Austin Energy Utility Oversight Committee Meeting Transcript – 03/28/2016

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[9:12:08 AM]

>> Good morning, everyone. Happy to report we do have a quorum to get the Austin oversight Austin energy committee started. I'm Leslie pool, the vice chair, our chair is out ill and my understanding is councilmember Garza won't be with us today. So I am convening the Austin energy utility oversight committee meeting March 28, 2016, it is 9:12 A.M. And we have -- looks like about seven or eight items on our agenda and we'll try to move through these expeditiously but allowing enough question and answer that the dais feels it need. So good morning, everybody. Yes, mayor pro tem. >> Tovo: I just wanted to let the body know that as many of you know I serve as the appointee from the council to the Austin police retirement board and we have a special called meeting this morning so I'm going to have to excuse me self at about 11:15. Apologies in advance for missing that part of the meeting. I'll have to catch up with it on tape. >> Pool: I think we have one action that may need action so let's take that up on the off chance we lose a quorum so keep me apprised on that. I've called the meeting to order. Approval of minutes. Do I have a motion to approve the minutes of February 25, 2016? Councilmember Casar has moved and mayor pro tem tovo second. All in favor? That is unanimous on the dais with councilmembers Gallo, Garza, kitchen, troxclair, Renteria and Zimmerman off -- oh, here comes councilmember Renteria, and councilmember kitchen was here. She's in the back. Okay. And here is councilmember -- let's hang on one second and we'll take the vote on adopting the minutes one more time.

[9:14:10 AM]

So we have a motion and a second on the floor to approve the minutes from February 25th and calling the vote please say aye, raise your hand, and that is unanimous on the dais with now just three councilmembers missing and that is Gallo, Garza, kitchen. All right. Thank you. So we have a briefing, general manager's report, which includes a quarterly financial, the systems operations and the market operations updates. And then included also is the rate review, customer assistance program, automatic enrollment process upgrade and response to council resolutions regarding the low-water crossing consumer task force recommendations. >> Good morning. I just want to note that we had citizen communication next as item 2, but we can go first if you would like me to. >> Pool: I was looking for number 2 and it was missing from this agenda. Item 2 is indeed speakers. So maybe we should do that first. All right. So we have three speakers, each gets three minutes. We have Paul Robbins first, Carol bazitski. Welcome, Mr. Robbins. >> Thank you, councilmember. Council, you'll remember last month I presented a review of cap customers in the west lake area for December of last year. I compared it -- I took that analysis and I compared to it the month of February of 2016. Interestingly three of the wealthy

customers from December fell off the rolls, but they were replaced by three other wealthy customers. My point is that the problem

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still exists. Since you last met as the oversight committee, I met with jg Gutierrez three times. We are largely in agreement on most issues. We agree the auto enrollment system needs to be changed to remove customers with high real estate assets as soon as possible. We agree that customers with high real estate assets should be income qualified in the future. She is checking on what the cost of that would be. We agree that multiple property owners should be removed and we agree that -- we agree that no customer should get more than one discount. The main place we disagree is removing discounts for high volume users above 1500-kilowatt hours a month. Her case is made by showing me the bills of an example of an all electric customer who was in a 1100 square foot rental house. Using about three and a half times what the average Austin energy customer used in a year. They've been offered -- the landlord has been offered free weatherization several times but declined. And to her the quintessential problem is that cap is the only thing that can be done to control the bill. And I don't dispute her facts, but I've come to a different conclusion. Austin is managing a program for what 41,000 customers and it has to do the most good for the most people with limited resources. The same money this customer is getting could provide

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discounts for two customers with more modest use. And they are using more than their fair share of the program, more than the average. That concludes my remarks. Ms. Gutierrez will have an update for you and that's -- this will be a policy decision for you all to make. >> Pool: Thank you, Mr. Robbins. Is Carol here? There she is. And kieba will be next. Good morning, Carol. How are you doing? >> Good morning, councilmember pool, madame chair. Councilmembers. I am Carol Biedrzycki. I'm the executive director of Texas ratepayers to save energy and I'm here today to bring something to your attention that I just learned about and that is a tariff that was approved in the most recent budget which I have attached to some remarks that I have passed out to you called the residential service pilot programs. If I would have known about this tariff during the budget process, I would have said something about it and encouraged you to either not approve it or to make some amendments in it. It has three components. One is a time of use rate. The other is a pre-paid service raid for residential customers, and the third is an electrical vehicle charging rate. Now, all of these things are not -- these are all ideas that should be explored and should be implemented at some time in the future I think except for the pre-paid service rate.

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I'm very concerned about that one because pre-paid service creates what I describe as a second class of residential customer that doesn't have the same customer protections as other residential customers. If someone has a pre-paid account and a good example is I like to use they put $50 on the account. If the account runs out on Wednesday afternoon and they don't get paid until Friday, the only option that is available there is disconnection of that customer. You know, unless if you make some other provisions. I have reviewed the tariff, I have also looked at some discovery responses that were submitted in the rate case. I've also attached those to my remarks. That -- to me it just explains that Austin energy has not thought through this pre-paid service program to the extent that is necessary to begin a pilot which, according to the information provided by Austin energy, will start on April 1st, which is just a few days away. So my purpose in speaking to you today is to see if something can be done to put the brakes on

this until we can look at all of the issues and make sure that when we move forward with these -- you know she tests of these new rates that we're doing it in a way that protects the customers who are participating in the programs. >> Pool: Thank you. Kieba white. >> Tovo: Chair, at the appropriate -- [inaudible].

[9:23:13 AM]

>> These kind of things are really going to influence the direction that our utility goes over the next decade or so. Are we going to continue down the same path and hope that the changes in the electrical market are something that we can withstand without making major changes, or are we going to accept that the market is changing and that our utility which also funds many of our city services needs to change with it. A lot of this is going to have to come from the person at the top. There are a lot of good people working at Austin energy, but their efforts and ideas are not going to come to fruition without a visionary leader at the top. And there is precedent for having a public process, and by that I mean some sort of appointed panel to do interviews and give formal feedback into the process that was used when the Austin resource recovery director was hired last time around. So I encourage you all to show your support for that type of process, please. Thank you. >> Pool: Thank you, Ms. White. I think we have a discussion about the process for hiring the Austin energy general manager and what I would ask is that we hold on to comments and questions until that item comes up so that we don't run afoul of taking something up outside of what the agenda has. So -- and I know I have some questions and I think some of my colleagues do, so when we get to that item we'll air them then. Thank you. >> Thank you. >> Pool: All right. That is all of the citizens having registered to speak. Did I miss anyone? Is there anyone who didn't sign up? I'll mention we have a new committee sign-up process that's electronic. I hope it was easy to follow and work for everybody who did sign up. It looks like it's working pretty well at this end. So now we go on to the briefing with the general manager's report, which I had previously introduced Mr.

[9:25:21 AM]

Mr. Bumbrowski. >> Good morning. Thanks for -- our intent to use this time during the committee meetings to present information on Austin energy's performance, our market environment and progress we were making on key initiatives. Our hope is to improve communications between gnarring Austin energy and its mission. Without establishing specific performance measures and publicly reporting our progress accurately and timely, our mission statement is of limited use. Austin energy staff is currently developing a dashboard which will link Austin energy's performances to specific performance measures. Starting in may we will deliver and present to you the general manager's report in an easily readable, nontechnical graphical report that links Austin energy performance with our requirements, policies and expectations. We anticipate this will be an interim process as we work with the city manager and you to make sure that the general manager's report accomplishes its goal. During the interim period I intend to move Austin energy towards the goal of becoming a high performance organization that is accountable to our customers, our city council, our city manager and our employees. A critical attribute of high performance organizations is a use of data informed decision making. In the coming months Austin energy will link our performance with our mission, vision and pride values in a more formalized plan. Our commitment to you and to ourselves is to provide the information needed to make critical decision in a strategic framework. This is going to be a tremendous amount of work for us during this busy time of year, but I'm excited at the prospect of a meaningful and fact-based discussions on our performance. I know that Austin energy employees are dedicated, intelligent and hard working

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professionals that are often the standard bearers in our industry. I also know that improvement is continuous and starts with leadership. So this report will take shape in may. We've provided you a couple of handouts on the dais this morning and the first is our customer energy solutions progress report. It looks like this. For fiscal year 15 and 16 and it highlights our efforts on creating a more energy efficient and sustainable community. As you go through that, we'll be glad to answer any questions you or staff may have. We've also included the Austin energy 2016 first quarter report which ends December 31, 2015. Several years ago this report was directed by city council. And we were instructed to report on a quarterly basis on performance. And that report has evolved over time to this tri-fold format that's really key financial data and some operational data along with other relevant information on Austin energy. As we further develop this general manager's report, we hope to visit this quarterly report and its format and make sure it's an effective communication tool. And that it meets the needs of us. In the meantime we can continue to follow this formal until we hear back from you on that. We have a couple of quick updates on things going on at Austin energy. First we're going to have mark Dreyfuss who is going to provide you with a brief update on our ongoing rate process. He's going to be followed by J.J. Gutierrez, vice president for customer care services, and she's going to brief us on the automatic enrollment process for cap which I believe Mr. Robbins spoke with you earlier. Finally we have Deborah Kimberly is going to give us a

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quick report on the low-income task force recommendations. We also have several briefings today. Dan Smith, our energy vice president for electric service delivery is going to brief out the Austin shines project which is a critical component of our 2025 goal, local solar energy storage. And as requested by council, we have a -- developed three 90-minute briefings on utility rate making. First session was conducted last month during the oversight committee and focused on the Texas power market, the general fund transfer and developing the revenue requirements. During today's briefing we'll address how the cost of service is used in rate making and tomorrow during your work session we'll present our last session which will cover utility rate design. Austin energy is pleased to have Mr. Mark de champ as our presenter. He will present city council with overviews of both the cost of service and rate design. Mark has over 28 years of experience in the utility environment and possesses degrees from accounting, water technology. He has completed cost of service and rate studies for more than 200 municipal systems in the U.S. And served as expert witness in rate cases. Prior to starting his own consulting practice he held a number of positions with large municipal systems in Michigan and a national consulting firm. Mark is a recognized expert in his field and often speaks at conferences and industry organizations and he's associated with the American public power association. Before we get started, you had asked a question about the -- whether I could provide information on some of our pilot programs. I'm not prepared today, I don't have the facts with me, but I could be glad to either present that in a memo format or come back tomorrow if there's time and give you an update. >> Pool: Thank you. I think -- mayor pro tem. Well, I was going to say if the memo is prepared, you may

[9:31:24 AM]

go ahead and send it and then if there are questions on that, then we can bring them up at the work session tomorrow. That would be a good process. Mayor pro tem. >> Tovo: My question really just relates to the fact the tariff -- I'd like Austin energy to verify the information that Ms. Biedrzycki presented about whether or not we voted to approve this tariff for the pilot programs back in the

budget. I don't recall any specific discussion so that's the substance of my question. And I'm happy to have it answered in a memo format, but what is the new tariff, if you can cite to me the discussions that the council had about it or how we were briefed on that new tariff, that would be helpful. >> All right. I'll include that in the memo. >> Tovo: I appreciate that. If my colleagues want to have a discussion, that's their prerogative, but I'm happy to just have that in a memo with possibly a subsequent discussion at committee. Did we vote to approve this new tariff? >> There were three pilot programs we presented at council in the form of our believing both at the beginning of the budget process and it was actually in the tariff we adopted. I don't recall specifically what was discussed in public, but I can go back in the minutes and look at that. >> Tovo: So you said that it was presented to us at the beginning of the budget? >> Yes. >> Tovo: In a discussion of some sort? >> Yes, we tend to give a briefing on changes to our rates and programs within Austin energy. >> Tovo: Okay. I'll go back through my budget materials as well. Thank you. >> Pool: Is Mr. Dechamp here? >> We're going to lead off with the three briefings. First will be Mr. Dreyfuss. >> Pool: Mr. Dreyfuss, good morning, how are you. >> Good morning. One of the other marks. Mark Dreyfuss, vice president for regulatory affairs.

