

1. Approval of the Minutes of the Utilities Advisory Commission Meeting Held on September 4, 2024



CITY OF
**PALO
ALTO**

Utilities Advisory Commission Staff Report

From: Alan Kurotori, Utilities Chief Operating Officer
Lead Department: Utilities

Meeting Date: November 6, 2024
Report #: 2410-3645

TITLE

Approval of the Minutes of the Utilities Advisory Commission Meeting Held on September 4, 2024

RECOMMENDATION

Staff recommends that the UAC consider the following motion:

Commissioner _____ moved to approve the draft minutes of the September 4, 2024 meeting as submitted/amended.

Commissioner _____ seconded the motion.

ATTACHMENTS

Attachment A: 09-04-2024 DRAFT UAC Minutes

AUTHOR/TITLE:

Jenelle Kamian, Program Assistant I



UTILITIES ADVISORY COMMISSION MEETING MINUTES OF SEPTEMBER 4, 2024 REGULAR MEETING

CALL TO ORDER

Chair Scharff called the meeting of the Utilities Advisory Commission (UAC) to order at 6:00 p.m.

Present: Chair Scharff, Vice Chair Mauter, Commissioners Croft, Metz, and Phillips

Absent: Commissioners Gupta and Tucher

AGENDA REVIEW AND REVISIONS

None

ORAL COMMUNICATIONS

None

APPROVAL OF THE MINUTES

ITEM 1: ACTION: Approval of the Minutes of the Utilities Advisory Commission Meeting Held on July 3, 2024

Chair Scharff invited comments on the July 3, 2024, UAC draft meeting Minutes.

ACTION: Vice Chair Mauter moved to approve the draft minutes of the July 3, 2024, meeting as submitted.

Commissioner Croft seconded the motion.

The motion carried 5-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Metz, and Phillips voting yes.

Commissioner Gupta and Tucher absent.

UNFINISHED BUSINESS

None

UTILITIES DIRECTOR REPORT

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

Gas Price Spike Mitigation: On August 19, Council approved a plan to apply a gas price mitigation adder of 5.5 cents per therm for a period of 3 years generating about \$4.5M in revenues. The funds will be used to offset the impact of a gas market price spike above the maximum Gas Commodity Charge of \$4 per therm. The policy will go into effect November 1.

Beware of Scams: We are continually on the lookout for potential utility scams and warn the public to be wary of anyone pretending to fraudulently represent the City of Palo Alto Utilities (CPAU). Recently a customer alerted us to a scam so CPAU is reminding community members to beware and be safe. Scammers may advertise a false CPAU phone number online, try to solicit personal information, and/or demand utility payments. We encourage customers to contact Utilities Customer Service Call at UtilitiesCustomerService@cityofpaloalto.org or (650) 329-2161 with any questions about their account.

811 Day: August 11 was 8/11, Call Before You Dig Day, which is a helpful reminder to always call 811 before any digging or excavation work to avoid hitting underground utilities and a potentially dangerous situation. This month, CPAU is mailing gas safety awareness brochures to all postal patrons within the zip codes of Palo Alto, as well as to emergency responders, locators, excavators, contractors, public officials, and non-customers living near a gas pipeline. CPAU provides gas safety outreach to customers throughout the year. Visit cityofpaloalto.org/safeutility for more tips on gas and other utilities safety.

GOAL Surveys: CPAU will soon begin surveying residents about gas safety through the Gas Overall Awareness Level (GOAL) survey. This survey is one of the methods used to evaluate the effectiveness of our outreach activities as mandated by the Federal Department of Transportation through our Public Awareness Plan. The survey of residential customers is expected to begin sometime within the next few weeks. Customers will receive an automated phone call recording with questions as well as option to complete the survey online.

HPWH Program Update: As of August 29, 2024, 323 HPWHs have been installed through the Full Service HPWH program, with 12 of these installed at no cost to income-qualified households through the Residential Energy Assistance Program (REAP). Another 82 HPWH rebates have been approved since January 1, 2023. Separately, CPAU is planning to launch a new Emergency Water Heater Replacement program in September to support the swift replacement of failed gas water heaters with heat pumps. CPAU is partnering with Larratt Brothers to meet the program goal of restoring hot water within 48 hours. In cases where it might take longer than 48 hours to install a heat pump water heater, the contractor will provide a loaner gas water heater as a temporary solution.

