



# FINAL

## **UTILITIES ADVISORY COMMISSION MEETING MINUTES OF OCTOBER 2, 2019 REGULAR MEETING**

### **CALL TO ORDER**

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Vice Chair Forssell called the meeting of the Utilities Advisory Commission (UAC) to order at 7:00 p.m.

Present: Vice Chair Forssell, Commissioners Jackson, Johnston, Scharff, Segal, and Smith  
Absent: Chair Danaher

### **ORAL COMMUNICATIONS**

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None.

### **APPROVAL OF THE MINUTES**

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Vice Chair Forssell corrected her statement under Item 5 to "Vice Chair Forssell expressed interest in visiting CPAU facilities at some point and inquired regarding other Commissioners' interest. Dean Batchelor, Utilities Director, offered to notify Commissioners of opportunities to join existing tours."

In reply to Commissioner Smith's inquiry about further UAC discussion of the agreement with Santa Clara Valley Water District, Dean Batchelor, Utilities Director, indicated staff agreed to continue the UAC discussion depending on the results of the Council's study session. The study session went well, and the Council will discuss the agreement in late November.

Vice Chair Forssell moved to approve the minutes of the September 4, 2019 meeting as amended. Commissioner Johnston seconded the motion. The motion carried 6-0 with Vice Chair Forssell and Commissioners Jackson, Johnston, Scharff, Segal, and Smith voting yes, and Chair Danaher absent.

### **AGENDA REVIEW AND REVISIONS**

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None.

### **REPORTS FROM COMMISSIONER MEETINGS/EVENTS**

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Commissioner Scharff advised that he attended the Northern California Power Agency (NCPA) annual conference, where he learned the Legislature will not act on the inverse condemnation issue related to wildfire risk and electrical blackouts will occur during potential wildfire events. Two interesting discussions during the conference concerned intermittent risks that renewable solar and wind and growth of distributed generation combined with planned retirement of baseload facilities pose to the ability of the California Independent System Operation (CAISO) to run the grid and transparency and cost effectiveness in transmission.

## GENERAL MANAGER OF UTILITIES REPORT

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Dean Batchelor, Utilities Director, delivered the General Manager's Report.

**Recycled Water Council Study Session:** On September 23, Council held a study session about water reuse expansion opportunities from the Regional Water Quality Control Plant and a potential regional treated wastewater transfer from the plant to Valley Water. Several members of the public spoke; some expressing a desire for environmental benefits to result from any contractual arrangements or water reuse projects. Council generally indicated support for the transfer agreement which includes Valley Water payments of \$1 million per year and \$16 million for a local salt removal facility to improve the recycled water quality, which will be used in Palo Alto and Mountain View for landscape irrigation and toilet flushing. The agreement is scheduled for Council consideration on November 18. The consultant report will return to the UAC in January 2020 and to Council for acceptance in February 2020.

**White Paper on Impact of Building Electrification on California Gas Systems Released:** Over the summer, Utilities staff participated in a working group to talk through building electrification and impacts on California's gas systems, including how to mitigate those impacts. Participants included representatives from key consumer, labor, equity, utility and environmental organizations. The group was hosted by Gridworks, a nonprofit that works to convene, educate and empower stakeholders to decarbonize electricity grids. Gridworks released a white paper to summarize the findings, which we will email to the Commission. The essential point of the paper is that if California does not carefully manage its transition toward delivering less gas, there will be unacceptable customer impacts; however, the paper lists strategies to mitigate those impacts.

**HP Solar Ribbon Cutting:** The City and HP hosted a ribbon-cutting ceremony earlier this month to celebrate completion of a new solar array project on the company's Palo Alto campus. The project combines rooftop and carport solar photovoltaic (PV) systems, which are projected to generate 2,355 megawatt hours of energy, or the equivalent to powering 263 average Palo Alto homes each year. HP is selling the electricity back to the City of Palo Alto Utilities (CPAU) through the Palo Alto CLEAN feed-in tariff program, and this project is now the largest of six solar projects participating in the CLEAN program.

