



DRAFT

UTILITIES ADVISORY COMMISSION MEETING MINUTES OF NOVEMBER 2, 2016

CALL TO ORDER

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

Present: Chair Cook, Vice Chair Danaher, Commissioners Forssell, Johnston, and Trumbull
Absent: Commissioners Ballantine, Schwartz, and Council Liaison Scharff

ORAL COMMUNICATIONS

Richard Cassel, speaking on behalf of the Unitarian Universalist Church at 505 East Charleston, discussed the solar CLEAN project they began planning one year ago and were ready to start construction until the City of Palo Alto Utilities told them they could not connect to the 4,160V (4kV) system. They were told they would need to pay an additional \$100,000 in order to connect to the 12,000V (12kV) system. Conversion of the 4kV system was supposed to be completed already, based on the CIP project map, and the City should cover the additional costs to allow the system to connect to the 12 kV system as part of the capital improvement project for 4kV conversion projects.

Utilities General Manager Ed Shikada asked Mr. Cassel to speak with Dean Batchelor, Utilities Chief Operating Officer, about his project.

APPROVAL OF THE MINUTES

Commissioner Trumbull proposed the following changes to the minutes: (1) page 4, second paragraph under "Discussion of Energy Storage and Microgrid Applications in Palo Alto" to: "Commissioner Trumbull noted the Commission's recent discussion of potentially encouraging customers to switch from natural gas to electricity, and asked about reliability if a customer used only electricity."; and (2) page 5, delete first sentence of third to last paragraph or substitute under "Discussion of Energy Storage and Microgrid Applications in Palo Alto" to: "Commissioner Trumbull again asked what storage techniques could be used to protect customers from electrical outages if the City adopted an electrification strategy."

Commissioner Trumbull moved to approve the minutes from the October 5, 2016 UAC meeting and Vice Chair Danaher seconded the motion. The motion carried unanimously (5-0) with Chair Cook, Vice Chair Danaher, and Commissioners Forssell, Johnston, and Trumbull voting yes and Commissioners Ballantine and Schwartz absent.

AGENDA REVIEW AND REVISIONS

Chair Cook advised that New Business Item #4 (Fiber and Wireless Update) would be taken up prior to the other New Business items.

REPORTS FROM COMMISSION MEETINGS/EVENTS

Commissioner Forssell reported that she attended the Global Climate and Energy Project at Stanford, a two-day symposium covering topics such as climate change policy, solar PV technology, other renewable energy policy, biomass and transportation.

UTILITIES DIRECTOR REPORT

1. The **Carbon Neutral Gas Plan** was discussed by the Finance Committee on October 18. The committee discussed the relative values of biogas versus environmental offsets and voted to maximize emissions reductions with the funds. Thank you to Chair Cook and Commissioner Forssell for attending the meeting and assisting the Finance Committee with its discussion. The plan will be discussed at the City Council on November 14.
2. **New Customer Service Integrated Voice Response:** On October 20, CPAU completed a “soft launch” of a new Integrated Voice Response (IVR) phone system for Utilities customer billing and payment. The new system is designed to enhance the service and convenience for City residents and businesses interacting with us for utility account services. Customers will be able to call CPAU at their convenience and pay their utility bill over the phone using a credit card, as well as listen to recorded information about their account, such as balance, due date, amount and date of last payment. This new system will allow Customer Service Center staff and management to better track and report on critical metrics such as call volumes, call trends, follow-up to customer interactions and customer satisfaction.
3. **Japanese Call Center Association Visit:** On October 26, the Call Center Association of Japan visited CPAU to learn about our Utilities Customer Service Call Center operations. Customer Service Manager Anthony Enerio and Communications Manager Catherine Elvert presented to the group about CPAU services, IVR rollout, initiatives to facilitate paperless interactions with Utilities customers, and exploration of advanced metering and other technologies to improve efficiency. The delegation also toured the Customer Service Call Center.
4. **Utilities Customer Satisfaction Surveys:** This month, CPAU is conducting online customer satisfaction surveys of our business and residential utility customers. The surveys are designed to assess customer opinions of issues such as quality of services, reliability, affordability, communication, customer service and program uptake. Surveys of large business, Key Account and small to medium-sized commercial customers are currently being administered by E Source, a company that provides market research and technical advisory services for electric and natural gas utilities. Later this month, CPAU will survey a sample of residential electric customers in partnership with RKS Research and Consulting. This survey of Palo Alto residents follows a similar statewide survey conducted in July of municipal and investor-owned utility customers.
5. **Recent and Upcoming Events or Workshops**
 - a. October 23: CPAU tabled at an Emergency Preparedness Fair at Addison Elementary
 - b. November 5: Home Efficiency Genie Workshop at the Mitchell Park Community Center

