



DRAFT

UTILITIES ADVISORY COMMISSION MEETING MINUTES OF NOVEMBER 4, 2015

CALL TO ORDER

Chair Foster called to order at 7:04 p.m. the meeting of the Utilities Advisory Commission (UAC).

Present: Chair Foster, Vice Chair Cook, and Commissioners Ballantine, Danaher, Eglash, and Schwartz

Absent: Commissioner Hall and Council Liaison Scharff

ORAL COMMUNICATIONS

None.

APPROVAL OF THE MINUTES

Commissioner Schwartz recommended that the following changes be made to the draft minutes from the October 7, 2015 UAC meeting:

1. Under Item 2: "Commissioner Schwartz said that customer satisfaction depends on transparency ~~whether you are transparent or not.~~"
2. Under Item 2: "She added that safeguards to allow folks to opt out will be consistent with transparency ~~the transparent message.~~"
3. Under Item 3: Delete this paragraph: "Commissioner Schwartz state that, if this would give her a structure for discussion items not on the rolling calendar that she would like to address, she would support it."
4. Under Commissioner Comments: "She said that everyone ~~no one~~ in our City has ~~cannot~~ ~~get~~ access to the internet."

Vice Chair Cook moved to approve the minutes from the October 7, 2015 UAC meeting as amended with Commissioner Schwartz's recommended changes and Commissioner Eglash seconded the motion. The motion carried unanimously (6-0) with Commissioners Ballantine, Vice Chair Cook, Danaher, Eglash, Chair Foster, and Schwartz voting yes, and Commissioner Hall absent.

AGENDA REVIEW AND REVISIONS

None.

REPORTS FROM COMMISSION MEETING/EVENTS

Commissioner Schwartz attended a forum on low income issues. One item of potential interest to Palo Alto was an interesting analysis of people's attitude toward payment rather than income.

Commissioner Danaher arrived at 7:09 p.m.

Commissioner Eglash reported that he testified to a State Assembly select committee on emerging technology and the internet of things. He discussed big data and analytics and their public policy implications.

Commissioner Schwartz said that DEFG is collaborating with a company called SUS which does customer engagement and has a very interesting and exciting application. She said that it is difficult to explain and is better to be seen and experienced to comprehend its value. She suggested that it would be interesting for all the UAC commissioners to see.

Commissioner Schwartz said that she worked with EWEB, a Municipal utility in Eugene, Oregon. They had tried to restructure rates and a local newspaper misrepresented the rate change, which set off a social media storm. She said that this happened because the outreach did not get ahead of the issue and that rate restructuring requires public outreach. She said that at a board meeting, the staff provided a good presentation and that there were no lawyers at the board meeting.

UTILITIES DIRECTOR REPORT

1. Gas Usage Update and Potential Need for a Rate Increase

As Commissioner Hall pointed out last month, the quarterly update showed significantly lower sales revenues than expected in Fiscal Year (FY) 2015. The primary reason for the reduced sales was an unusually warm 2014 through 2015 winter season, which meant less gas was used for home heating. Staff does not expect this reduced sales revenue to have much of a long-term rate impact. Ongoing drought conditions also affected gas utility sales revenue. As people conserved water, the overall use of gas to heat water was also reduced. Staff believes that the drought had a much smaller impact on sales volumes than the warm winter weather.

The FY 2016 Gas Financial Plan projected the need for a 7% rate increase for gas in FY 2017. Staff will update all assumptions and projections in the FY 2017 Gas Financial Plan and, based on information to date, the 7% rate increase is expected to be adequate to maintain financial health in the Gas Fund.

2. Communications:

Trees have been stressed due to persistent drought conditions and the City has launched an enhanced outreach campaign in partnership with Canopy to inform customers about proper tree care and irrigation. Save Our Water AND Our Trees focuses on trees as a valuable investment in the community's green infrastructure.