**PG&E Public Safety Power Shutoff:** Last week, as a safety precaution, PG&E issued notice of a potential public safety power shutoff for a large area of California due to gusty wind conditions and high temperatures. While this ultimately did not impact Palo Alto, City staff shared messaging with community members to help them prepare for a potential power outage. The City always recommends that people be prepared for unexpected emergencies and utilize resources at [www.cityofpaloalto.org/preparedness](http://www.cityofpaloalto.org/preparedness).

### Utilities Events

Utilities staff recently participated in or hosted the following events:

- Midtown Ice Cream Social - September 15
- EV Technical Assistance Program Soft Launch Workshop - September 18
- SunShares Workshop - September 21
- Emergency Preparedness Event – September 22
- EV Ride and Drive with Acterra During National Drive Electric Week - September 22

Utilities is hosting the following upcoming events:

- Bay Area Home Electrification Expo - Thursday, October 10, from 2-7 pm at the Mitchell Park Community Center. This is a first-of-its-kind, free, public event for homeowners, renters and building professionals. Attendees will hear from experts on the importance of switching from fossil fuels to help California reach its climate goals, and from manufacturer representatives on electric technologies that can add value and comfort.
- Electric Cars Demystified Workshop - October 23, from 6-8:30 pm at the Palo Alto Art Center.

**Utilities Undergrounding:** On September 16, the City Council amended Rule 20 to allow underground districts to be self-funded. Other rule amendments will be presented to the Council in November. Staff incorporated the UAC's comments regarding timeframes for notification and collection into the proposed language for Rule 20. If the Council approves additional rule amendments in November, staff will begin working with Green Acres residents.

In response to inquiries, Batchelor advised that the UAC will not review the proposed rule amendments again. During the Council meeting, Councilmember DuBois added language to Rule 3 to screen pad-mounted transformers. The threshold for residents' consent to funding underground utilities remains at 60%.

### **COMMISSIONER COMMENTS**

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In reply to Commissioner Jackson's query regarding the Request for Proposals (RFP) for Fiber to the Home, Dean Batchelor, Utilities Director, reported the RFP was issued on September 27. He will forward a copy of the RFP to Commissioners.

### **UNFINISHED BUSINESS**

None.

### **NEW BUSINESS**

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**ITEM 1: DISCUSSION: Discussion of Sea Level Rise Adaptation Strategy.**

Jeremey Lowe, San Francisco Estuary Institute, reported sea level rise (SLR) has been measured, and observations align with modeling. Data about the Bay shows a general trend of the Bay water level rising 7 inches per century. Adaptation has to be implemented with mitigations. The State provides guidance on interpreting scientific projects and incorporating them into planning and policy. SLR is expected to raise the level of waters around the world 1.92 feet by 2050 and 5-7 feet by 2100. With SLR, the size of king tide and storm events will increase, and they will occur more frequently. Creeks will flood more often because of SLR. Potential impacts of SLR include increased storminess, increased rainfall intensity, subsidence and erosion, rising groundwater, and surface flooding. A horizontal levee combines a built structure, a marsh, and a gentle slope between the marsh and the levee and improves flood risk management. The South Bay Salt Pond Project is doing a large amount of restoration work, which will act as a buffer between the Bay and the levees. The Shoreline Study is looking at a long-term levee approach to flood risk management. Adaptation pathways are interventions planned in phases over the long term.

Julie Weiss, Policy and Public Education Manager, advised that climate protection is one of the Council's four priorities. The Council approved a Sea Level Rise Adaptation Policy (Policy) in 2019. Several projects and plans are underway, including the San Francisquito Creek flood control project and a horizontal levee at the east end of Embarcadero Road. The Community Services Department has completed a vulnerability assessment of the impacts of SLR on the Baylands habitat. At 12 inches of SLR, much of the Baylands habitat will be submerged. At 36 inches, Bay water could impact utilities, the airport, and recreational facilities. When repairs to the Palo Alto flood basin tide gate are complete, the gate will be adaptable to future levee improvements. Next fall, the City will begin construction of a secondary outfall pipe from the Regional Water Quality Control Plant (RWQCP) to accommodate higher amounts of water and to withstand 3 feet of SLR. The Council recently approved a Green Stormwater Infrastructure Plan. Green stormwater infrastructure mimics nature by slowing spread and sinking water to reduce fast runoff to the Bay. In the coming decades, groundwater levels will rise. The Policy seeks to coordinate work across City departments. Actions could include changing design standards for structures in the flood zone and the SLR inundation area. The Policy has been vetted by scientists and colleagues in other agencies. A public meeting in March was successful. Next steps are to contract with a consultant for an SLR vulnerability assessment and to return to Council with an update or draft SLR plan by the end of 2020.