6. The **Joint Study Session** between the Council and UAC is being re-scheduled for early 2016 so that it will be with the new Council.
7. Finally, I would like to announce that Jane Ratchye has announced her retirement from the City effective at the end of this year. She will miss her time spent with the UAC.

COMMISSIONER COMMENTS

None.

UNFINISHED BUSINESS

None.

NEW BUSINESS

ITEM 1: ACTION: Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council Adopt a Resolution to Continue the Palo Alto Clean Local Energy Accessible Now (CLEAN) Program and Amend Associated Program Rules: (1) for Local Solar Resources with a Tiered Pricing Structure Starting at 16.5 ¢/kWh to a 3 MW Cap Which Declines to the City's Avoided Cost Value Upon Receiving 6 MW of Program Capacity; and (2) for Local Non-Solar Resources With No Capacity Limit at a Price of 8.4 ¢/kWh to 8.5 ¢/kWh

Assistant Director Jane Ratchye provided a presentation summarizing the written report. She noted the history of the Palo Alto CLEAN program, including the Council confirming the 16.5 cents per kilowatt-hour (¢/kWh) price for local solar many times since December 2012. Ratchye noted that the program has received applications this year totally about 1.5 megawatts (MW) and that another customer is interested in the program for a large system. She said that the program cap is 3 MW and that the new customer is determining how big a system to install and could use up the remaining available capacity. That customer is interested in what the program price for capacity in excess of the 3 MW cap.

Ratchye noted that since the program was launched in 2012, the avoided cost of local solar (including the cost of the energy, the environmental attributes, local capacity value, transmission and ancillary service value, avoided transmission and distribution system losses, and congestion value) has declined to the current avoided cost of 8.9 ¢/kWh for a 20-year contract. She said that the avoided cost of local non-solar renewable supplies has increased from last year from 8.1 ¢/kWh to 8.4 ¢/kWh for a 20-year contract.

Ratchye described staff's recommendation, which is to continue the 16.5 ¢/kWh price for the first 3 MW of local solar projects, but to expand the program while lowering the price until 6 MW of capacity is reached, then reducing the price to the avoided cost value. She said that the proposal is to reduce the price to 14 ¢/kWh for the 4th MW, 12 ¢/kWh for the 5th MW, and 10 ¢/kWh for the 6th MW. For local non-solar projects, staff recommends that the price continue at the avoided cost, which has increased to 8.4 ¢/kWh for a 20-year contract and 8.5 ¢/kWh for a 25-year contract. The 3 MW cap would be removed for both solar and non-solar projects since there is no rate impact when the price is equal to the avoided cost. Ratchye noted that staff's recommendation increases the excess cost from \$380,000/year to \$535,000/year, or \$10.7 million over 20 years.

Ratchye explained that staff considered several alternatives including the following:

1. Option 1 would end the program when 3 MW is reached.
2. Option 2 would extend the program after 3 MW is reached, but reduce the price to the avoided cost for all capacity after the first 3 MW.
3. Option 3 would end the program when the last project is added which would push the program over the 3 MW limit.
4. Option 4 would eliminate the cap and continue the 16.5 ¢/kWh for an unlimited amount of capacity.

Ratchye noted that in Option 3, since applications for projects totally about 1.5 MW have already been received, if the last project was sized at 3 MW, the total capacity at 16.5 ¢/kWh could be 4.5 MW, well over the existing program's 3 MW limit.