3. Events, Workshops and Speaking Engagements

Several noteworthy events in October include:

- **October 10:** Fundamentals of Waterwise Gardening workshop
- **October 17:** Hands-On Water-efficient Landscaping Project at City Hall
- **October 18:** Emergency Preparedness and Safety Fair at Addison Elementary
- **October 25:** Colorado Avenue Block Party
- **October 16:** Resource Planner Aimee Bailey participated on a panel discussion about the future direction of emerging technologies at the 2015 E Source Forum in Denver, Colorado. The annual E Source Forum is attended by over 400 representatives from utilities, energy service providers, government representatives, and others involved in improving and redefining how energy is delivered, purchased, and used.
- **October 23:** Communications Manager Catherine Elvert spoke at the California Municipal Utilities Association and California Urban Water Agencies Water Forum about the work of water utilities with land use planning agencies to further water efficiency standards in new development.

On November 13, please join us for the Building Carbon Zero California conference, which brings together experts to discuss passive and sustainable housing design. International climate change expert, Dr. Diana Ürge-Vorsatz, will be the keynote speaker. Break-out sessions will follow one of two tracks: Carbon, Efficiency + Photovoltaic, or Retrofits and Large Passive House. On Saturday, November 14, attendees are invited to join former Mayor Peter Drekmeier on a PedalHaus tour of passive housing projects in Palo Alto.

UNFINISHED BUSINESS

Commissioner Eglash met with the Utilities Director, Assistant Director, and the Senior Deputy Assistant City Attorney, to discuss the UAC work plan that was discussed at the October UAC meeting. He said that he now recommends that the UAC work plan not be pursued after all. He said that there were issues with the Brown Act, there was a need to assign responsibility to someone to do the updates, and he wanted to consider the impact on City staff resources. In addition, he saw that there were other ways to address the issues including the rolling calendar, the quarterly reports. He said that commissioners can always ask the Director for updates on any issues. Also, there is an opportunity to discuss the ideas at the annual joint meeting with Council and the UAC could provide the status of the items prior to that meeting. In the end, he concluded that it was not a workable idea and that it should be dropped.

Commissioner Danaher said that perhaps an update on the five items could be discussed at the UAC on a quarterly basis.

Vice Chair Cook thanked Commissioner Eglash for coming up with the idea and for thinking through the implementation of the idea.

NEW BUSINESS

ITEM 1: ACTION: Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council Approve Design Guidelines for the Net Energy Metering Successor Program

Resource Planner Aimee Bailey provided a summary of the written report on the Net Energy Metering (NEM) successor program. She stated that Palo Alto's NEM cap established by Council is 9.5 megawatts (MW) and that a program for after that cap is reached is needed. Bailey noted that the report stated that staff expects that the NEM cap to be reached by mid-2017, but this is an error and staff actually expects to reach the NEM cap by mid-2016.

Bailey noted that a NEM successor program falls under the overarching City of Palo Alto Utilities (CPAU) Electric Cost of Service Analysis (COSA) and that Council has adopted design guidelines for the Electric COSA. Bailey discussed each of the six proposed NEM Successor Program design guidelines.

Public Comment

Herb Borock said that there was nothing explicit regarding Proposition 26 which doesn't allow taxes, which he said includes some aspects of solar PV incentives. He added that if solar expands too much, we will need storage to manage it and it should be taken into account.

Chair Foster asked if the Electric COSA design guideline #1 directly addresses the Proposition 26 question. Bailey confirmed that this is the case

Commissioner Eglash noted that NEM has been very effective in encouraging rooftop solar and that it is beginning to outlive its life as solar costs decline so that solar can survive on its own. NEM is effectively a subsidy that must be borne by all the ratepayers so that those without solar must pay the way for customers with rooftop solar. He said that the staff proposal is exactly the right way to proceed. He said that we all benefit from solar, but NEM is effectively a tax on the poor since it is the richer folks that put solar on their roofs and the poorer people are, thus, subject to the "tax".

Vice Chair Cook said that Commissioner Eglash covered the issue regarding the subsidy NEM provides.