In reply to Commissioner Johnston's query regarding priorities for utilities, Weiss indicated staff needs to fill data gaps before they can determine priorities. Lowe suggested the City learn from other communities and

incorporate adaptation into capital improvement projects. Phil Bobel, Public Works Assistant Director, related that staff is thinking quantitatively about groundwater impacts. A preliminary conclusion is SLR will have a 1:1 correspondence with groundwater at the interface of the Bay and shore. The impact will likely be seen in the area between the Bay and the El Camino area. The RWQCP is protected by a levee, but the levee is inadequate, which raises a policy question about assumptions for existing and upgraded levees through the SAFER project.

In response to Commissioner Smith's question about existing projects relating to a plan for protection, Weiss explained that existing projects will be a starting point, and the plan will identify additional projects. The vulnerability assessment will identify gaps in the strategic plan.

In answer to Commissioner Segal's inquiry about using existing information when planning projects, Dean Batchelor, Utilities Director, advised that staff is looking at incorporating adaptation in the water, gas, and wastewater group. Weiss added that quarterly meetings for staff from all departments helps staff to communicate and coordinate information.

Commissioner Scharff assumed it would be less expensive to improve levees than to harden infrastructure. Bobel remarked that the policy question is whether to rely only on the levee system or to harden infrastructure as well. In response to Commissioner Scharff's query regarding San Francisco Bay Restoration Authority funding for projects, Bobel reported sufficient funding has not been identified nationally or regionally for all the work needed. Weiss added that the City has received Measure A funding for part of the preliminary design of a horizontal levee and Proposition 1 funding for the next phase. Staff is engaging in regional discussions about projects and funding.

In reply to Vice Chair Forssell's question about the need for a consultant, Bobel explained that staff cannot address SLR quickly or the vulnerability assessment in the detail required. The vulnerability assessment requires a consultant with experience and expertise. Vice Chair Forssell requested updates as the assessment progresses and more knowledge is gained.

**ACTION:** None

**ITEM 2: DISCUSSION:** Disc of Proposed 2019 Energy Reach Code.

Tom Kabat encouraged the UAC to support staff in reducing greenhouse gas (GHG) emissions in ways that are rapid, far-reaching, and unprecedented. Contractors and installers want to continue using the same methods and materials. The Reach Code may need to remove the ability for contractors to make the same stranded-asset mistakes. Gas-free buildings are less expensive to build.

Bret Andersen, Carbon Free Palo Alto, recommended a strong Reach Code and a prohibition of gas in homes. An all-electric home is more cost effective to build.

Christine Tam, Senior Resource Planner, reported the building sector accounts for 43% of the expected GHG emissions by 2030. New buildings in the City each year account for less than 1% of the total building stock. Mandating all-electric new construction today will achieve a 5% reduction for the 80 by '30 goal. Short-term actions to reach the 80 by '30 goal include efficient water usage, reduction of single-occupancy vehicle travel, acceleration of electric vehicle (EV) penetration, and increased energy efficiency and electrification. The California Energy Commission (CEC) adopts California Building Energy Standards every three years, and the next cycle begins January 1, 2020. All California cities are required to meet building standards. Local jurisdictions can adopt Reach Codes that exceed the Building Energy Standards. The City adopted Energy Reach Codes in 2008, 2010, 2013, and 2016. The Green Building Advisory Group provides feedback regarding priorities for the Green Building Ordinance and the Energy Reach Code. The goal of the Green Building Ordinance is to design, build, and operate a new generation of efficient, environmentally responsible, and healthy buildings within the City. Under the 2016 Energy Reach Code, single-family residential buildings need to be either 10% or 20% more efficient than the base code. Multifamily residential and commercial buildings

