



**DRAFT**

## **UTILITIES ADVISORY COMMISSION MEETING MINUTES OF AUGUST 5, 2020 SPECIAL MEETING**

### **CALL TO ORDER**

---

Chair Forssell called the meeting of the Utilities Advisory Commission (UAC) to order at 4:01 p.m.

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

Absent:

### **ORAL COMMUNICATIONS**

---

None.

### **APPROVAL OF THE MINUTES**

---

Commissioner Scharff moved to approve the minutes of the July 1, 2020 meeting as presented. Vice Chair Segal seconded the motion. The motion carried 7-0 with Chair Forssell, Vice Chair Segal, and Commissioners Danaher, Jackson, Johnston, Scharff, and Smith voting yes.

### **AGENDA REVIEW AND REVISIONS**

---

None.

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

---

None.

### **UTILITIES DIRECTOR REPORT**

---

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

**Utilities Staffing** – Approximately half of the Utilities Department staff had returned to work and half of the staff continues to work remotely. Almost all Operations staff are physically reporting to work to carry out field maintenance and operations projects and respond to emergency service calls. Customer Support Service staff rotate in and out of the office. Staff in the Administration, Resource Management and Engineering divisions are mostly working remotely; although, some are choosing to return to in-person work. Utilities had suspended reading meters in backyards and behind locked facilities in accordance with the shelter in place requirements but resumed all meter reading at the beginning of June once some of the restrictions were lifted. Staff who report to work must perform a symptoms check each day, wear face coverings when around others, and adhere to social distancing protocols. All staff are provided with the sanitation tools, personal protective equipment, and training necessary to protect themselves, their coworkers and community members.

**Other Utilities Projects in Progress** – In addition to Utilities carrying out regular field maintenance and operations projects, you may see our staff or contractors out in the community working on other special projects. Each year Utilities performs a routine inspection of the gas distribution system to check for leaks,

and contractors are currently walking residential areas for this inspection. We are replacing utility poles in various areas of the city. Contractors or Utilities staff will contact residents if they need to enter properties to replace poles located in backyards. Our utilities meter audit project continues and is expected to wrap up in the fall.

**Utilities Rate Assistance and Payment Relief for Residential and Commercial Customers** – When the City declared a local emergency in response to the coronavirus (COVID-19) shelter in place public health order, Utilities expanded payment relief and rate assistance programs for customers. The moratorium on disconnections for non-payment, late payment fees, and full-bill payment requirements remain in effect until the proclamation of a local emergency officially ends. Current delinquent balances past 60 days total around \$500,000. This is higher than our baseline of \$25,000 but much less than the \$2,000,000 that we initially forecasted.

As a reminder, residents may qualify for our Rate Assistance Program, which provides a 25% discount on gas and electricity charges and 20% discount on storm drain service fees. Residential and commercial customers can set up a bill payment plan for relief from late payments. The ProjectPLEDGE program allows commercial and residential Utilities customers in good standing with their own accounts to donate funding on a one-time or recurring basis to help another resident in Palo Alto. Residents who are struggling to pay their utility bills may apply to this program for one-time assistance.

**Saving Energy and Water While Sheltering in Place** – Earlier this year, Utilities launched an outreach campaign about energy and water efficiency to help customers keep bills low while people are working and studying from home. Recently we began a new “Summer Sustainability for Kids” e-newsletter series to educate younger Palo Alto community members and provide family-friendly activities for children as they spend more time at home this summer.

**Modifications to Utilities Programs** – All visits inside occupied residential dwellings remain temporarily on hold, so staff are modifying programs to offer online services. A virtual Home Efficiency Genie webinar on the topic of Indoor Air Quality will be held on Tuesday August 11.

**Annual Water Quality Report** – Utilities provides an annual consumer confidence report on water quality conditions for the previous calendar year. The report on water quality conditions for 2019 is now available online at [www.cityofpaloalto.org/waterqualityreport](http://www.cityofpaloalto.org/waterqualityreport) or in print by request. Please contact us at [UtilitiesCommunications@cityofpaloalto.org](mailto:UtilitiesCommunications@cityofpaloalto.org) or (650) 329-2479 to request a printed copy. This report is also available in Spanish and Chinese at [www.cityofpaloalto.org/waterquality](http://www.cityofpaloalto.org/waterquality).

**Carbon Neutral Plan** – Staff will present the Amended Carbon Neutral Plan and Electric Utility Reserves Management Practices to the Council for approval on August 17, 2020.