Vice Chair Cook asked why net metering was put in place. Bailey said that the high cost of solar was a factor in the state adopting net metering. Assistant Director Jane Ratchye made a distinction between NEM and surplus net energy, that is the over-generation over 12-months that is sold back to the utility. Bailey pointed to a back-up slide showing Residential Tiers versus Avoided Cost. Vice Chair Cook said he put solar panels on the roof of his house 9 years ago and tried to size it to cover his electric costs.

Commissioner Ballantine asked about the value of electricity for different times of day. Ratchye clarified that the energy does have different value throughout the day but that Palo Alto does not have time-of-use (TOU) rates.

Vice Chair Cook said that if his system is sized just right, then he would not be paying the full cost of his service. He suggested that cost of service be included in the guidelines. The goals may be contradictory. Bailey said that avoided cost is used to calculate the value of solar. Bailey confirmed that the basis for the Palo Alto CLEAN program price is based on the value of solar, or the “avoided cost” of local solar, or the cost of remote renewable energy delivered to Palo Alto.

Vice Chair Cook asked if there is a guideline addressing fairness. Bailey said that the electric COSA design guideline #1 addressing Proposition 26 addresses fairness and equity.

Vice Chair Cook asked which guideline addresses the issue raised that the lower energy using customers are compensated at a lower rate compared to higher energy users. Bailey said that this is addressed by guideline #1.

Vice Chair Cook asked if the potential adoption of smart meters and co-adoption of TOU rates should be considered. He noted that the high value time of day may change over time. Bailey said there is a strong relationship between rates and the NEM successor program. TOU rates will be addressed in the second phase of the Electric COSA, not the first phase that we are under now. Bailey stated that the NEM program would be revised upon implementation of AMI and time varying rates.

Vice Chair Cook said that his comments are not anti-renewable energy and that this is a fascinating topic. He advised that we shouldn't be negative with respect to renewable energy resources and need to somehow encourage clean energy at the same time as determine how to properly support it.

Commissioner Schwartz said that she especially supports the guideline for the value of solar. She said that the reason Palo Alto can't do anything with respect to TOU is that CPAU hasn't yet fully deployed smart meters. She said people with rooftop PV should possibly be compensated at the wholesale price. Bailey said CPAU can consider that in the development of a program. Commissioner Schwartz asked if interval meters can be used as a step less than full smart meter deployment. Bailey said that it was a possibility and that interval meters will be considered.

Commissioner Schwartz noted that the purposes of the plan now may change over time and since CPAU claims to be carbon neutral, she questioned the value of rooftop solar PV. Chair Foster responded that energy consumed at night is either renewable or covered by a Renewable Energy Certificate (REC). Ratchye said that CPAU's electric supplies are carbon neutral according to The Climate Registry's protocol adopted by Council. Commissioner Schwartz said it's hard to justify subsidies for rooftop PV if Palo Alto is carbon neutral. She added that customers should pay something for using the grid.

Commissioner Eglash said that CPAU's electric rates do not have a large fixed component or connection charge, but that could be changed. He asked if CPAU should consider a large fixed

charge for the rates. Schwartz suggested that the fixed charge be “fair” instead of “large”. Ratchye reminded that Council has adopted the Phase One Electric COSA guidelines and that one included that we would consider having a minimum charge, rather than a fixed charge. She noted that minimum charges impact solar customers and very low energy users.

Commissioner Ballantine showed that the trend is to higher solar penetration that could lead to an issue. Bailey said that the NEM successor program design guidelines were aligned with the first phase of the Electric COSA (0-5 years). Commissioner Ballantine asked if guideline 2 (consider compensating solar participants at a rate equivalent to the value of solar to Palo Alto via “value of solar tariff”) should be more specific.

Commissioner Danaher suggested that the guideline refer to value of solar as the “avoided cost” of renewable energy delivered locally since that's really what that means.

