	<u>\$ 199,358</u>	<u>\$ (178,398)</u>	<u>\$ 3,344,860</u>

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 PG&E's 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. Effective July 1, 2014, an amendment provides for the return to the City of Roseville of 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 \$208.4 million (unaudited) at December 31, 2017, 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 \$14.6 million and \$15.7 million in 2017 and 2016, respectively.

Summary financial information for TANC is presented below:

	<u>December 31,</u>	
	2017	2016
	<u>(Unaudited)</u>	<u>(Unaudited)</u>
	(thousands of dollars)	
Total Assets	\$ 341,672	\$ 338,213
Total Deferred Outflows of Resources	<u>2,922</u>	<u>4,139</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 344,594</u>	<u>\$ 342,352</u>
Total Liabilities	\$ 330,927	\$ 328,767
Total Net Position	<u>13,667</u>	<u>13,585</u>
Total Liabilities and Net Position	<u>\$ 344,594</u>	<u>\$ 342,352</u>
Changes in Net Position for the Six Months Ended December 31	<u>\$ (424)</u>	<u>\$ (374)</u>

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 \$1.6 million in 2017 and \$2.0 million in 2016.

Summary financial information for BANC is presented below:

	<u>December 31,</u>	
	2017	2016
	<u>(Audited)</u>	<u>(Audited)</u>
	(thousands of dollars)	
Total Assets	<u>\$ 2,092</u>	<u>\$ 1,594</u>
Total Liabilities	\$ 2,092	\$ 1,594
Total Net Position	<u>-0-</u>	<u>-0-</u>
Total Liabilities and Net Position	<u>\$ 2,092</u>	<u>\$ 1,594</u>
Changes in Net Position for the Year Ended December 31	<u>\$ -0-</u>	<u>\$ -0-</u>

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 Cogeneration Project. CVFA is a JPA formed by SMUD and the Sacramento Regional County Sanitation District. CVFA operates the Carson Project, a 65 MW (net) natural gas-fired cogeneration facility and a 42 MW (net) natural gas-fired simple cycle peaking plant. The revenue stream to pay the CVFA bonds' debt service is provided by a "take-or-pay" power purchase agreement between SMUD and CVFA.

SCA Procter & Gamble Cogeneration Project. SCA is a JPA formed by SMUD and the SFA. SCA operates the Procter & Gamble Project, a 136 MW (net) natural gas-fired cogeneration facility and a 50 MW (net) natural gas-fired simple cycle peaking plant. The revenue stream to pay the SCA bonds' debt service is provided by a "take-or-pay" power purchase agreement between SMUD and SCA.

SFA Cosumnes Power Plant Project. SFA is a JPA formed by SMUD and MID. SFA operates the Cosumnes Power Plant Project, a 501 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.

SPA Campbell Soup Cogeneration Project. SPA is a JPA formed by SMUD and the SFA. SPA operates the Campbell Soup Project, a 160 MW (net) natural gas-fired cogeneration facility, and the McClellan Project, a 72 MW (net) natural gas-fired simple cycle peaking plant.

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 of 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.

The summarized activity of SMUD's component units for 2017 is presented below:

CONDENSED STATEMENTS OF NET POSITION
December 31, 2017
(thousands of dollars)

	<u>CVFA</u>	<u>SCA</u>	<u>SFA</u>	<u>SPA</u>	<u>NCGA</u>
Assets					
Electric Utility Plant - net	\$ 50,685	\$ 72,074	\$ 219,260	\$ 65,055	\$ -0-
Current Assets	18,468	35,485	51,238	19,295	59,786
Noncurrent Assets	<u>54</u>	<u>101</u>	<u>1,209</u>	<u>2</u>	<u>223,372</u>
Total Assets	69,207	107,660	271,707	84,352	283,158
Deferred Outflows of Resources	<u>289</u>	<u>495</u>	<u>3,031</u>	<u>-0-</u>	<u>-0-</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 69,496</u>	<u>\$ 108,155</u>	<u>\$ 274,738</u>	<u>\$ 84,352</u>	<u>\$ 283,158</u>
Liabilities					
Long-Term Debt - net	\$ 10,790	\$ 19,518	\$ 152,830	\$ -0-	\$ 233,170
Current Liabilities	11,459	14,983	42,418	8,040	37,328
Noncurrent Liabilities	<u>10,428</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Total Liabilities	32,677	34,501	195,248	8,040	270,498
Net Position	<u>36,819</u>	<u>73,654</u>	<u>79,490</u>	<u>76,312</u>	<u>12,660</u>
Total Liabilities and Net Position	<u>\$ 69,496</u>	<u>\$ 108,155</u>	<u>\$ 274,738</u>	<u>\$ 84,352</u>	<u>\$ 283,158</u>

CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
December 31, 2017
(thousands of dollars)

	<u>CVFA</u>	<u>SCA</u>	<u>SFA</u>	<u>SPA</u>	<u>NCGA</u>
Operating Revenues	\$ 32,007	\$ 51,777	\$ 163,942	\$ 31,959	\$ 41,895
Operating Expenses	<u>27,207</u>	<u>45,471</u>	<u>151,250</u>	<u>37,809</u>	<u>31,083</u>
Operating Income	4,800	6,306	12,692	(5,850)	10,812
Non-Operating Revenues and Expenses					
Other Revenues	50	146	140	44	785
Interest Charges and Other	<u>(924)</u>	<u>(1365)</u>	<u>(4,538)</u>	<u>-0-</u>	<u>(11,870)</u>
Change in Net Position Before Distributions and Contributions	3,926	5,087	8,294	(5,806)	(273)
Distribution to Member	-0-	-0-	-0-	-0-	(809)
Member Contributions and Adjustments	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>69</u>
Change in Net Position	3,926	5,087	8,294	(5,806)	(1,013)
Net Position – Beginning of Year	<u>32,893</u>	<u>68,567</u>	<u>71,196</u>	<u>82,118</u>	<u>13,673</u>
Net Position – End of Year	<u>\$ 36,819</u>	<u>\$ 73,654</u>	<u>\$ 79,490</u>	<u>\$ 76,312</u>	<u>\$ 12,660</u>

CONDENSED STATEMENTS OF CASH FLOWS
December 31, 2017
(thousands of dollars)

	<u>CVFA</u>	<u>SCA</u>	<u>SFA</u>	<u>SPA</u>	<u>NCGA</u>
Net Cash Provided by Operating Activities	\$ 12,357	\$ 11,998	\$ 35,590	\$ 1,722	\$ 41,174
Net Cash Provided by (Used in) Noncapital Financing Activities	-0-	-0-	-0-	-0-	(41,347)
Net Cash Used in Capital Financing Activities	(10,539)	(7,956)	(33,607)	(353)	-0-
Net Cash Provided by Investing Activities	<u>37</u>	<u>111</u>	<u>122</u>	<u>33</u>	<u>758</u>
Net Increase in Cash and Cash Equivalents	1,855	4,153	2,105	1,402	585
Cash and Cash Equivalents at the Beginning of the Year	<u>6,910</u>	<u>16,197</u>	<u>22,704</u>	<u>5,795</u>	<u>20,654</u>
Cash and Cash Equivalents at the End of the Year	<u>\$ 8,765</u>	<u>\$ 20,350</u>	<u>\$ 24,809</u>	<u>\$ 7,197</u>	<u>\$ 21,239</u>

The summarized activity of SMUD's component units for 2016 is presented below:

CONDENSED STATEMENTS OF NET POSITION
December 31, 2016
(thousands of dollars)

	<u>CVFA</u>	<u>SCA</u>	<u>SFA</u>	<u>SPA</u>	<u>NCGA</u>
Assets					
Electric Utility Plant - net	\$ 51,674	\$ 77,777	\$ 234,671	\$ 72,233	\$ -0-
Restricted Assets	-0-	-0-	-0-	-0-	1
Current Assets	19,580	29,882	63,780	18,138	55,347
Noncurrent Assets	<u>88</u>	<u>139</u>	<u>1,308</u>	<u>3</u>	<u>258,079</u>
Total Assets	71,342	107,798	299,759	90,374	313,427
Deferred Outflows of Resources	<u>505</u>	<u>758</u>	<u>3,528</u>	<u>-0-</u>	<u>-0-</u>
Total Assets and Deferred Outflows of Resources	<u>\$ 71,847</u>	<u>\$ 108,556</u>	<u>\$ 303,287</u>	<u>\$ 90,374</u>	<u>\$ 313,427</u>
Liabilities					
Long-Term Debt - net	\$ 15,907	\$ 25,549	\$ 170,479	\$ -0-	\$ 264,475
Current Liabilities	13,321	14,440	61,612	8,256	35,279
Noncurrent Liabilities	<u>9,726</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>
Total Liabilities	38,954	39,989	232,091	8,256	299,754
Net Position	<u>32,893</u>	<u>68,567</u>	<u>71,196</u>	<u>82,118</u>	<u>13,673</u>
Total Liabilities and Net Position	<u>\$ 71,847</u>	<u>\$ 108,556</u>	<u>\$ 303,287</u>	<u>\$ 90,374</u>	<u>\$ 313,427</u>

CONDENSED STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
December 31, 2016
(thousands of dollars)

	<u>CVFA</u>	<u>SCA</u>	<u>SFA</u>	<u>SPA</u>	<u>NCGA</u>
Operating Revenues	\$ 35,854	\$ 56,602	\$ 210,631	\$ 44,719	\$ 40,338
Operating Expenses	<u>33,295</u>	<u>51,541</u>	<u>196,941</u>	<u>49,179</u>	<u>27,943</u>
Operating Income	2,559	5,061	13,690	(4,460)	12,395
Non-Operating Revenues and Expenses					
Other Revenues	1,607	2,999	10,021	3,378	707
Interest Charges and Other	<u>(1,169)</u>	<u>(1,618)</u>	<u>(4,670)</u>	<u>-0-</u>	<u>(12,973)</u>
Change in Net Position Before Distributions and Contributions	2,997	6,442	19,041	(1,082)	129
Distribution to Member	-0-	-0-	-0-	-0-	(748)
Member Contributions and Adjustments	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>-0-</u>	<u>71</u>
Change in Net Position	2,997	6,442	19,041	(1,082)	(548)
Net Position – Beginning of Year	<u>29,896</u>	<u>62,125</u>	<u>52,155</u>	<u>83,200</u>	<u>14,221</u>
Net Position – End of Year	<u>\$ 32,893</u>	<u>\$ 68,567</u>	<u>\$ 71,196</u>	<u>\$ 82,118</u>	<u>\$ 13,673</u>

