



# DRAFT

## UTILITIES ADVISORY COMMISSION MEETING MINUTES OF FEBRUARY 7, 2018 REGULAR MEETING

### CALL TO ORDER

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

Present: Commissioners Forssell, Johnston, Schwartz, Segal, Trumbull  
Absent: Chair Danaher, Vice Chair Ballantine

### ORAL COMMUNICATIONS

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David Carnahan, Deputy City Clerk, advised that the City is recruiting for one position on the Historic Resources Board, three positions on the Human Relations Commission, two positions on the Public Art Commission, and two positions on the Utilities Advisory Commission. Applications can be found on the City Clerk's webpage, and the deadline to apply is March 20 at 4:30 p.m.

### APPROVAL OF THE MINUTES

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Commissioner Segal moved to approve the minutes from the January 18, 2018 special meeting. Commissioner Johnston seconded the motion. The motion carried 5-0 with Commissioners Forssell, Johnston, Schwartz, Segal, and Trumbull voting yes and Chair Danaher and Vice Chair Ballantine absent.

### AGENDA REVIEW AND REVISIONS

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None

### REPORTS FROM COMMISSIONER MEETINGS/EVENTS

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Commissioner Schwartz attended the Smart Energy Consumer Collaborative symposium, where Felecia Etheridge gave the keynote address. The strategic planning group should review the address because it is a good model for engaging consumers. At the DistribuTECH trade show, Commissioner Schwartz viewed a demonstration from Smart Energy Water (SEW). Perhaps SEW could give a demonstration during a Commission meeting. Commissioner Schwartz encouraged staff to attend the Voices of Experience workshop the following week to learn about other utilities' experiences with advanced metering infrastructure (AMI).

### UTILITIES GENERAL MANAGER REPORT

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Ed Shikada, Utilities General Manager, delivered the General Manager's Report.

**FERC Rejects DOE Grid Resiliency Initiative:** In September, Department of Energy Secretary Rick Perry requested that the Federal Energy Regulatory Commission (FERC) initiate a rulemaking proceeding to impose certain rules and regulations on regional transmission organizations (RTOs) and independent system operators (ISOs), such as the California Independent System Operator, "to ensure that certain reliability and resilience attributes of electric generation resources are fully valued." This move was considered to be in direct support of baseload fossil fuel, most notably coal, nuclear energy and anti-renewable resources such as wind and solar. Many industry stakeholders, including Palo Alto through the

Northern California Power Agency (NCPA), opposed the directive and called on FERC to reject the rulemaking. These stakeholders contended that the proceeding was unnecessary and could potentially lead to new payments in support of coal and nuclear plants. Additionally, the move was seen as a political attempt to discredit the renewable industry. Stakeholders urged FERC to remain objective on this issue.

**Updated Utilities Logo:** I am pleased to announce that our Utilities Department has decided to adopt a new logo which offers a brand refresh, or makeover, to our former look. The new design utilizes elements of the City's logo, including the symbol of our City's namesake, the El Palo Alto redwood tree. This visual connection to the City as a whole presents a unified brand for our organization while also maintaining a recognized identity for Utilities. While not directly propelled by our update to the Strategic Plan, the timing of this logo refresh is well aligned with our updates to the strategic destination and vision for our Utility, hopefully complementing our efforts to establish ourselves as a vibrant, forward-thinking, yet trusted brand for the community.

**City Rebate for HP Energy Efficiency Pays Back with New Sustainable Garden:** Last week, HP unveiled a new sustainable garden at its global headquarters in Palo Alto, partly funded by a rebate from Utilities for an energy efficiency project at the campus. By participating in the City's Empower Palo Alto Program for energy efficiency, the company received a rebate for the energy savings and used the funds for a number of employee sustainability engagement projects, including the garden which employees will be able to tend. The City worked with HP on a site wide retro-commissioning project to optimize the efficiency of existing heating, ventilation and air conditioning (HVAC) systems, upgrade building energy management software, and install LED lighting. HP is already seeing energy savings results including a year-over-year site-wide electricity reduction of 1,430,149 kilowatt hours (kWh) and close to 105,000 therms. This is equivalent to the amount of energy needed to power roughly 250 homes in Palo Alto for a year.