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I just have a quick update where we are in the ongoing rates proceeding. And I assure you that we are moving full speed ahead now. I'm pleased to let you know we have 23 participating parties. We call this interveners, and those interveners represent all components of our customer base and in some cases they are aggregations of multiple parts so we actually have hundreds of parties. I'll read them off quickly. The Austin independent business alliance, of course Austin energy, the building owners and managers association of Austin, Mr. Paul Robbins, nxp and Samsung, the Seton health care family, homeowners united for rate fairness, St. David's health care partnership, Austin energy low-income customers group, public citizen, Sierra club, the Austin apartment association, of course the independent consumer advocate, the coalition for clean, affordable, reliable energy, customers concerned about affordable rates in electricity, the greater Austin chamber of commerce, the Austin regional manufacturers association, applied materials, crown castle, Mr. Jim Roark, cypress semiconductor, data foundry, the Austin association of facility and maintenance soldiers, good will industries, and the Bethany united methodist church. I think one of our biggest concerns as we entered this process was we create this whole process and no one would come and play with us, but we are very pleased at the participation we're receiving. You will recall that at your meeting of March 3rd you heard from the consumer advocate and you adopted a revised schedule for the decision-making phase of the process. The subsequent day we had a pre-hearing conference with Mr. Herrera, the impartial hearings examiner, where these

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issues, the schedule in particular was the subject of discussion. We also had a lengthy discussion of the scope of issues to be addressed in the proceeding. That was quite a vigorous discussion with many of our intervening participants engaged. We, Austin energy presented that day a draft schedule to the hearings examiner that would accommodate the additional work sessions that you adopted. On March 10th the hearings examiner issued a proceedal schedule. According to that scarred party testimony will be on may 3, six weeks extended from the original schedule. There will be a four-day hearing beginning on may 31st. The impartial hearing examiner report will be released July 13 and we are adding five work sessions and public hearings to your August schedule so that we can conclude the decision-making process by August 29th. On March 11, the hearings examiner released the statement of issues and I just summarize it by saying he specified a list of issues that is quite broad and covers a full range of utility

issues. We are currently active, very active in the discovery process so these are questions posed to Austin energy and its staff by participants to tease out additional information that they need in their factual and testimony development. We have had 20 sets of questions issued to us aining nearly 600 questions, many of those questions have multiple parts so I'd say we have several thousand questions. There is a 10-day mandatory turn-around responding to each of these questions so as you can imagine we have a boiler room of Austin energy staff working at this very moment responding to these many questions that we received in discovery.

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Next steps, we will continue with the discovery process for the next three weeks, parties can issue questions to us and then ten days following that we have to respond to these questions and then the testimony will be submitted by the intervening parties on may 3rd. That's what I have today. >> Pool: Does anyone have questions for Mr. Dreyfuss? Councilmember kitchen. >> Kitchen: Just a quick question. If we become aware of other groups interested in being involved what do they need to do? >> Other groups have the opportunity to become interveners, but there's one small difference for them and that is that the list of issues is already specified. The interveners all had an opportunity to make filings as to what they thought should entail the scope of the list of issues so they had to take the list of issues as already determined by the hearings examiner, but other parties can fully participate, they just have to take the record as is. >> Kitchen: Okay. >> Pool: Any other questions? All right. Thank you -- >> Kitchen: Wait, I'm not -- is there a website or whatever we can direct them to? >> Yes, on the Austin energy home page there's a big rates section. You can go there. It's much explained and then there's a link to the city clerk's website where the actual documents are all listed. >> Kitchen: Thank you. >> Thank you. >> Pool: Anything else? Thank you, Mr. Dreyfuss. Who do we have next? Good morning. >> Good morning, J.J. Gutierrez, vp of customer care. And I'm going to speak a little bit about the update on the cap automatic enrollment program. Sense we last discussed this program in February, we had six recommendations that we were asked to research and to bring back some information about how they might be implemented. During that time we've conducted research, but we are still missing some key data

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points regarding the cost of implementing the six recommendations. However, there are two that we can move forward with, with little cost implications. Those two are quick action. For the participants with high home values. That recommendation suggests that we should not use our current process which requires us to look at high home value as the participants are recertified annually but to speed that process up. And we agree with that recommendation and agree to speed the process up. So we are going to be addressing all high home improvement value participants with a letter in the coming month requiring 30 days for those participants to respond to us, and after those 30 days either remove them from the program or allow them to self-enroll. The other recommendation was to stop the -- the -- the double and triple payments to the same customer. While we didn't find triple payments, we did find several customers who had received double payments and that's because their customers that have two or three accounts or two or three addresses. Within our system. That is an error. That's an oversight and so we agreed to quickly correct that issue. So those two recommendations we agreed on and are moving towards remedy. The others, Mr. Robbins spoke about we have met and agreed on quite a bit. The one that still remains where we don't agree is the elimination of the 10% discount at the top tier. And once again I am requiring

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additional data to help me understand what it means to implement that recommendation specifically. Mr. Robbins also spoke about several homes that were on the lake high home improvement value list. Since we've spoken, Paul and I, we found that two of those homes reself-certificated, self-enrolled. One was removed this month. Two homes had home improvement values that were lower than our threshold. I believe Mr. Robbins was looking at the whole amount and not just the home improvement value. Finally, there are two homes that have been sent letters but are in the process of the 30-day period to respond. That's all have I for the update. Are there any questions? >> Pool: Councilmember kitchen. >> Kitchen: Can you just remind us, what is the -- what's the level for high home value? >> $250,000. And that home -- that home value is the value of the home but not the value of the land. >> Kitchen: Okay. >> So it's just the value of the structure on the land. >> Kitchen: Okay. And so when they get the letter, they can then go through the process to establish their eligibility? Is that what you are mean? >> Correct, yes. And so that -- we call that the self-enrollment process where they submit an application stating that they wish to receive the discount and this is how they are eligible. >> Kitchen: Okay. Thank you. >> Pool: When was the last time, Ms. Got Gutierrez, the home value was reviewed for relevance to the current cost of property and improvements? >> We receive information from

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Travis county tax appraisal district and we received a file from them as recent as February. So I believe though the tax appraisals are only done annually so we may have at least that gap. >> Pool: It wasn't actually the appraisals but rather the threshold, the 250,000, when was the last time that was reviewed? >> I believe it was reviewed with the commission several months back. I'm not sure the exact meeting date. >> Pool: Okay. >> But it was reviewed by this commission and set by this commission. >> Pool: The oversight committee. >> Yes. >> Pool: And my last question, I don't know if anybody else has anything, would you be able to give us your report in a memo? That would be really great. >> Most definitely. >> Pool: Thank you. Anything else for Ms. Gutierrez? Councilmember kitchen. >> Kitchen: I would just add to that report how many folks are we talking about that are affected by this approach? >> The high home value approach? >> Kitchen: Yes. >> There seems to be quite a few. If we just ran a match on our current data set, we had over 5,000 homes that seemingly have a home -- high value. Of that, we're not sure if we are in the double, triple situation or any of the other recommendations that Mr. Robbins made, so that's the additional research that we really need to conduct. We will have that information for you in the memo as we wrap up our recommendations. >> Kitchen: So about 5,000 homes, perhaps, that will now get a letter -- >> Receive a letter. >> Kitchen: And need to go through the process. >> Correct. Self-enrollment. >> Kitchen: Self-enrollment. Okay. >> Pool: Councilmember Casar. >> Casar: Thank you for your consistent work on this between committee meeting and committee meeting. You said you are going to be

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looking into more information related to the last suggestion about the final tier of energy and that you needed more information before you can make a recommendation on that. What information are you -- more or less are you going to be looking for and how long do you think it will take to get that? >> I expect to have a response within 30 days. And the most salient piece of information that's missing is the cost of implementing a manual program to -- to eliminate the higher tiers. It also has an impact on changing the billing system to recognize and implement the rate as well. And so I am looking for some cost elements, what it would take to implement this recommendation and also what the impact would

be on the citizens that currently receive that discount. >> Casar: Thank you. >> Pool: All right. Thank you. One more question. Councilmember kitchen. >> Kitchen: You can put this in the report, but I'm curious about the 5,000, you know, what -- what percentage of the overall customers that are included does that represent? >> Totally -- currently there are 40,000, roughly 40,000 customers enrolled in the discount program. And so 5,000 of them would be impacted. >> Pool: All right. No more questions. Thank you, Ms. Gutierrez, very much. Good morning, miss Kimberly. >> Good morning, vice compare, members of the council. Debbie Kimberly, vice president of customer energy solutions and I have good news today. First of all you all have in front of you a a series of attachments to a cover memo signed by interim general manager dumbbrowski.