SunShares Program Update: For the ninth consecutive year, CPAU is partnering with Business Council on Climate Change (BC3) to promote the Bay Area SunShares Program. CPAU customers will receive discounted prices to install residential solar and battery storage systems from two prescreened solar contractors, SolarUnion and Solar Technologies. Program enrollment begins on September 1 and will close on November 15.

Business and Key Account Customer Satisfaction Surveys: As a member of the California Municipal Utilities Association (CMUA), CPAU is actively participating in customer satisfaction surveys for small and medium businesses, as well as key account customers. Earlier this year, CMUA's contractor, GreatBlue Research, conducted a statewide survey covering both municipal and investor-owned utility customers. This survey aims to benchmark and analyze customer satisfaction trends across the state.

Following the statewide survey, we have initiated an “oversample” survey specifically targeting Palo Alto business customers. This additional survey will help us gain deeper insights into areas of particular interest in Palo Alto while retaining similar questions to those used in the statewide survey for effective comparison.

CPAU's oversample survey began on August 13, 2024, and will run through the end of September. We are seeing moderate participation from our customers so far and will be deploying new survey engagement strategies in the coming weeks to boost involvement and enhance our response rates.

Commercial Webinar: On July 31, CPAU hosted its second free commercial webinar, which had 25 people in attendance. The presenter, Steve Brennan of CLEAResult, informed attendees about maximizing the efficiency and performance of HVAC systems, with a special focus on heat pumps. Customers learned about energy-saving strategies, and advancements in heat pump technology. Survey results from the webinar proved this topic was well received and customers would like to see more educational webinars on this topic in the future.

This webinar was hosted in preparation for the limited time boosted Heat Pump HVAC incentive that Staff will be launching in the coming weeks for commercial customers to remove rooftop gas pack units.

Electric Vehicle Programs: The Peninsula Conservation Center (PCC), one of the first commercial buildings to go all-electric in Palo Alto, has recently completed the installation of 6 EV charging stations; these are now available to both staff and visitors for use. In addition, the condominium complex at 101 Alma has completed the installation of 97 chargers (one for each tenant parking space) and the apartment complex at 345 Sheridan has completed the installation of 10 chargers. Together, these projects represent a total of 184 more multifamily units that now have access to onsite charging. Staff is working with these properties to bring EV workshops and mini EV expos to their sites to educate and engage residents about the benefits of switching to an EV.

Events and Workshops: Details and registration at cityofpaloalto.org/workshops – UPS Upcoming events

Mr. Batchelor introduced Alan Kurotori as the recently appointed Chief Operating Officer prior to Mr. Batchelor's retirement at the end of this year. Staff is working with a consultant on the details of the Director's position. He felt it was important for the Committee to think about what they are looking for in this position. He thanked the Committee for all of their support through his time as Director of Utilities.

NEW BUSINESS

ITEM 2: DISCUSSION: City of Palo Alto's Electrical Connection to California Transmission Grid

Lena Perkins, Ph.D., Senior Resource Planner, gave a brief update on the current state of the electrical system and connection to the broader transmission grid. There are three transmission lines on two structures along one corridor. This is not ideal since there have been events in the past when all three lines were taken out since they are so close to each other. The City's expected load growth will trigger a mandated upgrade through NERC Reliability Standards, expected in 2025. The City's preferred solution is a new interconnection to the south. Connecting to a second corridor is preferable for reliability, and the power flow is also more efficient interconnecting from the south. Most of the recent load growth is in datacenters, new multifamily housing, and electrifying residential loads. If the CEC replaces their forecast with Palo Alto's internal forecast, which will be known by December 2024/January 2025, that

will trigger the NERC Reliability Upgrade. If the second transmission corridor is approved by California ISO, it would be roughly 5 years to be built by PG&E and the cost would be mostly covered by all PG&E and ISO ratepayers as a required transmission upgrade.