**CMUA Capitol Day:** In late January, staff attended the annual legislative lobby day in Sacramento, hosted by the Northern California Power Agency (NCPA) and California Municipal Utilities Association (CMUA). Lobby day enables NCPA and CMUA members to share information with politicians and legislative and regulatory staff about utilities issues. The highlight of the day this year was meeting directly with Palo Alto's legislators, Senator Jerry Hill and Assemblyman Marc Berman. At the meetings with our legislators, staff highlight specific CPAU achievements as well as information about how we operate our utility. These meetings are particularly important because we are able to discuss future laws and regulations that impact CPAU, and we can offer information regarding how a particular bill might affect us and other publicly owned utilities.

**Newly Designed Program Webpages:** Our marketing and communications teams have been updating Utilities webpages for a fresh design and presentation. More recently, we created video and graphics for an engaging and dynamic display of information about the Home Efficiency Genie and Heat Pump Water Heater programs. Commissioners may be especially interested in viewing video testimonials for the Home Efficiency Genie program, as one of the featured participants is Catherine Crystal Foster, wife of former UAC Chair Jon Foster. Visit [cityofpaloalto.org/efficiencygenie](http://cityofpaloalto.org/efficiencygenie) to watch.

**Water Supply:** The San Francisco Public Utilities Commission (SFPUC) reported the February 1 snow surveys in the Hetch Hetchy watershed revealed snow pack above 8200 feet at about half of normal. The entire snow pack is approximately one-third the average amount to date. Systems storage remains high, and demand continues to be less than pre-drought levels. SFPUC does not anticipate requiring water use reductions even if precipitation conditions for the remainder of the year are exceptionally dry. Because 2017 was a wet year, reservoir levels remain above average; therefore, total hydro generation forecasts for the next 12 months remain equal to long-term average levels. This represents a sharp decline from the forecast of a few months ago when projections were above average generation levels for 2018. For the upcoming 12-month period, hydro resources are expected to provide approximately 52% of electric supply needs, which is down from a projected supply level of 64% at the end of calendar year 2017.

## COMMISSIONER COMMENTS

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None

## UNFINISHED BUSINESS

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None

## NEW BUSINESS

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### **ITEM 1: ACTION:** Staff Recommendation that the Utilities Advisory Commission Recommend Council Approve the 2018 Strategic Plan

Ed Shikada, Utilities General Manager, noted Attachment B to Item 1 is an itemization of Commissioners' comments from the January meeting and staff's responses. The tentative date for presentation of the Strategic Plan to the City Council is February 26.

Commissioner Johnston advised that staff did a nice job of reflecting the UAC's comments in the Strategic Plan.

**ACTION:** Commissioner Trumbull moved to recommend Council approval of the 2018 Strategic Plan. Commissioner Johnston seconded the motion. The motion carried 5-0 with Commissioners Forssell, Johnston, Schwartz, Segal, and Trumbull voting yes and Chair Danaher and Vice Chair Ballantine absent.

### **ITEM 2. DISCUSSION:** Preliminary Financial Plans for the City of Palo Alto's Electric, Water, Gas and Wastewater Collection Utilities

Erik Keniston, Senior Resource Planner, presented the preliminary financial forecasts and rate changes for electric, gas, wastewater collection, and water funds. The monthly residential bill in Palo Alto is currently 14% below bills from other regional utilities. Staff is recommending an overall rate increase of 5% or a bill increase of \$13 per month. The rate increase is comprised of 8% for electric, 4% each for gas and water, and 10% for wastewater. Because of current reserve positions and increasing capital costs, the projections for rate increases in future years have increased as well. For the Electric Utility, the Hydro Stabilization Reserve Fund contains \$11.4 million; the Supply Rate Stabilization Reserve Fund contains \$9 million; and the Special Projects Reserve Fund contains \$10 million, which has to be repaid in FY 2021 and FY 2022.

In response to Commissioner Forssell's question regarding the main drivers of the cost increases for operations reserves, Keniston advised that market variability due to the drought and the lack of rate increases in recent years are the main drivers.

Keniston continued stating that the electric commodity is growing because of large increases in transmission costs. The forecast contains the cost of additional renewables. Capital Improvement Program (CIP) costs are increasing slightly, partially due to the need for work on some underground districts in the future.

In reply to Commissioner Schwartz's inquiry regarding the increase in operations, Keniston indicated the increase is caused by a return to full staffing.

