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Adjustment due to Self-Consumption and Grid Losses

Comments on:
TN224928_20181009T085355_AB_1110_Implementation_Proposal_Third_Version.pdf

If retail supplier's nonrenewable sources of electricity is proportionally reduced to reconcile the Self-Consumption and Grid Losses difference between total net procurement and retail sales then self-consumption is not powered by renewable energy.

Any retail seller LEED certified facility would have to be reevaluated for the loss of the ability to claim renewable energy resource electricity. Marketing claims, such as "SMUDâ€™s Customer Service Center on S Street alongside U.S. Highway 50 received LEED Platinum certification in 2007. The Hedge Training Center for field crews received LEED Silver certification, and the renovation planned for the Headquarters building next to the Customer Service Center is expected to receive LEED Gold status.” in the attached 2015-sustainability-report.pdf may have to be restated or retracted.

Electric vehicles used by a retail seller will have a known carbon footprint even though there may be claimed to be zero emissions.

Of course Green power may be procured by the retail seller from a Green-e certified power marketer, a Green-e accredited utility program, or through Green-e certified Tradable Renewable Certificates or the equivalent. The associated environmental attributes must be retained or retired and cannot be sold. See LEED requirements https://www.usgbc.org/node/1733544

How will Community Choice Aggregators (CCA) that are billed by their wholesale supplier based on boundary meter readings be accounted for? Will the wholesale supplier to a CCA be able to claim the renewable energy credits for the electricity lost in transmission to the CCA boundary meter?

ever onward,

Steve Uhler
sau@wwmpd.com

Additional submitted attachment is included below.
2015
Sustainability Report
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Environmental awareness is much greater now than it was in 1946, when the Sacramento Municipal Utility District (SMUD) began providing electricity to the residents of California’s capital city.

Conveniently, it turned out that the aspirations and values that prompted voters to create their own utility are fully compatible with SMUD’s commitment to environmental stewardship.

As a community-owned utility governed by an elected Board of Directors, SMUD measures success by the value we bring to the people and community we serve. Our customers expect reliable, affordable electricity. They expect that it be delivered to their homes and businesses in the most environmentally responsible manner possible.

But it’s about more than delivering electricity. It’s also about ensuring that in all of our business activities, we walk the talk when it comes to sustainability.

Environmental leadership is one of SMUD’s core values, imbedded into all of our business practices. We take pride in our reputation as one of the nation’s greenest, most progressive utilities.

SMUD was the first large utility in California to have 20 percent of its power supply come from resources classified as renewable by the state. The figure is now approaching 30 percent and will surpass 33 percent by 2020. While the hydroelectricity generated in SMUD’s Upper American River Project is not classified as renewable power by California regulators, it is a low-cost, zero-carbon energy resource that helps ensure that nearly 50 percent of our power supply emits no greenhouse gases into the atmosphere.

With air quality so closely associated with quality of life, reducing the region’s carbon footprint is one of the best ways SMUD can provide lasting value to the community we serve.

As this report illustrates, there’s more to environmental stewardship than reducing greenhouse gas emissions. Waste minimization, green fleet and avian protection efforts, energy efficiency programs, investments in electric transportation, paperless billing, record digitization, customer education – all work together to create a positive environmental impact.

SMUD takes its role as an environmental steward to heart and will continue to partner with our customers and communities to enhance the quality of life in our region. We are committed to finding innovative and cost-effective ways to green our business practices and power our region to a low-carbon future while continuing to offer some of the lowest electric rates in the state.

We owe it not only to our current customers, but to future generations as well.

Sincerely,

Arlen Orchard
SMUD CEO & General Manager
For SMUD, environmental stewardship covers a lot of ground – more ground than the 900 square miles in our service territory. Air quality, for instance, doesn’t recognize county lines or city limits. The Upper American River Project, SMUD’s hydroelectric system, extends across 644 square miles in neighboring El Dorado County, and the Solano Wind Project is located in Solano County.

Environmental stewardship at SMUD means taking care of the land, air, water and wildlife while continuing to meet the demand for reliable electric service.

It means bringing more renewable resources into the power mix and adding more hybrid and all-electric vehicles to the organization’s transportation fleet.

