November 4, 2016
GM 16-243

BOARD OF DIRECTORS

2017 BUDGET

Dear Board Members:

I am pleased to present SMUD’s 2017 Budget proposal. It provides funding for operations and maintenance (O&M) and capital programs needed to meet all of the Board’s strategic directions over the coming year and lays the foundation to ensure we continue to do so in the future.

We recently launched SMUD’s 5-year Strategic Plan which is our blueprint for meeting the Board and community’s expectations over the next several years. At its core, the Strategic Plan is focused on fulfilling SMUD’s purpose – to enhance the quality of life for our customers and community while ensuring SMUD’s long-term financial vitality and viability.

The plan is about connecting the dots from the Board’s Strategic Directions (SD) through the three- and five-year business unit plans, the annual budget and employee plans. The plan ensures that SMUD – as an organization and its employees – are headed in the same direction and are focused on the activities and outcomes that are important to our customers and community. This ensures that we will continue to thrive in a challenging and uncertain future.

The strategic plan is also an important link to create line of sight between the bigger-picture Board objectives and the work we do every day. It does that by operationalizing our objectives into specific projects and initiatives. The Board’s vision – that SMUD will be the trusted partner for our customers and community and will provide innovative solutions to them – defines our future business model.

The plan explains several overarching strategies that will be critical to SMUD’s future success and these are evident in the investments in the 2017 Budget:

- Getting the basics right. Every day.
- Enhancing our connection to customers and the community.
- Improving business processes and lowering our costs to deliver high-quality services.
- Building and maintaining a highly-skilled and engaged workforce that’s committed to safety.

Arlen Orchard, Chief Executive Officer & General Manager
• Investing in technology to lay the foundation for the new utility business model.
• Advancing SMUD’s position as an innovative and environmentally progressive thought leader.

Getting all of the elements of our business right in a cost-effective, efficient manner is the price of entry for SMUD to succeed in a competitive energy industry. Simply put, delivering on our core work is the foundation of the promise we make to our customers and central to building customer trust and loyalty. The 2017 Budget sets the stage for many efficiencies and improvements that will continue in the coming years.

The proposed 2017 Budget is $1.57 billion, which is $12.4 million less than the 2016 Budget, primarily due to lower commodity costs. Our capital spending is slightly higher than in the 2016 Budget. We need to continue upgrading infrastructure to maintain reliability and invest in a technological foundation for future changes. The operations and maintenance budget is increasing, primarily because we have several large hydro O&M projects and overhaul expenses at our thermal plants, as well as increased spending on new customer solutions. There is also money in this budget to prepare for switching our residential customers to time-of-use rates, including funds for customer outreach and education. Offsetting these increases is a lower commodity budget due to a decline in natural gas costs which we have locked in through our hedging programs.

Although the 2017 Budget authorizes hiring 37 new positions, it only provides budget funding for an additional 13 positions. Funding takes into account vacancies due to normal turnover and hiring practices as well as part-time staff. These new positions are in support of the Technology, Grid Assets and Workforce work groups. As you know, the evolution of the utility business model means that we are increasingly reliant on technology to enhance customer experience and are preparing to integrate more distributed energy resources into our distribution system. We are also carefully planning for knowledge transfer as employees with key experience anticipate retirement. Some new positions are short-term assignments to focus on implementing process improvements, tools and information that enable operational efficiency and drive decision making. Many of the new positions and, in some cases, new skill sets are necessary for us to successfully move forward.

To fulfill the Strategic Directions you’ve set for us, strong financial management is imperative. The previously approved rate increase of 2.5 percent and strong year-end cash balances will be sufficient to cover our planned expenditures without additional borrowing in 2017.

The 2017 Budget funds a variety of programs that support our customer experience efforts, development of a low-carbon energy portfolio, compliance with regulatory requirements, the continued rebuilding of two large substations, the start of the new Franklin substation and the Headquarters rehabilitation.

For the upcoming year we expect a very modest increase in our customer count, but our kWh sales volume is expected to be lower than 2016 due to increases in energy efficiency and customer solar. While electric vehicle (EV) energy usage is still relatively low, we’re working closely with the industry and potential EV buyers to support greater EV adoption within our
region. We'll continue to monitor and manage these and other factors, including local construction and employment.