Commissioner Phillips noted something like this came before the Council in 2021 to come through SLAC rather than Ames. He questioned what happened to that.

Dr. Perkins explained this was a separate process because that transmission line is owned by the Department of Energy. To interconnect and upgrade it to accommodate the interconnection, it would go through the Federal Department of Energy. She noted Staff is aware of that, but this is probably the fastest path.

Dean Batchelor, Director of Utilities, added that the reason the Council did not act on that proposal in 2021 was that Staff did not recommend to use the SLAC because they wanted the City to gold plate their substation and wanted CPAU to pay for upgrades, about \$30M to upgrade just that piece of it and then to build the rest of the 230. Council decided that was too expensive and wanted to look at the other route coming up through the south.

Kaylee Burton, Utilities Administrative Assistant, requested members of the public interested in speaking raise their hand.

Public Comment – Caleb Weis, Clean Coalition, asked about the anticipated costs of this and what the reduced peak load growth would need to be in order to avoid the need for this additional transmission line. He spoke about the economic, environmental, and resilience benefits of community micro-grids compared to anything currently on the grid. He encouraged this be considered in order to reduce the anticipated load growth. He was curious how those costs would measure up and whether they are going to be paid up front or added to the transmission costs of the energy.

Dr. Perkins responded that the anticipated required peak load reduction is 30 to 40 megawatts, very large. Costs are still being evaluated. The cost to Palo Alto for capital will essentially be the cost of upgrading the receiving substation. The transmission costs will be spread across all ratepayers, and the additional load will help to lower those costs. The volumetric rates for transmission will be about the same. The substation upgrade might be around \$5M but again depends on things that have not been decided with the routing.

Mr. Batchelor added that it is not looking at the reduction of load but more about the reliability of the entire system throughout Palo Alto.

Commissioner Croft asked if there are other ways to reduce the risk of the planes on the current corridor and if the City would be able to source more power through that corridor and use the existing infrastructure.

Dr. Perkins noted it was probably not close to cost competitive and that the least expensive option for all ratepayers was to have a secondary corridor.

Mr. Batchelor added that the lines are PG&E lines and felt they would not want to underground all the lines.

Commissioner Metz questioned the main barrier to making progress on this.

Dr. Perkins explained that prior to the load growth, ISO had higher priority transmission upgrades, but with the load growth, Palo Alto is in a new category and getting a lot of response. She discussed the process Santa Clara is going through would be very similar.

Alan Kurotori, Chief Operating Officer, added that Santa Clara went through the CEC process for submitting its load forecast and after adoption, the ISO looked at mitigation projects to deal with the load. Palo Alto would go through a very similar process.

Commissioner Phillips was skeptical of doing this just on reliability grounds without more information. He did not see that it was urgent. He also clarified that things may change with Stanford but that the focus here was on the southern interconnection.

Dr. Perkins clarified that this was the path where Palo Alto pays the least but has the least control over which solution is chosen. It will be an iterative and somewhat collaborative process with the ISO, assuming they acknowledge Palo Alto requires additional transmission capacity and that it is of high enough priority to rise to the top of the queue in this 2025 transmission planning process. The ISO does not want it to interconnect to the current receiving substation. It is an unusual configuration for a community of this size to have only a single receiving substation. Once it is approved, it is still may be five plus years to get built by PG&E or another transmission construction company. She explained that she was prioritizing the ISO process over Stanford because she thought it was a matter of some urgency. Negotiating anything with Stanford, even without SLAC and the Department of Energy, is a multiyear process. She added that it was not mutually exclusive and that one benefit to electrifying everything is that if you have one system, it makes sense to make it stronger and that there are economic efficiencies for that as well.

Chair Scharff asked if the load is growing fast enough that ISO would approve it at some point. He asked about both Palo Alto and Santa Clara's current loads.

Dr. Perkins responded that it was more about ISO agreeing with the underlying assumptions and Palo Alto demonstrating that the forecast is real. As soon as they believe the forecast, it should get approved. The priority level depends on how fast the load increases. Palo Alto's peak load was 177.

Mr. Kurotori added that Santa Clara's load was around 700 and the LS power line will go to around 1200 in terms of the peak.