It means implementing an avian protection plan, establishing a nature preserve, and building solar panels on SMUD’s Rancho Seco property. It means alerting the public to the risk of invasive mollusks to local waterways.

At a minimum, environmental stewardship means making sure that SMUD business units are in full compliance with all federal, state and local regulations. In practice, it frequently means going beyond those mandated requirements.
Clean power for a sustainable future

From the breezes blowing through the Delta, to sunshine beating down on solar panels and mountain water generating hydroelectricity, SMUD is harnessing a diverse range of clean resources to develop a more sustainable power supply.

The California Legislature has set ambitious mandates for renewable energy and energy efficiency. In some cases, SMUD’s goals are even more ambitious than the state’s.

The SMUD Board adopted a long-term goal of reducing carbon dioxide emissions to 10 percent of 1990 levels by 2050. SMUD was the first utility in the state to set such an ambitious carbon emissions goal. SMUD’s actions in reducing its emissions will have significant benefits not just for customers in its service territory but for residents of neighboring communities as well.

The state’s Renewable Portfolio Standard, or RPS, requires utilities to obtain a specified percentage of their electricity from renewable energy sources. We’re on track to meet the state’s RPS target of 33 percent by 2020. At the end of 2014, 26 percent of SMUD’s power supply came from RPS-eligible resources such as wind, solar and biomass.

Additionally, as part of the new agreement, SMUD will increase water flows for fishing and rafting to serve recreation enthusiasts from all across Northern California. We’ll also upgrade campgrounds and bike trails for the thousands of visitors who use the Crystal Basin Recreation Area.

In July 2014, the Federal Energy Regulatory Commission issued a new license for the Upper American River Project (UARP), assuring SMUD customers a sustainable supply of clean hydroelectricity for the next 50 years. The UARP is a system of 11 reservoirs and eight powerhouses in El Dorado County that provides up to 15 percent of SMUD’s power in an average water year.

Biological resources in the UARP are as varied as the mountain terrain, and SMUD works to protect special-status species such as the bald eagle, California spotted owl and northern goshawk. Aquatic species of concern include the foothill yellow-legged frog and Sierra Nevada yellow frog. Sensitive botanical resources in the UARP have been identified and marked off for avoidance.

In addition to protecting biological resources in the UARP, SMUD instructs workers and visitors to be aware of the cultural resources that date back centuries. The terrain includes prehistoric sites, bedrock mortars, lithic scatters and even petroglyphs. The UARP also features historic-area resources associated with early ranching, farming and mining.
Healthy mix of renewable sources

While natural gas, oil and coal are finite resources that produce greenhouse gases, renewable energy comes from boundless non-polluting resources such as sunlight and wind.

Since large hydroelectricity plants are not classified as a renewable resources by state regulators, SMUD’s largest supply of clean power currently comes from biomass and biofuels. People have used biomass – the energy stored in plants and other organic materials – since they began burning wood to keep warm.

Biomass and biofuel sources include pulp and paper mills, dairy digesters that convert cow manure into clean power, and wastewater treatment plans.

Wind power accounted for about 26 percent of SMUD’s renewable mix in 2014. The delta breezes that course through the Montezuma Hills outside Rio Vista provide some of our most inexpensive green power. The Solano Wind Project generates enough clean electricity to power 79,000 homes.

Solar represents about 10 percent of SMUD’s renewable mix, but that percentage is climbing steadily as the price of photovoltaics continues to drop. Geothermal and small hydro (30 megawatts or less) account for 4 and 3 percent of SMUD’s renewable portfolio, respectively.

Greenergy® receives national honor

The U.S. Environmental Protection Agency honored SMUD in 2014 for the sustained excellence of its Greenergy® program. SMUD received the Sustained Excellence Award, an honor seldom awarded to electric utilities.

SMUD’s Greenergy program was initiated in 1997 to give green-minded customers an opportunity to support a cleaner power supply. For just $3 (50 percent option) or $6 (100 percent option) per month, SMUD offsets half or all of a Greenergy participant’s electricity needs with power from renewables such as wind, water, sun and biomass.

More than 12 percent of SMUD customers voluntarily participate in Greenergy — 73,000 in all. Greenergy is the nation’s fourth-largest voluntary green power program in terms of participants and the second largest in participation rate among eligible customers.