In the sections that follow, we provide detail on the specific initiatives and programs funded in the 2017 Budget, grouped by strategic direction.

**Competitive Rates (SD-2)**

The 2017 Budget reflects the 2.5 percent rate increase approved by the Board in July of 2015. Energy supply commodity costs make up about half of our total O&M budget. Staff has locked in prices for most of our expected energy requirements for 2017 to ensure cost and rate stability for customers. Only a small fraction of budgeted purchases are exposed to short-term market price fluctuations.

We will enter 2017 with approximately $10.0 million in the Hydro Rate Stabilization Fund and $24.9 million in the Rate Stabilization Fund. A transfer of $5.3 million out of the fund is expected in December 2016 to cover the cost of replacing reduced energy deliveries from Western Area Power Administration this year. These reserve funds help us absorb higher energy costs when hydroelectric production is down and serve as a buffer against unexpected financial developments.

Internally, we have many initiatives planned for 2017 to make our processes more efficient. We'll continue to drive performance improvements by focusing on measured outcomes and benefits realization, application of operational excellence, streamlined planning and prioritization processes. A few examples of efficiencies in the 2017 Budget are:

- New contracts signed with the operators of our thermal power plants and improvements made in 2016 resulted in significant cost savings in the 2017 budget.
- Efficiencies in work planning resulting in higher work output, in areas like vegetation management and fault repairs, for roughly the same budget amount.
- Implementation of a Supply Chain Optimization Tool that will reduce cycle times, create efficiency in contracting and improve our supplier performance program.
- Maximizing transmission sales to optimize system assets.

**Access to Credit Markets (SD-3)**

SMUD is in a strong position financially. In order to maintain our AA- credit ratings, we've set a strategic financial target to maintain strong operating cash flow. The Board has set a minimum target of 1.45 times operating cash flow, though in our plan we aim to exceed that target to support the higher level of capital spending that is being proposed. Our forecasted 2017 operating cash flow cover is 1.80.

We'll start 2017 with a strong cash balance. This, along with strong cash flow from operations, will allow us to use cash for all of our 2017 capital expenditures including the
replacement or upgrade of aging infrastructure such as the Headquarters building, underground cable, Station G (previously Station A), Station E and the Franklin substation, plus investments in technology and telecommunications. We're forecasting to end 2017 with an unrestricted cash balance of $469 million, and a Rate Stabilization Fund balance of $25 million, which combined, is more than the target minimum for cash reserves. Our ability to fund normal system infrastructure needs through cash flow and existing cash balances in 2017 is a positive factor in maintaining our strong credit ratings. While we do not anticipate new borrowing in 2017, the strong credit ratings support favorable interest rates for future borrowing.

To maintain our sound financial position we'll be preparing for a rate process in 2017, including a very modest rate increase that will take effect in 2018. We are also continuing with our transition to residential time of use rates (RTOU). After successful pilots, we’re ready to recommend that RTOU be the standard rate beginning in the fall of 2017. Shortly after the first of the year, we’ll share with you the General Manager’s Report and Recommendation on Rates and Services. Between now and next fall, we are finalizing our preparation including upgrading computer systems, training staff and increasing our outreach efforts to educate our customers on the new rate.

As always, the largest budget exposure for 2017 will be the effect a dry winter could have on the hydroelectric generation and hydropower SMUD receives from the Central Valley Project via the Western Area Power Administration. Due to above normal precipitation last winter, we were able to put a small amount back into the depleted savings account, but a dry year could force us to make unbudgeted market purchases, potentially reducing net income and cash flows. To reduce the negative impacts of an extremely dry year, staff has entered into insurance-like precipitation contracts to supplement a hydroelectric rate surcharge and will again ask to use the Rate Stabilization Fund to offset the purchase of replacement power.

**Reliability (SD-4)**

Keeping the lights on for our customers remains a top priority. The 2017 Budget funds the ongoing preventive maintenance and capital-improvement projects needed to ensure the continued high reliability of our distribution system.