CONDENSED STATEMENTS OF CASH FLOWS
December 31, 2016
(thousands of dollars)

	<u>CVFA</u>	<u>SCA</u>	<u>SFA</u>	<u>SPA</u>	<u>NCGA</u>
Net Cash Provided by Operating Activities	\$ 9,498	\$ 15,257	\$ 39,808	\$ 8,661	\$ 39,769
Net Cash Provided by (Used in) Noncapital Financing Activities	-0-	-0-	-0-	-0-	(39,893)
Net Cash Used in Capital Financing Activities	(8,965)	(11,328)	(38,835)	(7,028)	-0-
Net Cash Provided by Investing Activities	<u>5</u>	<u>28</u>	<u>33</u>	<u>5</u>	<u>693</u>
Net Increase in Cash and Cash Equivalents	538	3,957	1,006	1,638	569
Cash and Cash Equivalents at the Beginning of the Year	<u>6,372</u>	<u>12,240</u>	<u>21,698</u>	<u>4,157</u>	<u>20,085</u>
Cash and Cash Equivalents at the End of the Year	<u>\$ 6,910</u>	<u>\$ 16,197</u>	<u>\$ 22,704</u>	<u>\$ 5,795</u>	<u>\$ 20,654</u>

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 CVFA's, SCA's, SFA's, SPA's and NCGA'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.

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 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 policy for custodial credit risk.

As of December 31, 2017 and 2016, \$18.3 million and \$11.3 million in deposits were uninsured, respectively. The bank balance is also, per a depository pledge agreement between SMUD and SMUD’s bank, collateralized at 134 percent and 122 percent of the collective funds on deposit (increased by the amount of accrued but uncredited interest, reduced by deposits covered by FDIC) at December 31, 2017 and 2016, respectively. SMUD had money market funds of \$117.7 million and \$111.3 million which were uninsured at December 31, 2017 and 2016, 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 and federal agency securities. The following are the concentrations of risk greater than five percent in either year:

Investment Type:	December 31,	
	2017	2016
Federal Home Loan Banks	20%	19%
Freddie Mac	13%	34%
Federal Farm Credit Bank	13%	2%
Corporate Note – Berkshire Hathaway	5%	3%
Corporate Note – Wells Fargo Bank	5%	6%

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, 2017 and 2016. 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, 2017, SMUD's cash, cash equivalents, and investments consist of the following:

<u>Description</u>	<u>Credit Rating</u>	Remaining Maturities (in years)			<u>Total Fair Value</u>
		<u>Less Than 1</u>	<u>1-5</u>	<u>More than 5</u>	
(thousands of dollars)					
Cash and Cash Equivalents:					
Cash	N/A	\$ 16,738	\$ -0-	\$ -0-	\$ 16,738
LAIF	Not Rated	119,832	-0-	-0-	119,832
Money Market Funds	AAA	117,727	-0-	-0-	117,727
Deposit at Notice	N/A	4,545	-0-	-0-	4,545
Commercial Paper	A-1	<u>17,845</u>	<u>-0-</u>	<u>-0-</u>	<u>17,845</u>
Total cash and cash equivalents		276,687	-0-	-0-	276,687
Investments:					
Fannie Mae	AA+	-0-	19,497	-0-	19,497
Federal Farm Credit Bank	AA+	-0-	68,266	-0-	68,266
Federal Home Loan Bank	AA+	-0-	103,430	-0-	103,430
Freddie Mac	AA+/A-1+	9,890	59,608	-0-	69,498
Financing Corp FICO	N/A	-0-	12,777	-0-	12,777
U.S. Treasury Obligations	AA+	-0-	163,120	-0-	163,120
Corporate Notes	AAA/AA/AA-/A+/A	-0-	106,170	-0-	106,170
Municipal Bonds	AA-	-0-	15,073	-0-	15,073
Commercial Paper	A-1+/A-1	<u>29,765</u>	<u>-0-</u>	<u>-0-</u>	<u>29,765</u>
Total investments		<u>39,655</u>	<u>547,941</u>	<u>-0-</u>	<u>587,596</u>
Total cash, cash equivalents, and investments		<u>\$ 316,342</u>	<u>\$ 547,941</u>	<u>\$ -0-</u>	<u>\$ 864,283</u>

At December 31, 2016, SMUD's cash, cash equivalents, and investments consist of the following:

Description	Credit Rating	Remaining Maturities (in years)			Total Fair Value
		Less Than 1	1-5	More than 5	
(thousands of dollars)					
Cash and Cash Equivalents:					
Cash	N/A	\$ 1,614	\$ -0-	\$ -0-	\$ 1,614
LAIF	Not Rated	130,689	-0-	-0-	130,689
Money Market Funds	AAAm	111,323	-0-	-0-	111,323
Deposit at Notice	N/A	2,446	-0-	-0-	2,446
Commercial Paper	A-1	<u>16,700</u>	<u>-0-</u>	<u>-0-</u>	<u>16,700</u>
Total cash and cash equivalents		262,772	-0-	-0-	262,772
Investments:					
Fannie Mae	AA+	-0-	19,488	-0-	19,488
Federal Farm Credit Bank	AA+	-0-	9,891	-0-	9,891
Federal Home Loan Bank	AA+	34,924	63,597	-0-	98,521
Freddie Mac	AA+	139,886	34,777	-0-	174,663
Financing Corp FICO	Aaa	-0-	13,808	-0-	13,808
U.S. Treasury Obligations	N/A	14,999	43,760	-0-	58,759
Corporate Notes	AAA/AA/AA-/A+/A	76,043	74,062	-0-	150,105
Municipal Bonds	AA-	23,082	-0-	-0-	23,082
Commercial Paper	AA-	<u>10,408</u>	<u>-0-</u>	<u>-0-</u>	<u>10,408</u>
Total investments		<u>299,342</u>	<u>259,383</u>	<u>-0-</u>	<u>558,725</u>
Total cash, cash equivalents, and investments		<u>\$ 562,114</u>	<u>\$ 259,383</u>	<u>\$ -0-</u>	<u>\$ 821,497</u>

SMUD's cash, cash equivalents, and investments are classified in the Consolidated Statements of Net Position as follows:

	December 31,	
	2017	2016
(thousands of dollars)		
Total Cash, Cash Equivalents, and Investments:		
Revenue bond reserve and debt service funds:		
Revenue bond reserve fund	\$ 6,432	\$ 7,395
Debt service fund	51,841	68,964
Component unit bond reserve and debt service funds	<u>35,049</u>	<u>39,106</u>
Total revenue bond reserve and debt service funds	93,322	115,465
Nuclear decommissioning trust fund	8,411	8,357
Rate stabilization fund	99,899	35,154
Component unit other restricted funds	3,207	3,777
Escrow fund	6,374	6,056
Other restricted funds	654	654
Unrestricted funds	<u>652,416</u>	<u>652,034</u>
Total cash, cash equivalents, and investments	<u>\$ 864,283</u>	<u>\$ 821,497</u>

NOTE 8. REGULATORY DEFERRALS

The Board has taken various regulatory actions that result in differences between the recognition of revenues and expenses for rate-making 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 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 2017 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 liability. The regulatory asset will be amortized over a period of 25 years starting in 2018.

SMUD's total regulatory costs for future recovery are presented below:

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
	(thousands of dollars)	
Regulatory Costs:		
Decommissioning	\$ 151,640	\$ 149,258
Derivative financial instruments	14,529	15,567
Debt issuance costs	2,526	7,913
Pension	<u>425,680</u>	<u>425,680</u>
Total regulatory costs	594,375	598,418
Less: regulatory costs to be recovered within one year	<u>(20,178)</u>	<u>(11,523)</u>
Total regulatory costs for future recovery - net	<u>\$ 574,197</u>	<u>\$ 586,895</u>

Regulatory Credits

CIAC. In 2017 and 2016, SMUD added CIAC totaling \$14.6 million and \$15.6 million, respectively, to Regulatory Credits in the Consolidated Statements of Net Position and recorded \$11.9 million and \$11.4 million of amortization, respectively, to Other Income - Net in the Consolidated 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 transferred into this fund

(which reduces revenues), or amounts are transferred out of this fund (which increases revenues). The Board authorizes Rate Stabilization Fund (RSF) transfers on an event driven basis. In 2017, \$12.3 million was transferred from revenue to the RSF as a result of higher than budgeted energy deliveries from Western Area Power Administration (Western). In 2016, \$5.1 million was transferred from the RSF to revenue as a result of lower than budgeted energy deliveries from Western.

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 5 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 is fully replenished, a wet year can trigger a hydro rebate or credit on the customers' bills. In 2017 and 2016, \$52.4 million and \$10.0 million, respectively, was transferred from revenue to the HRSF as a result of high precipitation.

Energy Assistance Program Rate (EAPR). In 2016, The Board authorized SMUD to transfer \$10.0 million of revenue to a regulatory credit related to EAPR. This regulatory credit is intended to offset future expenditures for energy efficiency programs for EAPR customers from the period 2018-2020.

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.

Grant Revenues. In 2009, SMUD was awarded several large grants under the ARRA, 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 will be 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 regulatory asset relating to deferred TANC costs comprises the difference between its cash payments made to TANC and its share of TANC's accrual-based costs of operations. This regulatory asset is being collected in rates over the life of TANC's assets during the period that cash payments to TANC exceed TANC's accrual-based 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,	
	2017	2016
	(thousands of dollars)	
Regulatory Credits:		
CIAC	\$ 254,328	\$ 251,623
Rate stabilization	37,509	25,188
Hydro rate stabilization	62,390	9,966
EAPR	10,000	10,000
Senate Bill 1	12,049	1,925
Grant revenues	46,975	52,535
TANC operations costs	<u>22,406</u>	<u>18,975</u>
Total regulatory credits	<u>\$ 445,657</u>	<u>\$ 370,212</u>

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 derivatives 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 on the Consolidated Statements of Net Position. Derivatives that do not meet the effectiveness tests are deferred for rate-making purposes as regulatory assets or liabilities on the Consolidated Statements of Net Position (see Note 8).