Electric transportation: In the driver’s seat

Fleet Operations provides SMUD employees with a range of programs and services that deliver safe, reliable and environmentally friendly transportation.

SMUD’s equipment purchase policy requires vendors to provide the cleanest emission technology available, and Fleet Operations is meeting its target of only purchasing replacement vehicles that are all-electric, hybrid, alternative fuel or ultra-low emission.

At SMUD’s headquarters and East Campus facilities, all in-ground fuel pumps have been removed, eliminating the risk of leaks and other adverse environmental effects.

As electric vehicles become more commonplace, it’s essential that communities such as Sacramento are “EV ready” with the necessary knowledge and infrastructure. SMUD has supported electric transportation for more than 20 years as part of its commitment to improve the region’s air quality. Sacramento’s heavy traffic and urban driving conditions make this an ideal location for electric vehicles.

SMUD built the first solar powered EV charging station on the West Coast in 1992. In 2014, on the same site on S Street, SMUD joined General Motors in dedicating a fast charger that’s capable of fully charging an electric vehicle in less than 30 minutes. It was the first fast charging station installed by an electric utility – one of several SMUD plans to open across the region in the next year.

SMUD also launched an “EV Innovators” pilot rate program. Hundreds of customers have enrolled and can choose between two pricing plans: a whole-house plan and a dedicated-meter plan. Both are designed to help EV customers save money by charging their vehicles during specific times of day. Participants enjoy the lowest EV charging rates charged by any California utility.

Greenhouse gas emissions from an electric car are typically 70 percent lower than those released from gasoline combustion engines. As SMUD’s electricity mix gets cleaner and cleaner with more renewable resources added in, the difference becomes even more pronounced.
Pollution and waste reduction

Air quality
Modern society needs electricity almost as much as humans need air to breathe.

But while electricity powers our lives and our economy in ways unimaginable to our ancestors, it has a negative impact on air quality when it’s generated by the burning of fossil fuels.

SMUD is seen as a national leader in its commitment to reduce greenhouse gas emissions that contribute to climate change and global warming. This means slashing our carbon dioxide emissions to 10 percent of 1990 levels by 2050. It means relying more on renewable resources such as wind and solar than on carbon-emitting resources such as natural gas. Close to a third of SMUD’s power supply now comes from resources classified by the state as renewable.

In 2014, SMUD submitted greenhouse gas reports to The Climate Registry (TCR) and the California Air Resources Board (CARB). Positive verification opinions were issued by TCR and CARB in September and December. TCR designated SMUD a “Climate Action Leader” in 2008.

Additionally, Western Area Power Administration-based renewable energy transactions were integrated into the CARB power transactions reporting, which will eventually reduce SMUD’s cap-and-trade emissions obligation. SMUD also reported emissions from its natural gas pipeline, a new requirement.

For the 2013 calendar year, total greenhouse gas emissions were 2.4 million metric tons, an increase of 245,000 metric tons from the previous calendar year. Persistent drought conditions in 2013 and 2014 forced SMUD to purchase market power that otherwise would have come from hydroelectric facilities in the Upper American River Project.
Landfills are seen as a last resort when SMUD disposes of its solid material waste. Some numbers from 2014 illustrate this better than words:

- Salvage operations recycled more than 795,000 pounds of metals. SMUD recycled 833 tons of steel from its operations – 433 tons of transformer steel and e-waste materials, and 398 tons of salvage steel.
- The diversion rate for solid waste was 52 percent, meaning that more than half of waste materials such as paper, plastic, cans, cardboard, tires, wood waste, gravel and concrete were recycled.
- SMUD recycled 63,000 gallons of used oil for reuse.

SMUD’s waste recycling and minimization efforts include hazardous and e-waste recycling, solid waste analysis, waste minimization reporting, material purchasing, contract management, and employee training.

Whenever possible, SMUD chooses environmentally friendly materials. For instance, SMUD switched to vegetable-based oils in its transformers, avoiding the use of petroleum oils. Other choices include using water-based paints and non-chlorinated cleaners. SMUD is currently developing a Sustainable Purchasing program to generate less waste, use more recycled products, support renewable energy, increase energy efficiency, and reduce emissions.
To help educate the public about energy and the environment, SMUD’s Energy and Technology Center holds more than 50 classes, workshops and events each year. The focus of many of these educational offerings is energy efficiency — ways in which customers can reduce their energy use and lower their electric bills. Energy efficiency directly benefits the environment since any reduction in energy use ultimately means less carbon emitted into the atmosphere. Virtually all of the classes are free and open to the public.

