



GOVERNOR'S OFFICE OF ENERGY

MINUTES
New Energy Industry Task Force
Technical Advisory Committee on Distributed Generation and Storage

September 12, 2016

The Technical Advisory Committee (TAC) on Distributed Generation and Storage held a public meeting on September 12, 2016 beginning at 9:00 a.m. at the following locations:

CARSON CITY

Public Utilities of Nevada
1150 E. William Street, Hearing Room A
Carson City, Nevada 89701

Also available via videoconference:

LAS VEGAS

Public Utilities of Nevada
9075 W. Diablo Drive, Hearing Room A
Las Vegas, Nevada 89148

1. Call to order and Roll Call: Vice Chair Tuma called the TAC meeting to order and a quorum was confirmed.

The following TAC members were present:

Distributed Generation and Storage

TAC Members Present

Jeremy Susac
Matt Tuma
Marco Velotta
Dale Stransky
Jack McGinley
Sarah Van Cleve
Jason Geddes
Jessica Scott
Bobby Hollis

TAC Members Absent

Adam Kramer
Bo Balzar
Tom Ewing

2. Public comments and discussion: Vice Chair Tuma opened Agenda item number 2 for public comment.

Fred Tholke stated that he is in favor of setting targets for distributed storage and that utilities are almost 100% budget and target driven. The majority of those targets are the direct result of having regulatory compliance. Without targets there are really no incentives for the utility to make storage transition or for the PUCN to expect any compliance. Rooftop solar has been highly successful in places like Germany and Australia because of good public policy, they replaced one-for-one payment with a feed-in tariff which allows everyone to participate in a market-like system. As a result none of the utilities lost money or laid off people. If you stick to just regular net metering you may be doing a disservice.

John Fredrick encouraged the TAC's support for community solar legislation. He stated that it is a fantastic way to include low-income communities, municipalities, and schools.

Ralph Walter is an electrical contractor in Las Vegas. He said that the business has pretty much come to a halt in recent months. He wants to provide certainty to solar customers while ensuring everyone pays their fair share for use of the grid. He would like to see the TAC also look into job creation.

(No Name Provided) expressed her gratitude for all the proposals that are being recommended. She encouraged to look into the timeline and to be realistic. She wants to make sure we are looking into consumer protection first rather than looking to address a problem that already has policies in place like the Contractor's Board regulations.

Vice Chair Tuma thanked them and closed Public Comment.

3. Approval of Minutes from Previous Meetings: Vice Chair Tuma opened Agenda item number 3 and asked for any corrections or additions to the meeting minutes for the meetings held on 6/28/2016, 6/29/2016, and 7/19/2016. A motion was made by Jeremy Susac to accept the minutes, it was seconded by Dale Stransky.

4. Presentation by Solar Energy Industries Association (SEIA) – Tom Kimbus, President: Vice Chair Tuma opened Agenda item number 4 and invited Tom Kimbus to present. Tom Kimbus stated the following during his presentation. The solar industry is firmly committed to consumer protection and it is a new issue for SEIA and they have put their whole heart into it. The education of consumers and solar companies alike is a top priority for the association. Education, standardization, and collaboration with state, local, and federal governmental regulations is the path to consumer understanding. It is also important for the companies to fully understand the rules. They want to maximize transparency of the residential solar transaction and ensure that those who don't follow the rules suffer the consequences.

The rapid expansion can't come at the cost of uninformed consumers. It looks like we will be growing at a rate of 80% this year if things stay the same. We also would like to avoid duplicative or unnecessary laws or regulations that slow down the industry growth when in fact we already have the laws to this successfully. Residential solar relies heavily on word of mouth for success according to studies. Doing it right by the customer is very important to the growth of the industry. Consumers who understand what they're getting are more likely to have good experiences and be

satisfied customers. Solar companies who take short cuts damage the industry and slow down the growth.