Commissioner Ballantine said the “Duck Curve” may not matter today but may become more important later. Ratchye said CPAU is impacted by wholesale prices since the value of our resources and loads depend on those prices. She said in the future metering equipment can be installed that can allow retail pricing based on TOU rates or even real-time pricing. Commissioner Ballantine said a guideline should address this idea. Ratchye replied that guideline #6 does just that. Commissioner Ballantine said is fine with #6, but worries that the guideline by itself may not have enough explanation. Ratchye pointed to more detail on each guideline provided in the staff report.

Commissioner Ballantine asked if storage is covered in guideline #3. Bailey confirmed that this was the case and clarified that storage would be behind the customer meter.

Commissioner Danaher wondered if there is a social benefit to local solar, but said he would prefer saving money by accessing much less costly large utility-scale solar projects instead of higher cost local solar and, instead of subsidizing local solar, use the money for efficiency and electrification. Commissioner Danaher said that he supports the guidelines and, especially the concept of compensating solar customers by the avoided cost. He asked how customers who have already installed solar would be treated. Bailey said those customers under the NEM cap are grandfathered into the current NEM program (compensation based on retail rate), but they are still subject to changes in Palo Alto’s electric rates.

Chair Foster suggested that the value of local solar could be added to a future agenda. Ratchye said the rolling calendar includes a Palo Alto CLEAN program update in December and there will be discussion about avoided cost and additional local value. She said that Council has opined on this in the past when adopting prices for the Palo Alto CLEAN program. Danaher said he would like to understand the Council’s perspective and to hear the theories about the additional local values to local solar. Chair Foster (noting Council Member Filseth in the audience) said that Council was divided on the issue of the value of local renewable generation.

ACTION:

Commissioner Danaher made a motion that the UAC recommend Council approve the guidelines as presented with a change to guideline #2 to add “avoided cost, including time of day” to the value of solar. Commissioner Schwartz said that “avoided cost” is a difficult concept to explain and communicate. Commissioner Eglash said that what we pay for green energy that is brought to the Citygate is the definition of value of solar so that the guideline captures that. The motion died for the lack of a second.

Vice Chair Cook made a motion that the UAC recommend that Council approve the guidelines as presented. Commissioner Eglash seconded the motion. The motion carried (6-0) with Chair Foster, Vice Chair Cook, and Commissioners Ballantine, Danaher, Eglash, and Schwartz voting yes and Commissioner Hall absent.

ITEM 2. ACTION: Selection of Potential Topic(s) for Discussion at Future UAC Meeting

Commissioner Danaher requested that the Commission hear the status of the five topics of interest from the last joint UAC/Council meeting. Chair Foster asked for an update on these items for the December meeting so that the Commission can get back to Council on what has been done, status and timeline. He said it could be an oral update in the Director of Utilities report. Ratchye said any update requires staff work; staff could give a brief status update but not go into detail. Chair Foster asked for a timeline for each item. Ratchye said the amount of staff work to develop a timeline depends on the topic.

Commissioner Ballantine asked that the solar hot water heating program be agendaized. Chair Foster, pointing to the 12-month rolling calendar, noted that this item is already planned for the December meeting.

Commissioner Schwartz asked for an update on Fiber to the Premise, but noted that she will not be at the December meeting. Chair Foster said that January meeting could be appropriate for that discussion. Mullan said that there is ongoing work by City staff on that issue. Chair Foster said that the City’s Chief Information Officer Jonathan Reichental should be requested to attend the meeting. Mullan said that she heard the commission's concerns and will attempt to determine an appropriate title for the item.

Chair Foster said that the UAC, and not the Director of Utilities, should control the UAC agenda and suggested that preparation of the agenda should be discussed at a future meeting. Mullan said that there is some guidance in the UAC’s bylaws.

ACTION:

None.

ITEM 5. DISCUSSION: Update and Discussion on Impacts of Statewide Drought on Water and Hydroelectric Supplies

Senior Resource Planner Karla Dailey noted that there is little new information to report on the drought. She said that the City is doing well towards meeting its water reduction goals for

calendar year 2015 to date and for the period starting June 2015 for which the City's mandated reduction goal from the State is 24%. The drought also has resulted in additional cost of about \$11.4 million for FY 2016, but is still within the rate impact cap for carbon neutral electricity.