Public Comment

Richard Cassel said that solar system developers and site owners need certainty around the costs they may incur to install a system. He said that the utility should include a guarantee that they will pay the cost to interconnect and not have a lot of costs that an applicant to the program must pay since those costs are not calculated in. When someone makes a proposal, the utility should provide the interconnection.

Commissioner Forssell asked what the rate that would be provided to solar systems and how this relates to the Net Energy Metering (NEM) program cap, which was recently raised. Ratchye explained that NEM is for energy designed to be used at the building location, but that the CLEAN program is a feed-in tariff program whereby all the energy generated by the solar system is purchased by the City of Palo Alto Utilities (CPAU) under a long-term power purchase agreement (PPA). She said that the projects could have chosen NEM instead of the CLEAN program, but there is a 1 MW per project cap under the NEM program. The CLEAN price is the subject of this discussion—and it is unrelated to the NEM program, or the NEM cap—and the price currently 16.5 cents/kWh for a 20- or 25-year PPA term so the price is known and all the energy produced is purchased by CPAU.

Commissioner Johnston asked what non-solar local renewable energy options there are in the City. Ratchye indicated that they are unlikely, but could include small wind generators, or an anaerobic digester, for example.

Vice Chair Danaher asked why we would the City pay more for solar energy than its pays for solar energy located elsewhere. He said that in 2012 when the CLEAN Program was established, we didn't have any solar renewable energy in the portfolio or carbon neutral supplies and encouraging local solar was valuable. However, he recommended that the program limit be reduced to 2 MW from 3 MW and end the program early since there is no carbon benefit given the City's electric supply portfolio. He said that if the program was extended, the additional benefit of local solar beyond the avoided cost should be very low, perhaps a penny per kWh. He said that the additional cost of \$380,000 per year for 20 or 25 years could instead be used to hire additional staff or to do many other beneficial things. He recommended capping the program at the applications that are already in hand, but no more than 3 MW.

Chair Cook asked about the process for determining interconnection costs (to address the question from the public). He said that for remotely located solar projects, there is a process for

determining interconnection costs early in the project development. General Manager Shikada said that CPAU is working on the question and expects to be able to figure out a path forward for the applicant in question.

Chair Cook agreed with the solar developers need certainty. He said that the CLEAN program does have certainty with respect to the price. Chair Cook said that he understands that remote solar is cheaper and that the avoided cost calculation captures the value of local solar. He said that he is torn about the program or whether there is another incentive for local solar that the City should offer. He said it makes sense to limit the program to 3 MW including the existing applications and then go to the avoided cost price, which includes the value of local solar. Chair Cook added that he would like to continue to have programs to clean the air, but the carbon benefits of local solar are the same as for remote solar. He said that the stepping down the benefits over time as proposed by staff also makes sense and mimics the state's SB1 program that reduced the solar rebates over time.

Vice Chair Danaher noted that the additional \$130,000/year per MW (\$380,000 divided by 3 MW) in excess cost to extend the incentive above the avoided cost beyond 3 MW is not the best use of ratepayer funds and that ratepayer money could be used for other valuable purposes such as expanding electric vehicle charging infrastructure and electrification initiatives that would result in carbon reductions. He noted that applicants are not pounding on the City's door for this program and that there wouldn't be a problem with stopping the program after processing the applications received to date. Vice Chair Danaher said that when Council extended the program, it had not yet approved the latest large scale, very low price solar PPA.

Commissioner Johnston asked if local solar provides resilience or reliability for the local electric distribution system. Vice Chair Danaher said that he talked to Commissioner Ballantine and confirmed that the common inverters used do not allow the system to remain energized and producing energy when there is an outage on the distribution system. It is possible to change that requirement and require them to be "grid-independent", but he is not sure how complicated that is.

Ratchye said that there is a distinction between the NEM application for local solar when the energy is used on-site versus a feed-in tariff application, in which all the energy generated is fed into the distribution grid. In the latter case, which is what the CLEAN program is for, CPAU does not want the system to continue to generate electricity in an electric outage on the distribution system for safety reasons. There may be other technologies that can address this, but it is a bigger issue that just requiring smart inverters. Ratchye added that Commissioner Ballantine has mentioned that Rule 21 that is applicable to the investor-owned utilities at the California Public Utilities Commission (CPUC) is being updated to address this issue. She advised that CPAU is planning this December to update its Rule 27 related to interconnections to be consistent with the CPUC's Rule 21.