The vast majority of consumer protection complaints were the result of misunderstandings between the company and the consumer. In response, SEIA created a consumer protection code to help consumers fully understand the solar transaction. The code shows the companies the right way to do advertising, marketing, and resolve problems. If a consumer has an issue with a non-member, SEIA encourages the company to resolve the issue and take part the complaint resolution process. We have the right to forward any complaint to the attorney general's office or any other authority.

We have created a model lease and a sample power purchase agreement so consumers understand how it works. We ensure the paperwork is simple and there are disclosure forms. We are committed to educating ourselves as well and that we understand all the laws and regulations. One misconception is that we need more laws that are specific to solar. Nevada already has deceptive advertising laws and common laws for contracts. We want to drive America into a clean energy future.

Mr. Stransky asked whether membership was voluntary and how many providers are members.

Mr. Kimbus stated it is voluntary and he knows 80-90% of the residential transactions are put in by SEIA members.

Mr. Stransky then asked, can you impose any penalties on your members?

Mr. Kimbus stated they can suspend members or impose a fee if they want to rejoin the association. As long as they want to continue with SEIA fees can be imposed. Membership benefits can be restricted or terminated. SEIA cannot charge a penalty if all they want is to leave the organization.

Mr. Velotta asked who developed the code and where did the provisions come from.

Mr. Kimbus answered that it took them about 6 months to research and develop the code. We gathered together general councils of about 15-20 residential providers and builders who are leaders in the industry to debate and discuss what should be part of a well-functioning code. We met with the CPUC and the Better Business Bureau and 4 or 5 different associations. We then pull together this code that went to our Board of Directors who are from about 30 different companies and organizations. The content of the code ranges from the beginning of a residential transaction to customer interaction and contract terms and content. The code goes into pretty significant depth. It also covers resolution and consumer options in these cases. We intend to update the code periodically as things change. I would ask this committee to look at the laws and find the gaps rather than having new things imposed that may prove to be unnecessary red tape.

Mr. Tuma asked Mr. Kimbus how other states handle complaints that are out of SEIA's purview, do they go to one state entity or do they farm it out to several state agencies?

Mr. Kimbus responded, what we have found is that each state is different. The majority of the complaints end up either at the attorney general's office or the Public Utilities Committee (PUC).

The Contractor's Board will be another entity that will end up with some of these complaints. I haven't seen a single identical structure between two states, so everyone is trying to figure it out. It would be a good idea to direct complaints to one agency that could triage issues.

Mr. McGinley asked how many companies have been penalized.

Mr. Kimbus said that this went into effect the beginning of this year and there have been about 24 complaints. We want consumers to understand that they can use this as a tool. The code has a direct resolution process in which we first ask the company to try and resolve the issue to the consumer's satisfaction. In every case we have had the consumers tell us that they are satisfied with the resolution. We have an ethics committee that will review any complaints that are not resolved.

Mr. Stransky asked how much the membership costs and what it is based on. He also asked if they have different levels of membership and benefits.

Mr. Kimbus responded that membership ranges from about \$2,500.00-\$145,000.00 per year. The fees are based on the amount of solar revenue within the United States. Benefits also vary, they can include access to different newsletters, votes, but maybe no access to a certain policy committee.

Vice Chair Tuma thanked Mr. Kimbus for his presentation and closed Agenda item number 4.

5. Review of Proposals for Legislative Amendments: Vice Chair Tuma opened Agenda item number 5.

He thanked all members for all of the time they have dedicated to this TAC. He stated that any proposals that pass will be sent to the Task Force to review.

Mr. McGinley asked whether they would be able to discuss each proposal before voting and Mr. Tuma said that will be the process.

Mr. Tuma started with Recommendation 2A which states that the 2017 Legislature consider a bill to update NRS 704 to include energy storage procurement targets for the state's utilities and other energy providers so that Nevada may unlock opportunities to utilize cost-effective energy storage on the electric grid. This bill would include targets for storage interconnected to each point of the grid with customer connected, distribution connected, and transmission connected. Further storage procurement targets should increase over time with target increases in 2019, 2021, and 2023 as to ensure that lessons learned from earlier procurement inform subsequent procurement. He then introduced Sarah Van Cleve to discuss her proposal.