COMMISSIONER COMMENTS

Commissioner Schwartz said that she has been working on a colleagues memo on fiber to the premise (FTTP) that she would like to be available for the January meeting when members of the UAC have asked that the item be discussed. She then read her draft of the memo, a written copy of which was subsequently provided to staff as follows (there was no discussion of the comments by the rest of the UAC):

1. Background

Palo Alto installed a dark fiber ring that is presently accessed primarily by large corporate customers. While expansion has been revisited periodically by the UAC the fiber ring was not extended to all residential locations for a variety of reasons. In the intervening time, third party broadband service providers entered the market and are now well-established and continue to add new services.

At the request of City Council, the UAC is again revisiting whether to invest \$77 million (the estimate of the consultants engaged by the City) to extend the fiber network to every single residence in the City and explore if there are other ways to leverage the accumulated \$20 million fiber fund that would deliver value to the community.

2. Executive Summary

As the narrative below describes in more detail, the City of Palo Alto has a tremendous opportunity to leverage (and continue to reinvest in) this core foundational piece of communication infrastructure for innovative applications that support critical services and better resource management. Where fiber is used effectively in other cities, it is integrated with Smart Grid and IoT deployments. My independent research and analysis suggests that Palo Alto and its citizens would be better served if we selectively build on our foundation rather than extend fiber to every business and residence as either a public benefit or as a business competing with the private sector.

3. What problems are we trying to solve with FTTP?

Virtually all involved in Palo Alto's FTTP discussion agree that a state-of-the-art communications network is critical for a healthy and robust economy and innovative business environment. Palo Alto, the birthplace of Silicon Valley, is highly prized as a business location for start ups and established companies. In addition to infrastructure, our city and region possess many talented people, specialized business services, a great climate, and access to capital—all of which make us the envy of communities across the globe. Our housing prices are so high because so many people want to live and work here.

FTTP will not fill a gap in our desirability as a destination

While we shouldn't rest on our laurels, Palo Alto is already a symbol of economic vitality to which other communities aspire. How much more desirable do we need (or want) to be?

Our citizens already have universal access

Every neighborhood in Palo Alto currently has access to broadband Internet, cellular wireless service, and many businesses provide free WiFi. This means all residents can choose to send email, access important informational websites and electronic medical records, use Facetime/ Skype/VOIP and watch videos, TV, and movies, and use online games and applications with the services that are available today.

The disruptive trend currently facing the personal computer and telco companies is the shift from fixed point to mobile devices and apps that can be used anywhere by using the cellular and wifi networks. These networks may use fiber as a backbone/backhaul, but do not require fixed residential connections.

What do people use broadband connections for in their residences?

Many of the emails, discussions and comments from the community on this issue quote technical specs at length. As someone who has worked for decades in high tech marketing, I recognize the tendency to focus on "speeds and feeds" is not new. However, when asked about which applications are being compromised, the responses become less precise. Downloaded and streaming entertainment (HD movies, TV, games) are the primary applications that require broadband.

Upload speeds are slower than download speeds because most commercial services, and customers, consume more bits than they produce. A faster fiber connection would reduce upload time of large video, music, and photo files, improve participation in immersive virtual reality games, HD video conferencing and back up enterprise-scale file systems onto the cloud.

For a quick reference on application requirements, take a look at these two charts on the Federal Communications Commission fcc.gov site.

Broadband Service for the Home: A Consumer's Guide - FCC

Broadband Speed Guide - Household Broadband Guide

Businesses and people who use applications that require faster upload speeds can purchase a fiber connection today from either the city or AT&T (and possibly Google or Comcast in the near future). If this is for a business purpose, then I believe that can reasonably be considered a business expense and question whether providing this level of service to everyone who doesn't need it makes financial sense.