Commissioner Forssell said that the City should not reduce the system cap, but should honor the 3 MW cap in the current program. She indicated that she is supportive of reducing the price to the avoided cost after 3 MW is reached.

Vice Chair asked why the City should maintain the 3 MW cap since there is only 1.5 MW of applications so reducing the cap to 2 MW or 1.5 MW would not affect anyone. Commissioner

Forsell said that there is another customer who is interested in participating in the program. Ratchye confirmed that there is a customer who is contemplating a large system that would take the program over the 3 MW cap. That customer is waiting until they understand what will happen to the program after the 3 MW cap is reached before deciding on what size system they will submit an application for. If the cap was cut to the amount equal to the systems for which there are currently applications (about 1.5 MW), or even to 2 MW, that would shrink the system that this customer would consider and we know that they are considering a large enough system that would take the program well over the current 3 MW cap.

Commissioner Forsell said that she supported maintaining the 3 MW cap since that information is being used by potential applicants, but she also sees no reason to extend the program beyond 3 MW by stepping down the price and supports moving to the avoided cost after reaching 3 MW. The avoided cost should still provide an incentive for local solar as the cost of local solar continues to fall. She asked if the avoided cost calculation would be recalculated every year to keep pace with the best estimates. Ratchye said that she anticipates that staff would return every year with any adjustments to the avoided cost estimates.

Commissioner Johnston asked if there is a benefit to promoting local solar. He said that if the contract price is reduced to the avoided cost after reaching 3 MW, then that is effectively ending the program after reaching 3 MW. He said that would mean that the City does not believe that there are any extra benefits to local solar beyond the components of the avoided cost calculation.

Vice Chair Danaher replied that he didn't believe there are any additional benefits of local solar beyond those captured in the avoided cost calculation. He said that there may be a benefit from shading, but that awnings are inexpensive. He added that the City could put signs up that advertise that the City has 100% carbon neutral electric supplies.

Chair Cook noted that we are still supporting the NEM program, which is an incentive for local solar as well as the NEM successor program.

Commissioner Johnston noted that the City still buys some non-renewable power throughout the year. Vice Chair Danaher agreed, but said that this program won't change that. Vice Chair Danaher said that non-renewable power will still be needed to balance loads on certain hours, days, and months.

Chair Cook said that in normal hydro year, the City doesn't buy extra power. He suggested designing a program that doesn't overcommit the renewable energy.

Vice Chair Danaher reiterated that he sees better uses for the money than overpaying for local solar energy. He noted that he read through the Water Integrated Resource Plan and saw that there are far better uses for ratepayer funds than local solar such as recycled water and other programs to increase the reliability of the water supplies.

ACTION:

Chair Cook made a motion that the UAC recommend that Council raise the Palo Alto CLEAN program price for local non-solar eligible renewable energy resources to the updated avoided cost of such energy (8.4 ¢/kWh for a 20-year contract term, or 8.5 ¢/kWh for a 25-year contract

term), from the prior price (8.1 ¢/kWh for a 20-year contract term, or 8.2 ¢/kWh for a 25-year contract term), and to remove the program limit of 3 MW for local non-solar eligible renewable resources. Commissioner Trumbull seconded the motion. The motion carried unanimously (5-0) with Chair Cook, Vice Chair Danaher, and Commissioners Forssell, Johnston, and Trumbull voting yes and Commissioners Ballantine and Schwartz absent.

Commissioner Forssell made a motion that the UAC recommend that Council maintain the current CLEAN price of 16.5 cents per kilowatt-hour (¢/kWh) for a 20-year or 25-year contract term for a maximum of 3 MW of capacity and, for any capacity over 3 MW, reduce the price to the avoided cost of such energy (8.9 ¢/kWh for a 20-year contract term, or 9.1 ¢/kWh for a 25-year contract term) and remove the program limit of 3 MW for local solar resources. Chair Cook seconded the motion. The motion carried (4-1) with Chair Cook, Vice Chair Danaher, and Commissioners Forssell and Trumbull voting yes, Commissioner Johnston voting no and Commissioners Ballantine and Schwartz absent. Commissioner Johnston said he voted no as he supported the staff recommendation of reducing the price in tiers until 6 MW of capacity was reached before moving to a price based on the avoided cost.