Ms. Van Cleve then stated that we probably don't need a bill just to define storage but we should define it anyway. The important thing to take out of the energy storage definitions included here is that they define energy storage generally. We should make sure the definition is inclusive of all technologies.

Mr. Stransky asked if the proposal was these definitions.

Ms. Van Cleve stated, the proposal I am interested in is the one that Mr. Tuma read in 2A. We just want to get on board with high level but the background is really important as well. Jason Geddes requested for definitions but that was not part of the proposal. The legislation doesn't state whether hydro is included in these definitions so it is implied that it's included.

Mr. McGinley said, this seems to exclude hydro because it says under California 4(a) "mechanical, chemical, or thermal process".

Ms. Van Cleve said, I think that pump hydro is a type of mechanical. She then moved on to include other entities and not just NV Energy. All utilities in Nevada should be contemplated as part of a storage procurement bill. Slightly different requirements are probably appropriate for the smaller entities.

Mr. McGinley asked whether it will be only utilities governed by the PUCN.

Ms. Van Cleve responded, no, it will be all utilities above a certain threshold, so municipalities, investor-owned utilities, and co-ops. The vast majority of the utilities are included when we use that threshold.

Mr. McGinley stated that he wants this to be applicable to everyone, all energy providers.

Ms. Van Cleve said, energy storage is really a capacity resource. Large customers are still paying NV Energy for the wire service, they would still be paying through their transmission charges.

Mr. McGinley said, I disagree. I can support this if we make it applicable to all energy providers, including entities that sell power within the state of Nevada. Otherwise, you're putting NV Energy at a competitive disadvantage, you're going to raise our rates and other people can undercut us selling power for cheaper because they don't have the same requirement. So again, to be fair it should be applicable to every energy provider in the state.

Ms. Van Cleve then continued, the only carve out is for very small municipal utilities maybe under \$2.5 million in revenue.

Mr. Stransky asked to clarify electric power providers so we are not including other utilities.

Ms. Van Cleve continued, the 704B customers get their generation from someone else, however, they are still paying all of their transmission and generation charges.

Mr. McGinley stated, I think you have over simplified this. Many of these companies don't pay a distribution charge so we will end up saddling NV Energy's retail customers while these other customers can escape that charge. If it's a benefit to society, then everyone who lives here should pay for it.

Ms. Van Cleve said, we are basically just looking at impact and benefits to rate payers. The one exception may be green-house emissions costs. Regarding the funding issue, \$1 billion dollars does sound like a lot but we will only spend it on battery storage if we would otherwise be spending

more to get the same grid infrastructure. So that number should not be of a concern. Also, pilot projects in other states are not as effective. We are learning by doing and the reason for this proposal is to get this started.

Mr. Velotta asked does go to the customer level or the provider level. There is precedent in NRS so we should be fine with that.

Mr. Susac asked whether they could accommodate Jack's request.

Ms. Van Cleve said, we could include something like, it should apply to all utilities and customers in the state but it is likely logical to vary the requirements by some degree based on size.

Mr. McGinley added, I think this should be applicable to all just like the RPS and not complicate it too much.

Ms. Van Cleve added, if we say it is applicable to all electric utilities and customers that should be sufficient. She then asked if anyone has the definition of electric provider.

Mr. Tuma clarified that we are not coming up with legislative language and I am not sure that that term has been defined in NRS.

Mr. Hollis added that it is defined in NRS but it does exclude municipalities.

Mr. Velotta then added, so the term does not include the state, general improvement districts or municipalities and some others.

Ms. Van Cleve said we should just stick to that principal and figure out the specific language later.

Mr. Stransky was concerned with saying electric customer because it sounds like we are placing the burden on the customer.

Mr. Tuma said the following, we would remove utilities and other energy providers with electric customers. So the recommendation would read, a recommendation that the 2017 Legislature consider a bill to update NRS Chapter 704 to include energy storage procurement targets for the state's electric customers so that Nevada may unlock opportunities to utilize cost-effective energy storage on the electric grid. The rest of the proposal would read exactly the same. Are there any concerns?