In response to Chair Forssell's query regarding ProjectPLEDGE donations and applications, Batchelor reported contributions exceed payouts. Dave Yuan, Strategic Business Manager clarified that donations and requests are equal at approximately \$10,000. The program has a balance of approximately \$44,000. ProjectPLEDGE has been operational for several years.

In reply to Vice Chair Segal's inquiry regarding the water quality report, Batchelor advised that there has been no major change in water quality.

#### **COMMISSIONER COMMENTS**

---

None.

#### **UNFINISHED BUSINESS**

None.

## **NEW BUSINESS**

### **ITEM 1: DISCUSSION:** Discussion and Presentation by Professor Richard Luthy on "One Water" Resource Approach.

Karla Dailey, Senior Resource Planner, reported Commissioner Johnston requested information about the One Water approach. Typically, water supply planning involves potable water, demand management measures, and some recycled water. With the pressure on water supplies, the industry is beginning to view water resources holistically.

Richard Luthy, Stanford University Professor, advised that there is greater interest in potable reuse, non-potable reuse, and the capture of wastewater going to the ocean. Use of stormwater is possible, but there are some constraints around storage. Desalination of brackish water is growing, but seawater desalination is a last resort. Water banking is efficient.

In reply to Chair Forssell's question about water banking, Luthy indicated water is allowed to flow into the California aqua duct for storage, and jurisdictions have the right to pump water from the aqua duct.

Luthy continued his presentation, stating in April 2019, Governor Newsom directed all state agencies to prepare a water resilience portfolio, which would prioritize multi-benefit approaches, embrace innovation and new technologies, and encourage regional approaches. These approaches include efficiency, non-potable reuse, potable reuse, water banking, stormwater harvesting, and desalination. Non-potable reuse was innovative in the 1970s. After three decades, non-potable reuse is expensive and can be energy intensive, and the water is too salty to be used for long-term irrigation. Decentralized non-potable reuse involves the reclamation of wastewater using new technology that does not require aeration. This process is energy efficient, does not require lengthy pipelines, and produces water suitable for irrigation. Potable reuse was first demonstrated in 1962 with tertiary-treated wastewater. Indirect potable water reuse projects operate in Orange and San Diego Counties. El Paso and Big Spring, Texas, are experimenting with processes for direct potable water reuse. The Bay Area One Water Network is a clearinghouse for stakeholders and water managers to share information, build collaborative capacity, and develop strategies for implementing resilient integrated water systems. The Bay Area One Water Network hosts workshops and shares synthesis reports. Stormwater reuse has multiple benefits, and large systems are cost-competitive with other sources of new water. Over the next 35 years, the public and elected officials will expect the Bay Area to recycle wastewater and to be less reliant on imported water. A regional network can help identify and foster partnerships, demonstrate and optimize new technologies, and engage the public and elected officials.

In answer to Commissioner Johnston's question about separate systems to collect and treat stormwater and wastewater, Luthy indicated the systems do not necessarily need to be separate. Some stormwater can be diverted for reuse to a treatment plant with excess capacity.

In response to Commissioner Jackson's inquiring regarding segregation of the water supply at the local level, Luthy suggested water reuse may not be worthwhile in existing developments because of the cost of purple pipe.

In reply to Chair Forssell's request for the status of direct potable reuse projects in Texas, Luthy indicated the Big Spring project was discontinued when the drought ended. The El Paso project has been approved. In these projects, water was sent to the treatment plant rather than a natural buffer.

In answer to Councilmember Cormack's query regarding *The Dreamt Land* by Mark Arax, Luthy related that he is not familiar with the book. Councilmember Cormack noted gray water reuse can be part of the Cubberley Community Center redevelopment.

**ACTION:** None

**ITEM 2: DISCUSSION:** Discussion of the Fiber Network Expansion Project by the Vendor, Magellan Advisors. Daniel Dulitz, Palo Alto Hills Broadband Working Group, reported wired broadband is not available in Palo Alto Hills. Microwave service is expensive and often unreliable. He presented a petition requesting the City of Palo Alto Utilities (CPAU) provide or facilitate broadband service to Palo Alto Hills.

Tim Parsey described internet service providers and service for residents of Palo Alto Hills and noted the current internet provider has lost its lease.

Kathy Roskos emphasized the necessity of broadband service for residents to work and attend school from home.

Mike Carlton indicated Palo Alto Hills residents have no option for DSL or high speed internet service. The wireless options for internet service are unreliable. He requested CPAU allow or facilitate usage of the existing fiber endpoint.

Dean Batchelor, Utilities Director, introduced John Honker and Jory Wolf of Magellan Advisors, the City's consultant for the fiber network expansion project.