Keniston reported that the Supply and Distribution Operations Reserve Fund ended FY 2017 below the minimum levels. Some previously approved transfers from reserve funds will occur in FY 2018 to raise fund balances above the minimum level. Staff's goal is to increase fund balances to target levels by the end of the forecast period. Overall the balances of reserve funds are sufficient to meet the risk assessment levels. Staff is projecting a withdrawal from the Electric Special Projects Reserve Fund in FY 2018 with the majority of funds transferred to the Distribution Reserve Fund, a small withdrawal from the Hydro Stabilization Reserve Fund, and draining the Supply Rate Stabilization Reserve Fund. The Distribution Operations Reserve Fund ended FY 2017 below the minimum target level, and staff will transfer funds and increase rates to stabilize it. There are no Distribution Rate Stabilization Reserves remaining. Reserve funds for

commitments and reappropriations are committed for prior projects or items already budgeted. In 2017, staff estimated a 7% rate increase in FY 2019, but that has changed to an 8% rate increase. Future rate increases will likely be 2-4% to meet expenses. Uncertainties in the Electric Utility are the cost of Smart Grid implementation and CIP costs.

In response to Commissioner Schwartz's query regarding the impact of the Santa Rosa fires on construction costs, Ed Shikada, Utilities General Manager, advised that there may be an impact in the future, but staff has not identified any near-term effects.

Commissioner Forssell requested a chart listing all reserve funds and the intended purpose of each fund.

In response to Commissioner Segal's inquiry about staff anticipation of lower sales, Keniston indicated staff is seeing slightly lower sales; however, electric sales are leveling out and close to projections for FY 2018.

In reply to Commissioner Schwartz's query regarding inclusion of the adoption of electric vehicles (EV) in the forecast, Keniston stated future load projections include EV growth.

Keniston reported staff is projecting a 4% non-commodity rate increase for the Gas Utility. The increase is the result of strictly distribution-related charges. PG&E's pending rate case could result in a rate impact of perhaps more than 10%; however, the rate case could remain pending for several years. Staff is projecting slightly lower costs in FY 2019. Projections for FY 2020-2021 include updated costs for existing main replacement projects and additional costs related to converting all meters to advanced metering infrastructure (AMI). At the end of FY 2017, the Operations Reserve Fund balance was healthy; therefore, the rate increase is not as high. Because of higher costs, slightly higher rate increases are projected in the future. Uncertainties are a decrease in consumption due to fuel switching and the number of allowances under the Cap-and-Trade Program.

In answer to Commissioner Schwartz's question regarding the impact of advocating for fuel switching and the loss of Diablo Canyon on achieving carbon reduction goals, Keniston indicated he would provide information at a later time. Shikada added that the City is not advocating fuel switching but providing consumers with options and facilitating their decision-making. Commissioner Schwartz felt the consumer needs to understand the tradeoffs of fuel switching.

In reply to Commissioner Segal's query about resolution of the lack of qualified staff for the gas main replacement project and how it is reflected in the budget, Shikada reported that additional staff has been hired to support the Gas Utility.

Keniston continued with the Wastewater Collection Utility. Staff will likely recommend a 10% rate increase, for an increase of \$3.48 on the average residential bill. The average water bill in surrounding cities is approximately \$52 per month in comparison to \$38 for Palo Alto after the rate increase. Rates in Palo Alto and surrounding cities will increase due to upgrades of treatment plants and lower availability of bond funding.

In response to Commissioner Forssell's question regarding the Wastewater Collection Utility paying for upgrades to the water treatment plant, Keniston explained that the Wastewater Collection Utility bears a portion of the cost to upgrade treatment plants because of the water mains used to transport water.

In answer to Commissioner Johnston's question regarding the treatment plant being revenue neutral, Keniston stated that the treatment plant does break even every year. Costs are divided among all partners based upon the relative usage of the plant.

Keniston advised that the Operations Reserve Fund is low. Staff is projecting it will drop below the minimum level even with 10% rate increases. The fund needs cash to meet the expense profile.

In reply to Commissioner Johnston's query regarding the definition of the risk assessment line, Keniston indicated that the risk assessment line is an internal metric used to cover a one-time 10% increase in CIP costs. The risk assessment line also reflects the largest historic downturn in revenues.

Keniston continued with staff's projection of a series of 10% rate increases for the next few years. Uncertainties include increasing costs for ongoing capital projects.

In reply to Commissioner Schwartz's inquiry regarding the public's questioning of the need for rate increases, Keniston reported he did not receive many questions. The Utility has been using reserves rather than increasing rates. Commissioner Schwartz believed residents should understand that the combination of deferred maintenance and the use of reserves kept rates artificially low. Shikada stated the focus is typically to explain today's expenses rather than reasons for not increasing rates in the past. A historical perspective could be useful. Commissioner Schwartz felt the concept of maintaining low rates at the expense of maintenance and reserve funds was not appropriate.