Mr. McGinley suggested it states "for all state electric customers". The change was accepted. He then asked about funding through the state as opposed to utility funded.

Ms. Van Cleve added, Washington's program was a pilot program where they are setting aside specific funds and what we are looking to do with this proposal is substitute storage for traditional grid infrastructure. All grid infrastructure is paid by rate payers, there's really no reason to change that mechanism. I don't know why we would fund it differently than traditional grid infrastructure.

Mr. McGinley said, if it is good for the state to do this then the state should fund it and be transparent. If it impacts rates then we will have to clarify that.

Mr. Geddes added, if we tie it to the general fund it won't happen. The Legislature doesn't have a mechanism to analyze rates like the PUCN and NV Energy.

Mr. McGinley stated, it might be a good idea to slow down and do a pilot program. Batteries are still expensive and it can be a significant financial burden to electric customers in the state. I fully support this but I need to see a change to the cost effectiveness. There is no need to hide it in the utility bill, rather we should be fully transparent.

Ms. Van Cleve responded, I have a number of counter arguments that you have heard before. We are talking about utility cost, they are all directly affecting rates with one exception which was greenhouse gases. This should resolve all your concerns and I think it is appropriate to keep this bill focused on rates.

Mr. Stransky then said he was still concerned with saying customers.

Mr. Tuma changed the language to, 'targets to serve all electric customers'.

Mr. Velotta asked whether the dates could be subject to approval by the PUCN.

Ms. Van Cleve said she was not tied to those dates, they give the utilities a year to a year and half to figure it out but the time frame can be flexible.

Mr. Velotta asked for the following amendment, procurement targets increasing over time with targets established by the PUCN over a ten year window.

Mr. Tuma read back the amended proposal, storage procurement targets should increase over time with targets starting no later than 2020.

Mr. McGinley asked why batteries are being treated so differently. If it is not cost-effective then we should just stop, it's not fair to make utilities do this no matter what. If it is cost-effective our people would do it anyway.

Mr. Tuma asked for a motion and Sarah Van Cleve made a motion to approve and another TAC member offered a second. Mr. Tuma read the final language for the motion, a recommendation that the 2017 Legislature consider a bill to update NRS Chapter 704 to include energy storage procurement targets to serve all electric customers so that Nevada may unlock opportunities to utilize cost-effective energy storage on the electric grid. The bill would include targets for storage interconnected to each point of the grid – customer-connected, distribution-connected, and transmission-connected. Further, storage procurement targets should increase over time with targets starting no later than 2020 as to ensure that lessons learned from earlier procurement inform subsequent procurement. The motion passed with 5 votes in favor and 3 against.

Mr. Tuma then moved to item 2B, a recommendation that the 2017 Legislature consider a bill that would define "energy storage" technologies in NRS, and require that energy storage be considered in utilities' generation, transmission, and distribution planning processes. Sarah provided some sample definitions used in legislation from other States.

Mr. Geddes suggested they submit the California language along with the bill as it's the most extensive and matches our current language the best. He disagreed with Ms. Van Cleve and said he thought it should be a stand-alone so that even if the bill doesn't make it through and we don't get targets, there will be energy storage coming into the system.

Ms. Van Cleve agreed and asked to piggy-back this with the previous motion.

Mr. Velotta stated that he though having LCB look at all of these definitions would be helpful, the motion is fine. Although we like California we should take all the states into consideration.

Mr. Stransky asked why they providing a specific definition, he thought it was to be kept broad.

Mr. Geddes added that we need a definition regardless.

Mr. Stransky responded that he thought they were going to let the Legislature come up with the definition. He wanted to know whether they were submitting a definition or if it was just to be an example.

Mr. Geddes answered, I think this is an example.

Mr. McGinley asked whether there was an amended motion they were going to vote on or if they would vote on the motion as is.

Mr. Tuma clarified the changes made to the background and not the language proposal. So it would read, "following are some sample definitions and these should be used as a basis when crafting language".