The free workshops and classes cover such topics as determining whether solar panels would be the right fit for your home; the differences between incandescent, CFL and LED lighting technologies; and ways to efficiently keep your home cool in the summer.

SMUD also reaches out to teachers and students to expand their knowledge of energy and environmental issues. In 2014, more than 50 students participated in SMUD’s seventh annual Youth Energy Summit. The theme was “Powering Your Plate,” featuring workshops and hands-on activities in which students learned about waste management, renewable energy and the “farm-to-fork” movement.

In addition to helping students become more aware of the relationship between energy use and their environment, SMUD’s outreach efforts promote science, technology, engineering and math (STEM) skills. SMUD’s continued success ultimately rests on the minds, hands and shoulders of young people who will help us meet the community’s future energy needs.

SMUD’s Energy and Technology Center staff strives to make events fun. One of the best examples is the Northern California Solar Regatta. Students design, build and pilot boats that are powered by solar panels. The 2014 Regatta had more than 300 middle school, high school and college participants. Additionally, SMUD’s Community Engagement group sponsored and participated in more than 150 community and business events promoting energy efficiency and environmental stewardship. SMUD reached more than 1.5 million residential and business customers through these outreach events.
Nature Preserve at Rancho Seco

A project that began seven years earlier reached fruition in 2014 with the creation of the SMUD Nature Preserve Mitigation Bank.

Encompassing 1,132 acres at Rancho Seco in southeastern Sacramento County, the SMUD Nature Preserve protects land from future development and restores habitat that supports wildlife and native plant species. This creates a “bank” of credits SMUD can use to offset the environmental impacts of future projects.

To create the preserve and gain the approval of regulatory agencies, SMUD created dozens of new vernal pools on 25 acres; preserved existing wetlands on 50 acres; installed nest boxes for burrowing owls; and enhanced aquatic habitat for the California tiger salamander, among other protections.

The work is paying immediate dividends. In April 2014, a toad called the western spadefoot was discovered in six of the vernal pools. In biological surveys going back 15 years, SMUD had never before found the western spadefoot at Rancho Seco. The western spadefoot is a “special status” species, just one step removed from the “threatened” category.

Additionally, the threatened California tiger salamander may also be gaining a foothold at Rancho Seco. Larval salamanders were discovered in 2013 in four ponds where they’d never been seen before.

SMUD transferred the conservation easement to the Sacramento Valley Conservancy, which will oversee long-term management of the preserve. SMUD is funding a $1.3 million endowment to use in maintaining the preserve.
With more than 4,300 miles of overhead power lines crossing its service territory, SMUD has an Avian Protection Plan designed to make life safer for the region’s large and diverse bird populations. While many birds can perch on power poles without consequence, larger birds such as owls and hawks are especially at risk of direct contact with electric wires. Birds can also collide with power lines while in flight. Bird electrocutions and collisions may interrupt electric service, start fires and cause significant equipment damage.

With the help of industry and wildlife experts, SMUD created an Avian Protection Plan to reduce avian mortality and power line interactions. One feature of the plan involves adding space between power lines, reducing the chance of contact with birds’ wings. SMUD also adds insulated materials to its overhead system of poles and lines to keep birds from contacting energized equipment.

The Avian Protection Plan also features employee training, nest management procedures, tracking locations where mortalities occur, and retrofitting structures in high-risk areas. SMUD uses a Bird Identification Guide to identify which birds are likely to perch on electrical lines or fly low enough to encounter the wires.

In 2014, SMUD completed 164 projects to decrease avian risk, including efforts along the American River Parkway and the Cosumnes River Preserve. SMUD also provided $5,000 to the UC Davis Raptor Center to support the treatment of injured birds and further the training of veterinary students.

SMUD also submitted an Eagle Conservation Plan to the U.S. Fish and Wildlife Service for the Solano Wind Project outside Rio Vista. The plan provides a framework for avoiding eagle incidents and monitoring and compensating for eagle mortalities.
It may be a cliché, but it’s true: The cheapest power plant is the one a utility doesn’t have to build.