In answer to Commissioner Trumbull's question regarding options for main replacement and rate increases, Keniston explained that the plan is one main replacement project every year. Staff could plan smaller projects or delay some projects in order to reduce rate increases for a while.

In reply to Commissioner Schwartz's query regarding explanations of rate increases for the City Council, Councilmember Filseth believed Utilities has done a good job of providing advance notice of rate movements.

In response to Councilmember Filseth's inquiry about the reasons for projections and budgeting being higher for wastewater than other utilities, Keniston clarified that some projects need to occur sooner than originally projected, and costs are higher than projected. In the last year, staff has reevaluated projects and their costs. Shikada added that staff is investigating ways to smooth capital expenses. In addition, Utilities has not had the staff to deliver projects in a predictable manner.

In answer to Commissioner Trumbull's question of whether deferred maintenance can be performed faster given the increasing costs, Keniston indicated staff is reviewing whether the rate and amount of work is optimal. Commissioner Trumbull felt deferred maintenance should be performed faster. Shikada advised that staff will return to the Commission and Council with information about the pace of main replacements and the ability to maintain infrastructure.

Commissioner Johnston recalled budget discussions in 2017 raised concerns that the amounts allocated for capital improvements would not keep pace with the expiration of the useful life of projects. Shikada clarified that Utilities has not had sufficient staff expertise to perform projects or to supervise contracts.

Commissioner Segal suggested staff identify the causes of deferrals in future reports. The solutions for deferrals caused by staffing and economics are different.

Commissioner Forssell encouraged staff to ensure cost effectiveness was not prioritized over safety and reliability of service. Councilmember Filseth added that the community should know the costs for delivering safe and reliable service.

Keniston continued with the Water Utility. Staff is recommending a 4% rate increase overall due to increased costs for capital improvements and the need for more storage. San Francisco Public Utility Commission (SFPUC) does not anticipate increasing the rate in the coming year.

In response to Commissioner Schwartz's question regarding anticipation of drought conditions due to the lack of rain, Keniston stated the lack of rainfall does not bode well for FY 2019.

Keniston reported that the fund has healthy reserves. Estimating water usage and the length of recovery following a drought is difficult. Water usage has been higher than estimated but has not reached pre-drought levels. For future years, staff is recommending higher rate increases than previously projected because of storage and AMI projects. The uncertainty is water usage rebound.

Commissioner Segal preferred not to defer storage projects. Keniston clarified that storage projects are included in the budget over the next three years. Staff is not planning to defer them.

Keniston advised that Water and Wastewater Financial Plans will be presented to the Commission in March and the Electric and Gas Financial Plans in April.

Monica Padilla, Senior Resource Planner, noted staff has spent a great deal of time reviewing planning for CIP replacement projects. Priority 4 of the Strategic Plan contains three strategies and key performance indexes (KPI) related to planning projects.

**ACTION:** No action

**ITEM 3. DISCUSSION:** CPAU's Role in Community Resiliency—Defining Framework and Principles

Debra Lloyd, Acting Assistant Director of Utilities Engineering, reported that the staff report outlines next steps to engage the Commission in workshops to lay the framework for resiliency and the Utilities' role in resiliency. This is an initiative contained in the Strategic Plan. Resiliency and reliability are often used interchangeably, but they are different. Reliability is measured by the number of service outages and the duration of outages. Reliability is delivering a service at the quality that is needed. Resiliency is more about how abruptly or dramatically a utility is impacted by an event and how quickly it can recover. Staff is proposing to work with a consultant to hold workshops. The first step is to outline a workshop and gather information. Perhaps one or two Commissioners could form a subcommittee to assist staff.

Ed Shikada, Utilities General Manager, had heard interest in having subject matter experts advise the Commission, which staff could accommodate. The Director of the Office of Emergency Services, Ken Dueker, will participate in the first workshop.

In response to Commissioner Johnston's question about participants in the workshop, Lloyd indicated the workshop would be open to the public. Shikada suggested the workshop could be a study session or a regular meeting. The format could be a briefing from a subject matter expert and then a discussion facilitated by the consultant.

Commissioner Schwartz emphasized the need for a well-facilitated conversation with experts so that Commissioners and the public can ask questions and discuss tradeoffs. Reliability is the routine performance of work, while resiliency is preparation for anticipated events. Commissioner Schwartz offered to help with planning the workshop.