Chair Scharff hoped that when this analysis was done, the option would be chosen that the rates do not go up because the load growth offsets the cost.

Dr. Perkins anticipated that it should more than offset but, again, not if the City builds a transmission line on its own in the short term.

ACTION: None

ITEM 3: DISCUSSION: Overview of Council-Adopted "One Margin" Energy Reach Code

Jonathan Abendschein, Assistant Director of Climate Action, stated the Energy Reach Codes adopted by the Council in June are currently under review by the CEC. The ordinances amended two sections of the Municipal Code: 16.14 is the Energy Code and 16.17 is the Green Building Code. These ordinances adopt local amendments to the State's codes. When the ordinances go into effect, they will amend the energy code in a way that will encourage electrification consistent with the standards laid out by the Ninth Circuit Court. They would amend the Green Building Code to remove the all-electric requirements and to align with some updates to the State's Green Building Code that took effect in July. The State added a standard to its statewide building codes called Hourly Source Energy, which essentially serves as a proxy for greenhouse gas emissions when modeling the energy use for new construction or major renovations. It is easier for buildings to meet the Hourly Source Energy standards when they use electricity rather than gas. The higher cost of gas heating means it is likely that new homes will install heat pumps for their space and water heating. The Hourly Source Energy requirement does not apply to gas stoves, dryers, or other equipment aside from space and water heating.

Commissioner Metz asked what HSE standard would be applied.

Mr. Abendschein explained that an Hourly Source Energy metric has to be met. The number comes from the State but takes into account Palo Alto's local conditions when implemented. The requirement differs according to different building classes. He noted it was challenging to get the technical details of it unless you are an energy modeler. He continued that the Green Building Ordinance removes the all-electric requirements but retains electric readiness standards, updates the City's EV requirements, and prohibits outdoor gas grills, stoves, and barbecues. He reviewed the timeline of this item, looking at an effective date of October 4. He expected that even if people do not adopt all-electric homes as aggressively, the City would likely see very little emissions from new construction as a result of this ordinance.

Commissioner Metz questioned whether someone could install resistance heating or hot water based on page 2, "Electric space water heating, no additional measured required."

Mr. Abendschein believed there were other aspects of the code that would keep people from installing resistance space or water heating.

Kaylee Burton, Utilities Administrative Assistant, requested members of the public wishing to speak on this item raise their hands. There were no requests to speak.

Chair Scharff asked about any potential unintended consequences of the ordinance on building an all-electric home. He questioned if it applied to just residential or all buildings.

Mr. Abendschein responded that every building project is going to be a little different. Building a mixed-fuel home, there may be efficiency measures people need to put into effect. With an all-electric home, there probably will not be the same tighter efficiency measures. Looking into ordinances in place and unintended consequences with those ordinances, Staff has made some adjustments to make it feasible for smaller ADUs to comply. Energy modeling was done on actual Palo Alto building permit applications to verify actual Palo Alto projects could meet the design capacity standards. He also noted that the planning process for the next three-year code cycle is beginning and will be an opportunity to fix any of those issues. He responded that the code applied to all buildings, although industrial buildings have the same standards as the State and no additional local requirement.

Vice Chair Mauter encouraged making information about the benefits of full electrification, including the elimination of indoor air pollutants associated with indoor gas stoves, available to Palo Alto citizens during the outreach process. She asked what other communities have done from an incentive perspective to encourage electrification.

Mr. Abendschein noted Staff was developing a pamphlet on the benefits of full electrification and resources for that to hand out at the Development Center. He responded that typically communities and utilities do not offer incentives for new construction. San Jose has stated that having this standard in place was enough to drive all or nearly all new construction all electric.