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In particular those resolutions that we agreed with both the minority report and the low-income consumer advisory task force as well as reporting on those items that are underway in progress for current practice and additionally budget implications associated with some of those recommendations. I'm happy to report after working very closely with the euc and rmc, out of the 24 recommendations represented by both the low-income consumer advisory task force and the minority report, we've reached substantial agreement on all but three of those recommendations. The memo depicts graphically the reason why we don't agree with three of those recommendations and it's really a question of balance. We've got big goals to reach, 900 maggots of energy efficiency and demand response and staff believes trying to meet some of those additional recommendations could impinge negatively on our ability to reach those goals. I'm not going through these in any detail. We printed it in hard copy, we'll send it out electronically and I'm happy to take any questions. But I think this represents a very good interaction with both the citizen commissions as well as members of the low-income consumer advisory task force. Recall last year we weatherized 520 homes, more than we weatherized the previous year. Today as of today we have weatherized 287 homes and another 142 are in progress bringing to a total over 400 homes that will be weatherized within the next 30 days. We have cut in half the amount of time required to weatherize homes. We have significantly improved upon the quality assurance process. Very few contractors require a second visit to the home to attend to things that weren't done right the first time so we've really sort of knuckled down on -- in terms of the quality control. And that helps push them through the pipeline even faster. Those contractors don't receive jobs unless their jobs are passing. And then finally, if you have

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a chance, we brought over some visuals, this is not on the agenda, but we received unsolicited letters from hill middle school and they wrote letters to us on our solar program. These are fifth graders. I confess I am not smarter than a fifth grader. When you look at the schematic drawings that they provided, it speaks volumes to the impact that our programs are having not just on the customers we serve but on the greater community. So if you have a chance, I think it makes me feel good and so maybe it will help start your week off well. Is there any question that I can answer for you? >> Pool: I just mentioned, I think it's the elementary school, my daughter went to hill elementary and they have really good programs there. Where with committee see the letters? >> Right outside in the foyer on those easels. They are really quite impressive. As I said before the session today, they should make us all feel good about the things we're doing in the Austin community. >> Pool: That's great. Councilmember kitchen. >> Kitchen: Unless we're tight on time, I think it would be helpful if you would highlight the three you are not recommending? >> Sure. If you look at this large sheet of paper, we've color coded it. Those items in blue are those where we don't agree. And frankly, I believe there was concern on the

part of the low-income consumer advisory task force and even within the commissions. Item number 3 is one we don't agree, establish a goal that 25% of the tariff goes to low, low-moderate income programs and spend 10% of the budget on weatherization. So the amount of the tariff that is recovered in the energy efficiency services surcharge is roughly $35 million. This would significantly increase what our spend would be in programs that agendaly tend to yield lower savings so

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we disagreed with that just because it would have involved, all else being equal, it would involve taking away from other programs, and frankly it becomes a bit of a circular argument. It would also increase our budget. That was one that was not recommended just because it would create an imbalance. The second one relates to the provision of air conditioning units in low-income weatherization program. That was eliminated one year following the expiration of the stimulus funding. It was very, very expensive. The homes we were spending in excess of 7,000, $8,000 per home because we were replacing air conditioning units, some of which were working, they just needed to be repaired. And we have agreed with the commissions and with the task force to direct moneys to a repair program that we will operate in conjunction with the low-income weatherization program. And we do already provide window units when there is not a functional ac unit. That one is a bit affright, but we don't support the replacement of air conditioning units. The last was one frankly we felt was outside the scope of the task force efforts and I think they would tell you that they would agree. Certainly the commissions did, and that condition Austin housing finance corporations' financing on an applicant's efforts to seek solar and energy efficient improvements. We felt that wasn't really within our wheelhouse. That is something that would fall to the housing finance corporation. Those were the only three. It has increased immensely the areas where we do agree and I think the Numbers that I just reported to you speak volumes about the reach in our program. Last year we weatherized 520 homes, we're almost at 500 homes midway through the year so we're optimistic we will be expand our reach further. >> Pool: Have you provided this backup that we have here to the euc and the rmc is

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this. >> It will go out today. We have participated and I personally participated in discussions at both the euc and rmc detailing our areas of agreement. And I believe they will be providing you with their resolutions in the language at -- that relates to the third resolution that mayor pro tem tovo introduced. >> Pool: Okay. Any other questions for Ms. Kimberling? Thank you. Mayor pro tem. >> Tovo: Just say I think we're just -- I was just looking at the backup we got on Friday. If I'm correct, I think we -- anyway, I'm just now seeing this information and I need some time to degist it and respond to it so I hope we can figure out an opportunity maybe at a meeting to ask followup about it. >> Happy to do so. It's hot off the presses, and again, I think it represents a real collaborative efforts on the part of all involved. >> Tovo: Thanks very much for that. I look forward to seeing those -- that plan in action. >> Pool: I think since this is -- has come to us as part of the general manager's report and that's going to be a standing item every month, we can just plan to have you come being -- come back next month and have a more indepth conversation which can happen outside of this if individual councilmembers want to talk to Austin energy staff they are very available for those kinds of meetings. >> Happy to do so. >> Pool: Thank you so much. >> Thank you. >> Pool: Good morning. >> Good morning. My name is Dan Smith. I'm the vice president of electric service delivery with Austin energy. I have a privilege to talk to you about our Austin shines program. I think I will say up front that I represent a pretty large group of people within Austin energy that work pretty hard to get us to where we are and I'll give you an update both of what the program is and I think what the highlights of that are. >> Pool: If I could just really quick, we have now

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moved on to item 4. >> Sorry. >> Pool: Which is the briefing on Austin shines, which is an acronym for sustainable and holistic integration of energy storage and solar pv. Thank you, Mr. Smith. >> You're welcome. Well stated. Yeah, so you should have a power point in front of you that will give you a highlight. Going into the first slide, this is our 2025 goals. There we go. So yeah, just like Mr. Dubrowssi stated, this Austin shines program originated and is based what we're going from our 2025 objective. Obviously part of that is 55% renewable energy. 900 megawatts of demand response energy efficiency, 950 megawatts of local and community sited solar -- excuse me, that's part of the renewable energy with 200 megawatts local, 100 megawatts customer sited and 10 of local scorch. And all the Austin city facilities and operations and fleet being carbon neutral. The 200 and 10 local storage is the focus of the Austin shines program and this is also subject to affordability goals. Austin shines is an acronym for sustainable and holistic undesignated contracts immigration of energy storage and solar pv. I don't take credit for that, the department of energy does.

[9:57:35 AM]

Interesting acronym at the end of "Integration" but it works. It's part of the department of energy sun shot program which is enabling solar energy storage solutions to build a more reliable grid. So this -- this graphic is kind of a nice one because it does show if you look at the far right, the utility service that ultimately is connecting to in this case it's just showing a graphic of a community solar farm connected with energy storage, connected to a residential location with energy storage and then a commercial facility with energy storage. One thing we'll talk a little about and what's part of this is the integration of really all levels of both grid scale, commercial and residential solar and storage and the use of smart inverters and that whole customer interaction, load control, demand response access. I think the city and Austin energy should be pretty proud in a very competitive grant award scenario. We received the highest of -- highest grant award of $4.3 million out of six awards that were given. This lists the other five recipients. So I think it's a real credit to people within the Austin energy organization that worked pretty hard to win this grant. These are the partners that are just named in the grant. It's not the full partners that are involved in this project, but they are, as I stated, ones that are listed. Many of these are companies and organizations that we already have existing relationships with and have been working with and have other aspects of our business that are integral part of it as well. As well. Just a real quick overinvolvement it's I will

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stray active of what shines is going to cover. There are two substations, one in the far left corner, one in the left top and left bottom. Those are two existing substations that Austin energy operates and one part of this project will be, as I stated -- a grid scale or utility scale storage with pv related to the community solar farm that's going into the Kingsbury location. That's highlighted there in red for you. We're also installing a new grid scale battery in the Mueller area. A second element is the residential element of this and that's the integration of residential pv that already exists in the Mueller pecan street area. And integrating storage with that as well. And this is an element where there will be a lot of the customer interaction so certain things that are already going on there with ev's and load control devices like ac and those type of things will be part of this -- part of what's evaluated and really put into the MIX. And the other key customer side is the commercial side. And quite honestly I think these are some of the areas that we'll have even some of the greater challenges are more commercial facilities are putting

solar on to their facility, the opportunity to really integrate that efficiently and just maybe as a bit of background for you is there is a level of intermittent si that can occur with solar and the higher penetrations of that solar, that intermittent si becomes a problem for us from a quality or reliability standpoint. That's one of the key elements of storage is to really smooth out that intermittent si. And then a key element is how this is integrated. We would be looking at a

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local and key type control and optimizing it. Another key aspect is to optimize use cases. There is this aspect of smoothing out the intermittent si of solar pv, but there is also type ways you can do demand response you can do ability arbitrage there. Various things we'll be testing throughout the program. This shows you the concentration, shows you a city map really of solar installations, but of course this is highlighting the Mueller area and also the Kingsbury location where we'll be installing the community solar form as well. So the key benefits is, one, this program really helps us to achieve our local storage and solar goals so depending on how you count storage this could get us to halfway of the 10-megawatt goal and there is a little bit of how to best count that. This is also an opportunity for us to already take advantage of some projects that we were already involved with. We were into the community solar, the community storage, community solar farm and also putting battery storageter Kingsbury plant. Then came doing the doe and this dove tails into that. This really helps us to look into the best way to maximize distributed energy resource value to Austin energy and its customers. It's also a modular approach so what we have adopted is fairly a new standard that's being used for energy storage, but it's an interoperable standard. A lot of utilities are beginning to join in on this so it's become an opportunity for to us look at something that is scalable. So what we're doing, we'll be, as we continue to work out how this is best -- how we best do this, them it will be an

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opportunity to increase that. And last, it really includes the customer. And being able to engage a customer is the key part of that pecan street part of that. With the shines grant, along with the tceq grant, the Texas commission on environmental quality, which was a-million-dollar grant, received that grant prior to the shines grant. But with that you can kind of see that over half of the overall funding for these two storage projects, and these various types of solar deployments we're receiving a pretty good help in that area. Additionally there is one other -- you will see that ideal power and they're a smart inverter company and they're putting in $60,000 so that's a private entity putting money into it as well. This breaks down how the funding is going. I apologize. Probably a little bit more information than we need to necessarily totally talk about. But it kind of shows how it's a 39 month program and this shows the breakdown of how those expenditures are projected to go. It's not exact because it all depends on deployment. We'll get money back from the doe and the tceq as we reach certain proof of spending. And this is an important part just to kind of prep you and understand that the way the grant process works is we did have to go in with some partners and with that it's a bit of a proprietary nature of everybody competing with these grants. These were partners, those first four are partners that they went in with that were named in the grant and as such we do need to ultimately execute contracts with these individuals or these companies, and that's where we'll be presenting a critical business need.