**ACTION:** No action

**ITEM 4. DISCUSSION:** Update on Outage Management System Operational Issues

Tomm Marshall, Assistant Director of Utilities Operations, reported that the recent issue with the Outage Management System was caused by a component being omitted from a software update. The software has been updated to install the needed component. Staff will attempt to continue improvements to the Outage Management System, but the process is slow. Over the long term, staff will look at replacing it in conjunction with implementation of a new customer information system (CIS), smart meters, and GIS upgrade.

In response to Commissioner Johnston's inquiry regarding communication of outage information to the public, Marshall advised that oftentimes staff does not know when a resolution will occur. Staff relays information to customers through social media and the City website. The lack of staff constrains communication of information.

Commissioner Schwartz stated Utilities learns the scope of the outage through customers' reports. Marshall clarified that the customer does need to notify Utilities of some types of outages. Commissioner Schwartz suggested the outage system does not have to be integrated with CIS. Other services can be utilized until AMI is implemented. Marshall explained that another vendor would still have to obtain the data, determine outages, and rebuild the interfaces to make the system work. In reply to Commissioner Schwartz's comment that other services utilize text messages for communications, Marshall advised that the current Outage Management System has the capability to utilize text messages and the internet; however, those features have not been implemented. Commissioner Schwartz suggested the communications system does not have to be integrated directly with the SCADA system. Marshall advised that the issue is having the resources to make changes to the system.

Commissioner Johnston felt the economies of scale work against Utilities because of its size. Systems utilized by larger utilities would not work for Utilities. Marshall indicated Utilities could run a better system, but it will take resources and dedication to make changes. Staff could look into moving it forward more quickly.

In reply to Commissioner Schwartz's question of whether staff has talked to Smart Energy Water (SEW) about leveraging the new system, Marshall responded that he had not spoken with SEW.

Ed Shikada, Utilities General Manager, reported staff needs to ensure Utilities has a functional system and will look for opportunities to upgrade or implement some other system.

**ACTION:** No action

**ITEM 5: DISCUSSION:** Fiber Utility Update

Jeff Hoel, speaking as an individual, remarked that the Commission's role is to advise Council rather than staff. The overall objective as stated in the staff report is too narrow in scope. The system should provide a number of speeds and offer good prices, reliability, and customer service. Public-private partnerships have not always been beneficial. The City should build the system itself. Staff should present large construction projects to the Commission for review prior to release of the Request for Proposals (RFP).

Andy Poggio, speaking as an individual, urged the City to proceed with Fiber to the Premises (FTTP). AT&T and Comcast are not good choices. Wireless is not a replacement for fiber and doesn't work well for streaming data. FTTP will benefit startup and existing companies and residents.

Herb Borock stated public comment is not related to the staff report because staff has decided it will determine the content of an RFP. A fiber project should provide a service to the community. Without support from the Council, City Manager, and the Utilities Director, a Utilities project will not occur.

Dave Yuan, Strategic Business Manager, reviewed the development of the fiber network in Palo Alto. The purpose of the fiber rebuild capital improvement program (CIP) project is to relieve congestion points in the downtown area and Stanford Research Park and to add more fiber strands. The network currently has approximately 100 customers, 221 connections, annual revenue of \$4.5 million, annual expenses of \$2 million, and a reserve fund balance of \$27 million. The fiber optic backbone is comprised of approximately 54% aerial fiber and 46% underground fiber. A high concentration of fiber is located in downtown and Stanford Research Park.

Jim Fleming, Senior Management Analyst, reviewed milestones for FTTP and wireless beginning in 1999. In August 2017, the Council directed staff to develop a business case and funding plans for a Fiber to the Node (FTTN) network; to engage a management consultant; to identify potential partners and/or service providers; to prepare a high-level network design; and to draft ordinances to lower construction costs. Comcast has confirmed the availability of gigabit-speed broadband to most premises in Palo Alto. AT&T Fiber will initiate a network upgrade in Palo Alto in 2018. The City and County of San Francisco issued a Request for Qualifications for companies to design, build, finance, operate, and maintain a ubiquitous broadband FTTP network. The estimated cost to build a citywide dark fiber network in San Francisco is \$1.5 billion, and the estimated cost for a lit network is \$1.9 billion. AT&T and Verizon Wireless are conducting 5G wireless trials in several cities. Small cell deployments are vital to extending wireless service coverage and/or increasing network capacity. In December 2017, the Federal Communications Commission (FCC) repealed the Net Neutrality Rules. A lawsuit has been filed against the FCC's action. Two bills in the California State Senate would force internet service providers (ISP) to adhere to Net Neutrality protections; however, state laws may be preempted by Federal policy. The Chairman of the FCC announced formation of a Broadband Deployment Advisory Committee to provide the FCC with advice and recommendations regarding deployment of high speed internet access.