During 2017 and 2016, SMUD executed numerous new gas and power related purchase agreements, some of which are recorded as hedging or investment derivatives and are therefore included in the following table. All hedging or investment derivatives are recorded at fair value on the Consolidated Statements of Net Position.

For electricity and gas derivatives, fair values are estimated by comparing contract prices to forward market prices quoted by an independent external pricing service. When external quoted market prices are not available for derivative contracts, SMUD uses an internally developed valuation model utilizing short term observable inputs. For interest rate derivatives, SMUD calculates the fair value by discounting the expected cash flows at their corresponding zero coupon rate.

The following is a summary of the fair values, changes in fair value and notional amounts of derivative instruments, grouped by trading strategy, outstanding at December 31, 2017 (amounts in thousands; gains shown as positive amounts, losses as negative):

	2017 Changes in Fair Value		Fair Value at December 31, 2017		Notional
	Current Amount	Noncurrent Amount	Current Amount	Noncurrent Amount	
<u>Cash Flow Hedges:</u>					
(thousands of dollars)					
(thousands of Dekatherms (Dth))					
<u>Asset: Investment Derivative Instruments</u>					
Gas – Commodity	\$ (401)	\$ (175)	\$ -0-	\$ -0-	
Gas – Storage	1	-0-	1	-0-	78 Dth
Gas – Transportation	(19)	-0-	-0-	-0-	
Total Investment					
Derivative Instruments	\$ (419)	\$ (175)	\$ 1	\$ 0	
<u>Asset: Hedging Derivative Instruments</u>					
Gas – Basis	\$ 265	\$ -0-	\$ 265	\$ -0-	3,960 Dth
Gas – Commodity	(307)	(394)	526	228	9,258 Dth
Gas – Storage	(341)	-0-	2	-0-	78 Dth
Gas – Transportation	5	-0-	52	-0-	2,290 Dth
Interest Rate	(4,635)	(1,636)	2,023	18,131	\$317,785
Total Hedging					
Derivative Instruments	\$ (5,013)	\$ (2,030)	\$ 2,868	\$ 18,359	
<u>Liability: Investment Derivative Instruments</u>					
Gas – Basis	\$ (34)	\$ -0-	\$ -0-	\$ -0-	
Gas – Commodity	(623)	2,645	1,636	3,900	7,833 Dth
Gas – Transportation	(30)	-0-	-0-	-0-	
Interest Rate	(3,001)	(589)	1,197	7,797	\$122,115
Total Investment					
Derivative Instruments	\$ (3,688)	\$ 2,056	\$ 2,833	\$ 11,697	
<u>Liability: Hedging Derivative Instruments</u>					
Gas – Basis	\$ (515)	\$ -0-	\$ -0-	\$ -0-	
Gas – Commodity	(168)	(18,516)	27,219	78,145	91,660 Dth
Gas – Storage	11	-0-	202	-0-	2,590 Dth
Gas – Transportation	(62)	-0-	79	-0-	4,563 Dth
Total Hedging					
Derivative Instruments	\$ (734)	\$ (18,516)	\$ 27,500	\$ 78,145	

The following is a summary of the fair values, changes in fair value and notional amounts of derivative instruments, grouped by trading strategy, outstanding at December 31, 2016 (amounts in thousands; gains shown as positive amounts, losses as negative):

	2016 Changes in Fair Value		Fair Value at December 31, 2016		Notional
	Current Amount	Noncurrent Amount	Current Amount	Noncurrent Amount	
<u>Cash Flow Hedges:</u>					
(thousands of dollars)					
(thousands of Dekatherms (Dth))					
<u>Asset: Investment Derivative Instruments</u>					
Gas – Commodity	\$ 401	\$ 175	\$ 401	\$ 175	1,795 Dth
Gas – Transportation	19	-0-	19	-0-	380 Dth
Total Investment					
Derivative Instruments	\$ 420	\$ 175	\$ 420	\$ 175	
<u>Asset: Hedging Derivative Instruments</u>					
Gas – Basis	\$ (323)	\$ -0-	\$ -0-	\$ -0-	
Gas – Commodity	29	622	833	622	7,013 Dth
Gas – Storage	298	-0-	343	-0-	1,428 Dth
Gas – Transportation	(237)	-0-	47	-0-	2,600 Dth
Interest Rate	374	(1,954)	6,658	19,767	\$331,190
Total Hedging					
Derivative Instruments	\$ 141	\$ (1,332)	\$ 7,881	\$ 20,389	
<u>Liability: Investment Derivative Instruments</u>					
Gas – Basis	\$ (34)	\$ -0-	\$ 34	\$ -0-	225 Dth
Gas – Commodity	4,785	5,949	2,259	1,255	6,885 Dth
Gas – Transportation	(30)	-0-	30	-0-	155 Dth
Interest Rate	1,337	3,787	4,198	8,386	\$151,830
Total Investment					
Derivative Instruments	\$ 6,058	\$ 9,736	\$ 6,521	\$ 9,641	
<u>Liability: Hedging Derivative Instruments</u>					
Gas – Basis	\$ (352)	\$ -0-	\$ 515	\$ -0-	5,925 Dth
Gas – Commodity	37,062	37,761	27,387	96,661	104,117 Dth
Gas – Storage	190	-0-	191	-0-	930 Dth
Gas – Transportation	66	-0-	141	-0-	1,458 Dth
Total Hedging					
Derivative Instruments	\$ 36,966	\$ 37,761	\$ 28,234	\$ 96,661	

Objectives and Terms of Hedging Derivative Instruments. The objectives and terms of SMUD’s hedging derivative instruments that were outstanding at December 31, 2017 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.

	<u>Notional Amount Dth</u>	<u>Beginning Date</u>	<u>Ending Date</u>	<u>Minimum Price/Dth</u>	<u>Maximum Price/Dth</u>
Gas – Basis	3,960	01/01/18	12/31/18	\$ (1.56)	\$ (1.42)
Gas – Commodity	100,918	01/01/08	12/31/22	2.61	7.17
Gas – Storage	2,668	01/01/18	03/31/18	(.26)	.25
Gas – Transportation	6,853	01/01/18	12/31/18	(.42)	(.20)

The objectives and terms of SMUD’s hedging derivative instruments that were outstanding at December 31, 2016 are summarized in the table below. The table is aggregated by the trading strategy.

	<u>Notional Amount Dth</u>	<u>Beginning Date</u>	<u>Ending Date</u>	<u>Minimum Price/Dth</u>	<u>Maximum Price/Dth</u>
Gas – Basis	5,925	01/01/17	12/31/17	\$ (0.99)	\$ (0.96)
Gas – Commodity	111,130	01/01/08	12/31/22	2.75	7.17
Gas – Storage	2,358	01/01/17	03/31/17	.10	.43
Gas – Transportation	4,058	01/01/17	03/31/17	(0.18)	.11

SMUD hedges its interest rate exposure with several swaps. One swap is used to convert some of the interest expense associated with fixed rate bonds to a variable rate interest expense. SMUD also has two forward starting swaps that are designed to partially fix the interest expense associated with variable rate bonds (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.

Derivatives Not Designated as Hedging 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 on the Consolidated 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 Consolidated Statements of Net Position. The actual settlement payable is recorded in Accounts Payable on the Consolidated Statements of Net Position, and the actual settlement receivable is recorded in Receivables - Net: Wholesale and Other on the Consolidated Statements of Net Position. The payments and receipts of the actual settlement are recorded as Investment Expense in the Consolidated 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 on the Consolidated 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 Consolidated Statements of Net Position. The interest receivable is recorded in Receivables - Net: Wholesale and Other on the Consolidated Statements of Net Position and the accrued interest is recorded in Interest Payable on the Consolidated Statements of Net Position. The payments or receipts of the actual settlement are recorded as Investment Expense in the Consolidated 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 rate-making purposes, and maintains regulatory accounts to defer the accounting impact of these accounting adjustments (see Note 8). Market values may have changed significantly since December 31, 2017.

Basis Risk. This is the risk that arises when a hedged item and a derivative 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 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 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 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 derivatives up to the fair value amounts.

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 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 were 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 were 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' current credit rating at December 31, 2017 is shown in the table below. The credit ratings listed are from S&P or Moody's.

<u>Counterparty Gas Contracts:</u>	<u>Counterparty Credit Rating</u>
Bank of Montreal	A+
Barclays Bank PLC	A-
Cargill Inc.	A
Citigroup Inc.	BBB+
EDF Trading Group	BBB
J.P. Morgan Ventures Energy Corp.	A-
Merrill Lynch	BBB+
Morgan Stanley Capital Group, Inc.	BBB+
Shell Trading Market Risk	A
 <u>Interest Rate Contracts:</u>	
Goldman Sachs Capital Markets, L.P.	BBB+
Goldman Sachs Mitsui Marine Derivative Products, L.P.	AA-
Morgan Stanley Capital Services, Inc.	BBB+
Wells Fargo & Company	AA-
Bank of America Corporation	A+

NOTE 10. LONG-TERM DEBT

SMUD's total long-term debt is presented below:

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
	(thousands of dollars)	
Electric revenue bonds, 2.0%-6.32%, 2018-2041	\$ 1,783,660	\$ 1,676,315
Subordinated electric revenue bonds, index rates, 2018-2041	<u>88,750</u>	<u>341,850</u>
Total electric revenue bonds	1,872,410	2,018,165
Component unit project revenue bonds, 3.0%-5.25%, 2018-2030	186,890	220,925
Gas supply prepayment bonds, index rates, 2018-2027	<u>264,475</u>	<u>292,870</u>
Total long-term debt outstanding	2,323,775	2,531,960
Bond premiums - net	<u>150,440</u>	<u>133,275</u>
Total long-term debt	2,474,215	2,665,235
Less: amounts due within one year	<u>(132,440)</u>	<u>(160,585)</u>
Total long-term debt - net	<u>\$ 2,341,775</u>	<u>\$ 2,504,650</u>

The summarized activity of SMUD's long-term debt during 2017 is presented below:

	December 31, <u>2016</u>	<u>Additions</u>	Payments or <u>Amortization</u>	December 31, <u>2017</u>	Amounts Due Within <u>One Year</u>
	(thousands of dollars)				
Electric revenue bonds	\$ 1,676,315	\$ 202,500	\$ (95,155)	\$ 1,783,660	\$ 76,300
Subordinate electric revenue bonds	341,850	-0-	(253,100)	88,750	-0-
Component unit project revenue bonds	220,925	-0-	(34,035)	186,890	24,835
Gas supply prepayment bonds	<u>292,870</u>	<u>-0-</u>	<u>(28,395)</u>	<u>264,475</u>	<u>31,305</u>
Total	2,531,960	202,500	(410,685)	2,323,775	<u>\$ 132,440</u>
Unamortized premiums - net	<u>133,275</u>	<u>34,582</u>	<u>(17,417)</u>	<u>150,440</u>	
Total long-term debt	<u>\$ 2,665,235</u>	<u>\$ 237,082</u>	<u>\$ (428,102)</u>	<u>\$ 2,474,215</u>	

The summarized activity of SMUD's long-term debt during 2016 is presented below:

	December 31, <u>2015</u>	<u>Additions</u>	Payments or <u>Amortization</u>	December 31, <u>2016</u>	Amounts Due Within <u>One Year</u>
	(thousands of dollars)				
Electric revenue bonds	\$ 1,786,080	\$ 149,890	\$ (259,655)	\$ 1,676,315	\$ 95,155
Subordinate electric revenue bonds	344,850	341,850	(344,850)	341,850	3,000
Component unit project revenue bonds	253,375	-0-	(32,450)	220,925	34,035
Gas supply prepayment bonds	<u>318,795</u>	<u>-0-</u>	<u>(25,925)</u>	<u>292,870</u>	<u>28,395</u>
Total	2,703,100	491,740	(662,880)	2,531,960	<u>\$ 160,585</u>
Unamortized premiums - net	<u>123,080</u>	<u>36,437</u>	<u>(26,242)</u>	<u>133,275</u>	
Total long-term debt	<u>\$ 2,826,180</u>	<u>\$ 528,177</u>	<u>\$ (689,122)</u>	<u>\$ 2,665,235</u>	

At December 31, 2017 scheduled annual principal maturities and interest are as follows:

	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
	(thousands of dollars)		
2018	\$ 132,440	\$ 112,762	\$ 245,202
2019	148,270	110,003	258,273
2020	132,810	103,089	235,899
2021	136,955	96,426	233,381
2022	138,170	89,790	227,960
2023 – 2027 (combined)	725,910	346,275	1,072,185
2028 – 2032 (combined)	400,690	190,652	591,342
2033 – 2037 (combined)	397,435	74,781	472,216
2038 – 2041 (combined)	<u>111,095</u>	<u>11,892</u>	<u>122,987</u>
Total Requirements	<u>\$ 2,323,775</u>	<u>\$ 1,135,670</u>	<u>\$ 3,459,445</u>

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 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, 2017 for the issues.

The following bonds have been issued and are outstanding at December 31, 2017:

<u>Date</u>	<u>Issue</u>	<u>Final Maturity</u>	<u>Interest Rate</u>	<u>Original Amount</u>	<u>Outstanding Amount</u>
(thousands of dollars)					
<u>Electric Revenue Bonds</u>					
06/15/1997	1997 Series K Bonds	07/01/2024	5.25% - 5.9%	\$ 131,030	\$ 117,625
06/09/2008	2008 Series U Bonds	08/15/2028	3.0% - 5.0%	521,730	219,895
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
10/04/2011	2011 Series X Bonds	08/15/2028	1.5% - 5.0%	325,550	228,995
05/31/2012	2012 Series Y Bonds	08/15/2033	3.0% - 5.0%	196,945	185,515
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	97,220
07/14/2016	2016 Series D Bonds	08/15/2028	2.0% - 5.0%	149,890	149,890
12/14/2017	2017 Series E Bonds	08/15/2028	5.0%	202,500	202,500
<u>JPA Electric Revenue Bonds</u>					
08/19/2009	2009 CVFA Bonds	07/01/2020	2.25% - 5.25%	\$ 48,920	\$ 15,555
08/19/2009	2009 SCA Bonds	07/01/2021	4.0% - 5.25%	57,530	24,695
06/03/2015	2015 SFA Bonds	07/01/2030	2.0% - 5.0%	193,335	146,640
05/31/2007	2007B NCGA#1 Bonds	07/01/2027	Index Rate	668,470	264,475
<u>Subordinated Electric Revenue Bonds</u>					
10/27/2016	2016 Series N Bonds	08/15/2041	Index Rate	\$ 72,000	\$ 44,375
10/27/2016	2016 Series O Bonds	08/15/2041	Index Rate	72,000	44,375

2017 Bond Refunding. In December 2017, SMUD issued \$202.5 million of 2017 Series E Electric Revenue Refunding Bonds. The purpose of this transaction was to refund variable rate debt with fixed rate debt to reduce the risk of increased interest rates. Proceeds from the 2017 Series Bonds, in addition to \$13.0 million of funds on hand, were used to defease \$26.1 million of a portion of the Series 2016 N bonds, \$26.1 million of a portion of the Series 2016 O bonds, \$120.0 million of all of the outstanding 2016 Series P bonds, and \$77.9 million of all of the outstanding Series 2016 Q bonds. A total of \$250.1 million 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 loss of \$5.5 million, which is being amortized over the life of the refunding issue. Based on an assumed LIBOR rate of 1.7 percent for the life of the debt, the 2017 refunding increased future aggregate debt service payments by \$0.6 million and resulted in a total economic loss of \$1.4 million, which is the difference between the present value of the old and new debt service payments.

2016 Bond Refunding. In June 2016, SMUD issued \$149.9 million of 2016 Series D Electric Revenue Refunding Bonds. Proceeds from the 2016 Series Bonds were used to refund \$125.4 million of the outstanding 2008 Series U Bonds, and \$43.6 million of outstanding 2011 Series X Bonds, 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 loss of \$12.6 million, which is being amortized over the life of the refunding issue. The 2016 refunding reduced future aggregate debt service payments by \$27.2 million and resulted in a total economic gain of \$23.4 million, which is the difference between the present value of the old and new debt service payments.

2016 Conversion to Direct Placement. In October and November of 2016, SMUD completed transactions to convert all of the outstanding 2008 Series J, 2008 Series K, 2012 Series L, and 2012 Series M Bonds to direct placements, totaling \$341.9 million (see Direct Purchase Agreements below). As part of each transaction, new bonds were issued to defease the old bonds, and as a result, the reimbursement agreements with Bank of America, State Street, and US Bank were terminated. The scheduled principal payments remain unchanged unless the bonds aren't successfully remarketed at the end of the term. Accordingly, SMUD has recorded such bonds as Long-Term Debt, less amounts due within one year in the Consolidated Statements of Net Position. No additional deferred gain or loss or economic gain resulted from these transactions.

Interest Rate Swap Agreements. A summary of SMUD's five interest rate swap agreements 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
\$ 117,625	Variable	5.154%	SIFMA	07/01/24	BBB+
26,015	Fixed	4.345%	70% of LIBOR	08/15/18	AA-
96,100	Fixed	2.894%	63% of LIBOR	08/15/28	BBB+
79,714	Fixed	1.172%	67% of LIBOR	08/15/28	AA-
120,446	Fixed	1.113%	67% of LIBOR	08/15/28	A+

SMUD has a fixed-to-variable interest rate swap agreement with a notional amount of \$117.6 million, 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 (1.71 percent at December 31, 2017) and receives fixed rate payments of 5.154 percent. In connection with the swap agreement, SMUD has a put option agreement, also with a notional amount of \$117.6 million, 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 0.268 percent 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.

SMUD has two variable-to-fixed interest rate swap agreements with a combined notional amount of \$122.1 million 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 values of the two swaps are amortized over the life of the respective swap agreements. SMUD can terminate all 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.

Additionally, in June 2016, SMUD executed variable-to-fixed interest rate swap agreements with Wells Fargo and Bank of America with a combined notional amount of \$200.2 million. These were entered into for the purpose of fixing the effective interest rate associated with subordinated bonds that are expected to be issued in July of 2018. The swaps do not take effect until July 12, 2018. 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. Additionally, on August 15, 2023 and for the remaining life of the swaps, the swaps can be terminated at no cost to SMUD. 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.

Component Unit Interest Rate Swap Agreements. NCGA has two interest rate swap agreements, which are 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
\$ 65,865	Fixed	4.144%	67% of LIBOR +.63%	07/01/19	BBB+
198,610	Fixed	4.304%	67% of LIBOR +.72%	07/01/27	BBB+

At December 31, 2017, NCGA had two variable-to-fixed interest rate swap agreements 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 (1.69 percent at December 31, 2017) plus an interest rate spread, as specified in each swap agreement. The total notional amount of the two swaps at December 31, 2017 was \$264.5 million and was equivalent to the outstanding principal balance on the NCGA Bonds. The swaps are amortized over the life of their respective swap agreements in a manner corresponding to the principal repayment schedule of the NCGA Bonds. Early termination of the swaps would occur upon termination of the prepaid agreement for any reason. Upon early termination, the swaps 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.

Direct Purchase Agreements. On October 31, 2016, SMUD completed two transactions in which US Bank and State Street purchased all of the outstanding 2012 Series L and Series M Bonds, respectively. As a result of these transactions, SMUD issued the 2016 Series N and the Series O Bonds for the purpose of defeasing the 2012 Series L and Series M Bonds, respectively. During 2017 and 2016, SMUD paid interest on both series on a monthly basis at the rate of 67 percent of one-month LIBOR plus a fixed fee. Following tax reform, on January 1 2018, SMUD will pay interest at the rate of 85 percent of one-month LIBOR plus a fixed fee. The terms are three and a half years, at the end of which SMUD can remarket the bonds, utilize another interest rate mode, or if remarketing is unsuccessful, pay the bonds over five years. The scheduled principal payments for the 2016 Series N and Series O Bonds are the same as the defeased 2012 Series L and Series M Bonds, however the 2017 Bond Refunding defeased all the maturities between 2018 and 2028. The term is three and a half years, at the end of which SMUD can remarket the bonds, utilize another interest rate mode, or if remarketing is unsuccessful, pay the bonds over five years. The scheduled principal payments remain unchanged unless the bonds aren’t successfully remarketed at the end of the term.