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So it's a bit of a unique scenario for us. We expect to come to you in may with rc As requesting authorization for these expenditures and this is the expected contract amounts. I could obviously expect

to you in any detail in these or come back to it. As I stated, then there will be a number of just normally competitive bid rfps and that's listed there as well and we hope to have most of those wrapped up by the August time frame. And then as I stated, it's a 39 Montana. We did -- 39 month program. We did kick off in February so the clock started then. And it kind of shows the aspect of how we're in the contracting phase now. We'll be in design up to mid 2017. Deployment starting at that point and demonstration from 201518 to 201519. So that's my quick briefing on this. I'm happy to entertain any questions that you have. >> Councilmember Zimmerman. >> Zimmerman: Thank you. It's an interesting proposal. Thanks for bringing that forward here. I want to go back to the procurement page, if I could. >> Sure. >> Page 12 here. It looks like from what I read here we're committing to about 5.5 million in expenditures roughly? >> Yes, sir. >> Zimmerman: And that's excluding what we could face based on results of the program, right? The last line says that we have contract authorizations to be decided, right, based on what happens earlier? >> That's correct. >> So then I go back to the original page that said our grant was 4.3 million, I think it was. >> That's right. >> From the department of energy, about half of that money actually are borrowing from our great-grandchildren. Could you tell me do we have a limit on what our

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financial exposure could be on the project because we're obviously not paying for it out of grants, other people's money. >> Well, I think if I understand your Cree correctly, to the -- if I understand your question correctly, the total budgeted spend, it is an all-in type cost so we've worked hard to determine what we believe is about 10.1 million is what we would spend. As we take those expenditures we expect to receive 5.36 million in grants received back. So the project total out of project will be then five million if you want to look at it that way. >> Zimmerman: Where did that 10.3 million, that figure you just gave me? >> If you look at -- slide number 11, if we go back one slide. >> Zimmerman: 10.16 million. >> Yes, sir. So you can see the Austin energy funding for the program is 4.8 million and then external sources are 5.36. >> Zimmerman: Okay. For you that clarification. >> Pool: Any other questions? Thank you, councilmember Houston. >> Houston: Thank you so much for the information. On slide 8 if you could send that to us by district, it's kind of hard to see the little houses and the commercial buildings and you can see the one community solar, but if you could send that to us by district that would help. >> Yes, ma'am. >> Houston: Thank you. >> Pool: Has anybody on the dais had a chance to talk with folks at the pecan street project over at Mueller? They're doing some pretty interesting things over there. And I'm sure they would be happy to have guests come out and tour the building. And then you were talking about the community grid,

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solar, community solar. >> Yes. >> Pool: Is that something we could come out and tour also? >> Yes, ma'am. Right now it's in the development phase and right now we are doing the -- the community solar will be a power purchase agreement with a company. So we are -- the land adjacent is being -- in the process of being sighted and developed at this point. >> I think it might be pretty interesting to see what the structure looks like and just see what it looks like on the ground. Are there any other questions? Yes, mayor Adler. >> Mayor Adler: I want so say this is pretty promising, the solar and this area and with respect to how it could change so much. About how any utility operates is really exciting and I like that our city is at the forefront of testing those options. >> Yes, sir. Thanks for saying so. I was probably going to open up to lead we're in a transformative time as the electric utility industry and this is a significant part of that. And I do think the city and Austin energy should be pretty proud of what -- we're getting a lot of attention from this as well as other programs we're doing, but this is a key one. >> Pool: And I

would also add on to that very often we in Texas talk about how we're unable to pull down a fair share of federal funding and we send more to the federal government in taxes and other fees than we often are able to pull down. So when you combine this with some of the other grant funds and projects that we're doing, this is a really -- this is a change to that landscape. So I appreciate the work that staff has done in order to craft a proposal that is a winner and to bring the innovation work here to the city. >> Zimmerman: I want to go back to page 7 and in

[10:11:40 AM]

deference to my beloved colleague, councilmember Houston, if you look at the rec tank we will on the left side of teenage 7 there's something that says scada. And that stands for supervisory control and data acquisition? I worked in this area for many, many years. It's very cool technology, but there are some complexities to it. And -- this is cool stuff. I'm a technology geek. I love it, but it has complexities in it that lead to unexpected issues and problems and costs. And it's something that our council needs to appreciate the complexity of these kinds of systems. And what kind of chaos can happen when things break because they do break. So, you know, take it with a grain of salt. It is a very complex project here. >> Pool: Thank you, Mr. Smith. Now we have mark boshaun for item 5, cost of service principles, briefing on the electric utility's cost of service, how it's used in the rate-making process. Item 5. Hang on one second. I think the mayor pro tem has a question. >> Tovo: I see that we're slated to talk about this for 90 minutes and you were concerned that we might not have enough councilmembers to take action on what looks like is item 7. >> Pool: Sure. Let's move to -- >> Tovo: We have a pretty big group. I wanted to call that to your attention. Pooled hang there. Item 7 is to approve the meeting schedule for the rest of the year. Would y'all like to take that up now and any input on that? Otherwise we'll take up -- item 7, Austin energy utility oversight committee 2016 meeting schedule. And there's a list of the current schedule and a proposed schedule. There are some changes.

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Basically the chair has -- there was a message on the message board will moving the third Thursday Austin energy oversight committee meetings to Mondays so that we don't come in conflict with any need that we have to have a council meeting on the third Thursday. So the proposed schedule would be these Mondays, April 18, may 23, June 20, August 15, September 19, October 17, November 21 and December 19. All the meetings except for may are 9:00 A.M. To 12:00 P.M. And the may one, may 23, is noon to 3:00 P.M. I'll entertain a motion to adopt the schedule. Councilmember kitchen moved to adopt the schedule and the mayor seconds it. All those in favor? >> Tovo: I had a comment. >> Pool: We'll take a comment, you bet. >> Tovo: December 19th is sort after challenging time of year. I'm sure that some work went into identifying these dates, but I would strongly suggest we bump it back a week to December 12th. And if you would rather we pass this schedule and amend it later, that's fine with me, but I think that we ought to try to do that. >> Pool: -- >> Tovo: Okay. That's fine with me if it's a bookmark just in case. >> Pool: Councilmember Gallo's chief of staff just said that the December 19 date is book marked as an if needed. So it's possible that we won't actually have a meeting for December. >> Tovo: Again, I understand that, but you know our schedules get planned out in advance and I would just again strongly suggest that we bookmark a different date for just in case. But again, I'm happy to pass this now, but I also know the reality of trying to get enough councilmembers. I'll also note that we're

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meeting on my birthday, but I'm still happy to support that. Not today. In the future months. >> Mayor

Adler: The good thing is you get to have happy birthday sung to you by the council. [Laughter] >> Zimmerman: That's right. It will be on the agenda. >> Pool: Councilmember, would you be willing to amend your motion to put as the December date a tbd if needed? >> Tovo: Yes. >> Pool: We'll come back to that. Is that okay with the second? Thank you, mayor. All right. Yes, councilmember troxclair. >> Troxclair: I understand -- I certainly understand why the chair has made the decision to move to Monday because we were constantly conflicting with council meetings on Thursday, but I just wanted -- I wanted to voice my -- I mean, my preference to continue meeting on Thursdays. This is setting a committee meeting on yet another day of the week and we're getting to the point now that we really don't have any free days to focus on research and meeting with constituents and other things. So my strong preference is that if -- is that we're disciplined about not setting a council meeting on the Thursday that we plan to have Austin energy and get back to moving it to Thursday if possible. But I may be in the minority in that. And again, this isn't -- this isn't councilmember Gallo's fault. She isn't responsible for when our council meetings get set. I understand her preference in moving it to Monday. I would kind of like to have a council conversation about it because I'm pretty pressed for time these days. >> Pool: Yes, councilmember Houston. >> Houston: I would like us to have some conversation too. For the next four weeks

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we've got council meetings every week and so that kind of gives me Wednesday, maybe -- no, because then I'm briefing for Thursday. So it gives me Friday afternoon if we get out in time for me to be able to meet with constituents. So then I use my Saturdays and Sundays all the time. I know some of that is necessary, but sometimes I would like to be able to do some of that work during the week. So we could have a Monday, Wednesday and a Friday, which was our usual pattern, which kind of worked, but if not, we're going to be meeting on Mondays for the rest of the year, then that's going to be a commitment of Monday, Tuesday, Thursday. >> Pool: And I will point out this is just a once a month and it's the same week, but moving from Thursday to Monday so that the Thursday that might have been an Austin energy committee meeting -- I think then unless there was a council meeting there wouldn't be anything on that day. So it's a shift of the day. >> Houston: Councilmember, we go into budget session, it's not just one time a month. It's that there are so many things that are out that's going to complicate our lives. >> Pool: Councilmember kitchen. >> Kitchen: I just wanted to say I appreciate everyone's concern and I share those concerns, but my problem is that I think that we have been -- we've been doing a disservice to the Austin energy committee meetings by what we've been doing with the council agendas on the same day. I'm happy with keeping them on Thursday, but only if we don't eat into them with council meetings. So if I had to weigh the two I would rather put these on Monday than eat into our Austin energy. So if we have to weigh the two, which is what's been happening.

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>> Pool: Does anybody else have anything to say? Councilmember Casar? >> Casar: Councilmember troxclair, thank you for bringing it up. I think if the results of trying to achieve your goal is moving them to Mondays and then we don't have anything on Thursday because we don't try to put other items on the Thursday agenda because we all happen to be together on Thursday then we do end up freeing up that fourth day, but it's only if we stick to that. So I think that's the question that comes up in my head is if we move these to Mondays and we try not to put things on the Thursday agenda, would it be harder to put some things on the Thursday agenda because we don't have things scheduled already natural Loy a Thursday? Psychologically we could achieve that goal by moving it to Monday and having Thursday freed up with no called meeting, I think then we would achieve both of them, I don't know if we will. I'm

open to having the conversation and I know that councilmember Gallo's staff was working hard to try to figure out the dates probably along with councilmember pool's, so I don't want to make any gut -- I would really like to hear what people have to say. I'm personally all right with moving it to Monday if that means we have nothing on Thursday. But if moving it to Monday means we now have Monday and also Thursday, then we haven't achieved the goal. >> Pool: Councilmember Zimmerman. >> Zimmerman: So is the council's intention -- one of the problems is we would pack stuff on at the end of the Austin energy meeting so with this move to Mondays, is that also a policy that thou shalt not put anything on the Monday meeting date that is not Austin energy related? Is that a commitment of -- >> [Inaudible]. >> Zimmerman: What's your guess? >> Pool: Mayor pro tem? >> Tovo: My assumption is if we're moving Austin energy to a different day then it will be a committee meeting like any other committee. >> Zimmerman: So exclusively Austin energy items. >> Tovo: Yes, in the same

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way you wouldn't put a regular item -- [overlapping speakers] >> Zimmerman: I wanted to be sure. >> Tovo: That's my hope. I agree with everything that's been said. I think we need a discrete time with Austin energy where it's not bumping into any other meetings. I also think we need to free up time to meet with constituents and go to community events. I think we need to address it all. I'm happy to support this as a measure to allow us to get more division between Austin energy and the council meetings, but we need to be more efficient with our time. That's my opinion. >> Pool: Councilmember troxclair. >> Troxclair: Looking at the council schedule and the existing Austin energy schedule, there are only two dates where we currently have a council meeting scheduled, June 23rd and September 22nd. The other dates, the April, may, August, October and November, we currently do not have a council meeting scheduled. So I just wanted to point that out that we could commit to not scheduling a council meeting on the days that we currently don't have one and then just move the June and September dates to Monday if that's some kind of compromise. I guess we need to hear from the mayor. >> Mayor Adler: You know, I'm not sure that I have a preference for the method we pick. But we have demonstrated an inability on Thursdays to keep that time inviolate and I think it's important because we're not giving the division. I'm fine with having a higher bar to scheduling things on Thursday. I'm also fine to actually creating a physical separation and moving these to Monday. If that would help us get there. And which one of those two happen I'm really ambivalent amount, but I agree with I think where we all are on

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the council where we really do have to make sure that we are giving time to Austin energy and that function. >> Pool: Tina cannon brought up a message from councilmember Gallo and she said she's fine with leaving these meetings on Thursdays if we can get a promise that should a council meeting need to happen on that same day it not happen before 1:00 in the afternoon. >> Mayor Adler: I'm fine with that. >> Pool: Okay. So if that's a general feeling on the dais, we can pull down item 7 and not take any action on it, and then when chair Gallo is back and can talk more about it, if she decides she wants to press forward with additional changes we can sprain that, but I think at this point we will leave things as they are. And the mayor has said and I think staff is hearing if we do have to have council items on the third Thursday that we not start that meeting before 1:00 in the afternoon. Does that sound okay? All right. Great. Thank you, everyone. So that was item 7. Yes, mayor pro tem? >> Tovo: I believe we should make a decision for April. In April we were poised to move our Austin energy meeting to the 18th. We currently have a council meeting scheduled for the 21st. It's not clear to me what we'll do -- whether we're moving it or not, but I've got meetings scheduled all morning that my staff needs to work to move if we're having an Austin energy meeting. >> Pool: The oversight meeting for April was scheduled for the

28th, not the 21st. >> Tovo: Perfect. We'll just leave it at the 28th. Sorry for the confusion, thanks. >> Pool: That's all right. So our next meeting is April 28th as scheduled. And it is nicely displayed on our handy dandy calendar that our staff gave us.