ACTION: None

ITEM 4: DISCUSSION: Implementing Reliability and Resiliency Strategic Plan – Review of Consulting Scope of Work to Scope Projects to Enhance Resiliency

Jonathan Abendschein, Assistant Director of Climate Action, explained this was to give an update on the Reliability and Resiliency Strategic Plan and get feedback on the scope for a consultant to implement parts of the plan. The RRSP is intended to address the community's questions about the electric system's reliability, modernization, capacity, and resiliency. He reviewed the six-pronged implementation strategy and how those strategies fit together. The consultant focus is on Strategies 3, 4, and 5, to evaluate the cost benefits, identify any barriers, and identify potential utility programs. There is a list of technologies for the consultant to evaluate, with feedback from the UAC requested. There are two consulting partnerships to cover these strategies, and he reviewed each. The first will cover most of the work on the cost-benefit analysis and identifying the programs. For the second contract, negotiations are in progress with SLAC to evaluate the costs and benefits of flexible technologies for the distribution system. He reviewed the project timeline and discussed additional potential consultant partnerships.

Vice Chair Mauter recused herself from this discussion item as a current SLAC employee.

Kaylee Burton, Utilities Administrative Assistant, requested members of the public interested in speaking raise their hands.

Public Comment – Caleb Weis provided examples of economic benefits of community microgrids. In addition, every megawatt of solar and storage in the area reduces the transmission costs. Strategies such as resilience subscriptions can be flexible ways for members of the community to pay for the resilience benefits from these community microgrids. He felt this was sensible to pursue.

Commissioner Metz wanted to add several technologies to be evaluated. He noted conservation was not on the list and felt that improving building envelope and energy efficiency seemed like a high priority and could have a big impact. He was interested in demand-side management, namely a program that subscribes buildings to specific energy reduction when needed by the utility. He also felt it would be valuable to look at benefits through the California Microgrid Incentive Program. Regarding energy efficiency, he noted the impact of the demand management program has been on the order of around 2% to 3% per year of the load. He suggested the consultant look at what that could be if the City were really aggressive in the program. He felt if it could have an impact to cut peak loads, there could be a big financial benefit for the utility and ratepayers.

Mr. Abendschein explained that this analysis was trying to establish the cost-benefit, which was already known to be positive for energy efficiency. He noted demand-side management was under grid interactive appliances but could be clearer. It was asking the consultant to look at automated demand-side management, not just appliances. As far as microgrids, he stated the PG&E programs are heavily focused on communities that are at risk of power shutoffs. He felt a lot would be learned from the analyses at the airport about neighborhood-scale microgrids in Palo Alto. He noted Commissioner Gupta had submitted questions, which would be responded to by email separately.

Commissioner Croft questioned where utility scale storage might come in and whether that would be separate from this project.

Mr. Abendschein explained that was being looked at separately, not as part of this consultant analysis. Like the airport microgrids, Staff is looking at potential storage in substations. Since Staff is looking at all of these in parallel, each of these analyses can be used to inform the others. The analyses will give some ballpark estimations about the highest probability programs. The kinds of shifts that result from the interactions between the programs will be worked out without a problem without the need to model those inter-effects in the consultant study.

Commissioner Phillips was interested in the set of metrics that will be used to measure reliability and how they will be applied. Regarding reliability, he questioned how frequently the system experiences outages. He wanted to see numerical metrics and ideally scenarios related to different technologies, expected outages, important facility metrics, supply and cost.

Mr. Abendschein explained that the consultants were not being asked to work on metrics. There are established electric industry standard sets of metrics, and to set reliability metrics Staff will have to analyze the causes of different outages experienced and understand how items in Strategies 1 and 2 will affect reliability over time. The consultant will, however, look at how different types of resiliency technologies affect people's experience of outages, which will differ on whether you have access to that technology. And lastly, some of the aspects of the grid modernization project involving creating more network connections in the electric distribution system will reduce the scope of outages.

Commissioner Phillips asked how extensively Strategy 3 would be looked at. For example, a hypothesis might be that adoption of some new technologies is being held up because the Development Center is understaffed, which is not in Utilities' purview.

Mr. Abendschein responded that it is in the purview if it affects the climate action goals. He stated a lot of barrier reduction is already happening.

Commissioner Metz had questions about the scope of work related to resilience. He felt longer duration events should be considered in the initial study and should be identified as major events by Palo Alto Office of Emergency Services as these longer duration events are exactly where some of these technologies would have the most benefit. He felt it was a perfect opportunity to tie utilities planning in with the Office of Emergency Services planning and get everybody in the on the same page in terms of what to be prepared for.