How cheap do services need to be to be acceptable?

Businesses and residents can choose from an array of Internet products offered by AT&T or Comcast for between \$14.99 and ~\$150 per month depending on the combination of services desired. Both businesses and residents with a pressing need for the speed of fiber connection for large, frequent and fast uploads of large amounts of data can purchase that level of service from either the City or from AT&T today. (Prices vary depending on location, which suggests expansion of the City ring as needed to key business districts would be a good investment.) With the likely entrance into the market of Google Fiber, it is reasonable to assume that there will be competitive and downward pressure on prices to install fiber connections where desired.

For residents who want faster web access and downloads without fiber, Bob Evans of the Fiber Internet Center suggests they sign up for both ATT U-verse and Comcast Internet service. That way they have redundancy if one service is running slow for their Internet connection and it would still cost less than \$100 dollars per month. That would be cheaper than a fiber connection to the home and wouldn't cost the city anything.

If we are concerned that middle and low-income residents cannot afford access to basic services, it would be far cheaper to subsidize their service contracts than to build out FTTP to everyone's home and create a city-run service entity to provide IP addresses, support personnel, marketing, and program development to compete with AT&T, Comcast, Google, and other ISPs.

Overcoming complaints about existing services:

FTTP will not eliminate slow downs and bottlenecks associated with applications that require broadband

Just because a device or network can transmit data faster, doesn't mean that the faster processing power or larger "pipe" automatically translates into a superior or even different user experience. Something as simple as leaving too many browser windows open on sites that are concurrently running scripts can have a noticeable impact. Multiple users in the home using different devices or neighbors sharing the same infrastructure can cause a slow down.

As documented more fully on fcc.gov and explained by Bob Evans, Co-Owner of the Fiber Internet Center, "The Internet network is a complex collection of routers, switches, hubs, Internet connections, transit providers, DNS servers (that translate URLs like google.com to IP addresses) and server resources.

"Anywhere along the line, a delay or overload can occur that could make a user feel like their service is slow. The truth of the matter is that the average consumer computer can only go so fast due to limitations on its internal chips, hard drive speeds, memory, and software.

“No consumer PC can physically go 1Gbps, probably not even 100Mbps due to these same product and software limitations. Even with a fast connection to the home, if a user goes to a particular website, say Apple.com, it could feel slow if lots of users are downloading a new release of iOS for example because the servers at Apple are over loaded from all the users trying to download the same release at the same time. Google and other large companies also experience blockages or slow downs due to overloading of resources by lots of users on the Internet. Google, Amazon, Yahoo, Microsoft and many others have all gone down at one time or another. It is a fact of life on the Internet.”

If Palo Alto enters this market as a fiber service provider, our customers can reasonably expect to experience the same sort of blockages, slow downs, and occasional outages whether due to limitations on their machines, congestion on our fiber lines, regional routers, or overloaded destination sites.

Personal experience:

My husband and I don't have cable and use a traditional rooftop antenna for watching broadcast TV (free and better quality image). We also watch TV/movies on a first generation iPad via hulu or Netflix via our AT&T U-verse Wifi connection. With the iPad, we will sometimes experience delays during peak periods with high demand. A fiber connection to our home would have no impact on this type of delay. However, watching on the AppleTV does solve the problem today because that device and software uses buffering to smooth out the experience.

Can a city-run entity provide better customer service than the incumbents?

We also hear complaints about Comcast and AT&T customer service with the expressed hope that our FTTP network would improve the situation by offering a faster/better/cheaper alternative. Management (either independently as another city service or in partnership with an ISP) would require our small, lean utility that presently delivers only monopoly, commodity services compete with well-financed corporations with huge marketing operations, promotional budgets, and tech, customer service and installation support.

To imagine a brand-new department can outperform on every technical performance and customer satisfaction metric, provide acceptable 24x7 support, and hit sufficiently high penetration levels needed to fund the operation seems overly optimistic to me. The staff's reticence to take this on seems quite prudent.