ITEM 2. DISCUSSION: Utilities Advisory Commission Review and Discussion of the Draft 2017 Water Integrated Resource Plan Guidelines

Senior Resource Planner Karla Dailey provided a presentation summarizing the written report. She said that the Water Integrated Resources Plan (WIRP) was ready to be updated since the recent drought has reinforced that there is a need for water in water shortages and there is regulatory risk since the State Water Resources Control Board showed a willingness to regulate water use by mandating water use reduction. In addition, there are ongoing cost increases from both the City's potable water supplier, the San Francisco Public Utilities Commission (SFPUC), and for the Santa Clara Valley Water District's (SCVWD) supplies. The City effort to develop a comprehensive strategic plan for recycled water, the Council's dedication to water sustainability through the Sustainability and Climate Action Plan process and the community's interest in water are all also driving the need for a WIRP.

Dailey listed the water supply options evaluated in the WIRP and the attributes considered. She noted that the WIRP did not evaluate recycled water (since it is being evaluated separately in the Recycled Water Strategic Plan), desalination, a sale of the City's excess water allocation of SFPUC water, small-scale irrigation wells, the use of treated, contaminated water, "nuisance" groundwater from the Oregon Expressway underpass or basement dewatering, graywater, black (i.e. sewer) water, and stormwater.

Dailey said that, after looking at all the attributes, staff concluded that SFPUC water is more expensive but has highest water quality, the cost of SCVWD supplies may increase dramatically and SCVWD does not have excess treated water to sell, groundwater is susceptible to mandated water use reductions like imported supplies, blending groundwater with SFPUC water at El Camino is the least expensive, most sustainable alternative to 100% SFPUC supplies, but water quality may be an issue, reliability and sustainability can be achieved by reducing potable water demand through expanding use of recycled water.

The recommended guidelines include:

- Pursue all cost-effective water efficiency and conservation;

- Survey potentially impacted customers about their preference for SFPUC water versus blended water;
- Proceed with the Recycled Water Strategic Plan to determine how to reduce the demand for imported water; and
- Continue to investigate ways to increase the use of non-traditional, non-potable sources such as black water, storm water, and nuisance water from basement construction.

Public comment

Keith Bennet, Save Palo Alto Groundwater, said that he wanted to talk about water pumped out from basement construction and groundwater protection. He said that 200 million gallons was dumped into the Bay from 8 residential basements in 2016, equal to 7% the amount the City buys from the SFPUC and 100% of the recharge of the aquifer from precipitation for a normal rain year. In 2015 there were 13 or 14 basements constructed in Palo Alto and the allowed pumping time was longer so he assumes the amount of water discharged to the Bay was greater than in 2016. He said discharging freshwater to the Bay according to the WIRP is to be discouraged. He said that the water moving through the soil instead of the storm drain is valuable for pushing saltwater out of the groundwater. He said shallow groundwater is of very high quality and can be used for irrigation, including irrigation of Redwoods. He said the water is usually at 10 feet or less and easily accessible. He said the San Mateo Basin study shows the shallow and deep aquifers are connected. Proven alternative construction methods exist and are used in the Netherlands. This is a valuable resource and pumping and dumping the water is not sustainable. Pumping for basements contradicts the desire to protect groundwater. Utilities should change the WIRP to recognize the value of the shallow aquifer. He wants Utilities to ask Council to protect groundwater and restrict pumping and dumping from basement construction.

Commissioner Trumbull said the report was excellent. He urged the City to investigate the items that are recommended in the guidelines.

Commissioner Johnston asked how we would do a survey to evaluate whether people would prefer Hetch Hetchy to Groundwater. Dailey said she had considered blind tastings but said Utilities would have to consult a survey expert.