Mr. Abendschein explained that some of the learnings from the airport microgrid project would address longer duration outages. He felt aligning with OES made sense.

Dean Batchelor, Director of Utilities, agreed on working with OES but did not think this study would go into that great of detail. The study around the airport will give some ideas in the 2- to 3-day window of outages.

Mr. Abendschein felt the airport project was a place to get the basics of managing longer duration outages sorted out. Microgrid solutions for this purpose could be compared to the cost of regular diesel backup generators. The comparison has to factor in benefits that microgrids have that diesel generators do not have and some of the qualitative customer experience issues around things like diesel shortages.

Chair Scharff questioned the opportunities around solar and storage. He asked if there was an opportunity to take an office building and put a bunch of batteries in it. He thought vehicle to home for an individual was great but vehicle to the grid made no sense.

Mr. Abendschein clarified that the goal with vehicle to grid was not to power the grid in an outage, but to shave peak demand. It can also be a form of demand response, stopping or slowing down charging in response to grid signals. Large-scale batteries are something Staff looks at regularly as part of the electric portfolio. The idea that putting it inside Palo Alto would give some resiliency benefits is being analyzed as part of the substation project.

Chair Scharff asked how close the City is to making that work financially.

Shiva Swaminathan, Senior Resource Planner, explained that, in terms of central storage versus Palo Alto storage, the energy density of the storage devices is very low. The initial thought is that a substation may not have enough space to put enough batteries to make a difference. The other part is the economies of scale in terms of maintenance and capital costs. Central batteries are more cost effective with economies of scale at the bigger scale.

Chair Scharff encouraged Staff to look into buildings to put batteries in Palo Alto. He questioned what that would look like and when it becomes cost effective.

Alan Kurotori, Utilities Chief Operating Officer, explained there are ways to look at that and there are also examples of utility scale battery storage outside the area. It does not typically go into an enclosed building.

Chair Scharff noted his experience was that it always makes more sense to bring the power in from outside than to generate it in Palo Alto. He questioned what kind of outage problem local battery storage was meant to solve, the frequency and expectation of those outages, and how much money it would take to solve the problem.

Mr. Batchelor explained he would like to see fewer outages, especially if the City is going to be 100 percent electrified. The goal is to lower the amount of outages and lessen the amount of people impacted.

Chair Scharff asked how any of these technologies to be evaluated actually do that.

Mr. Batchelor explained how microgrids can lessen the duration of outages.

Mr. Abendschein added that microgrids are the only technology on the list that are likely to reduce outages at a neighborhood scale, but added avoiding outages was not the primary goal of the consultant analysis. One of the major goals of the analysis was to figure out how flexible technologies and efficient strategies could reduce energy supply costs, the amount of investment needed in the distribution system for electrification, and how to optimize use of the existing capacity of the distribution system. Resiliency is an additional value stream for some of these technologies that can affect the cost-benefit analysis. A technology might be found to improve the benefit enough that, in combination with the energy supply and the distribution system benefits, it becomes worthwhile to promote.

ACTION: None

FUTURE TOPICS FOR UPCOMING MEETINGS ON OCTOBER 9, 2024 AND REVIEW OF THE 12 MONTH ROLLING CALENDAR

Commissioner Phillips was still extremely interested in the business side of electricity consumption and hoped for a specific discussion in that context.

Commissioner Croft expressed interest in hearing about the findings from the citywide lead service line investigation. She also mentioned past discussion of lead testing in schools.

Dean Batchelor, Utilities Director, described the lead service line investigation. The program regarding schools was in the process of starting, working with the school board to obtain plans or diagrams of the schools and then going out to test at each school.

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

Vice Mayor Ed Lauing stated that he is able to insert what happens at the UAC into the Council meetings and committee meetings like Finance. He felt there was an opportunity for the UAC to send a representative to Finance Committee meetings.

ADJOURNMENT

Chair Scharff moved to adjourn.

Commissioner Phillips seconded the motion.

The motion carried 5-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Metz, and Phillips voting yes.

Commissioner Gupta and Tucher absent.

Meeting adjourned at 8:25 p.m.

Respectfully Submitted
Kaylee Burton
City of Palo Alto Utilities