Yuan advised that staff is working with the Citizens Advisory Committee (CAC) regarding a Statement of Work for the RFP, and the City Attorney is reviewing the statement. The goal is to identify potential applications for gigabit services including costs, benefits, and potential revenues; identify public-private partnership models; and develop a high-level network design with cost estimates. Staff plans to issue the RFP in March with a contract award as early as June or July.

Commissioner Schwartz requested staff provide the official position of the CAC and a chart showing applications of the different technologies. She expressed concern about staffing a new utility should fiber become a reality. Commissioner Schwartz suggested staff conduct a survey of consumer appetite for and concerns about services.

Commissioner Segal requested an economic analysis. Yuan advised that the last cost estimate was \$78 million for an FTTP network. Fleming added that the cost for a fiber network in Palo Alto is less than in San Francisco because of the fewer number of dwellings in Palo Alto. While San Francisco is not comparable to Palo Alto, it can provide a model for a public-private partnership.

In response to Commissioner Forssell's query regarding the cost of FTTP in comparison to FTTN, Yuan explained that the RFP for FTTN includes an expansion option for FTTP for the full City. Staff estimates the cost for FTTN to be \$15 million.

In reply to Commissioner Segal's query regarding a cost savings between FTTP and FTTN with a future expansion to the premises, Yuan indicated there could be a cost savings. Ideally, staff hopes to find a partner for the last mile.

Commissioner Schwartz felt a case could be made to fund FTTP to ensure the vitality of businesses.

Commissioner Forssell requested staff attempt to quantify the positive impacts of people working from home rather than commuting.

In answer to Commissioner Segal's question regarding a date when 5G will be commercially available, Fleming reported the first commercial launch of fixed 5G technology will occur in Sacramento in the coming year. There is debate about 5G replacing FTTP.

Commissioner Schwartz stated that development of 5G may not be in the best interest of consumers. The City should consider the effects of the repeal of Net Neutrality Rules with respect to fiber.

Commissioner Forssell noted privacy should also be a concern. In reply to Commissioner Forssell's query regarding development of fiber occurring in parallel with finding a partner, Yuan indicated the two are on a parallel path.

Yuan noted Utilities is attempting to add staff to the fiber team to advance Council's directions to staff.

Fleming reported that wireless cannot perform without fiber for the backhaul. Fiber is very important to the development of existing networks and future 5G technology.

Commissioner Johnston felt it is important to highlight what cannot be done now but what can be done with fiber.

In reply to Commissioner Forssell's question regarding equating FTTN with backhaul, Fleming explained that FTTN would create opportunities to license more fiber. As networks are built out, there will be more demand for dark fiber. The FTTN concept is to create opportunities to build the last mile to the individual premise or to use that point of presence within the network for other communication opportunities, whether licensing fiber to third parties or for the City's use. One focus of the business plan is to determine if FTTN will have value and whether infrastructure will attract a third party to build the last mile to the premise.

Bob Hinden advised that information about applications and technology is available on Google and Comcast websites. The cost estimate for FTTP appears to be cheap when considered with the cost of traffic calming projects. Trials of 5G do not mean it will be universally deployed. Marketing hype for 5G should not confuse the discussion of fiber. Palo Alto is suited to FTTP because of the existing fiber ring and the Palo Alto Internet Exchange.

In answer to Councilmember Filseth's inquiry about resellers of fiber, Fleming explained that resellers are called competitive local exchange carriers. They do not own facilities but use dark fiber to resell telecommunication services. Resellers serve primarily the business sector.

**ACTION:** No action

**ITEM 6: ACTION:** Selection of Potential Topic(s) for Discussion at Future UAC Meeting and Potential Designation of UAC Ad Hoc Subcommittee(s)

Ed Shikada, Utilities General Manager, reported that the Commission could designate subcommittees for the budget and resiliency workshops

In response to Commissioner Segal's inquiry regarding the existing subcommittees, Shikada indicated that the budget subcommittee is appointed and meets annually.

Commissioners Johnston, Forssell, and Segal volunteered for the budget subcommittee.

Commissioner Schwartz volunteered herself and Vice Chair Ballantine for the resiliency subcommittee.

**ACTION:** No action.

The next meeting is scheduled for March 7, 2018.

Meeting adjourned at 9:20 p.m.

Respectfully Submitted,  
Marites Ward  
City of Palo Alto Utilities