John Honker, Magellan Advisors, reported the fiber network is a major City asset. Magellan provides turnkey services across the spectrum of planning and building fiber networks. Phase 1 of the project began on July 18, 2020 and will result in a high-level design and cost estimate for expanding the City's network to support automated metering infrastructure (AMI), Supervisory Control and Data Acquisition (SCADA), telemetry, and wireless applications for Public Safety and Public Works. Phase 1 should be complete by the end of the calendar year. Phase 2 will result in a detailed backbone engineering design for the expansion. The goal of Phase 3 is to understand the alternatives for building Fiber to the Premises (FTTP). Phase 4 is engineering design for FTTP. The Council will review and approve each phase.

Jory Wolf, Magellan Advisors, indicated policy discussions will focus on dig once, joint build, one touch make-ready for utility poles, use of City assets, multiunit right of entry, and micro-trenching.

In reply to Chair Forssell's query regarding inclusion of Palo Alto Hills, Honker advised that the assessment will cover the entire City.

In response to Vice Chair Segal's inquiry about an estimated date to build the infrastructure for the City piece of the project, Honker explained that Phases 1 and 2 will take about a year. A Request for Proposals (RFP) could be released when the 90% or 100% design is ready. Construction could begin 18 months after the beginning of Phase 1 and extend for 12-18 months. Phases 2 and 3 could be consolidated so that the timeline is shorter.

In answer to Commissioner Scharff's question regarding the Council's rationale for the phasing, Dave Yuan, Strategic Business Manager, understood the Council wanted to take an incremental approach. The Fiber Fund's balance is about \$30 million. Previous studies estimated the cost of a complete buildout at \$80 million.

Commissioner Scharff proposed the UAC discuss a recommendation for the Council to combine Phases 2 and 3. Phase 3 should provide quite a bit of information for the Council. COVID has focused attention on the need for broadband service.

Commissioner Smith agreed with Commissioner Scharff's comments. The City should take advantage of the opportunity to accelerate some of the programming. Phase 3 will provide significant background and detail for cost projections to build out the network.

Commissioner Johnston concurred with Commissioner Smith's and Commissioner Scharff's comments. In response to his question about timeframes for construction mobilization and construction for the City piece, Honker indicated mobilization could require 3 months, and construction could extend for 12-18 months. The number of miles the expansion will cover is unknown and could affect the length of construction. A reasonable estimate is 18-30 months for construction. If fully approved, the system could be ready for service in 2 ½ or more years. The length of Phase 4 construction is dependent on the number of homes and the size of the project.

Honker further reported that Phase 3 will be evaluation of possible alternatives for FTTP. Magellan will explore lower-cost and lower-risk approaches to build out FTTP. Where the Phase 1 network is designed, FTTP could be provided to areas in close proximity to the backbone. Because these projects are capital-intensive, Magellan will explore integrating the expansion project with other capital projects. Magellan will also assess the use of wireless for last-mile access. Phase 4 will result in a low-level design for FTTP, final construction prints, permit packages, a construction bid package, and an RFP for a construction contractor.

Commissioner Danaher concurred with accelerating the phases.

In answer to Commissioner Smith's query about potential challenges for expanding the network for City departments and later for FTTP, Honker clarified that the fiber network was originally intended to serve City departments, and some areas of the network are quite congested. Magellan will assist the City with decisions around expanding the existing backbone and building new backbone segments. Flexibility in the backbone is important for supporting applications. Wolf added that physical conditions such as soil will also need to be evaluated.

Chair Forssell agreed with the suggestion to combine Phases 2 and 3 and inquired about the methodology for developing a business case and recent changes that could make FTTP feasible now. Honker indicated the competitive environment has not changed significantly since the last business case was developed. Municipal services have competed well with commercial services because reliability, price, and availability are as important as speed. An incremental approach can be more tactical and provide the same value to the community. Magellan will look at a number of methods to achieve expansion and help the UAC identify the best methods. Each neighborhood will be analyzed to provide build-out costs, payback on capital, and potential take rates.

Vice Chair Segal supported combining Phases 2 and 3 and expressed interest in the equity component of expanding the fiber network.

In reply to Councilmember Cormack's inquiry regarding the funding source for Phases 2 and 3 and the projected fiscal years for implementation of Phases 2 and 3, Yuan explained that Phase 1 can be found in the fiber rebuild project in the Capital Improvement Program (CIP). Phase 2 has not been budgeted because Phase 1 is not complete. Batchelor added that extra conduit for fiber expansion is installed as part of any capital project for the Electric Utility that includes undergrounding or rebuilding.