Commissioner Danaher said his wife doesn't want water that tastes like Los Altos water. He suggested online surveys won't be valuable but taste test might. It's staggering that basement dewatering uses so much water and that alternative construction methods and/or more use of the water should be investigated. He wondered about how easily Palo Alto's groundwater is recharged and was heartened that more studies on groundwater will be done and that more work will be done on recycling and grey water. Building codes should be examined to include more grey water. He said the assumed availability of SFPUC water is too rosy. Looking at last 80 years is not a good baseline to predict the impact of climate change. The plan should have different scenarios showing different assumptions regarding the future availability of Hetch Hetchy water. He asked if the plan will be updated after the Recycled Water Strategic plan is finished. Dailey confirmed that it would.

Commissioner Forssell said she appreciated the report and public comment. We switched water supplies in the past and the change was noticeable. So that could be used to determine people's attitude about water quality. Dailey said the SFPUC switches water supplies a couple of

times a year, and customers always notice. Assistant Director Ratchye clarified that the water is still SFPUC water not groundwater. She is interested in the Recycled Water Strategic Plan.

Chair Cook said he agreed with Danaher and that Palo Alto needs to be prepared for more dire cuts in water supply in the future. He said the public comment was compelling and that the scale is mind boggling. We recognize that groundwater is a shared resource. He pondered a temporary halt on dewatering may be in order while more studies are done. He said the way we source and use our water is very important.

ITEM 3. ACTION: Selection of Potential Topic(s) for Discussion at Future UAC Meeting

Commissioner Forssell said that she would like to hear about electrification and also about the City's carbon accounting.

Vice Chair Danaher suggested that the General Manager could provide a top-down overview of the Utilities Department indicating where the challenges are and the outlook and focus areas for the future.

General Manager Shikada indicated that those two issues could be discussed as they relate to upcoming issues. He said that electrification could be discussed when the UAC reviews the related sustainability implementation plans. Also, the Utilities top-down view could be discussed in the context of the Utilities Strategic Plan.

Commissioner Trumbull suggested that educational briefings on various could be provided along the year so that the Commission would be better informed when decisions on those topics arise.

Chair Cook advised that the December UAC meeting should be cancelled if there are no items other than the updated legislative guidelines. General Manager Shikada agreed.

ACTION:

None.

ITEM 4. DISCUSSION: Fiber and Wireless Update

Chief Information Office Jonathan Reichental and Utilities Senior Management Analyst Jim Fleming provided an update regarding Fiber-to-the-Premises (FTTP) and wireless activities, including Google Fiber, AT&T Fiber, Comcast, a summary of the public-private partnership Request for Information, and potential recommendations for discussion.

Reichental reported that Google Fiber is "pausing" its plan to build in the San Jose area, including in Palo Alto. The delay is indefinite and no target date has been provided by Google senior personnel. This indefinite delay also applies to a potential "co-build" agreement. AT&T has rebranded its "GigaPower" high-speed Internet service and it is now called AT&T Fiber. City staff is currently processing permits for two cabinets submitted by AT&T. AT&T plans to submit more permits for cabinets in 2017. AT&T has also committed to engaging in continuing discussions with the City to explore creative and innovative ideas for fiber and wireless. Comcast is targeting a citywide DOCSIS 3.1 launch starting in the second quarter of 2017. DOCSIS 3.1 supports Internet speeds of 10 Gigabits per second for downloads downstream and

1Gbps upstream - the level of speeds typically only available with a fiber optic connection. Comcast informed the City that it has no interest in a co-build partnership.

Fleming provided the highlights of the Request for Information (RFI) issued to determine if there is any interest from the private sector in partnering with the City to build a citywide FTTP network. The RFI was distributed to approximately 40 vendors in May 2016 and the City received eight responses. Two responses were deemed to be incomplete and the other six responses generally did not align with the City's objective laid out in the RFI, including City ownership of the network, ubiquitous service and open access. Based on a recommendation by the City's consultant, CTC Technology & Energy, interviews were conducted with three companies for information collection purposes. The status of Google Fiber at the time the RFI was issued may have discouraged more responses.