For SMUD, it’s another way of saying that energy efficiency is the most cost-effective way to meet the region’s energy needs while reducing carbon emissions.

SMUD has long viewed energy efficiency as a high-priority investment. Its energy efficiency efforts have resulted in customer savings of more than $600 million over the last 40 years. Since energy-efficient improvements often require an initial investment on the part of the customer, SMUD offers a wide range of incentives, rebates and financing on such household equipment as air conditioners, clothes washers, refrigerators and whole house fans.

SMUD invested more than $40 million in 13 different energy efficiency programs in 2014. Programs ranged from appliance and lighting rebates to home electricity reports and customized incentives for business customers.

For example, customers who purchase a heat pump water heater are eligible for a $1,000 rebate. Customers buying super-efficient ENERGY STAR® clothes dryers are eligible for a $300 rebate. See smud.org for a full list of rebate, incentive and financing options.

SMUD’s energy efficiency efforts again reached a broad range of customers in 2014. Seven of the 13 programs targeted residential customers. Four benefited commercial customers, and two of the programs were education and informational in nature. All told, SMUD’s energy efforts reached 1.5 million residential and business customers through a combination of community outreach, marketing, appliance rebates, energy audits, and voluntary green programs such as Greenergy® and Solar Shares®.

The payoff was 178.8 gigawatt hours of energy savings, which converts to a greenhouse gas reduction of 70,674 metric tonnes of carbon dioxide and an air pollution emission reduction of 21,572 pounds of nitrogen oxides. The gigawatt-hour savings exceeded SMUD’s goal by a healthy 5 percent.

SMUD recognizes that improving energy efficiency is one of the surest ways to address the challenges of high energy prices, energy independence, air pollution, and global climate change.

**SMUD receives ENERGY STAR® award**

SMUD’s reputation as an energy efficiency leader got a boost when it received the prestigious ENERGY STAR® Partner of the Year award for Energy Efficiency Program Delivery.

ENERGY STAR is a U.S. Environmental Protection Agency voluntary program that helps businesses and individuals save money and protect the climate through superior energy efficiency.

SMUD was recognized for increasing the market for ENERGY STAR certified light-emitting diode (LED) bulbs. SMUD’s effort drove the sale of 2 million lighting products that delivered more than 64 gigawatt hours of energy savings. SMUD also promoted a plug-load rebate program that included ultra-efficient televisions and washing machines.
Large buildings consume large amounts of energy. According to the U.S. Energy Information Administration, more than 40 percent of the country's total energy consumption in 2014 was used in commercial and residential buildings.

On a practical level, it makes sense for SMUD to make its buildings and facilities as energy efficient as possible. The energy savings benefit SMUD customers by reducing the organization's operating costs. But there's another reason that SMUD pushes the envelope in its construction and renovation practices.

It provides the community with a blueprint of what's possible in green design. It shows that SMUD is walking the walk, not just talking the talk.

Two of SMUD’s largest facilities – the East Campus – Operations Center and the Customer Service Center – received LEED Platinum recognition from the U.S. Green Building Council. Platinum is the highest level of LEED (Leadership in Energy & Environmental Design) certification.

The East Campus - Operations Center at the corner of Kiefer Boulevard and Bradshaw Avenue opened in 2013 and is one of the most energy efficient corporate yards in the country. Key sustainability features at the East Campus include a 1.1-megawatt photovoltaic system, LED lighting throughout the facility, geothermal pump and radiant cooling and heating systems, and advanced window design. The geothermal pump system takes advantage of the earth’s stable temperature to keep the administration building cool in the summer and warm in the winter.

SMUD’s Customer Service Center on 5 Street alongside U.S. Highway 50 received LEED Platinum certification in 2007. The Hedge Training Center for field crews received LEED Silver certification, and the renovation planned for the Headquarters building next to the Customer Service Center is expected to receive LEED Gold status.

SMUD offers rebates and incentives through its “Savings by Design” program that helps business customers reduce the up-front costs of energy efficient upgrades. To cite a prominent example, SMUD is working with the National Basketball Association’s Sacramento Kings to ensure that the downtown Entertainment and Sports Center receives LEED Gold certification.