We will continue rebuilding two of our large substations. In 2017, we will complete environmental work and restart final grading of Station E plus complete the permitting and environmental work and order the equipment for a new Station G. We will also start the permitting process for the new Franklin Bulk Substation near Hood Franklin Road and Franklin Boulevard in southwest Sacramento County.

While our reliability is generally high, we have seen an increase in outage frequency and duration largely attributable to car pole accidents and outages associated with trees outside of SMUD’s right of ways. We understand that any power outage is a negative experience for our customers. We’re taking steps to reduce the frequency and duration of outages and continue efforts to improve our proactive communications with customers during outages.
Activities funded in the 2017 Budget to specifically address customer outages include:

- Working with local agencies and other utilities, we are starting the first year of a five-year program to perform a risk assessment using data analytics of SMUD assets. We are also developing measures to reduce annual vehicle vs. SMUD asset crashes by 25% or more, improving public and workforce safety as well as reliability.

- Increasing our use of temporary employees and contractors in order to accomplish additional work, such as increasing the amount of cable and pole replacements to reduce outages and increase load serving capability.

- Deploying drones to inspect key utility facilities which will not only improve reliability, but will also reduce environmental impacts and improve safety and efficiency.

- Exploring the use of light detection and ranging (LiDAR) technology to identify diseased trees that may result in “non-preventable” outages and help mitigate wildfires.

- Continuing improvements at our Upper American River Project (UARP) to remediate aging infrastructure.

- New pole replacement visualization tool that will allow for lower costs, higher reliability and better traffic management.

- Increasing investment in core fleet vehicles, tools and equipment, to improve availability, safety and reliability for our field operations.

- Replacing and upgrading our two-way radio system as well as the transformation of our existing Frame Relay Network infrastructure to support future utility SCADA needs.

- Selecting an Advanced Distribution Management System (ADMS) vendor, and implementation and installation of a base ADMS in order to support the integration of distributed energy resources.

Ongoing annual activities in the 2017 Budget include funds for systematic evaluation of the condition of all our assets to determine capital replacement plans and help prioritize maintenance work.

**Customer Relations (SD-5), Outreach and Communication (SD-15)**

By focusing on empowering our customers to thrive in a new energy future, we’ll foster stronger customer loyalty. Our customer experience efforts integrate business discipline into customer service through enterprise priorities, operations and tactics. We want customers to feel in control of their energy usage by reliably delivering energy, information and tools they need in a way that is easy, responsive, personal and collaborative. Our overarching goal is
to increase customer loyalty as measured through the customers’ perceptions of the “value for what you pay” metric.

In support of this work, our 2017 Budget includes funds for:

- Increasing the number of customers receiving bill alerts via email and text to let them know when their usage is high to give them a sense of control over their energy usage.

- Continuing to improve customers’ experience on smud.org while achieving better functionality and improvements to My Account. For example, we are developing a self-service rate comparison and rate selection tool for customers to use online.

- Implementing Auto-Reconnect functionality, allowing customers to electronically pay their bill and have their electricity reconnected after business hours.

- Redesigning, launching and marketing billing and payment products including Paperless Billing, Budget Billing, Auto-Pay and Custom Due Date, giving our customers more flexibility and a sense of control. Improving the digital bill experience for our customers will also reduce our operating costs and the impact of paper bills on the environment.

- Expanding Energy Assistance Program Rate (EAPR) Pilots to best meet the needs of this community and those most in need.

- Holding RTOU community workshops and classes for customers to attend to ensure the RTOU strategy is successfully adopted by community stakeholders and customers.

- Completion of customer research activities in support of the “Value for What You Pay” metric that was added to SD-5 in 2016.

- Launching new programs to achieve “Value for What You Pay”, including Solar Shares® to all customer classes. Also expanding our “Charge Free for a Year” EV program in 2017.

- Launching online video and webinars for residential and commercial customers addressing common questions.

- Continuing our scholarship program for economically disadvantaged high school and college students in SMUD service territory and expanding the use of our college internship programs to support the community and help build SMUD’s future workforce.