The firms interviewed were Comcast, Axia and N1/UTOPIA:

- Comcast's response was focused on pointing out to the City that they currently offer advanced telecom services, with plans to upgrade their voice, video and data products in the near future, including the launch of DOCSIS 3.1 for gigabit Internet.
- Axia was closest to the City's expectations, but largely did not align with the City's objective to own the network. Axia's approach for FTTP entails minimal financial risk for the City. Axia would finance, build and own the network based on attaining a 40 percent "expression of interest" in the community. Axia is also interested in acquiring the City's dark fiber network. Axia has no interest in a co-build agreement with the City.
- N1/UTOPIA's model would require the City to finance and build an open access FTTP network, while they would provide design and engineering services under a consulting agreement. N1/UTOPIA would help the City to operate the network and facilitate interconnection with Internet Service Providers (ISPs) who would provision voice, video and data services on the network. N1/UTOPIA's operational services would be provided under a revenue sharing agreement with the City. The City would be required to handle customer billing and collection of the transport fees that would be paid by the ISPs to provide services over the open access network.

Reichental and Fleming reviewed the following potential recommendations for the City Council:

- Explore and identify appropriate funding models to build and operate a municipally-owned ubiquitous fiber-to-the-premises network;
- Concurrently issue a solicitation to design a Fiber-to-the-Node network, and include an option for respondents to also quote for building last mile or incentivize market to build the last mile;
- Proceed with expanding Wi-Fi deployments for unserved City facilities (e.g. portions of Lucie Stern and Cubberley);
- Not proceed with Wi-Fi deployments in high traffic retail areas which are already being served;
- Reevaluate the approach to an implementation of a "Dig Once" ordinance.

City Manager James Keene noted that we have been working on fiber since he arrived eight years ago. Since the market is constantly changing and Google Fiber has gone dormant, the Council, UAC and the community need to align their policy and demand for fiber. The

incumbents will continue to compete and upgrade their networks based on customer demand. If the City goes out again with another partnership RFI, it still may not yield a viable solution. Should the City figure out how to fund the \$77M network? The Fiber-to-the-Node concept could be funded by existing Fiber reserves, but that doesn't mean it's a wise decision. It's time to have a discussion with Council and UAC to refocus the objectives in the new market environment.

Vice Chair Danaher asked about AT&T's willingness to discuss creative ideas. Reichental replied that Council asked staff to explore with AT&T and Google Fiber ways to incentivize ubiquitous service. AT&T asked for more clarification about potential scenarios. AT&T is enthusiastic about their new gigabit offering; they are open to creative discussions with the City. Even though there aren't any substantive ideas at this point from either side, AT&T has not closed the discussion.

Vice Chair Danaher asked what the City wouldn't get if AT&T didn't deploy its upgrade. Reichental replied that deployment is market driven and AT&T will only build cabinets where there is consumer interest. The current U-verse service does not reach every home in Palo Alto.

Vice Chair Danaher asked about competition and rates. Fleming replied there are markets where open access networks create competition and reasonable rates, but the Bay Area market isn't one of them. Google Fiber was successful in getting the incumbents to up their game and accelerate network upgrades. Vice Chair Danaher added that if open access isn't practical, then the City's goal should be ubiquity and to provide incentives for network upgrades. The City should focus on incentives and actions to accelerate upgrades and take focus off owning its own network. Fleming added that the incumbents' upgrades are easier because it's more about upgrading their network equipment and electronics, rather than installing more fiber.

City Manager Keene stated that the City has a propensity for study related to fiber. The UAC should move with dispatch to give Council its perspective. It is not practical for staff to continue evaluating several options simultaneously. What content will the City provide with a city owned network? UAC should let the Council know from a policy perspective about its current thinking.

Vice Chair Danaher stated that from his point of view spending \$77 million to build a city owned network was never a great proposition if there is already competitive services available; co-building or co-owning the network should not be a priority. We should look at what we can do administratively and logistically to speed upgrades to ensure ubiquity. The RFI was never compelling and is not surprised by the lack of responses. Instead we should look for speed and support for the incumbent upgrades.

Commissioner Johnston stated that technology is changing and it may leapfrog whatever we do. He agrees with Vice Chair Danaher that the incumbents have commercial incentives to upgrade and the City should press them for speed and to cover everyone.