need to be more efficient than the base code. All-electric buildings are exempt from the Reach Code. The goals of the 2019 Energy Reach Code are energy efficiency and zero emissions. Staff hosted a green building summit in February 2018 to identify priorities for the Green Building Ordinance and the Energy Reach Code. Staff has participated in a statewide cost-effectiveness study and held public engagement meetings in 2019. The proposed Reach Code will be presented to the Council in November. The City of Berkeley prohibits natural gas infrastructure in new buildings beginning in 2020, but the ordinance contains many exceptions. The City of Menlo Park requires all new residential buildings to be electrically heated with a few exceptions. The City of San Jose requires additional energy efficiency and solar installation with energy storage for mixed-fuel new construction projects; mixed-fuel projects also need to be all-electric ready. Staff is considering expanding rebate offerings for air source heat pumps, induction cooktops, efficient electric clothes dryers, and EV chargers with electric panel upgrades in existing residences; a CLEAN home rebate program for all-electric new residential buildings that are more efficient than the baseline requirements; and additional marketing and outreach to educate the community regarding the benefits of all-electric buildings and additional resources available at the City website. Staff proposes a \$2,000 rebate for all-electric single-family new construction, a \$1,000 rebate for all-electric multifamily construction, and a \$6,000 rebate for converting a single-family residence to all-electric appliances. The estimated cost of all rebate programs over three years is \$850,000. Staff also requests additional staffing of 0.75 full-time equivalent (FTE) and a marketing budget of \$100,000 for the first year and \$25,000 in the second and third years. Jonathan Abendschein, Assistant Director of Resource Management, added that staff will discuss these requests internally and with the City Manager.

In answer to Vice Chair Forssell's request for an estimate of the total amount of carbon saved for the \$1 million budget, Tam advised that staff expects to avoid GHG emissions of about 245 metric tonnes per year through the Reach Code and rebate programs. She would provide the carbon savings generated by rebates alone at a later time.

In response to Commissioner Johnston's query regarding the source of funding, Abendschein explained that a portion of funding will come from Low Carbon Fuel Standard revenues. Staff is reviewing a variety of funding sources that do not result in rate increases.

In reply to Commissioner Scharff's inquiry regarding the rationale for the \$2,000 rebate amount for all-electric new construction, Tam indicated a cost-effectiveness study found the cost to increase efficiency by 12-15% is approximately \$5,000. The rebate amount is approximately half the cost to increase efficiency. Commissioner Scharff asked if the goal of the rebate program is to incentivize electrification of existing homes. Tam clarified that GHG reduction is one objective. A second objective is to increase efficiency. Increasing efficiency creates more headroom for additional electrification and delays upgrades of grid infrastructure. Cost-effective efficiency saves the customer money over the long term and creates more capacity for the grid to handle additional load growth. Commissioner Scharff suggested the City should subsidize actions that will move the City towards its goals and include staffing cost in the cost of the programs. Expending \$300,000 for marketing and staffing to achieve a total rebate amount of \$168,000 may not be a good use of funds. Abendschein clarified that the third rebate program applies to existing buildings, and the vast majority of funding will be used for existing buildings. An all-electric home may have a lower construction cost, but the energy bill is higher. Increasing efficiency reduces the bill so that an all-electric home is less expensive over time. Commissioner Scharff did not believe a \$2,000 rebate would be an incentive.

Commissioner Smith noted mobility options at 15% and electrification of vehicles at 25% provide 40% of possibilities to reduce GHG emissions. Other incentives include an air-source heat pump, induction cooking, Energy Star electric clothes dryer, and EV charger installation and electric panel upgrades, all of which provide tremendous opportunities to reduce GHG emissions. Tam reported an existing program offers rebates for heat pump water heaters, and staff hopes to implement rebate programs for the others. The \$6,000 rebate program will cover projects that utilize a heat pump water heater, air source heat pump, induction cooktop, clothes dryer, and panel upgrade. In reply to Commissioner Smith's query regarding applying low-carbon fuel refund credits appropriately, Abendschein related that staff has not made progress on trading California

renewable energy credits (REC) for out-of-state RECs. Trading those credits could generate funding for rebate programs without generating ratepayer impacts, but the public perception of trading credits could be negative. Commissioner Smith recalled that credits could be lost, which could reduce potential funding for rebate programs.