- Expanding our interactive voice response (IVR) language options.
• Educating and recruiting small business vendors for contracting opportunities; creating a more efficient process of paying our vendors.

• Improving relationships with developers through newsletters and a safety workshop.

• Continuing our work with the City of Sacramento and community stakeholders to select the best re-use project for our 59th Street property.

• Completing planning and design for the Street Car Project as part of the downtown Sacramento revitalization effort.

Safety (SD-6)

In 2016, SMUD continued its efforts in working toward a zero incident safety culture for our employees, contractors and the public. For the second year in a row, we exceeded our annual goal to reduce the number of serious and repetitive motion injuries to our employees. Emphasizing Safety for Life, increased near-miss reporting, review of high voltage work practices and development of a comprehensive contractor and public safety program are key elements in reducing safety risks. With improved employee engagement in safety, SMUD’s leadership team has developed a 5-year strategic plan to be a recognized leader in safety – Be Safe. Always.

A few ways we’re planning to improve safety in 2017:

• Increasing our outreach into the community to provide excavation safety materials to equipment rental yards to reduce potential dangers.

• Promoting SMUD’s safety culture with developers by conducting an Electric Safety Workshop.

• Incorporating electrical safety training at the Sacramento Power Academy with the addition of courses focused on electrical safety in the work place.

• Expand near miss reporting and the Safety for Life program.

Environmental Leadership (SD-7)

SMUD’s commitment to the environment is evident every day. It is part of how we work, the power we supply our customers, the materials we buy and the decisions we make. We are always looking to reduce our impact on the environment and conserve resources for future generations. These efforts benefit our employees, customers and our community. Environmental leadership commitments in 2017 include:
• Developing a Long Range Asset Management Plan for all of our campuses, including Headquarters site master planning.

• Ongoing replacement of vehicles with hybrid and EVs along with use of global positioning system (GPS) data evaluation to improve fuel consumption. All vehicles purchased in 2017 will aim to be equipped with the cleanest available technology.

• Buying up to 13 plug-in hybrid diesel/electric aerial trucks to replace standard diesel-powered trucks. These trucks allow for electric operation of the aerial boom at the jobsite with the chassis engine shut off which reduces fuel consumption, tailpipe emissions, noise pollution and engine wear.

• Implementing our environmental sustainability plan that promotes energy efficiency, green procurement and community outreach efforts.

• Continuing investment and research in electrical vehicle charging and demand energy response.

• Removing and abating asbestos, PCBs and lead from SMUD’s Headquarters building.

Employee Relations (SD-8)

In 2017, we’ll continue to place emphasis on career development to retain our best employees, helping them develop new skills and recognize how their career aspirations can support SMUD’s 5-year Strategy. We’ll progress on our integrated talent-management processes, including strategic workforce planning and Total Rewards offerings and programs, to retain top talent and improve our ability to recruit in an increasingly competitive market. We’ll identify and develop potential successors for critical positions through a systematic evaluation process and succession planning as we continue to partner with California State University, Sacramento and schools throughout our region to recruit difficult-to-find applicants, such as engineers.

We will implement strategic initiatives to enhance our diversity and cultural awareness programs. We continually improve and refresh our leadership boot camp program to ensure new and current supervisors have the training and tools necessary to be successful from day one.

We’re devising strategies to mitigate the excise tax, or “Cadillac tax”, under the Affordable Care Act. The tax was originally planned for 2018 but has been delayed until 2020. We are developing Total Rewards strategies designed to mitigate rising health care costs and maintain a level of care.

As part of the Headquarters building rehabilitation project we’ll adopt an interior building design that creates a flexible, innovative and sustainable workplace with an eye to attracting,
motivating and retaining the workforce of the future. In 2017, we will award the construction contract and begin rehabilitation of the building and the site.

**Resource Planning (SD-9), Research and Development (SD-10)**

Through our integrated energy-resource planning, we’re on track to meet long-term goals established by the Board and the State for renewable energy and the reduction of carbon emissions.

Highlights of the 2017 Budget include:

- Continuing the recreation improvements we committed to under the new operating license for the UARP.

- Beginning planning to participate in the CAISO Energy Imbalance Market.