Mr. Stransky asked whether it would require approval for everything or only for distribution planning related to storage operations.

Mr. McGinley echoed the comments.

A motion was made to approve the recommendation and Mr. McGinley seconded the motion. The recommendation passed with 8 votes in favor and 0 against.

Mr. Tuma moved on to proposal number 1-A, Establish polices which support distributed generation, with a specific focus on rooftop solar and net metering. Proposals a. A recommendation that the 2017 Legislature consider a bill to give PUCN specific authority to adopt regulations to oversee the development of distributed resources. The authority to address consumer complaints regarding business practices in the delivery of distributed generation to be consolidated within one

agency and develop regulations with input from the Solar Energy Industries Association's Solar Business Code and other stakeholders. He asked for any comments or discussion.

Ms. Scott stated, while the PUCN in California handles consumer complaints, in Nevada it is the Contractor's Board and they have the ability to impose punitive charges.

Mr. Stransky added, I thought we discussed that the Contractor's Board may not include all the third party relationships, that it is only for contractors but not subcontractors. Do they have jurisdiction over this?

Ms. Scott responded, I don't believe that is correct. The contracting company is not allowed to sub-contract out and therefore the Contractor's Board is covering the breadth of complaint. There remains an issue of unlicensed contractors but they are trying to make sure everyone is licensed.

Mr. Tuma stated, my understanding was that the Contractor's Board will receive complaints with installations but any complaints related to the contracts or anything else related to the business would go to the Bureau of Consumer Protection. At times complaints are also made to the PUCN and NV Energy as well.

Ms. Scott continued, it is my understanding that a solar company cannot go through with a contract if they are not a licensed contractor. We should just post best practices that other states follow as resources for consumers.

Mr. Velotta stated, I think the general spirit of the recommendation is correct. We are trying to consolidate complaints or issues that are brought up regarding the solar industry to one entity. Are there other entities that should be considered?

Mr. McGinley agreed and said, we can strike the last part of this. We will get input from other states and organizations. We should end the recommendation and strike SEIA since it is not exclusive and there are other stakeholders.

Mr. Stransky added, being more general would be more appropriate here.

Mr. Tuma reiterated that they would be making this more general and including input from more stakeholders. Now it reads, "delivery of distributed generation to be consolidated within one agency and develop regulations with input from stakeholders".

Ms. Van Cleve commented, this was put together with good intentions but she was not sure that the PUCN was really the right agency to deal with these issues. She felt there is a good reason we have these different entities who specialize in what they do. She suggested maybe one body can be tasked with directing people where they need to go but not necessarily having them take care of all the issues.

Mr. Stransky stated, if this all fall on our agency it would have a great fiscal impact.

Mr. Velotta asked whether Dale's organization works jointly with other organizations or if this is a good opportunity to do this.

Mr. Stransky responded that he is not certain on that.

Mr. Velotta suggested that the language be modified to, "a recommendation that the 2017 Legislature consider a bill to give an entity or joint entities specific authority to adopt regulations to oversee the development of distributed resources".

Mr. Tuma repeated the change to the recommendation.

Ms. Scott stated, just for the record, I strongly believe that this recommendation does not serve the purpose of this TAC as set forth by the Governor as it is not supporting distributed generation and storage with a specific focus on rooftop solar and net metering and it's not encouraging development of clean energy sources or integrating renewable energy technology. If this TAC passes consumer protection but not a fix for the solar market then I find that shameful.

Mr. Susac said, I echo those comments. How many complaints have been in Nevada or what was the impetus behind this recommendation?

Mr. McGinley responded, I think what we heard from SEIA is that they are new with the rules and it has only been out for a short while which is why there are only 24 complaints. But if we look back to last year I can tell you we have had a lot of complaints from customers. I believe this is required and needed so that people are held accountable. Our electric utility has a whole sector dedicated to these issues and consumer protection. There were folks out there saying we had a 20% increase in rates this year, well they were flat out lying to customers. Others were told that they would never see a power bill again and then they would call us asking why we were sending them a bill. There was a contractor in Las Vegas that was not paying subcontractors. We do need some sort of consumer protection language needed. Good solar providers agree because they are good developers and are concerned with people who are not good performers.