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Mr. -- Oh, one more. Councilmember troxclair. >> Troxclair: And because we have identified that window do have doth -- that we do have both an Austin energy meeting and council on June 23rd and September 22nd, if the councilmembers and the city staff can be aware of that and try not to overload that agenda, that would probably help us in our efforts. And then I'm going to really try to advocate for us not scheduling council meetings on the other days. >> Pool: All right, very good. Any other comments on item 7 on the calendar? All right. We're going to move back to Mr. Boshaun. Sorry to have you stand there. You are item 5, which is a briefing on how the electric utility's cost of services used in the rate-making process. Thank you. >> All right. Well, thank you so much. I really appreciate the opportunity to be here. And my name is mark also, mark boshaun. I'm president of a company called utility financial solutions. And we do cost of service and rate studies for utilities and we do a substantial amount of training for the American public power association for the national association of regulatory utility commissioners as well as many regional associations, including Texas municipal power agency. And what I'm here to talk about is -- today is cost of service principles, which is to try to give you just a general understanding of what a cost of service study does. And tomorrow I have another session on rate structures and the positives and negatives of the different forms of rate structures to help you to understand one of the things that we do when we do cost of service studies and we go to the governing body is to help them

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understand the certain objectives -- that they give us the objectives of the community so that we can go back and actually design rates. And what I'm here to talk about today is understanding customer classes. In other words, why do we have customer classes? Why do we have residential and commercial and industrial? And to talk about the reason that is. As well as the types of costs that make up an electric utility. And how those costs are allocated to the different classes of customers. Then I want to talk about the information provided by the cost of service study and with respect to how much it costs to provide service to each class compared to the projected revenues, in other words, what change is needed for each class to meet cost of service. And also cost of service study provides information with respect to what that monthly customer charge should be, what the demand charge should be, what the energy charge should be. I'm going to go through the information on a cost of service study and how to use a cost of service study in the design of electric rates. Now, cost of service is only one component in actually designing rates for customers. There's many other factors that need to be considered, customer impact, social concerns, environmental concerns. Those have to all be taken into account as well as legal concerns in many respects. Now, when I go through this, I know traditionally you wait until the end to ask questions and I'm fine with that, but if you do want to ask questions as I go through I'm okay with that also. Now, the cost of service process, very, very high

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level, of course, the process consists of first determining revenue requirements, and when you hear the word revenue requirements, what that means is how much money the utility needs to recover from customers through the rates that they're charging. That's the very first step. And in many ways it's one

of the most important. In determining the overall revenue requirements. Once that's determined the next step is to take those revenue requirements and to allocate them to the different classes of customers based upon how those costs are incurred. That monthly customer charge. And how should the cost of like the billing department be allocated, meter reading, the distribution system. How-- what causes those costs to be incurred. And I'll go through that in more detail. And then we'll talk about the cost based rate structure and I have some examples from other studies in here. That show you what a cost of service based rate structure looks like and then how to use that in actually designing rates to customers. So the first thing is when it comes to customer classes, the reason can we have customer classes is the classes -- customers use energy differently. In other words, residentials tend to have a different usage pattern than commercial or than industrial. So we try to group customer classes into

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like usage patterns. And this is kind of a bit of a dilemma in our industry today. Because it used to be, for example, residential was -- usage patterns, you could put them into one group and they were all relative homogeneous, so to say. But with Austin energy efficiency and with solar what we're seeing is the residential customers are no longer alike. There's a lot of differences between them. But we try to group these customers into like usage patterns and then we look at how they use energy, which -- and I have some examples of this. And it's from what's called load research '. And load research can be from Amr meters. It can be from actual test meters that are out on the system. But what it does is it identifies when the different classes use electricity and when they actually peak. When the peak demand is of each class. Because what we're trying to do with that load research is to identify how much capacity in the system that each class is needing. And when I say capacity I almost have to think about it in three different categories. You have capacity related to the distribution system. We have to size that distribution system to handle the peak demands of that class of customers and this is what that load research tells us is how much capacity is needed for residential or commercial or large industrial service. Then we go back into like the transmission system. And how we're actually building transmission. That's your regulatory cost. So that gets properly allocated in the class.

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Then you have your production facilities. Those are investments and actual investment assets that you own. And how each class uses or needs of the capacity in those power production facilities. So before I go on is there any questions at all about what I've talked about so far? What I have up on the screen right now is I shouldn't say it's typical, but I've done -- we've done work in like 42 states and every time we look at the residential usage pattern, I don't care where we are, if we're in California or on the east coast or midwest or south, the usage pattern for residentials are almost all identical. If you look at the red line, that's the summary usage pattern of a residential customer and you can see that the peak demand is occurring at five, 6:00 in the evening. In the winter, which is the yellow line, you can see that the residentials for this utility, their peak demand is created at nine, 10:00 at night. And that's one of the things that this load research identifies. If you look at this pattern, you can see it's commercial and it looks totally different. The small commercial peaks at nine, 10:00 in the morning. So we have to size our distribution infrastructure to handle those peak demands that's created for commercial. It's nine, 10, 11:00 in the morning. For residential it's five, six in the evening in the summer. Eight, 9:00 at night in the winter. So we have to size our

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distribution facilities to handle that peak demand. Then you look at large general service. If you look at that you see again it looks totally different. The reason this one looks different is it's something called load factors. And load factor is really nothing more than a ratio between a customer class' peak demand that they create in a month and their average demand. So if you look at a customer demand, that load factor is like 17 to 22%, but there's a lot of variety in the residential class. You have residential customers that peak at seven, 8:00 in the morning, some that peak at 2:00 in the afternoon and then the majority of them that peak at five, six, 7:00 in the evening. When you factor in all that diversity, the load factor of the residential class actually goes up to in the high 40's, low 50s, sometimes even in the 60's. But now when you look at a large customer, large industrial operation, that's 24 hours a day, the individual customer can be 60, 70, 80 percent load factor, which means that they're using energy constantly throughout the day. So when you look at this graph you see that. Even though they peak at like nine, 10:00 in the morning, similar to commercial, the peak demand that they tweet at 2:00 in the morning is not that much different. So a cost of service study looks at these usage patterns because the whole idea is to develop allocators to allocate those revenue requirements to those classes based upon cost causation. I want to tell you, we

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teach a week long class on cost of service and I'm kind of giving you a condensed version in about 30 minutes. So the cost components of an electric system, the way I view electricity, it's really three businesses tied up into one that it takes to get electricity to a customer. The first thing is the power supply facilities. The actual generation that you own. Some utilities will purchase it from the market. That's one aspect of the cost and that's one side of the business. Then you have the transmission, which in your case is a regulatory cost. It's the energy that gets put into the transmission system and then you draw from that transmission system and there's a charge for that. Then there's a local distribution system. For most public power systems that's actually what they own and control, but you won more than that. But many that's their main -- what they control is that local distribution infrastructure, the wired side of the business, which actually takes the energy from the transmission lines and brings it in to the customer. Now, this is a very busy slide. I'm going to go through each of those components to help visualize what we just talked about. In the red over on the left-hand side is the generation. And the generation plan can be located anywhere within the isl market and puts energy into the transmission grid. The transmission grid, which is the blue lines,

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then takes the energy and brings it to the local distribution system or to Austin, Texas. Now, at that point of transmission, you have to think now about customers. And again, why you have different classes. Customers take energy at different voltage levels, so some customers, and in the case of Austin and looking at your rate tariffs, some of your customers take service directly off of the transmission lines. So they're bypassing all of your local distribution infrastructure, all but maybe the substation that converts the voltage from the transmission voltage to that higher subtransmission voltage. So our cost of service study has to reflect for that customer that -- fact that they're not using all of that infrastructure and your rate structures currently do that. Then when you get into the green lines, once you take it from the transmission or the subtransmission, you have another substation that converts that voltage to like a primary distribution voltage. Now you have another set of customers. Again, they tend to be larger industrial customers. But they take service directly off of the primary lines, which means that they own their transformer. And the service drop that goes into the customer. So they teen so their responsible for their own transformer. Austin energy does not have to pay for that transformer

or they're not required to maintain it or to keep a backup necessary. The customer is responsible for that. So again, the rates are reflective. Don't want to allocate them, any of those transformer costs or costs related to the

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service drop because they're responsible for it. Then you have the majority of your customers, which are called secondary meter. These customers, we own right up to the customer's facilities. We're at a meters -- where the metering point is after the transformer. So in other words, you have energy that goes through the primary alliance and then you have a transformer that converts it into secondary voltage, which for residential customer is what they need it in. We own that transformer, all right? So in the case of like a residential and a small general services, small commercial, they're typically secondary voltage. So they're using all of our infrastructure so the costs are reflective of all of that information. So another item -- excuse me, sir. You said something about an iso earlier and I have no idea what that is.
>> I apologize. There are so many acronyms in our industry. An iso is independent system operator, which usually runs your transmission grid. Hopefully I'm going to explain it right. Where the generators put energy into the grid, into the transmission lines. These transmission lines connect all the Texas utilities together. And then Austin then pulls from that transmission so there's a charge related to that transmission line. Texas is the only one that I don't believe where Texas is connected

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to the national grid. I think it's a separate, its own grid. Thank you. Now besides the transmission wires or lines, you also have costs related to the expenses related to like meter reading for some utilities, billing, collections, customer service. Those are all additional services that the utility offers in a sense to customers. That's almost like another set of services. You can almost categorize them into four. Power supply, transmission, distribution wires and then services. Now, when we look at the costs and the revenue requirements, we allocate them. We allocate them into -- this is very simplistic, but into three main groupings. The first one is the customer charge. Now, the customer charge, which is one of the probably most controversial areas in the country right now is what that monthly customer charge should be. But the monthly customer charge is theoretically designed to recover costs that do not vary based on how much energy a customer uses. So for example, if a customer has a meter installed on their home or their facility, as a utility we had the cost to install the meter, to repair the meter, to replace the meter, so read the meter. To build the meter. And the costs of the service drop. Those are all fixed costs that do not vary based on consumption.