In answer to Commissioner Segal's inquiry regarding heat pump systems for large commercial buildings, Tam elucidated that a building of more than 100,000 square feet needs a very large heat pump system, which could create a large electrical load. Large heat pump systems occupy a large space and are very heavy. Commercial buildings under 30,000 square feet can easily be constructed as all electric. The Reach Code could mandate commercial buildings of less than 30,000 square feet be built to all-electric standards. The Reach Code is designed to differentiate residential and nonresidential buildings, not to differentiate buildings based on square footage. Commissioner Segal noted customer satisfaction feedback indicates customers are cost sensitive and interested in reducing GHG emissions. Therefore, adopting a Reach Code that addresses those desires is logical, but some type of electrification Reach Code is needed. Tam reported Stanford Research Park sent a letter commenting on the difficulty of designing life science buildings and large commercial buildings to be all electric. Commissioner Segal expressed interest in the amount of GHG savings that could result from an exemption for large buildings and specific types of buildings.

In response to Commissioner Jackson's question regarding Reach Code provisions for replacing gas appliances in existing buildings with electric appliances, Tam related that the Building Energy Standards do not address existing buildings. For cities, the Reach Code exceeds the Building Energy Standards required by the CEC. Local jurisdiction adoption of a Reach Code that addresses existing buildings is difficult. Commissioner Jackson supported a ban on the use of gas in new construction with some exceptions. Trading RECs could generate a large amount of revenue that could be used to incentivize conversion of existing homes. He suggested staff educate the public, including children, about the advantages of all-electric homes and the environmental impacts of natural gas.

Commissioner Scharff supported an exception for an internal accessory dwelling unit (ADU) and questioned whether gas cooking, fireplaces, and grills have a material impact on GHG emissions. Abendschein indicated at some point gas utility infrastructure that serves only small uses is not sustainable. Allowing small uses of gas may be a good strategy to transition to all-electric appliances. Commissioner Scharff did not believe a significant number of existing buildings would convert to all electric. The City should allow gas for cooking, grills, and fireplaces in new construction unless the City plans to close the gas utility.

Commissioner Johnston recommended staff not impose electrification requirements on buildings where technology is not available. If the City adopts these kinds of Reach Codes, marketing will be needed to reassure the public that they will have a reliable electric supply.

Vice Chair Forssell expressed interest in a Reach Code that requires all-electric new buildings with few exemptions. She did not want to disincentivize construction of ADUs. For nonresidential buildings, the list of exemptions will be lengthy. The rebate programs require a fair amount of staff time and funding; yet, they provide a fairly low carbon impact. The effectiveness of a \$2,000 rebate is unclear. Perhaps staff should use a similar amount of funds to educate contractors and increase their expertise. Tam advised that staff considered a one-time \$6,000 rebate for disconnecting the gas meter, but most homeowners are more willing to convert each appliance as it needs to be replaced. Vice Chair Forssell suggested staff explore a different all-electric rate along with the Reach Code.

**ACTION:** None

**ITEM 3: DISCUSSION:** Discussion of Utilities Customer Programs.

Lena Perkins, Acting Senior Resource Planner, reported for more than 30 years CPAU has been offering customer programs in the areas of efficiency, income qualifications, local renewables, and emerging technologies. Efficiency encompasses the water, gas, and electric utilities. Since 2015, CPAU has added