On November 16, 2016, SMUD completed a transaction in which Bank of America purchased all of the outstanding 2008 Series J and 2008 Series K Bonds. As a result of this transaction, the bonds were renamed the 2016 Series P and the 2016 Series Q Bonds, and SMUD paid interest on a monthly basis at the rate of 67 percent of one-month LIBOR plus a fixed fee. As a result of the 2017 Bond Refunding, all of the 2016 Series P and Series Q bonds were defeased.

Component Unit Bonds. The component units of SMUD have each issued bonds to finance their respective projects. The revenue stream to pay CVFA, SCA, and SFA bonds’ debt service is provided by “take-or-pay” power purchase agreements, and is therefore not dependent on the successful operation of the projects. SMUD guarantees to make payments sufficient to pay principal and interest and all other payments required to be made under the CVFA’s, SCA’s, and SFA’s indenture of trust. CVFA, SCA, and SFA are not required to repay SMUD for any amounts paid under this guarantee. The revenue stream to pay NCGA bonds’ debt service is provided by a “take-and-pay” purchase agreement. 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 are collected from SMUD in connection with the sale of gas to SMUD. The ability for NCGA to service debt is dependent on various parties (particularly MSCG, as gas supplier) meeting their contractual obligations.

Callable Bonds. SMUD has \$538.8 million of Electric Revenue Bonds that are currently callable, \$450.0 million of which are fixed rate Build America Bonds debt and \$88.8 million of subordinate bonds. SMUD also has \$730.6 million of bonds that become callable from 2018 through 2026, and these bonds can be called until maturity.

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 2017. Proceeds from the bonds provided financing for various capital improvement projects, component unit capital projects, and the prepayment of a twenty-year supply of natural gas. 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 2041 at December 31, 2017.

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,	
	2017	2016
	(thousands of dollars)	
Pledged future revenues	\$ 2,323,775	\$ 2,531,960
Principal and interest payments for the year ended	\$ 273,549	\$ 269,141
Total net revenues for the year ended	\$ 786,647	\$ 786,764
Total remaining principal and interest to be paid	\$ 3,459,445	\$ 3,724,778
Annual principal and interest payments as a percent of net revenues		
For the year ended	35%	34%

NOTE 11. COMMERCIAL PAPER NOTES

SMUD issues Commercial Paper Notes (Notes) to finance or reimburse capital expenditures. At December 31, 2017 and 2016 Notes outstanding totaled \$200.0 million. The average interest rate for the Notes outstanding at December 31, 2017 and 2016 was 1.03 percent and .75 percent and the average term was 80 days and 68 days, respectively. SMUD has a \$204.9 million letter of credit agreement, and there have not been any term advances under it.

The summarized activity of SMUD’s Notes during 2017 and 2016 is presented below:

	Balance at Beginning of Year	Additions	Reductions	Balance at End of Year
	(thousands of dollars)			
December 31, 2017	\$ 200,000	\$ -0-	\$ -0-	\$ 200,000
December 31, 2016	\$ 200,000	\$ -0-	\$ -0-	\$ 200,000

NOTE 12. FAIR VALUE MEASUREMENT

Effective January 1, 2016, SMUD adopted GASB No. 72, which 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 disclosed below.

- 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 Derivative Instruments:
 - 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 are estimated based on a 1-month LIBOR forward curve from Bloomberg, and assuming SIFMA is equal to 70 percent of 1-month LIBOR.
 - 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 calculated based on prevailing market quotes in active markets (i.e., Henry Hub and So Cal) where identical contracts are available.

The following table identifies 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, 2017 and 2016, 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, 2017		
	Level 1	Level 2	Total
	(thousands of dollars)		
Investments, including cash and cash equivalents:			
LAIF	\$ -0-	\$ 119,832	\$ 119,832
U.S. Government Agency Obligations	-0-	263,578	263,578
U.S. Treasury Obligations	163,120	-0-	163,120
Corporate Notes	-0-	106,170	106,170
Municipal Bonds	-0-	15,073	15,073
Total Investments, including cash and cash equivalents	<u>\$ 163,120</u>	<u>\$ 504,653</u>	<u>\$ 667,773</u>
Investment Derivative Instrument Assets:			
Gas related agreements	\$ 1	\$ -0-	\$ 1
Total Investment Derivative Instrument Assets	<u>\$ 1</u>	<u>\$ -0-</u>	<u>\$ 1</u>
Investment Derivative Instrument Liabilities:			
Gas related agreements	\$ 5,536	\$ -0-	\$ 5,536
Interest rate swap agreements	-0-	8,994	8,994
Total Investment Derivative Instrument Liabilities	<u>\$ 5,536</u>	<u>\$ 8,994</u>	<u>\$ 14,530</u>
	At fair value as of December 31, 2016		
	Level 1	Level 2	Total
	(thousands of dollars)		
Investments, including cash and cash equivalents:			
LAIF	\$ -0-	\$ 130,689	\$ 130,689
U.S. Government Agency Obligations	-0-	267,609	267,609
U.S. Treasury Obligations	58,759	-0-	58,759
Corporate Notes	-0-	150,105	150,105
Municipal Bonds	-0-	23,082	23,082
Total Investments, including cash and cash equivalents	<u>\$ 58,759</u>	<u>\$ 571,485</u>	<u>\$ 630,244</u>
Investment Derivative Instrument Assets:			
Gas related agreements	\$ 595	\$ -0-	\$ 595
Total Investment Derivative Instrument Assets	<u>\$ 595</u>	<u>\$ -0-</u>	<u>\$ 595</u>
Investment Derivative Instrument Liabilities:			
Gas related agreements	\$ 3,578	\$ -0-	\$ 3,578
Interest rate swap agreements	-0-	12,584	12,584
Total Investment Derivative Instrument Liabilities	<u>\$ 3,578</u>	<u>\$ 12,584</u>	<u>\$ 16,162</u>

NOTE 13. RANCHO SECO DECOMMISSIONING LIABILITY

Background. The Rancho Seco decommissioning liability relates to the nuclear decommissioning of the former 913 MW nuclear power plant, which shutdown permanently in June 1989. Decommissioning will require termination of the Part 50 license that now only consists of the Interim Onsite Storage Building (IOSB) on a 1-acre site and the separately licensed Independent Spent Fuel Storage Installation (ISFSI) facility licensed under 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 Nuclear Regulatory Commission (NRC) licenses and release of the property for unrestricted use. The NRC approved SMUD's decommissioning plan in March 1995 and SMUD began decommissioning in February 1997. Decommissioning of the Part 50 licensed facility involved a phased process and the first phase of physical work was completed in 2009, when a majority of the facility land area, including the major plant systems and structures, was released from licensed control. Final decommissioning of the ISFSI will occur after the spent nuclear fuel (SNF) and high level 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, Part E and the approved License Termination Plan.

In 2009, the NRC released all of the land formerly under the Part 50 license for unrestricted use with the exception of the IOSB, which contained some Class B and Class C radioactive waste (Low-Level Radioactive Waste: LLRW) produced during the decommissioning of the nuclear reactor facility. In 2014, this waste was shipped to a suitable disposal facility. In 2016, Phase II decommissioning of the IOSB was completed, including the Final Site Status Surveys that demonstrate that the IOSB and surrounding site are suitable for release. With the submittal of the Final Status Survey Summary Report and accompanying License Amendment Request, the former Part 50 operating license should be terminated in 2018.

The DOE, under the Nuclear Waste Policy Act of 1982, is responsible for permanent disposal of spent nuclear fuel and high-level 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 high-level (Greater Than Class "C": GTCC) radioactive waste. All of 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 is uncertain. In 2010, the DOE formally withdrew the application for licensing of Yucca Mountain as a high-level waste repository, essentially removing Yucca Mountain as an option for disposal of 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, several companies have applied to the NRC to construct and operate a Consolidated Interim Storage Facility that would store SNF and GTCC on an interim basis. These applications are in process. If the NRC licenses one or both of these facilities, Congress will have to modify the Nuclear Waste Policy Act (NWPA) to allow for its use. Currently, Rep. Doris Matsui and 109 other members of Congress have co-sponsored H.R. 3053 – the Nuclear Waste Policy Amendments Act. This bill includes a Consolidated Interim Storage Facility pilot program to remove fuel from permanently shut down sites like Rancho Seco. Passage of this legislation would be a significant step towards removal of the used nuclear fuel from the Rancho Seco facility. Until then, 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.

Asset Retirement Obligations (ARO). These financial statements reflect SMUD's current estimate of its obligation for the cost of decommissioning (including the cost of managing the Storage Facility until it can be decommissioned) under the requirements of FASB ASC 410, based on studies completed each year. Each year, SMUD evaluates the estimate of costs of decommissioning and there was an increase in costs in the 2017 study. The ARO estimate assumes all spent nuclear fuel will be removed from the site by 2035.

Rancho Seco's ARO is presented below:

	December 31,	
	2017	2016
	(thousands of dollars)	
Active decommissioning	\$ 14,559	\$ 13,787
Spent fuel management	<u>135,221</u>	<u>134,183</u>
Total ARO	\$ 149,780	\$ 147,970
Less: current portion	<u>(5,775)</u>	<u>(6,439)</u>
Total non-current portion of ARO	<u>\$ 144,005</u>	<u>\$ 141,531</u>

The summarized activity of the Rancho Seco ARO during 2017 and 2016 are presented below. The annual adjustments include a savings computed as the difference between the fair value of the obligation as if the decommissioning activities were performed by a third party and the amount actually incurred by SMUD performing the decommissioning activities.

	December 31,	
	2017	2016
	(thousands of dollars)	
ARO at beginning of year	\$ 147,970	\$ 150,372
Accretion	7,521	7,429
Expenditures	(7,439)	(9,207)
Change in study	2,969	2,033
Annual adjustments	<u>(1,241)</u>	<u>(2,657)</u>
ARO at end of year	<u>\$ 149,780</u>	<u>\$ 147,970</u>

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 Plan's fiduciary net position have been determined on the same basis as they are reported by the 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, 2016 and June 30, 2015.

SMUD also provides a supplemental benefit in lieu of PERS' Single Highest Year (SHY) for certain represented employees hired before January 1, 2013. For these employees, if the present value of pension allowance under the PERS Plan with the employer paid member contributions (EPMC) benefit enhancement program is less than the present value of what the employee would have received under the PERS Plan benefit with SHY earnings but no EPMC, SMUD pays a lump sum equivalent to the difference. There are no assets accumulated in a trust for SHY. SMUD implemented GASB No. 73 to record SHY in 2017 (see Note 3).