Mr. Susac stated, that makes sense. When I first saw this I thought we didn't need to impede the process with more regulations.

Mr. Tuma added, I look at the new emerging industry that is comprised of a very small amount of distributed generation. We are tasked with encouraging the growth of this industry and that is why they need to be considered as distinct entities. They shouldn't be grouped into the same category as our utilities but I think this recommendation recognizes the increased importance of this industry.

Mr. Stransky recommended some more changes to the recommendation.

Mr. McGinley said, my thought is that it is not just a matter of policing, there needs to be regulations. My preference would be to leave that language in because regulations will need to be adopted.

Mr. Stransky added he didn't think anymore regulations would necessary but he stated this was just a suggestion.

Mr. Tuma reiterated that the previous change to the language would be the final, he asked for any final suggestions.

Ms. Scott stated, in response to Jack's comments, the solar industry is not unregulated, as we discussed there are many entities that are regulating the solar industry and I strongly believe that it is discriminatory to hold the solar industry to a different standard that other contractors would be held to.

Mr. McGinley responded, it doesn't say solar anywhere in there. We have consumer protection for utilities, this would be the same for distributed generation not just solar.

Mr. McGinley made a motion to approve the recommendation and it was seconded by Mr. Velotta. The recommendation passed with 6 votes in favor and 2 against.

Mr. Tuma continued with item 1-B, a recommendation that the 2017 Legislature consider a bill to provide the PUCN the authority to require Time of Use/Time of Delivery billing for premises with a distributed generation system if found to be in the public interest.

Mr. Geddes stated that he was opposed to this recommendation because he wants this mandated for all customers not just distributed generation customers.

Mr. Stransky added, the PUC already has authority to impose this requirement in NRS 704.768-771.

Mr. Susac said, so this would be duplicative or unnecessary.

Mr. Tuma said, this is a little like storage in that there is nothing prohibiting storage from being considered but there is nothing that states specifically that the PUCN can regulate or encourage storage within our process. Does it specifically call out the time of use or is it just implied?

Mr. Stransky responded, the exemptions of that statute is customer generator, a user of a net metering system. It looks like it covers any source of renewable energy, although it doesn't specifically say storage but I am not sure if that is the intent here or not. Do you think in the future there would be customers who will just install storage without having a solar panel on their roof?

A member (inaudible) responded, sure that is possible.

Mr. Tuma then added, there probably is some murkiness around this proposal and what already exists. If it is an authority that is implied through statute right now, I don't see a problem codifying that at this moment specifically.

Ms. Van Cleve said, last time I spoke generally that I like the idea of giving the PUC the option. I do agree that the PUC has that option so I don't think it's necessary to do anything additional at this time.

Mr. Tuma continued, is there a motion for this proposal? There were no motions so we will just refer to the PUC's current authority to establish time of use and time of delivery rates.

Mr. Tuma then moved on to item 1-C, A recommendation that the 2017 Legislature consider a bill to specifically direct the PUCN to create a Value of Distributed Solar structured around quantifying the known and measurable impacts both positive and negative internal to the utility of the following benefits and costs:

- i. Energy
- ii. Line Losses
- iii. Generation Capacity
- iv. Ancillary Services
- v. Transmission Capacity
- vi. CO2 Regulatory Price
- vii. Voltage Support
- viii. Criteria Pollutants
- ix. Fuel Hedging/Diversity
- x. Environmental Externalities
- xi. Utility Administration
- xii. Utility Integration
- xiii. Participant Bill Savings

Ms. Van Cleve said, I think we may have inadvertently left out distribution capacity.

Mr. McGinley added, I read this recommendation as requiring a company to provide some consideration for these attributes which I think is fine. My confusion was with 1-I which seemed very similar to me where it was a deeper dive into the rate design for grandfathering. I can support 1-C but I don't see the need for 1-I but I was curious how others felt.