programs for low-carbon transportation, building decarbonization (fuel switching), and sustainability. Some required programs include efficiency and local renewables. Staff has some flexibility in designing and implementing programs. Staff has added CO<sub>2</sub> as a prioritization criterion. Evaluation priorities include customer satisfaction, equity, emissions impact, efficiency savings, and cost effectiveness. Staff utilizes technology, analytics, customer and community engagement, and regional partnerships to implement programs. Efficiency savings goals or targets for the electric and gas utilities are adopted every four years. The fiscal year (FY) 2018 goal for natural gas was almost twice the goal for FY 2017, and the City almost reached the FY 2018 goal. The City exceeded the FY 2018 electric goal, which was approximately 20% higher than the FY 2017 goal. The City adopted higher goals because efficiency savings, especially in electricity and natural gas, save carbon. Electric efficiency programs avoided as much carbon as gas efficiency programs in FY 2018. Because natural gas is on the grid 97% of the time, saving electricity saves carbon 97% of the time. Programs 3, 4, 7, 8, and 10 address all five priorities of customer satisfaction, equity, emissions impact, efficiency savings, and cost effectiveness. Key things that will be different in FY 2020 are an efficiency concierge program for small and medium businesses, customer usage reports for commercial accounts, and an internal software tool to track programs and compare program results.

Commissioner Segal commented that economics is a huge factor to prioritize.

Commissioner Scharff believed maintaining low utility rates should be a priority. Perkins noted low rates are a component of cost effectiveness.

Commissioner Smith requested the rationale for limiting the heat pump water heater rebate program to income-qualified multifamily residents. Perkins indicated the rebate program is funded with a special grant from the Bay Area Air Quality Management District (BAAQMD) to retrofit multifamily residences with heat pump space heaters. In reply to Commissioner Smith's inquiry regarding the income limit for income-qualified and the focus on multifamily residential, Perkins answered approximately \$50,000 for a single person household. Smith noted an EV charger costs around \$500, and a panel upgrade costs approximately \$1,500-\$2,500. If someone wants to convert to a heat pump and install an EV charger, the rebate program will not provide much of an incentive. Perkins reported new programs could address the issue. Single-family residents need incentives, but multifamily residents are difficult to reach and comprise 40% of Palo Alto's population. In addition, the majority of multifamily residents are renters. The landlord has minimal incentive to invest in infrastructure upgrades, especially since the demand for housing is high. Multiple programs target multifamily residents in order to help an underserved segment of the population. In answer to Commissioner Smith's query regarding the percentage of single-family homes that is all electric, Perkins indicated the percentage is in the single digits. Commissioner Smith suggested staff explore programs for single-family homes built between 1954 and 1958.

Commissioner Johnston remarked that the cost data is helpful. Perkins clarified that all programs except the EV charger, multifamily concierge, and income-qualified programs are extremely cost effective.

Commissioner Segal felt customer education should be a higher priority than customer satisfaction and customer service.

In response to Vice Chair Forssell's inquiry regarding future opportunities for the UAC to review the details of rebate programs, Perkins indicated the UAC could review them at a future meeting. Vice Chair Forssell believed carbon reduction should be a priority. Programs should target segments of the population that can provide the most carbon savings for the cost of the program.

**ACTION:** None

**ITEM 4: DISCUSSION:** Discussion of Utilities Strategic Plan Update.

**ACTION:** Commissioner Scharff moved to continue Item Number 4 to a subsequent meeting. Commissioner Segal seconded the motion. The motion carried 6-0 with Vice Chair Forssell and Commissioners Jackson, Johnston, Scharff, Segal, and Smith voting yes, and Chair Danaher absent.

**ITEM 5: ACTION:** Selection of Potential Topic(s) for Discussion at Future UAC Meeting.

Commissioner Smith reiterated his request for a continued discussion of trading RECs. Jonathan Abendschein, Assistant Director of Resource Management, advised that staff hopes to schedule a discussion in December or January. Staff will be in a good position to take advantage of opportunities to trade RECs in 2020 if an effective discussion is held by June 2020. Abendschein explained the shrinking opportunity to trade California RECs for out-of-state RECs.

**ACTION:** None

**NEXT SCHEDULED MEETING:** November 13, 2019

Meeting adjourned at 9:54 p.m.

Respectfully Submitted  
Tabatha Boatwright  
City of Palo Alto Utilities