GASB No. 68 and GASB No. 73 require 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,	
	2017	2016
Valuation date	June 30, 2016	June 30, 2015
Measurement date	June 30, 2017	June 30, 2016

SHY	December 31,	
	2017	2016
Valuation date and Measurement date	June 30, 2017	N/A

Employees Covered by Benefit Terms. The following employees were covered by the benefit terms for the year ended:

PERS Plan	December 31,	
	2017	2016
Inactive employees or beneficiaries currently receiving benefit payments	2,777	2,718
Inactive employees entitled to but not yet receiving benefit payments	921	944
Active employees	<u>2,125</u>	<u>2,014</u>
Total employees covered by benefit terms	<u><u>5,823</u></u>	<u><u>5,676</u></u>

SHY	December 31,	
	2017	2016
Inactive employees or beneficiaries currently receiving benefit payments	-0-	N/A
Inactive employees entitled to but not yet receiving benefit payments	-0-	
Active employees	<u>276</u>	
Total employees covered by benefit terms	<u><u>276</u></u>	

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 year ended June 30, 2017 and 2016, the average active employee contribution rate is 6.9 percent of annual pay for both years, and the employer’s contribution rate is 16.0 percent and 14.1 percent of annual payroll, respectively. Employer contribution rates may change if plan contracts are amended. For the year ended December 31, 2017 and 2016, SMUD made contributions recognized by the PERS Plan in the amount of \$32.4 million and \$27.6 million, respectively.

Net Pension Liability. SMUD’s NPL at December 31, 2017 and 2016 was measured at June 30, 2017 and 2016, respectively. The total pension liability used to calculate the NPL was determined by actuarial valuations as of June 30, 2016 and 2015 rolled forward using generally accepted actuarial procedures to the June 30, 2017 and 2016 measurement dates for the PERS Plan and an actuarial valuation as of June 30, 2017 for SHY.

Actuarial Methods and Assumptions. The actuarial methods and assumptions used for the December 31, 2017 and December 31, 2016 total pension liabilities are as follows for the PERS Plan:

Actuarial Cost Method	Entry age normal
Discount Rate	7.15% (2017), 7.65% (2016)
Inflation	2.75%
Salary Increases	Varies by entry age and service
Mortality Rate Table	The mortality table used was developed based on PERS' specific data. The table includes 20 years of mortality improvements using Society of Actuaries Scale BB.
Post Retirement Benefit Increase	Contract COLA up to 2.75% until Purchase Power Protection Allowance Floor on Purchasing Power applies, 2.75% thereafter

All other actuarial assumptions used for both years were based on the results of an actuarial experience study for the period from 1997 to 2011, including updates to salary increase, mortality and retirement rates.

The actuarial methods and assumptions used for the December 31, 2017 total pension liabilities are as follows for SHY:

Actuarial Cost Method	Entry age normal
Discount Rate	Bond Buyer 20 Index - 3.58%
Inflation	2.75%
Salary Increases	3.00%; merit: PERS 1997-2011 Experience Study
Mortality, retirement, disability, Termination	PERS 1997-2011 Experience Study
Mortality Improvement	Mortality projected 20 years with Scale BB

Discount Rates. For the PERS Plan, the discount rate used to measure the total pension liability for the years ended December 31, 2017 and 2016 was 7.15 percent and 7.65 percent, respectively. To determine whether the municipal bond rate should be used in the calculation of a discount rate for each plan, PERS stress tested plans that would most likely result in a discount rate that would be different from the actuarially assumed discount rate. The tests revealed the assets would not run out. Therefore, the discount rates used for the valuations are appropriate and the use of the municipal bond rate calculation is not deemed necessary. The long-term expected discount rates are applied to all plans in the Public Employees Retirement Fund. The cash flows used in the testing were developed assuming that both members and employers will make their required contributions on time and as scheduled in all future years.

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 short-term (first 10 years) and the long-term (11-60 years) using a building-block approach.

The table below reflects long-term expected real rate of return by asset class. The rate of return was calculated using the capital market assumptions applied to determine the discount rate and asset allocation. The target allocation shown below used for the June 30, 2016 valuation was adopted by the PERS' Board effective on July 1, 2014.

<u>Asset Class</u>	<u>Current Target Allocation</u>	<u>Real Return Years 1-10</u>	<u>Real Return Years 11+</u>
Global Equity	47.0%	4.9%	5.38%
Global Fixed Income	19.0%	.8%	2.27%
Inflation Sensitive	6.0%	.6%	1.39%
Private Equity	12.0%	6.6%	6.63%
Real Estate	11.0%	2.8%	5.21%
Infrastructure and Forestland	3.0%	3.9%	5.36%
Liquidity	2.0%	(2.2%)	(2.70%)

The target allocation shown below used for the June 30, 2015 valuation was adopted by the PERS' Board effective on July 1, 2014.

<u>Asset Class</u>	<u>Current Target Allocation</u>	<u>Real Return Years 1-10</u>	<u>Real Return Years 11+</u>
Global Equity	51.0%	5.25%	5.71%
Global Fixed Income	20.0%	.99%	2.43%
Inflation Sensitive	6.0%	.45%	3.36%
Private Equity	10.0%	6.83%	6.95%
Real Estate	10.0%	4.50%	5.13%
Infrastructure and Forestland	2.0%	4.50%	5.09%
Liquidity	1.0%	(.55%)	(1.05%)

Changes in the NPL. The following table shows the changes in NPL recognized over the year ended December 31, 2017:

	<u>Total Pension Liability (a)</u>	<u>Increase (Decrease) Plan Fiduciary Net Position (b)</u>	<u>Net Pension Liability (a) – (b)</u>
	(thousands of dollars)		
Balances at January 1, 2017	\$ 2,040,497	\$ 1,541,269	\$ 499,228
Changes recognized for the measurement period:			
Service cost	35,340	-0-	35,340
Interest	150,312	-0-	150,312
Changes in assumptions	122,216	-0-	122,216
Differences between expected and actual experience	(30,190)	-0-	(30,190)
Contributions – employer	-0-	32,389	(32,389)
Contributions – employee	-0-	15,845	(15,845)
Net investment income	-0-	171,596	(171,596)
Benefit payments	(104,428)	(104,428)	-0-
Administrative expense	-0-	(2,275)	2,275
GASB No. 73 implementation adjustment	6,449	-0-	6,449
Net changes	<u>179,699</u>	<u>113,127</u>	<u>66,572</u>
Balances at December 31, 2017	<u>\$ 2,220,196</u>	<u>\$ 1,654,396</u>	<u>\$ 565,800</u>

The following table shows the changes in NPL recognized over the year ended December 31, 2016:

	<u>Total Pension Liability (a)</u>	<u>Increase (Decrease) Plan Fiduciary Net Position (b)</u> (thousands of dollars)	<u>Net Pension Liability (a) – (b)</u>
Balances at January 1, 2016	\$ 1,971,468	\$ 1,590,127	\$ 381,341
Changes recognized for the measurement period:			
Service cost	29,044	-0-	29,044
Interest	147,497	-0-	147,497
Differences between expected and actual experience	(8,357)	-0-	(8,357)
Contributions – employer	-0-	27,645	(27,645)
Contributions – employee	-0-	15,271	(15,271)
Net investment income	-0-	8,316	(8,316)
Benefit payments	(99,155)	(99,155)	-0-
Administrative expense	-0-	(969)	969
Other	-0-	34	(34)
Net changes	<u>69,029</u>	<u>(48,858)</u>	<u>117,887</u>
Balances at December 31, 2016	<u>\$ 2,040,497</u>	<u>\$ 1,541,269</u>	<u>\$ 499,228</u>

Sensitivity of the NPL to Changes in the Discount Rate. The following presents the NPL of the Plan as of the measurement date, calculated using the current discount rate, as well as what the net pension liability 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:

	<u>1% Decrease (6.15%)</u>	<u>Current Discount Rate (7.15%)</u> (thousands of dollars)	<u>1% Increase (8.15%)</u>
PERS Plan			
Plan's NPL, December 31, 2017	\$ 855,323	\$ 560,599	\$ 316,456
	<u>1% Decrease (6.65%)</u>	<u>Current Discount Rate (7.65%)</u> (thousands of dollars)	<u>1% Increase (8.65%)</u>
Plan's NPL, December 31, 2016	\$ 762,987	\$ 499,228	\$ 280,048
SHY	<u>1% Decrease (2.58%)</u>	<u>Current Discount Rate (3.58%)</u> (thousands of dollars)	<u>1% Increase (4.58%)</u>
Plan's NPL, December 31, 2017	\$ 6,373	\$ 5,201	\$ 4,280

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 and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions. For the year ended December 31, 2017 and 2016, SMUD recognized pension expense of \$78.5 million and \$39.2 million, respectively.

At December 31, 2017 and December 31, 2016, SMUD reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	December 31,	
	2017	2016
	(thousands of dollars)	
Deferred outflows of resources:		
Changes of assumptions	\$ 90,688	\$ -0-
Differences between projected and actual earnings on pension plan investments	21,648	83,954
Employer's contributions to the Plan subsequent to the measurement of total pension liability	30,698	32,299
Total deferred outflows or resources	\$ 143,034	\$ 116,253
Deferred inflows of resources:		
Changes of assumptions	\$ (5,636)	\$ (14,669)
Differences between expected and actual experience	(27,285)	(10,518)
Total deferred inflows of resources	\$ (32,921)	\$ (25,187)

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

Year ended December 31:	
2018	\$ 15,052
2019	50,502
2020	27,092
2021	(12,810)
2022	(62)
Thereafter	(360)

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 \$4.4 million in 2017 and \$3.9 million in 2016. 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 \$21.3 million in 2017 and \$19.7 million in 2016.

NOTE 15. OTHER POSTEMPLOYMENT BENEFITS

SMUD provides postemployment 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 postemployment 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 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. At June 30, 2017, 5,205 postemployment participants, including retirees, spouses of retirees, surviving spouses, and eligible dependents, were eligible to participate in SMUD's healthcare benefits program.

OPEB arises from an exchange of salaries and benefits for employee services rendered, and refers to postemployment benefits other than pension benefits such as postemployment healthcare benefits. SMUD considers the following benefits to be OPEB: Medical, Dental and Long-Term Disability.