Mr. Geddes said, I agree that 1-C is embedded in 1-I but there are other things in 1-I that make it broader than 1-C such as the billing and value of excess electricity. Things that fell out after SB-374, they were provisions that were in there.

Mr. McGinley added, well then these two would be in conflict because one is still in dollars and one is not so it's on or the other.

Mr. Geddes continued, some of the provisions in I are not included in C.

Mr. McGinley said, it seems like 1-I went into a lot of detail like rate making and I just can't support that.

Mr. Geddes added, I is putting some of the protections back in that were there since 2001 not necessarily undoing SB-374.

Mr. Stransky asked, doesn't I go back to the grandfathering issue.

Mr. Geddes responded, correct.

Mr. Velotta said, if there were sections that were in conflict I tried to incorporate them in there. This is for any new net metering customers. If there are sections in C I that need to be taken together or separately that is fine.

Mr. Tuma stated, can you identify which are some of the protections that are beyond C that we can add to I. The other option is to take a vote individually for each of those.

Mr. Stransky said, we may have a consensus on C.

Ms. Scott added, I would like to see internal to the utility stricken from the proposal.

Mr. Stransky and Mr. McGinley were opposed to that suggestion.

Ms. Van Cleve said, thank you for pointing that out Jessica because environmental externalities are never going to be internal to a utility unless they have to pay a certain amount and that doesn't seem to be the case, so this seems to be a contradiction.

Mr. Stransky responded, maybe that's the case now but that doesn't mean that's the case in the future.

Mr. Susac asked, the PUCN has docket open right now, do these criteria mirror what's being analyzed in that docket or are they a little bit different.

Mr. Stransky answered, I think there's a couple of items added.

Mr. Susac continued, well you have criteria pollutants that are regulated but air pollutants are not. What would environmental externalities be.

Mr. Stransky responded, I have that list here: avoided energy, energy loss, avoided, ancillary services, transmission and distribution capacity, avoided criteria pollutant cost, avoided carbon dioxide cost, fuel hedging, utility integration and interconnection cost, utility administration cost, and environmental cost. That's paragraph 337.

Mr. Tuma asked, do we want to mirror that language exactly? I've changed energy to avoided energy, generation capacity to avoided generation capacity, and I've added distribution to the transmission and distribution capacity.

Mr. Stransky said, I would use the term cost in those items.

Mr. Tuma said, ok I have added cost to these items. He then stated that internal to the utility was not removed.

Ms. Van Cleve stated, I see some value in mirroring the commission's order, but I think it would be nice to improve upon what the commission is already doing. I think most folks would agree that there really are environmental costs whether or not they are internal to the utility. So I would suggest that we take out that language.

Mr. Stransky added, if you apply this to resource planning, we do look at externalities. But are you implying that sort of thing should be done in resource planning also?

Ms. Van Cleve continued, I don't think we need to make this proposal this broad but I agree with that principle.

Mr. Stransky said, they are considered they just aren't externalized. When you consider all these values you are doing exactly that.

Mr. Tuma interjected, I would take a motion with or without that language just please be specific. Mr. Stransky made a motion including the original language included for 1-C. Another member provided a second, the recommendation passed with 7 votes in favor and one against.

Mr. Tuma moved on to item 1-D, a recommendation that the 2017 Legislature consider a bill to direct the PUCN to ensure that residential and small commercial customers investing in distributed energy resources through 2019 be reasonably certain that future changes in policy and rate design will not significantly lessen the economics of their distributed energy resource investments. One way to accomplish this could be to create 25 MW tranches per year of distributed energy resources in which residential and small commercial customers are guaranteed the current NEM rate structure set by the PUCN as the first phased-in step of the PUCN's Modified Final dated February 17, 2016.

Ms. Van Cleve said, these customers need to have certainty otherwise they will not invest. I am not too familiar with the 2019 piece.

Mr. Stransky added, I provided those revisions. My intent was to put together some sort of stability for these customers.

Ms. Van Cleve asked whether it made sense to split these two, this will prevent this same issue to happen again going forward.