- Submitting final design of South Fork Powerhouse Project (formerly Slab Creek), a small hydroelectric powerhouse that will be considered renewable under the state Renewables Portfolio Standard.

- Investing in Solano wind turbine efficiency improvements that will increase renewable generation at the wind site by 1%.

- Implementing planning tools to enable integration of distributed energy resources with planning processes.

- Installation of 175 workplace and 25 multifamily EV chargers. We’ll continue to support market adoption of EVs and develop solutions to mitigate grid impacts of vehicle charging.

- All SB-1 funds were totally reserved in July 2016. We are currently projecting to end SB-1 over our 125MW goal. The SB-1 surcharge, which supports this program, will remain at 0.16 cents per kWh, and is expected to cease in early 2018. The 2017 Budget includes over 20MW of reserved SB-1 installations.

- Transitioning to “post SB-1” by offering installation stipends on new PV interconnections for secondary PV production meters. To date, there have been 282 installations totaling 1,910 kW with over 1,400 applications pending for an additional 21 MW.

- Increasing the participation of residential and commercial customers in our demand response programs, including Auto-DR, to increase the MW load-reduction potential.

- Equipment efficiency improvements at our Cosumnes Power Plant (SFA) which increases capacity and improves reliability.
• Installation of auxiliary boilers at Carson Ice (CVFA) plant that will allow increased operational flexibility while decreasing our carbon footprint.
• Continuing investigation into the Colusa Sutter Transmission Line project in partnership with the Western Area Power Administration. Activities in 2017 will include planning and exploring transmission paths.

Public Power Business Model (SD-11)

We’ll continue to guard local decision making and flexibility as we pursue innovative solutions that meet the needs of our community and our customers.

The main areas of focus for Government and Regulatory Affairs in 2017 are the post-2020 carbon plan, Integrated Resource Planning and Renewables Portfolio Standard (RPS) regulations, the CAISO’s regional expansion proposal, issues relating to distributed generation, cyber-security legislation and federal policies on transmission and markets.

Executive leadership will continue to participate in forums and organizations that advance SMUD’s business model and reputation as a progressive, forward-thinking utility.

Economic Development (SD-13)

SMUD promotes the economic vitality of our region and the growth of our customer base through strategic leadership and active participation in regional economic development partnerships. This includes supporting innovation by helping to retain, recruit and grow commercial and industrial rate-paying customers, offering economic development rates and program incentives and providing a SMUD contracting program for certified small-business customers.

SMUD helps make our region an attractive destination for business through affordable rates and energy services for commercial customers. With the adoption of a new economic development rate that applies to a wider range of businesses, SMUD is poised to attract and retain a larger number of companies in our service area.

Key initiatives for 2017 include:

• Working with our local economic development partners on new and improved ways to market and promote the value of SMUD’s economic impact on the local community.
• Continuing our leadership role in the Greater Sacramento Area Economic Council and enhance our strategic marketing and communications campaign focused on economic development.
• Creating a strategic plan to market directly to high value customer segments like data centers, where we have a demonstrated track record for successful operation in our service territory.

• Expanding our focus on innovation and entrepreneurship with greater engagement and support of the regional innovation ecosystem.

• Continuing to promote SEED participation with large scale projects like the Headquarters rehabilitation. SEED participation in the Headquarters project has a target of 25 percent through outreach and education as well as implementing a Community Workforce Agreement for the project.

• Expanding the membership of our Community Advisory Panel to include Property and Business Improvement Districts (PBIDs) and other business organizations to further engage our small business partners and increase collaboration efforts.

• Launching a new community development grant program so non-profits, civic organizations or neighborhoods receive support for revitalization and community development projects.

System Enhancement (SD-14)

Construction of two projects were planned and included in last year’s budget: Fair Oaks Boulevard and Hazel Avenue Phase 2. The Fair Oaks Boulevard project was completed earlier this year. The Hazel Avenue Phase 2 project is still under construction and is also expected to be complete by the end of this year.