Commissioner Forssell asked what leverage we have to press AT&T to provide citywide coverage.

Senior Deputy City Attorney Jessica Mullan responded that it depends on the particular application that comes before the City and the conditions of approval we can impose at the time. This is a challenging space for telecom companies in that what the City offers to one company we have to offer to all companies across the board due to federal law. The City Attorney's office will have to analyze this in terms of looking at it on a contractual basis. Reichental added that when the City speaks to AT&T and Comcast they certainly want revenue and the market, but they also want support from the City for faster permitting. Additionally, some customers may be satisfied with the current level of service they receive. AT&T will market heavily throughout the City and people can go online or to one of their storefront locations to express interest; if there's a critical mass of interest in an area then they will deploy.

City Manager Keene noted that in trying to negotiate there are usually "no deal" or "walk-away" options. The challenge in attaining leverage is that there are conditions when the provider will say they'll do the best they can to get 100 percent coverage, but if there are other conditions from the City, they may not come at all. It's important at this point that the UAC provide Council with their thoughts from a policy standpoint.

Senior Deputy City Attorney noted that telecom companies have access to the City's public rights-of-way, but under State and federal law, the City has the right to regulate "time, place and manner" of the placement of their facilities in the rights-of-way. The City can only regulate certain aspects, but we can encourage them to expand to underserved areas.

Commissioner Forssell observed that both AT&T and Comcast are profit-making institutions beholden to their shareholders. We have an opportunity to look out for all residents, but she is skeptical that unless we have tangible leverage, she is unconvinced that AT&T and Comcast will deploy ubiquitously if that's the Council's policy goal.

Commissioner Forssell asked to clarify that if we are mulling over the idea of issuing a bond for \$77 million, what services will we provide and do we have a sense of what citizens want? Is it bundled entertainment, Internet and voice services similar to what AT&T and Comcast offer and the prices change depending on what bundle you sign-up for? City Manager Keene responded that even if the City is in this business, it doesn't preclude the incumbents and others from competing against the City. Even after capitalizing the expense to build the network we'd have to get enough customers to get the 72 percent market uptake and the incumbents in response may be willing to provide more services at a better price. The City Manager added that we're not advocating for AT&T and Comcast as the solution, but the comment Commissioner Forssell's made about shareholders is an appropriate one since if a City network is run as a utility the shareholders are the citizens and customers and we need to acknowledge that relationship, especially if it involves a public-private partnership and the potential benefits that would be provided to the shareholders.

Chair Cook recognized the market is moving quickly and how much things change each time the fiber item is reviewed by the UAC and expressed frustration on the lack of progress. Chair Cook also noted that he has been skeptical of the cost to build and he has heard different cost numbers. The decision would vary based on a cost of \$20 million vs. \$70 million; Fiber-to-the-Node approach may be an idea. Chair Cook asked if there is the potential to expand the existing fiber backbone infrastructure to increase revenue, but he has a concern about getting

away from the City's goals for network ownership, ubiquity and open access. Perhaps the question to the Council is what is the public benefit of fiber for the community in terms of local control and lower costs (similar to the public benefit of achieving carbon neutrality)? We need to determine the public benefit aspect of fiber for the community.

Commissioner Trumbull noted that we may have to give up on the notion of fiber as a public utility due to federal law.

City Manager Keene noted that the Fiber-to-the-Node (FTTN) approach has potential because of the need to reinvest in the fiber network and the cost is manageable. The fiber ring could be expanded in a way to stay competitive. For example, the fiber network was extended to the school district and there may be other opportunistic expansions. Also, since we don't know now where the technology is headed for fiber and wireless, FTTN may be back-filler for fiber backhaul opportunities, ubiquity and support of 5G in the future.

The City Manager added that General Manager of Utilities/Assistant City Manager Ed Shikada, CIO Jonathan Reichental and the Fiber/Wireless Team will have to further flesh out these concepts for future discussions.

ACTION:

None.

Meeting adjourned at 9:38 p.m.

Respectfully Submitted,
Marites Ward
City of Palo Alto Utilities