The National Resources Defense Council studied LEED building projects and estimated the up-front costs at just 2 percent higher than conventional design costs. The key, as SMUD learned in its LEED-certified projects, is to implement energy efficient elements early in the planning phase.

To spread these benefits around, SMUD and the Sacramento Tree Foundation have provided more than 500,000 free shade trees since forming the Sacramento Shade program in 1990. SMUD was the first utility in the nation to establish a large-scale tree planting effort and is a perennial winner of the Arbor Day Foundation’s Tree Line USA award.

A newly developed online tool makes it easier than ever for Sacramento-area residents to order free shade trees. Go to ArborDay.org/SMUD to get started on the “Energy-Saving Trees” page. As you’ll see, a wide variety of species are available.

For many SMUD customers, the free shade trees serve as a reminder that their electric utility sees the big picture when it comes to energy and the environment.

Trees are a beloved part of the Sacramento landscape. They’re easy on the eyes. Kids like to climb them. Through photosynthesis, they convert carbon dioxide into oxygen.

Last but not least, the shade from mature trees helps reduce a home’s energy use by as much as 40 percent during the summer months.

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If you’d prefer to speak to a community forester directly, call (916) 974-4300. Either way, trees are delivered at no cost to the customer’s residence.

For many SMUD customers, the free shade trees serve as a reminder that their electric utility sees the big picture when it comes to energy and the environment.
You’ve read about what SMUD is doing to improve the environment. Here are 10 ways you can make a difference (and save money, in many cases):

**Environmental stewardship**

Environmental leadership is a core value of SMUD. SMUD conducts its business affairs in a manner that reduces adverse environmental impacts, reduces pollution, and enhances resource conservation and stewardship. SMUD provides leadership in the reduction of the Sacramento region’s total emissions of greenhouse gases through proactive programs and by supporting national, state and regional climate change policies and initiatives.

For more information about SMUD’s environmental sustainability efforts, call (916) 732-5836 or email us at EM-RES@smud.org.

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**Executive management**

Arlen Orchard  
CEO & General Manager

Laura Lewis  
Chief Legal Officer

James A. Tracy  
Chief Financial Officer

Paul Lau  
Chief Grid Strategy & Operations Officer

Gary King  
Chief Workforce Officer

Frankie McDermott  
Chief Generation & Grid Assets Officer

Nicole Howard  
Chief Customer Officer

Michael Gianunzio  
Chief Legislative & Regulatory Officer

Cindy Kelly  
Chief Information Officer

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**Overview**

The Sacramento Municipal Utility District began serving California’s capital region in 1946. SMUD is now the nation’s sixth-largest public electric utility, serving approximately 615,000 customers in a metropolitan region of 1.45 million. SMUD is governed by a seven-member Board of Directors that sets policy and appoints the CEO/General Manager, who is responsible for SMUD’s daily operations. SMUD’s electricity comes from varied sources such as hydroelectricity, natural-gas-fired generators, renewable resources, and power purchased on the wholesale market.

Most homes use 65% of their water outdoors.

Walk, bike and use public transportation more.

Don’t run the water while brushing your teeth, wash only full loads of laundry, and take shorter showers.

Save paper by paying your bills online.

Teach your children the importance of environmental sustainability. They learn by example.

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**Keen to be green**

Set your home thermostat a few degrees cooler in the winter and a few degrees warmer in the summer.

EAT LOCALLY GROWN FOOD.

You’ll not only support local farmers and merchants, you’ll reduce the amount of fuel and greenhouse gas emissions needed to move the food from farm to table.

Become more energy efficient by purchasing ENERGY STAR® appliances and turning off the lights and unplugging the computers when not in use.

Recycle single-use plastic water bottles. Better yet, fill a reusable bottle with tap water.

Properly dispose of waste such as electronics, batteries, paint, cleaners and fluorescent lamps.

SMUD Board of Directors

Renée Taylor (Vice President 2015)  
Ward 1

Gregg Fishman  
Ward 3

Dave Tamayo  
Ward 6

Nancy Bui-Thompson  
Ward 2

Genevieve Shiroma (President 2014)  
Ward 4

Bill Slaton  
Ward 7

Rob Kerth  
Ward 5 (President 2015)