There are no new SD-14 projects in the 2017 budget, and there are no dollars planned in 2017 for the current projects. We continually work with local jurisdictions to help them meet established qualification criteria for relocation or underground placement of existing overhead lines. If qualified projects are submitted during 2017, we’ll consider them for 2018 and beyond.

Information Management and Security (SD-16)

The effective and efficient use of technology is a strategic imperative for all of our operations. The budget funds technology solutions as well as the components of SD-16 Information Security, Customer Privacy and Records Management.

We’ve worked in conjunction with national and regional reliability regulators to implement the NERC Critical Infrastructure Protection Version 5 and Version 6 standards, and will continue working on these in 2017. As part of our ongoing security best practices, we’ll implement our information security roadmap, which includes upgrading security systems, implementing new controls and improving awareness and education.
Now that SMUD’s Privacy Program has been formalized, staff will work in 2017 to procure and configure tools in order to move the program towards operational excellence. Privacy goals shared with the Information Governance Committee, such as a more complete inventory of data elements, will be pursued in 2017 as the Privacy Program works to protect the personal information of both employees and customers. The Privacy Program is a part of the Information Governance Committee, which works to align the data governance, privacy, data analytics and records management programs.

SMUD is improving the Enterprise Records Program, aligned to operational excellence and achieved via improved quality of service and lower delivery costs. In 2017, we will focus on these key areas: roles and responsibilities of records custodians and ensuring technology solutions are supporting the objectives of the records program, including developing a roadmap for the delivery of electronic data management which would reduce our dependence on physical records and improve efficiency as we move forward.

We’ll also move our IT corporate infrastructure to a hosted Data Center Provider.

**Enterprise Risk Management (SD-17)**

The 2017 Budget fully funds our continuing risk mitigation activities. SMUD’s enterprise-level risks span the spectrum of business risks and include those associated with energy commodities, strategy, operations, natural hazards, political and regulatory issues, economics and the environment. Risk assessments and mitigation plans continue to be refined and improved by taking into account SMUD’s changing internal and external risk environment to enhance how SMUD addresses risks. One key initiative will be the development of an enterprise crisis management plan.

SMUD continues to work closely with NERC/FERC to stay current with all compliance standards and reviews, and updates procedures and systems to ensure full compliance. SMUD proactively monitors the direction of future standards and manages the strategic direction of our systems to provide safe, protected and reliable energy to our customers.

Staff continues to update the enterprise-wide risk dashboard and provide the Board with leading risk indicators as early warning signals that call for action. In 2017, we’ll continue to drive our enterprise risk management perspective into core decision-making processes by incorporating enterprise performance metrics and budget analysis to aid decision-making, improve performance results in key business areas and ensure alignment with SMUD’s 5-year Strategy. Enterprise risk management will continue to create greater alignment with internal Audit through shared best practices.

**Emerging Technologies (SD-18)**

In 2017, we will focus on investigating, researching and demonstrating distributed energy resources projects. Examples include:
- Researching and demonstrating utility and customer sited distributed storage capabilities.
- Investigating the ability of multiple distributed energy resources to defer distribution upgrades.
- Demonstrating the ability of PhotoVoltaic (PV) smart inverters to provide visibility and remote control functionality, replacing the need for secondary PV meters.

We'll continue to use the Low Carbon Fuel Standard credits we receive for “fueling” EVs to offer free charging for a year as an incentive to purchase new EVs. This will be a low-cost, highly visible offering that supports the electrification of transportation. In addition, we’ll expand the electric transportation market through researching and demonstrating medium/heavy duty vehicles such as school buses and bucket trucks.

We anticipate new business opportunities with Innovation Generator through identifying a local opportunity for funding. We will spearhead efforts to promote innovation in the energy space in Sacramento County by developing and launching a Hacker Lab Curriculum.

Budget Breakdown

Here is a brief overview of the 2017 Budget compared to the 2016 Budget (dollars in millions):

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<th>Change</th>
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Totals may reflect minor rounding differences

The 2017 Budget is projecting net income of $127.7 million and a fixed charge ratio of 1.80.

Staff will continue to update the Board on these issues throughout the upcoming year.

Respectfully submitted,

Arlen Orchard
Chief Executive Officer and General Manager