Plan Description. SMUD is a member of the California Employers Retiree Benefit Trust (CERBT) for prefunding of OPEB obligations. The CERBT Fund is an IRC Section 115 Trust set up for the purpose of receiving employer contributions to prefund health and other postemployment benefits for retirees and their beneficiaries. The plan is an agent multiple employer plan administered by PERS, which provides medical, dental and long-term disability benefits for retirees and their beneficiaries. Any changes to these benefits would be approved by SMUD's Board and unions. To obtain a CERBT report, please contact PERS at 888-CALPERS.

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.

Funding Policy. SMUD has elected to net fund to PERS, so the contributions are the Annual Required Contribution (ARC) less the estimated cash flow for retiree benefit costs for each year. SMUD elected to put additional contributions into the trust in 2017 and 2016 of \$84.7 million and \$17.9 million, respectively. In 2017 and 2016, the net ARC contribution to the CERBT was \$7.7 million and \$6.6 million, respectively. During 2017 and 2016, SMUD made healthcare benefit contributions by paying actual medical costs of \$23.8 million and \$20.7 million, respectively.

Funding Status and Funding Progress. At June 30, 2017 and 2016, SMUD estimates that the actuarially determined accumulated postemployment benefit obligation was approximately \$442.4 million and \$377.0 million, respectively. At June 30, 2017 and 2016, the plan was 77.2 percent and 59.7 percent funded, respectively. The covered payroll (annual payroll of active employees covered by the plan) at June 30, 2017 and 2016, was \$224.2 million and \$210.3 million, respectively. The ratio of the unfunded actuarial accrued liability (UAAL) to covered payroll was 45.1 percent and 72.3 percent at June 30, 2017 and 2016, respectively.

Annual OPEB Cost. The annual OPEB cost (expense) is calculated based on the ARC of the employer, an amount actuarially determined in accordance with the parameters of SGAS No. 45, "*Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions.*" The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover the normal cost each year and amortize any unfunded actuarial liabilities (or funding excess) over a period not to exceed 30 years. For 2017 and 2016, SMUD's annual OPEB cost (expense) was \$14.9 million and \$13.4 million, respectively.

The following table shows the components of SMUD's annual OPEB cost for the year, the amount actually paid in premiums, and changes in the net OPEB asset:

	<u>Year Ended December 31,</u>	
	<u>2017</u>	<u>2016</u>
	(thousands of dollars)	
Annual required contribution	\$ 16,472	\$ 14,760
Interest on net OPEB asset	(9,010)	(6,772)
Annual required contribution adjustment	<u>7,397</u>	<u>5,455</u>
Annual OPEB cost	14,859	13,443
Contributions made	<u>(116,181)</u>	<u>(45,270)</u>
Changes in net OPEB asset	(101,322)	(31,827)
Net OPEB asset, beginning of year	<u>(127,907)</u>	<u>(96,080)</u>
Net OPEB asset, end of year	<u>\$ (229,229)</u>	<u>\$ (127,907)</u>

SMUD's net OPEB asset is recorded as a component of Prepayments and Other under Noncurrent Assets on the Consolidated Statements of Net Position.

SMUD's annual OPEB cost, the percentage of annual OPEB cost contributed to the plan, and the net OPEB asset for 2017 and the two preceding years is as follows:

<u>Year Ending</u>	<u>Annual OPEB Cost</u>	<u>Percentage of Annual OPEB Cost Contributed</u>	<u>Net OPEB Asset</u>
	(thousands of dollars)		
December 31, 2017	\$ 14,859	782%	\$ (229,229)
December 31, 2016	13,443	377%	(127,907)
December 31, 2015	27,690	166%	(96,080)

Actuarial Methods and Assumptions. Projections of benefits for financial reporting purposes are based on the substantive plan (the plan as understood by the employer and plan members) and include the types of benefits provided at the time of each valuation and the historical pattern of sharing the benefit costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations.

The entry age normal was used in the June 30, 2017 and 2016 actuarial valuations. The actuarial assumptions used for the June 30, 2017 and 2016 valuations were 6.75 percent and 7.25 percent investment rate of return (net of administrative expenses) and 2.75 percent and 3.0 percent inflation assumption, respectively. The actuarial assumptions for an annual healthcare cost trend growth rate for 2017 and 2018 was based on actual and preliminary premiums, respectively, and ranged from 6.5 to 7.5 percent for 2019. The UAAL at June 30, 2017 is amortized as a level percentage of payroll over a closed 28-year period. At June 30, 2017 and 2016 the actuarial value of the assets was \$341.4 million and \$225.0 million, respectively.

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and the healthcare cost trends. Amounts determined regarding the funded status of the plan and the ARC of the employer are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedule of funding progress, presented as RSI following the notes to the financial statements, presents multi-year trend information that shows whether the actuarial value of plan assets is increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

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 others. SMUD carries commercial insurance coverage to cover most claims in excess of specific dollar thresholds, which range from \$5 thousand to \$2.5 million per claim with total excess liability insurance coverage limits for most claims of \$140.0 million. SMUD's property insurance coverage is based on the replacement value of the asset. There have been no significant reductions in insurance coverage, and in some cases, certain coverages increased. In 2017, 2016 and 2015, 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.

The claims liability is included as a component of Self Insurance and Other Liabilities in the Consolidated Statements of Net Position.

SMUD's total claims liability, comprising claims received and claims incurred but not reported, at December 31, 2017, 2016 and 2015 is presented below:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(thousands of dollars)		
Workers' compensation claims	\$ 9,823	\$ 10,820	\$ 10,983
General and auto claims	1,941	2,227	698
Short and long-term disability claims	<u>113</u>	<u>212</u>	<u>343</u>
Claims liability	<u>\$ 11,877</u>	<u>\$ 13,259</u>	<u>\$ 12,024</u>

Changes in SMUD's total claims liability during 2017, 2016 and 2015 are presented below:

	<u>2017</u>	<u>2016</u>	<u>2015</u>
	(thousands of dollars)		
Claims liability, beginning of year	\$ 13,259	\$ 12,024	\$ 12,166
Add: provision for claims, current year	1,840	2,304	1,827
Increase in provision for claims in prior years	1,595	5,638	2,782
Less: payments on claims attributable to current and prior years	<u>(4,817)</u>	<u>(6,707)</u>	<u>(4,751)</u>
Claims liability, end of year	<u>\$ 11,877</u>	<u>\$ 13,259</u>	<u>\$ 12,024</u>

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, which expire through 2040.

At December 31, 2017, the approximate minimum obligations for the "take-or-pay" contracts over the next five years are as follows:

	<u>Electric</u>	<u>Gas</u>
	(thousands of dollars)	
2018	\$ 44,324	\$ 12,133
2019	43,054	11,724
2020	40,882	11,812
2021	33,512	11,963
2022	33,946	12,021

At December 31, 2017, the approximate minimum obligations for the remaining contracts, assuming the energy or gas is delivered over the next five years, are as follows:

	<u>Electric</u>	<u>Gas</u>
	(thousands of dollars)	
2018	\$ 150,478	\$ 110,161
2019	190,883	95,650
2020	198,400	94,145
2021	202,267	86,778
2022	143,316	82,667

Contractual Commitments beyond 2022 – Electricity. Several of SMUD's purchase power and transmission contracts extend beyond the five-year summary presented above. These contracts expire between 2023 and 2043 and provide for power under various terms and conditions. SMUD estimates its annual minimum commitments under the take or pay contracts ranges between \$34.4 million in 2023 and \$7.7 million in 2033. SMUD estimates its annual minimum commitments under the remaining contracts, assuming the energy is delivered, ranges between \$144.7 million in 2023 and \$0.2 million in 2043. SMUD's largest purchase power source (in volume) is the Western Base Resource contract, whereby SMUD receives 25.5 percent of the amount of energy made available by Western, which equals an equal share of their revenue requirement. The Western contract expires on December 31, 2024.

Contractual Commitments beyond 2022 - 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 2023 and 2040 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 \$12.2 million in 2023 and \$5.8 million in 2040. SMUD estimates its annual minimum commitments under the remaining contracts, assuming the gas is delivered, ranges between \$82.3 million in 2023 and \$13.9 million in 2040.

Solano Wind. In December 2011, SMUD entered into an agreement to sell the Solano Wind Phase 3 project (see Note 2). SMUD will buy all output from the plant under the terms of the Power Purchase Agreement. The plant began commercial operation in April 2012 and SMUD receives all output generated. Under the terms of the various agreements, SMUD has the option to buy the plant back upon the sixth, eighth, or fifteenth anniversary of the commercial operation date or the end of the

delivery term. In October 2017, SMUD submitted its notice of intent to exercise this option upon the sixth anniversary of commercial operation date which is April 26, 2018.

Gas Price Swap Agreements. SMUD has entered into numerous variable to fixed rate swaps with notional amounts totaling 120,522,500 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 \$2.61 to \$7.17 per Dth. The swap agreements expire periodically from January 2018 through December 2022.

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 56,700 Dth per day (Dth/d) of natural gas pipeline capacity from the North, including the Canadian Basins through 2023 and 51,300 Dth/d from the Southwest or Rocky Mountain Basins through at least 2019.

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 2020, dropping to 1.0 million Dth through March 2023.

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 \$57.8 million at December 31, 2017.

Construction Contracts. In December 2017, the SMUD Board authorized a contract for the renovation of the Headquarters building located in Sacramento. The contract price is a not-to-exceed amount of \$72.7 million. The contract term ends March 31, 2019. Additionally, a contract was signed to replace the hot gas combustors at SFA. The contract price is for \$35.6 million over three years. As of December 31, 2017, \$72.0 million and \$34.6 million, respectively, remain on these contracts.

In June 2016, the SMUD Board authorized a contract for the design and build of the South Fork Powerhouse and Boating Flow Release Facility located in El Dorado County, California. The contract price is a not-to-exceed amount of \$14.2 million and the contract term ends December 31, 2018. The DOE has committed to fund approximately \$1.5 million of the project through a grant award to SMUD. As of December 31, 2017, \$8.9 million remains available for this contract.

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.

Construction Matters. SMUD contracts with various firms to design and construct facilities for SMUD. Currently, SMUD is party to various claims, legal actions and complaints relating to such construction projects. 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 impact on SMUD's financial position, liquidity or results of operations.