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That's recovered through that monthly customer charge as well as a portion of the distribution infrastructure. Then you had the energy charge and again, in the cost of service study, are theoretically costs that vary based on the amount of energy that's consumed. Now, the energy charge is usually billed to customers on a per kilowatt hour basis. It's a kilowatt hour charge. Then you have your demand charges. Your demand charges in what demand is, is it's the peak demand that a customer creates in the month. So if you look at your rate tariffs, you have demand charges. And when a customer -- the meter on these larger customers, anybody above 10 kw for your community, Austin energy, the meters measure that peak demand that they create in a month. And they're billed based on that peak because that represents the infrastructure that's needed to serve that customer. The infrastructure related to the distribution system, your regulatory cost, your transmission, although in your case it's charged on a

per kilowatt hour basis and then -- no, is tint, it's on demand. And also your production facilities. The capacity. The cost to build the power generating stations, most of that is recovered through that demand or that capacity charge. Does that make sense. >> Pool:

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Mr. Beauchamp, is it best for us to hold questions as you go through? >> I would feel better if you asked a we went. >> Pool: And I would remind our leagues we have a hard -- our colleagues that we have a hard stop at noon and we have one other item. So we have a large amount of time, but it's not inexhaustible. Commitment. >> Zimmerman: Tell me how this demand or capacity charge was changed when we went to the ercot market of purchasing off the grid? You remember the old market was Austin energy as a municipal provider was responsible for building new power plant as the demand increased so this cost was originally justified I thought under that, but now we have a different model. We're not responsible for building our own infrastructure for power production, only for transmission. >> I'm going speculate. I can't say I'm intimately knowledgeable on Austin's situation. Based on my experience and what you're describing is before the market Austin maybe had an entitlement and a generating station someplace. And in the transmission lines they would purchase capacity in the transmission lines. Am I describing it correctly? Yes. It seems like I need some help. >> So ercot is in control of the transmission grid. The ercot iso also operates a separate wholesale market that we are required to participate in. We offer all of our generation into the ercot independent wholesale market. We buy all of our customer supply out of the independent wholesale market. Now, we have chosen to

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manage that wholesale cost through our power supply adjustment, which we bill as an energy charge, but we still have the cost of our power plant resources, which are in the base rate component of our bill, which is the subject of Mr. Beauchamp's conversation now and some of that is recovered on a demand basis and some of that on an energy basis in our rates and that is part of the discussion that we have ongoing. >> Zimmerman: Thank you. >> If I could just expand upon that a little bit. One of the things in the market that sounds maybe a little bit unusual is the power generating stations actually sell their power into the market so the generating units that you own, wherever they are, are actually selling in the market and you're buying from the market. In theory, in theory, they wash. Not always, so in a sense you're billed based upon that your generation costs. It's based on the transmission lines on the grid in any given month. That's coincident -- usually it's coincident with the entire system peak. I'm getting very complicated and deep. >> Zimmerman: You are, but the point here was that -- I still don't think we actually understand it. If we were to buy -- when we buy power from the south Texas nuclear project we have a very long distribution path to go through. But I think most of us were under the impression that the energy that we purchase from the plant includes the operation of the nuclear power plant and that it was kind of bundled together with

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the transmission of that power. Is that not true? Do we buy energy, the south Texas nuclear plant is like fob, it's right there at the plant, and then we have to pay extra for the transmission? >> I think I'm getting some help. >> This might be an important point. If it is, then the further away power is the more it costs us to get it here. >> Khalil shalaby, director of operations, research planning. The costs may or may not be any more than. It depends on what's called congestion over the transmission lines. So the ercot market for the most part has very good transmission. So a lot of times the price of energy that you

see in Houston where our nuclear plant is, is the same as it is here in Austin. But if there is congestion then we do have to pay what we call transportation costs. >> Zimmerman: Okay. >> Distance doesn't typically make a difference in the cost. Unless there's a congestion issue. >> Pool: I think you can continue. >> Now, this slide just emphasizes what I already mentioned, what the customer charge consists of. And again, it's a meter operation, maintenance and replacement, the meter reading costs or the Amr installation costs, billing costs, cost of the summer service department. The service drop into a customer's facility and a portion of the distribution infrastructure. And that's usually determined based on something called -- there's different ways of doing it, but most will do it on what's called a minimum system and so they'll take a portion of the distribution infrastructure and put that into their customer charge. And the theory is, in theory, how much would

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it cost if refer customer used one -- if every customer used one kilowatt hour of electricity, how much would it cost to build that infrastructure? That amount should be borne through the customer charge. Now, obviously customers don't use one kilowatt hour, they use more, causing the distribution infrastructure to be larger. That amount is traditionally borne through either a demand charge or in the case of residential or very small commercial, through the energy charge. Okay? The reason I emphasize the customer charge so emphatically is that traditionally in our industry -- and I think your residential charges are $10, I believe, but traditionally in our industry customer charges have been held artificially low. Not reflective of all these costs and for a number of reasons. One, the utility wasn't so concerned about it always because their total revenue requirement was being recovered, there wasn't substantial subtan tiesization going on between the customer classes so there was never a strong push to get the customer charges corrected. Now in our industry this is happening nationwide, there's a push to get that customer charge set correctly. And it's not -- we want to promote energy conservation. We want to promote rooftop solar, but we need to recover a cost because if they don't then other customers will have to pay for it. So the industry -- I didn't want to call it a trend because it's coming that they always should have done, is to get that customer charge up to the levels that it should be. That fixed component.

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Not to eliminate a subsidy if somebody installs -- you don't have to worry about it because you have a different type of rate structure, but for other parts of the country. This is a generic presentation in a way. That recovers a substantial part of the subsidy, not all of it, that would flow to somebody with rooftop solar. That's not the situation here in Austin. The reason yours is different -- it doesn't mean you shouldn't charge the appropriate customer charge, but your subsidies that flows to like -- would occur for somebody with like rooftop solar is not -- does not occur as much because you use an avoided cost methodology. Austin energy was one of the -- I would say one of the leaders in the industry when they put that in place. And more and more public public power systems -- public power systems more than any and agencies around the country are following Austin's lead and using the same avoided costs concepts. They may -- the methodology to determine it may be different, but the concepts are very similar to what Austin energy has. So you're kind of leading the nation in that. Actually, you've been-leading the nation in many ways for the last 30 years, but from what I know about Austin. But that's one of the things that a lot of utilities are trying to mimic. But it's important to understand what that customer charge should be. And what you're currently charging. And part of the reason -- and what I'm going to say next might be a little bit controversial. It depends. But low income -- when you don't charge the appropriate customer charge the question

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becomes -- let's say you increase the customer charge. It's going to impact adversely low use customers. Even though it's cost based it will impact them adversely. The question -- which is controversial, is how does it impact low income. And this is my view of it. That you have basically two different types of low income. You have low income customers that own their own homes or they rent homes that are not energy efficient. And the homes that they live in tend to be older homes. They don't have the proper insulation, air conditioner. They can't afford to purchase the energy efficient appliances. So when we've done the analysis for many utilities, almost every one we've done actually, where we looked at low income and their usage, they've been higher than average consumers of residential. In other words, their usage has been higher than the average residentials, but then you have another segment of the low income. That is lower than the average. Those are the ones that live in apartments. Those are the ones that live in energy efficient apartments, relatively newer ones. So the point being is the point being the customer charge will impact low use. The question becomes is low-income customers low use or higher use? And so that is just something to think about. That it's not across the board with respect to that. But the -- part of the reason I bring up, a lot of these costs of service rate structures and -- my feeling is this.

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That you have in a sense the bell-shaped curve and the majority of the customers underneath that bell and then you have the outliers. And the question then becomes this. I'll talk about this again tomorrow. Do you want to -- your rate structures to be changed to handle the outliers? Or do you want to put in place different programs to assist the outliers? For example, low-income. And some have low-income rates in place but a lot of utilities are putting them in place because rather than in a sense mess up the rate structures and what the utility is trying to accomplish with them, they put programs in place to help alleviate the major areas of concern, such as low-income. Right. Does that kind of make sense? It sounds like you've done a lot of that >> Mayor pro tem tovo. >> Tovo: I appreciate the information you're providing. I wanted to ask a question, though, about how you feel the customer charge interacts with our conservation goals. You know, one concern that the last rate case engendered was not just about how a higher customer charge would impact low-income users but also if there's a substantial jump in a customer chart, in a base customer charge, then you're also -- I suddenly am losing the word but disproportionately impacting those using the least amount of energy, which is what we want to encourage within our city. >> That's the balance of it. And you're hitting it perfectly. There is no rate structure that is perfect. Every rate structure is positives and negatives. And when it comes to -- you know, the cost of service is a process. You go through, you allocate, you say your customer charge been $18, charging ten -- I'm

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just pulling Numbers off. But the question becomes how do you move in that direction, knowing that you -- you are going to impact certain customers by doing that? And it's knowing what those positives and negatives are. The positives by increasing a customer charge is revenue stability, reducing subsidies between customers within a class. Preventing a subsidy that flows naturally to seasonal customers from your year-round ratepayers. A lot of people don't think about that. I live in Michigan. You know, we have a lot of customers that come to Texas and Florida and Arizona in the winter and we don't charge them the proper customer charge our year-round ratepayers in Michigan that have to endure our winters

have to pay pay for the infrastructure and the same thing in reverse happens here. These are the things to happen. The negatives are you're going to impact low-use customers. And it's going to be contrary to energy conservation goals and that's the whole balance. And that's -- you know, the reason why, when it comes to a cost of service study, why -- that's one component into designing rates. It's not the end all be all. It's one component. And the other thing is the goals of the community, all right? I know I gave you kind of a roundabout answer because there isn't a perfect answer to it. >> Tovo: I appreciate that. >> Thanks. >> Casar: Vice chair? I guess you're chair today. >> Pool: Yes, councilmember Casar. >> Casar: Thank you for confirming what generally anecdotally I've heard is that low-income customers aren't all low use and they aren't all high use and they're pretty evenly split up, at