Will Palo Alto be left behind if we do not deploy FTTP?

Another argument made for building out FTTP is that we need to be prepared to support future applications that do not yet exist (or are not yet commercialized). As previously noted, it's likely that future disruptive applications will be built upon mobile rather than fixed platforms. If there are a number of experimental applications or services the City wishes to encourage, it would again be more cost effective to manage

by exception and offer “innovation scholarships” or create a “fiber garage” for fledgling entrepreneurs who have not yet secured capital.

Should Palo Alto provide FTTP as a public benefit?

Chair Foster has suggested that we consider FTTP as a public benefit in the same spirit as parks, public schools, libraries, recreational, and cultural facilities. The discussion then becomes a question of how we as a community choose to spend our money. The more that I’ve studied this issue, the more I’ve come to believe that bringing fiber to private homes is difficult to justify as a public benefit.

Even if we all don’t personally take advantage of all of them, the other examples are public spaces, not improvements to private residences. Their fundamental physical infrastructure remains useful even if the content within changes and maintenance and periodic upgrades are required.

4. In what ways is EPB/Chattanooga a model for Palo Alto?

In light of Jeff Hoel’s recent emails citing EPB, I thought it would be helpful to include a brief discussion of their initiative. As part of my consulting practice, I’ve done case studies on EPB, referenced their best practices in many presentations and papers, invited their folks to speak on multiple panels at conferences, listened to many of their presentations and read industry studies and articles about them over the years.

EPB is a great example of an innovative utility and the lessons from their story go far beyond FTTP though not everything is directly relevant to our situation. I understand members of the City Council have visited EPB and PAU staffer Jim Fleming is very familiar with their efforts.

What is significant if you look at their dedicated website <http://chattanoogagig.com/> is that these fiber offerings are part of a larger integrated Smart Grid program that was initially funded in part with \$111 million in ARRA stimulus money. Note that they talk about their network being 200 times faster than the national average, which would also suggest that they are far ahead of mainstream consumer applications that might take advantage of the extra speed.

Most significantly, their development and investment goals are completely different than Palo Alto’s and we should look at their FTTP deployment in a broader context.

The original reason for their investment was that the City of Chattanooga had fallen on hard times with the loss of its industrial base and they were looking for a way to make the city attractive to tech companies (i.e. be more like Palo Alto). It was an economic and business revitalization project and the fact that they could offer Internet and TV services to residential customers was a by-product not the core reason behind the initiative. EPB built out their electricity distribution automation system first which is why they’ve had such great reliability in storms and they used the entertainment

services they offered as a way to engage residents while the later AMI phase of the project was being deployed.

There was also not a lot of broadband investment in their community at the time they first offered the service (unlike Palo Alto today). In 2008 when Comcast brought the suit against EPB over their \$219,830,000 bond issue to enter the Cable TV business, it was the smart grid deployment that was a critical element in deciding the case in EPB's favor.

<http://www.chattanooga.com/2008/7/11/131292/Chancellor-Brown-Dismisses-Comcast-Suit.aspx>

What can we learn from EPB in order to take advantage of our far-sighted fiber investment?

I remain very enthusiastic and supportive of the City continuing to invest in its fiber ring and think we have an exciting and unique opportunity. Our City leaders have a strong commitment to green energy and reducing our carbon footprint. However, Palo Alto lags behind many other U.S. cities and utilities in leveraging technology to manage resources most effectively. By more proactively incorporating what are now widely deployed and proven strategies, we could leverage our fiber ring, increase our community and neighborhood wireless hotspots, improve city services and transportation, and leapfrog other communities by deploying integrated management of our utility services for water, gas, and electricity, waste and storm water. Innovation in this area would not only demonstrate our thought leadership in measurable ways, it would provide a model to be replicated in other communities.

I would request that we add a discussion of this topic as an agenda item for the January meeting. Thank you.

Meeting adjourned at 9:13 p.m.

Respectfully submitted,
Marites Ward
City of Palo Alto Utilities