North City Environmental Remediation. In 1950, SMUD purchased property (North City Site) from the City of Sacramento and the Western Railroad Company. Portions of the North City Site prior to the sale had been operated as a municipal landfill by the City of Sacramento. SMUD currently operates a bulk substation on the North City Site and plans to decommission the facility in the next few years. SMUD intends to assure compliance with State standards at closed landfill sites and is in the process of determining the appropriate remediation for the North City Site. In 2009, SMUD established a regulatory asset to defer recognition of the expense related to the investigation, design and remediation necessary for the North City Site, and recorded a liability for the full \$12.0 million estimated for the project. In 2012, the regulatory asset was fully amortized. As the owner of the North City Site, SMUD will play the principal role in the remediation selection and activities. SMUD has estimated the total exposure for closing the site at as high as \$12.0 million based on initial tests and studies of the site and approve and implemented cap designs for nearby former landfill areas. Costs could exceed that amount based on the need to design around transmission-related infrastructure improvements. SMUD's management does not believe this will occur. Even if remediation costs associated with the North City Site were to increase, SMUD management believes that any increased costs will not have a material adverse impact on SMUD's financial position, liquidity or results of operations.

Station E Site Remediation. In October 2013, SMUD purchased property for development of a new substation to replace North City Substation (Station E). Initial development of the site in 2016 uncovered solid waste in quantities not indicated by pre-purchase due diligence. SMUD thereafter worked with the Sacramento County Environmental Management Division, the local enforcement agency for the California Department of Resources Recycling and Recovery to obtain approval of soil handling and land use plans for development of the site, which approval was given in third quarter 2017. The plans include installing a final cover, grading, drainage, maintenance, and landfill gas control measures at the site. The estimated costs of implementing these plans are estimated at \$16.1 million and SMUD recorded a liability for those costs in 2016. The ultimate financial responsibility for the closure activities has not been determined and remains uncertain, though SMUD is investigating which parties may have been responsible for the disposal and will pursue appropriate action to ensure those parties pay the costs of remediation. SMUD management believes that any increased costs ultimately borne by SMUD will not have a material adverse impact on SMUD's financial position, liquidity or results of operations.

Buena Vista Biomass Power LLC. On October 2, 2015, SMUD informed Buena Vista of its intent to terminate its existing power purchase agreement in accordance with the terms of the power purchase agreement, due to Buena Vista's failure to meet its contractual obligations. On December 4, Buena Vista informed SMUD that it disputed SMUD's right to terminate. On December 21, SMUD issued Buena Vista a termination notice, effective December 31, 2015. At the same time, the parties entered into a short term power purchase agreement effective January 1, 2016, while the parties attempt to negotiate a longer term arrangement on commercial terms acceptable to both parties. The short term agreement expired on February 29, 2016, and

further negotiations with Buena Vista proved unsuccessful. Buena Vista filed an arbitration demand against SMUD on June 6, 2016. Buena Vista claims damages against SMUD in excess of \$130.0 million on a theory of wrongful termination. SMUD is defending the action and expects to prevail due to the clear language in the Purchase Power Agreement (PPA) which allows for termination for failure to meet contractual energy production figures for multiple consecutive years. The arbitration hearing concluded in early December 2017. We expect a ruling by the arbitrator in April 2018. However, SMUD management does not believe that the outcome will have a material adverse impact on SMUD's financial position, liquidity or results of operations.

Patua Acquisition Company, LLC. On April 16, 2010, SMUD entered into a 23-year PPA with Patua Project, LLC. The fifth amendment to the PPA was signed on November 30, 2016, with the new project owner, Patua Acquisition Company, LLC. The PPA requires Patua to provide a warranty for the annual amount of energy and green attributes produced and delivered to SMUD. If Patua fails to meet the warranty for two consecutive years, it triggers SMUD's right to reduce the Guaranteed Capacity and Transmission Capacity Requirement as defined in the PPA.

On February 16, 2017, SMUD sent Patua a Notice of Failure to Meet Annual Performance Guarantee, Reduction of Phase 1 Guaranteed Capacity Resizing, and Reduction of Transmission Capacity Requirement pursuant to the terms of the PPA. Patua disagreed with the reductions and on June 9, 2017, after meetings with SMUD staff, sent a letter requesting a meeting with a senior officer to work towards a resolution in accordance with the dispute resolution provisions of the PPA. A meeting of the senior officers occurred. Staff continues to work through the issue with Patua. However, SMUD management does not believe that the outcome will have a material adverse impact 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.

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

Schedule of Changes in Net Pension Liability and Related Ratios During the Measurement Period

PERS Plan. The schedule of changes in NPL and related ratios 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,			
	2017	2016	2015	2014
	(thousands of dollars)			
Total pension liability:				
Service cost	\$ 35,040	\$ 29,044	\$ 27,991	\$ 28,170
Interest	150,119	147,497	142,468	137,546
Changes of assumptions	123,043	-0-	(34,228)	-0-
Differences between expected and actual experience	(29,276)	(8,357)	(10,613)	-0-
Benefit payments, including refunds of employee contributions	(104,428)	(99,155)	(94,636)	(90,175)
Net change in total pension liability	174,498	69,029	30,982	75,541
Total pension liability, beginning of year	2,040,497	1,971,468	1,940,486	1,864,945
Total pension liability, end of year (a)	<u>\$ 2,214,995</u>	<u>\$ 2,040,497</u>	<u>\$ 1,971,468</u>	<u>\$ 1,940,486</u>
Plan fiduciary net position:				
Contributions - employer	\$ 32,389	\$ 27,645	\$ 22,499	\$ 21,511
Contributions - employee	15,845	15,271	14,503	15,346
Net investment income	171,596	8,316	35,797	245,659
Benefit payments, including refunds of employee contributions	(104,428)	(99,155)	(94,636)	(90,175)
Administrative expense	(2,275)	(969)	(1,795)	(2,028)
Other changes	-0-	34	(25)	-0-
Net change in plan fiduciary net position	113,127	(48,858)	(23,657)	190,313
Plan fiduciary net position, beginning of year	1,541,269	1,590,127	1,613,784	1,423,471
Plan fiduciary net position, end of year (b)	<u>\$ 1,654,396</u>	<u>\$ 1,541,269</u>	<u>\$ 1,590,127</u>	<u>\$ 1,613,784</u>
Net pension liability, ending (a) - (b)	<u>\$ 560,599</u>	<u>\$ 499,228</u>	<u>\$ 381,341</u>	<u>\$ 326,702</u>
Plan fiduciary net position as a percentage of the total pension liability	74.7%	75.5%	80.7%	83.2%
Covered payroll	\$ 223,685	\$ 207,119	\$ 197,481	\$ 191,439
Net pension liability as a percentage of covered payroll	250.6%	241.0%	193.1%	170.7%

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, 2016 valuation date. This applies for voluntary benefit changes as well as any offers of two years additional service credit.

Changes in Assumptions: In 2017, the accounting discount rate reduced from 7.65 percent to 7.15 percent. In 2016, there were no changes. In 2015, amounts reported reflect an adjustment of the discount rate from 7.5 percent (net of administrative expense) to 7.65 percent (without a reduction for pension plan administrative expense). In 2014, amounts reported were based on the 7.5 percent discount rate.

**Schedule of Changes in Net Pension Liability and Related Ratios
During the Measurement Period**

SHY. The schedule of changes in NPL and related ratios 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,	
	2017	2016
	(thousands of dollars)	
Total pension liability:		
Service cost	\$ 300	\$ 218
Interest	193	195
Changes of assumptions	(827)	1,118
Differences between expected and actual experience	(914)	-0-
Benefit payments, including refunds of employee contributions	-0-	-0-
Net change in total pension liability	(1,248)	1,531
Total pension liability, beginning of year	6,449	4,918
Total pension liability, end of year	\$ 5,201	\$ 6,449
 Covered payroll	 \$ 21,743	 \$ 21,748
 Net pension liability as a percentage of covered payroll	 23.9%	 29.7%

Notes to Schedule

Benefit Changes: There were no changes to benefits.

Changes in Assumptions: In 2017, the accounting discount rate increased from 2.85 percent to 3.58 percent.

Schedule of Plan Contributions

PERS Plan. The schedule of pension 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,			
	2017	2016	2015	2014
	(thousands of dollars)			
Actuarially determined contribution	\$ 32,389	\$ 27,645	\$ 22,499	\$ 21,511
Contributions in relation to the actuarially determined contribution	<u>(32,389)</u>	<u>(27,645)</u>	<u>(22,499)</u>	<u>(21,511)</u>
Contribution deficiency (excess)	<u>\$ -0-</u>	<u>\$ -0-</u>	<u>\$ -0-</u>	<u>\$ -0-</u>
Covered payroll	\$ 236,219	\$ 222,133	\$ 213,627	\$ 195,394
Contributions as a percentage of covered payroll	13.7%	12.5%	10.5%	11.0%

Notes to Schedule

The actuarial methods and assumptions used to set the actuarially determined contributions for the year ended December 31, 2017 was derived from the June 30, 2014 funding valuation report.

Actuarial cost method	Entry age normal
Amortization method/period	For details, see June 30, 2014 Funding Valuation Report
Asset valuation method	Market value of assets. For details, see June 30, 2014 Funding Valuation Report
Inflation	2.75%
Salary increases	Varies by entry age and service
Payroll growth	3.0%
Investment rate of return	7.5% Net of pension plan investment and administrative expenses; includes inflation
Retirement age	The probabilities of retirement are based on the 2011 PERS Experience Study for the period from 1997 to 2011
Mortality	The probabilities of mortality are based on the 2011 PERS Experience Study for the period from 1997 to 2011. Pre-retirement and post-retirement mortality rates include 5 years of projected mortality improvement using Scale AA 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 Funding Progress

OPEB. The schedule of funding progress for the other postemployment benefit healthcare plan is presented below for the three recent years for which SMUD has available data:

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b-a)/c)
(thousands of dollars)						
06/30/2017	\$ 341,403	\$ 442,414	\$ 101,011	77.2%	\$ 224,202	45.1%
06/30/2016	\$ 225,044	\$ 377,045	\$ 152,001	59.7%	\$ 210,341	72.3%
06/30/2015	\$ 176,239	\$ 319,431	\$ 143,192	55.2%	\$ 191,414	74.8%