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least nationally. Locally we are having a conversation, I believe, in this upcoming rate case, though, about our very lowest use category, and, again, this is somewhere where I only have some anecdote alinformation and I believe our utility might be able to provide us with better figures but from your experience of those very, very lowest categories, how often is it that you find lots of low-income people in that category? And the reason that I ask the question isn't necessarily to confirm my existing an emdotial belief that there are people in very energy efficient, new apartments and condos that tend to fall into those categories, but maybe there are lots of other folks that fall into them too. I wanted to know sort photography your -- since you work with a lot of us, how often folks fall into those. >> I'm probably going to give you a little bit of a circular answer again. That low use, real low use, when -- and it deposits where -- depends where you are in the country. Again, I do work in Florida and I look at July usage and this one utility I had to work for, 30% of their customers useless than 100-kilowatt hours. That has nothing to do with income. Excuse me. That's because of seasonality. Seasonal customers. Then you get into, okay, well, other lower users, 300, 400-kilowatt hours or less than 500, usually you find, like, a single family or a single person living in a home. It can be very, you know, energy efficient homes, but usually I don't find that so much, believe it or not. It's usually a single person. The energy efficient homes, they still have their appliances. They still have -- I mean --

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thank you so much. One thing I'm going to say next, it might surprise a lot of you. Electricity probably is the best value in America for the price that you pay. You know, a lot of people don't know that -- realize this but the price of electricity in 1900 well exceeded $1 per kilowatt hour. That was in their dollars not adjusted. And now what do they charge? 13, 14, 15 cents. And so it's not always about the dollars in the matter of electricity that's actually not even close to it. Reliability is by far. I always like to use this anecdotal thing. I'm a Green Bay pack fan and had had he not messed up in Seattle two years ago they would have made it to the super bowl but if I came home and flip my light switch on, the super bowl was going to be playing and it didn't come up, how much would I have been willing to pay for that next kilowatt hour to watch the packers play the super bowl. You think about the value that provides and, you know, for the price that's being paid. And so my point being is even though people conserve and they still tend not to necessarily get way down into that level. They're not going to typically mess up their lifestyle because of the price of electricity. Not everybody, but most. >> Casar: That's very helpful. I appreciate it. And, yeah, I had never thought that much about seasonal customers because they only use it some parts of the year so that's very interesting. I appreciate your take on that. >> Thank you. >> Casar: Even if I don't appreciate the take on the packers. [Laughter] >> All right. Now, the demand -- as I

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mentioned before, a demand is the peak usage of a customer that occurs in a month. I'm getting into a little bit more detail to help you understand. It's not the instantaneous demand, in other words, a customer, if they flip on their machinery ail at wants it creates a demand that spikes, all right? It's what's called an integrated demand, where it's -- after the average usage over a certain period -- it can be over 15 minutes or over 30 minutes, but that peak average that occurs in a month creates -- is what they're billed demand on, all right? Again, it's usually measured each month, but not always. It can be yearly. Maybe some customers -- some utilities will look at the peak demand that a customer creates annually to determine demand charges, the demand usage. All right? Most utilities look at it monthly. So what makes up this demand charge is basically three components. On the power supply side, you own facilities. I mentioned nuclear. You know, you had the debt service payments of that nuclear plant. That is traditionally recovered through the demand charge. Most of the time the operation maintenance costs, the fixed operation maintenance costs of a generating station is also recovered through the demand or capacity charge. You also have a variable operation maintenance component. That amount is recovered through the energy rates. I want you to understand that. Say you own a turbine and as a

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turbine is used it has to get rebuilt every so many years or so many hours of operation. That amount, to rebuild those units, is recovered typically through the energy component. Now, the second component of power supply is transmission, and usually that transmission charge is determined based on the utility's usage at the time of the isos or ercot's peak, all right? Then the distribution system -- now, the distribution system, I want you to think about the distribution system in two different components when it comes to allocation of demand. That's kind of what I'm trying to talk about, is allocation of the costs. And you have infrastructure that's close to the customer, which would be the customer's transformer, their service drop, the distribution lines close to the customer. Those have to be sized to handle the peak demand of the customer, all right? Now, as you get further back into the system, be it the subtransmission system and the substations off of the subtransmission -- by the way, when I say "Subtransmission" what that is -- I don't know if this is the way it is in Austin, but in most utilities a subtransmission is a higher voltage line that goes kind of around the city to deliver energy into the distribution lines, all right? So the -- as you get further back in the system, like I said, the subtransmission and the substations those are more sized to handle the peak demands of the entire system, not necessarily the peak demands of the customer. So all of this is handled through this cost allocation

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process, all right, to determine what those demand charges should be or are. Up to this point -- and I'm on slide 15. I think I have 26. But some of this is is a repeat, not scare you, but I'm covering a lot of really high-level -- or a lot of detailed information here, as I said before, but -- and if there's anything that needs clarification, please ask. Now, the next one is the -- again, the customer charge. This is an output from one of our studies, all right? To show you what makes up that customer charge. It's what I mentioned already. You have -- under the minimum system analysis determined the distribution portion that should be in the customer charge, transformers, substations, meter operation maintenance costs, meter reading -- this utility didn't have any because they have Amr, the building, service drops to the customer the customer service department. So if you look at this utility, this is a study we completed about three or four months ago. That monthly -- residential monthly customer charge is $20. So -- and

what we notice -- it depends on the utility, the age of the infrastructure. Sometimes how they [indiscernible] Their books. That monthly charge from a cost of service standpoint typically runs, for a municipal electric system with their service characters, between around 12 and $22 a month, okay? Give you just a general idea. Because of my experience, that's where I'm thinking your $10 might be a little bit low, okay? But I could be wrong. Now, when it comes to that

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other portion of the distribution infrastructure, this is something to -- that's very important. That distribution system, as I said before, is not sized to handle kilowatt hours. That distribution system is sized to handle the peak demand that a customer creates on the system. Unfortunately, because in our industry, either because we haven't had the metering capabilities to meter demand on all our customers or sometimes the -- we haven't gone through the education process, so our customers can understand what demand charges are, we haven't necessarily billed our customers properly for distribution -- distribution usage. We haven't charged them demand. Let me give I an example. You may not like what I'm going to say next but it's true. You saw early on the load usage of a residential customer. Residential customers tend to peak at 7 cents 8 cents in the -- 7:00 or 8:00 in the morning or 78:00 in the evening. When -- rooftop solar peak production tends to be in the afternoon. Even though it tends to be very valuable resource from a power supply standpoint, from a distribution standpoint it doesn't reduce the transformer sizing that's required for that residential class. So, you know, that's why it's so important, why so many utilities are moving in the direction of residential demand charges and setting customer charges properly. I know that what I just said is controversial, but I'm talking just from a cost standpoint. Okay? Not a rate design standpoint.

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>> Zimmerman: I'm sorry -- by the sake token another technical aspect of this is solar panels produce more power in solder temperature. They're least efficient in the summer when it's hottest. That's another thing never brought up but it's an important part of solar production. >> Okay. >> Zimmerman: When you need it the most, in the elevated temperatures, it's the least east. >> I didn't knee it that's good to know. I learned something. >> Zimmerman: If you go to the Austin community college class on solar you'll learn all that because I did. [Laughter] >> And as I mentioned earlier, this is a repeat, just remember customers are served at different voltage levels and your cost of service study that was. Some are secondary, the majority of your customers. Some of your larger customers are primary and subat subtransmission level. This just shows the break-out of the distribution costs. So just go to the right-hand side for this utility. This is the weighers charge, demand charge to cover distribution. Tore general service demand for this utility it's $4.73 for distribution lines. The subtransmission was 46 cents. It says transmission. It's actually subtransmission. Transformer charges was 33 cents, substation $2.29, for a total charge of $7.81. All right? On the demand side. I think yours is around $4 or $5 so it's a lot less than that. Then on the production side, the capacity cost on production that typically goes into demand is debt service, fixed o&m and you always have to remember system losses because when energy comes into the system, we have to buy more energy than the customer

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is using because there's losses as it goes through the wires and through the transformers. Now, the energy costs typically are fuel, purchase power, the variable as I mentioned, and, again, system losses. Now, I'm beginning to -- get into capacity cost allocations just briefly because one of the processes is --

when it comes to those capacity costs, what do we feel are the appropriate cost drivers to allocate to the classes? And there's different theories. I just want to briefly cover those, not in great detail, but the first thing is to help you understand how your power supply resources are structured. There's three different types of power supply resources. The first one is what the industry classifies as base. Base resources would be like the nuclear unit, for example. Very expensive to build but very low cost to operate. And you want to run those resources 24 hours a day, seven days a week. So in theory you look at your average usage throughout the year and you want to structure your base load resources to handle that average usage so they're running all the time. Then you get into your intermediate units. These are less expensive to build but a little bit more expensive to operate, at least historically. The -- these units are designed to handle the peak demands that occur in any given day. All right? So if the system peak demand starts -- if the power supply ramps up at 10:00 in the

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morning, these units will come on to handle those peak demands that occurred during those peak hours. Then you have what's called a peaking units. These are very low-cost units to build, very inexpensive to operate -- or very expensive to operate, I'm sorry, but you don't really care they're expensive to operate because you're only going to run them 100 to 200 hours a year because they're there to handle the peak demands that occur in the whole year. All right? So you need to think about the types of resources you have, then how to allocate each of those resources. Now, the industry has -- there's a variety of different methods. I'm just going to briefly review I think three of them. The first one is a single cp. In other words, the utility, in this example -- and this example describes it, looks at the peak demand that occurs throughout the entire year. So let's say hypothetically the peak demand occurred on July 22 at 2:00 in the afternoon with a load research study you go back and look at how much each class is using on July 22 at 2:00 in the afternoon. And you assign all the capacity costs for the whole system to each class based on that single peak that occurs. All right? That's one method. I'm not going to give you my opinions about the methods. I'm going to keep tight-lipped about that. Then you have four cp. Four cp is like taking the single cp but instead of looking at the peak demand that occurs in any given year, to look at the peak demand that the four highest peak

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demands that occur throughout the year. So let's say it's June, July, August, September. And you look at the peak of each of those months and how much each class is contributing to those peaks in any given month, and that's how the allocation factor is determined. Then you have the 12 cp, which is probably one of the more common methods, where it looks at the peak demand that occurs in -- for every single month. I will say this, the reason the industry doesn't like the one cp so much, that first one, is if you allocate all your costs based on the usage on July 22 at 2:00 in the afternoon, basically what you're saying is you can use all the power you want in the month of January and even though you're using the resources and benefiting from the resources, you don't have to pay for any of the capacity. All right? So that's what the one cp tends to indicate. And that's why the industry has kind of moved away from that method into the other methods, be it the 12 cp, it be one of the more common, all right? Then you have a method called average and excess. Average and excess was established years and years ago, and it used to be one of the more common approaches. But basically what it does is it says that -- let's say in Austin -- I'm not familiar with your loads but let's say the peak demand is 1,000 megawatts, all right, is your peak demand. But if you took all of your energy sales throughout the year and divided it by 8,760 -- that's your average usage, see, the average and excess says that we're going to take the average usage and the amount -- the cost of