In answer to Commissioner Jackson's query regarding City ownership of fiber along Page Mill Road, Batchelor advised that City fiber stops at the water tower, which is about 2,000 feet short of homes. Staff will have to review the situation and City policies to determine if the fiber endpoint could be moved to street-side.

Commissioner Jackson remarked that the City does not provide residential broadband to any resident. With a lot of hard work, a group of people may be able to obtain broadband service if they could get access the City's dark fiber ring.

In response to Commissioner Smith's question regarding the potential to work on tasks concurrently and to reduce the timeline by combining Phases 2 and 3, Yuan advised that staff and the consultant will discuss Phases 2 and 3 to determine the most economical and efficient method to proceed and update the UAC.

Batchelor added that the Council would have to approve a proposal to combine Phases 2 and 3. Commissioner Smith suggested compressing the timeline for Phase 1 and a new combined Phase 2 and 3.

**ACTION:** None

The UAC recessed at 6:15 p.m. and returned at 6:25 p.m.

**ITEM 3: DISCUSSION:** Discussion and Update on Activities to Facilitate Distributed Energy Resource Adoption and Integration.

Shiva Swaminathan, Senior Resource Planner, defined a distributed energy resource (DER) as a resource, potentially behind a customer meter, that can significantly change the timing, duration, and magnitude of energy use in the distribution system. Staff across CPAU divisions and City departments coordinate the integration and facilitation of DERs. Staff is evaluating proposals for AMI implementation, has implemented Phase I of the MyCPAU customer portal, has launched the Technical Assistance Program regarding electric vehicle (EV) chargers, is facilitating VMware's community microgrid, and is analyzing the impact of DERs on the distribution transformer loading. Plans for fiscal years 2020-2022 include implementation of MyCPAU Phase II; enhancement of customer programs, particularly EV chargers for multifamily homes; enhancement of DER customer programs, particularly for income-qualified customers; a pilot program for retail rates that minimize barriers to electrification; and AMI implementation.

Nicola Acutt, VMware Vice President for Sustainability, advised that VMware provides IT infrastructure and digital workspace technology. Acutt reviewed the vision and objectives for the microgrid project. The initial phase of the program is to determine whether the project is logical and the business capabilities add value. The microgrid is under construction at a customer briefing center and a gym that supports emergency services and critical infrastructure. The project includes demonstrating the capability of plugging the Mobile Emergency Operations Center (MEOC) into the microgrid in order to provide indefinite power. Potential use cases for the microgrid are full building resiliency, islanding critical loads, peak-shifting modes, demand response operating mode, grid services, and integration with VMware's building management system. Construction of the microgrid is anticipated to be substantially complete in November 2020. Next steps include continued collaboration between CPAU and VMware, capture and share learnings, and continued development of innovative microgrid control technology.

In response to Commissioner Scharff's questions, Acutt indicated the project is comprised of two buildings with solar installations and batteries. The batteries and solar panels provide power for daily use. Tomi Belosevic, VMware, explained that the batteries are oversized to provide resiliency. Solar generation is limited and does not charge the batteries fully. Electric power is used to fully charge the batteries. The batteries are cycled daily in an attempt to align utility and VMware peaks. The system will use different inputs to dynamically dispatch the batteries in combination with solar power to determine when the batteries need to be charged from the solar panels or the utility. Acutt related that community involvement in the project relates to providing support for the MEOC. A key contribution of the project is knowledge.

In reply to Commissioner Johnston's inquiry regarding full building resiliency, Belosevic clarified that the battery should be large enough to power the whole building with average occupancy for 4 hours if the utility grid goes down. The team is planning to test a blinkless transition from grid connection to island mode. On cloudy or sunny days, power can be directed to specific portions of the buildings.

In answer to Vice Chair Segal's query about Stanford University's participation in the project, Acutt indicated Stanford University's participation is focused on research, innovation, and application.

In response to Chair Forssell's inquiry regarding the battery technology, Belosevic advised that the batteries are LG Chem lithium ion with nickel/magnesium/cobalt chemistry.

**ACTION:** None

**ITEM 4: ACTION:** Selection of Potential Topic(s) for Discussion at Future UAC Meeting.  
Commissioner Smith requested a future discussion with Magellan Advisors.

**ACTION:** None

**NEXT SCHEDULED MEETING:** September 2, 2020

Commissioner Scharff moved to adjourn. Commissioner Johnston seconded the motion. The motion carried 7-0 with Chair Forssell, Vice Chair Segal, and Commissioners Danaher, Jackson, Johnston, Scharff, and Smith voting yes. Meeting adjourned at 7:08 p.m.

Respectfully Submitted  
Tabatha Boatwright  
City of Palo Alto Utilities