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capacity up to the average usage. Let's say in your situation it's 600 megawatts. So we're going to take 600 megawatts and what it costs to construct those 600 megawatts and we're going to allocate it to the customer classes based on their energy use, okay? Then anything above that is going to be allocated based on their capacity, it be the one cp, the four cp, the 12 cp, okay? You're basically going through my 4-day class right now to get into these allocators. This is one of the more -- the most complicated thing when it comes to cost of service is understanding load research and understanding how the load research impacts the allocation of cost. That's the most complicated part and most difficult typically for people to understand. But you guys -- >> Pool: Mr. Beauchamp? >> Yes. >> Pool: We have about five or six more minutes for the presentation because I wanted to make sure we had time for additional questions when you're done and then we have another item that we need to take up that will take about 15, 20 minutes. Does that work okay for you? >> Perfect. I've got two slides left. >> Pool: Great. >> 90 minutes went by fast. This is just an indication of what I mean by the peaks and by classes. Look at the red line. That's the system peak. The red line peak occurred at the 1800 hours or 6:00 in the evening but look at the blue line, the general service. Now, the general service peaked at 9:00 in the morning but what we're looking at is how much they're using at 6:00 in the evening. Okay? That's what we're looking at to establish the capacity, how much they're using at the time

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the system peaks. Now, this is just an illustration of power supply breakdowns. Now, one of the things I wanted to -- using the cost of service -- usually a cost of service study is going to identify costs on summer and winter. One of the things -- and a lot of it is because of the power supply markets. There's not a lot of cost drivers [indiscernible] Across the country today to have seasonal rates and it's because of the market price of power is not varying by season like it used to. It used to be that you had resources and you had to construct the resources to handle the peak demand. So most areas of the country the summer was higher because it needed more resources. But that's not always the case anymore. And so the -- a cost justification for seasonal rates is not as strong as it used to be. And it kind of showed up in this model. There's a -- it's actually a little bit conflicting in the model. Some classes, the winter was higher than the summer and other classes the summer was higher than the winter and it had to do with how the classes were using energy at the time the system peak that occurred. And this is my last slide. But this is something that the cost of service study is going to show you. It's going to ask you the question, okay, for this utility, they need a rate increase of 4.1%. But if you look at the percent change column and for this utility again the residential need an increase of 3%, slightly less than the average. General service needs an increase of 6%, slightly higher than the average. Outdoor lighting actually shows a rate decrease is needed at 3%. They have general service demand, two, primary 8% increase, transmission customer 13%, substantially above the average.

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So when we do studies, this is the first question that we ask the governing body: How much leeway will you allow us to move these classes closer to cost of service? In other words, if we're going to have a 4.1% increase, I probably wouldn't recommend a 13% increase to your transmission customers. I would recommend a gradual movement in that direction. So I asked, what kind of bandwidth around that average increase will you allow us to move the classes closer to cost of service? So, for example, if you gave me a plus or minors 2% bandwidth -- minus 2% bandwidth that would mean no customer class

would see an increase greater than 6.1 but all customer classes would see at least 2.1. Then we go and design rates based on that criteria that you gave us to come up with the 4.1% increase. All right? Does that make sense? That concludes my presentation. It looks like I -- where is it -- is there any additional questions at all? >> Pool: Any questions? Let's -- councilmember troxclair, did you -- okay. Councilmember Zimmerman? >> Zimmerman: If you could quickly go back to earlier slide you had where you talked about the three categories. I'm sure there's not a quick, easy answer for that. I think it was slide 11. Well, I really appreciate your presentation because you kind of illustrate how complicated this process is. You're just touching on the surface of how complicated it is. But on this slide, is there a way to say -- you've got three items here, so these are like the three most significant categories. Could you break these down further but of these three are they a third, a third and a third or is it -- is one of

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them 80%, another, you know, 10% and 10%? >> Excellent question. Now, what it is, it depends on the customer class. For example -- I never really looked at it in the manner which you said. In a way I have, but not totally. But if you look at the residential class, that customer charge typically represents anywhere from 40 to 60% of the distribution system's cost recovery, all right? Where if you look at the customer charge for like a large industrial customer and how much that recovers, it's one-3%. So the percentages are -- they're not standard. So it's a very difficult. Then when it comes to the brockout between energy and -- break-out between energy and demand, it depends on the utility's MIX of resources. For example, you have a nuclear plant. A nuclear plant -- and I don't know percentage wise of your capacity a nuclear plant is but nuclear plants are very expensive to build, high debt service payments. Utilities with nuclear plants are going to have higher demand charges oftentimes that go into that capacity component. It depends on the allocation factor you use and lower in the energy. So it just -- there isn't a standard one. >> Zimmerman: Final point here that I just want to hammer home again, going back to the nature of the ercot market that we have now, I think it's still lost on people that no matter where the energy comes from, whether it's a nuclear plant or a wind mill or a coal plant or solar farm it, all gets pushed into the grid. >> Correct. >> Zimmerman: Okay? Then it gets purchased back out. >> Yep. >> Zimmerman: It's so fascinating to me that this

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really key crucial concept seems to be completely lost because what's said in the city ail the time or Georgetown just up the road did this, Georgetown went to 100% renewables supposedly. So what does that mean? It's nonsense in terms that our energy production is still -- it's coal, it's gas, it's nuclear. There's a blend of production going into the grid and they're simply purchasing energy back out, yeah. So they are not 100% renewable. It's a nonsensical concept but people standpoint as gos expel that's the frustration I have as a technical person trying to explain this to people. >> I think what they mean by that, though, is that, you know, we can't control the -- I think what they mean by that is they're pushing into the market 100% of the usage of renewables I think is probably what they mean by that. >> Zimmerman: It is what they mean but when the wind stops blowing and the sun stops shining they're using so-called non-renewables 100% of the time. >> Correct. They're using the transmission grid as a battery in a sense, yeah. >> Pool: So I have -- >> This portion of the country that actually the price of the electricity goes negative in the evening. >> Pool: I have a quick question and this goes back to some of the things you were talking about early on in your presentation about the peak demand. I was wondering, for small businesses and homes, you know, the peak demand changes when, like, people come home in the afternoon or in the morning in the wintertime it ramps up to warm up the offices. Do you do -- or you would recommend that we ramp up our education component to have, like -- rather

than turning off the heat in the wintertime, for example, you keep it at a certain rate so that the draw down, the peak is smoothed down a little bit more in the mornings? And the same in the summer, so it's not so hot, you know, put it at a level so that it doesn't have as much of a draw

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down on the grid when people are coming into work? >> You know, when you send a demand pricing based on demand you're getting the customer control over their charges, giving the customer control or control because if they can understand it. That's the whole key. If they can understand it. And they can flatten out their usage. Take solar, for example. I talked about solar before. And the fact that residential homes peak in the morning or the evening, solar produces in the evening -- or in the afternoon. Well, they install a breakers what's going to happen? It's going to flatten their load. They're going to create less of an impact on the distribution system, thereby saving money. So by sending a demand price -- I'm using residential. I'm not even thinking about residential demands but it just shows how that can incentivize people to flatten out their age. In the short-term that's not going to change your cost but in the long-term it will. I didn't get into these concepts and tomorrow I wasn't planning on it but maybe I will, is cost of service study is one component. It's called embedded cost of service. It looks backwards to price your costs. And I didn't get into some other concepts, which is marginal cost, which is how your costs are going to change based on a customer's usage pattern. So, in other words, if they don't take that kilowatt hour of electricity, how much of your costs are going to go away in the short-term and in the long-term? Because in the long-term, it will eventually reduce your need for capacity. So there's more value to them reducing your peaks in the long-term than there is in the short-term. That's called lunn-run marginal costs. And then there's short-run marginal costs. Of course I'm just talking about in this, our traditional

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study, looks at your existing costs, all right? So I want to clarify that part of it also. >> Pool: Thanks very much. Are there any other oxygens I think we're going to hear more tomorrow in the work session. What topics are you talking about tomorrow in the work session? >> I'm going to be talking about just how rate structures philosophies -- I'm going to be talking about positives and negatives of the different rate forms, inverted block rate structures, for example, and what's the positives that are created and what the negatives are. And, again, it's not always so much -- well, I'll talking about that tomorrow but I'm going to be talking about the different rate forms, getting more into demand charges for, like, the commercial. >> Pool: Okay, great. Does anyone have any questions for this afternoon -- for this morning? Thank you so much for traveling all the way from Holland, Michigan. >> Thank you. >> Pool: It's a beautiful town. >> You've been there? >> Pool: You have lots of tulips this time of year, don't you? >> Another month. Thank you. >> Pool: Thank you. All right. We can take that item off of the overhead. Thanks. And our last item, since we already did number 7 is six, update regarding the process to fill the position of Austin energy general manager and while staff is coming to talk about that here, Mr. Spillar, I'm sorry -- Mr. Goode, there was a question from one of -- from Ms. White during citizen communication about public input as part of this process. So if you could address that along the way too. >> Will do. >> Pool: Sorry for calling you by the wrong name. >> We're both Robert. >> Pool: I think that's what I was thinking. >> There's not a whole lot to update. The consultant is busily doing his work. He's compiling the background information of all the applicants and candidates that have applied thus far. We have not seen that list, any candidate list, at this

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point. The city manager expects to get an update from the consultant I believe even this week on his progress. And as we mentioned in the last update, the manager is going to take that candidate list because each candidate list is different, depending on the time of the position and the time of year and the applicants that are out there, and then review that with the consultant and then develop the public engagement process really the rest of the interview process period but then obviously we've heard from many constituents that want to be involved in this process. So he'll take a look at that and then develop that and share it with council and the community on the next steps as we move forward. So it really is in sort of the development work stage at this point so we'll be completing that and then moving forward. >> Pool: Do you have a rough time line? >> We should hear from the consultant this week on what he has seen in the applicant pool so we'll get a list of the entire applicant pool this week and then the manager will talk with the consultant and the executive team and trying to figure out then again what the next steps will be because he haven't established any of the next steps, what the interview process will be internally, public involvement process and all the things surrounding that so we just don't have answers because he hasn't developed that process at this point. >> Pool: Thanks. Any questions for assistant city manager Goode on this topic? Councilmember Zimmerman. >> Zimmerman: For what it's worth, I would love to encourage you to focus on a candidate that has a deep technical understanding, somebody like Mr. Weiss. The last thing we should do -- of course if we do this it will hasten the utility's dissent into bankruptcy, I think, but the worst thing we could do is hire an ivy log that doesn't understand these technical complexities and someone who couldn't do math and understand the complex economic models. I think we saw some of that in the bio mass plant. It was an absolutely horrific

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decision in my opinion was primarily driven by idea logical agendas, bad science and people who can't do math. So I hope and pray we can avoid that mistake again. >> Pool: So the last item on our agenda is discussion of future agenda items. Does anyone have anything at this point? Mr. Goode, did you have anything? Okay. And you can always send them over to Tina cannon in chair Gallo's office. All right. If that -- if there are no other comments or questions, I would be happy to adjourn this meeting. And I thank everyone for being here today and for the good work that y'all did to bring these presentations to us. We stand adjourned. Thank you.