Mr. Tuma stated, this looks like a way to accomplish this goal without being too prescriptive. It supports the industry and it is one way they can do it but it is not mandatory.

Mr. McGinley said, there may have been some confusion at one of our previous meetings. I misspoke when I said the next rate case is next year, it is actually in June which will be about just about the time when the Legislature will vote on this. So I don't know that we really need this.

Ms. Van Cleve added, Jack, I think you may be referring to a different thing, the value of distributed generation that will happen every three years, the thing is that the value of solar will change every three years when the utility goes in for another rate case. So the issue with the customers is that installing solar is a long term project. It is only economical if I can have that feed-in rate for the duration of my project, however, every three years this changes. Unless the customer knows what the rate is for at least the majority of the life of the device, there is a lot of uncertainty.

Mr. McGinley continued, I appreciate that and agree to some extent. Rates always change, you can't lock in a rate for 20 years. One way to reduce that uncertainty is to size your system appropriately,

don't size it so that you are banking excess energy at a premium to pay for that system. You can make a decision based on the current rate, but there are always risks and no guarantees. With grandfathering we are locking in mechanisms but the actual rates are subject to change.

Mr. Stransky said, it doesn't really lock in the rates it just locks in the first step, meaning the service charge.

Ms. Van Cleve continued, so I know I mentioned this last time, the way we incentivize new generation at the utility scale is to sign long-term contracts, that's the only way you get developers to build huge solar, wind, even natural gas plants. They need long-term certainty and the same applies to other distributed resources. I understand the rates will change and that's why I didn't say specifically that rates can never change, but I try to have more general language that there will be reasonable certainty that future rate changes and policy regarding rate design will not significantly lessen the economics of their distributed energy investments.

Mr. Stransky stated, I think there is a big difference between these large plants and general roof-top solar customers. Just look at their contracts, you are not going to get that from roof-top solar customers, so there is a difference, you are comparing apples and oranges.

Mr. Geddes said, I don't think it is quite apples and oranges because it is a generating asset that you expect to perform for 20-25 years and that kWh comes with different assurances. Contractually it might be a difference but we are completely ignoring the customers' expectations. We all know rates go up and down but this was a seismic change and we need to find a way to protect from this.

Mr. Stransky asked, how long is reasonable.

Ms. Van Cleve responded, I think this principle applies indefinitely, you're saying that during the life of those resources that folks are investing in, that they have reasonable certainty. It may be better to vote on this principle which other states have adopted.

Mr. McGinley said, my concern is the vagueness of it, I don't know how the Legislature would do this. You are telling them that they get a certain return on their investment.

Ms. Van Cleve continued, I think it's a policy principle that is put on the record so that when the PUCN is considering changes they can refer back to this. The details do need to be looked at on a case by case basis.

Mr. McGinley stated, are we going to lock in those rates because they invested here. They made a decision and one of the factors was energy cost and if all of a sudden the commission increases the rates what will happen. At what point do you say, a consumer does take risks. I don't know why we would treat one customer different than another.

Ms. Van Cleve said, I'm not sure that was a fair comparison. The only reason customers invest in distributed generation is because of the long term economics of the projects. The vast majority of customers are investing because of utility rate economics.

Mr. Stransky asked, we don't have a sunset on this so are we going to have different assurances.

Ms. Van Cleve answered, I am not proposing any specific policies just a principle. The value of solar is going to change every three years along with other fees that would change the rate design and affect customers' investments. We don't need to get specific with this, a higher lever principle would be better at the moment.

Mr. Stransky continued, the Commission was real specific and I don't think there was uncertainty.

Ms. Van Cleve stated, I'm not sure we are following each other, my point was just the basic service charge could change and even outside net metering there are other investments that are made where this principle should apply.

Mr. Susac said, I am generally supportive. This type of rate structure is made to induce investment. Perhaps we can change it to 2020. Would these people be grandfathered for 20 years?

Ms. Van Cleve said, it may be best to vote separately on these ideas.

Mr. Susac said, essentially you are saying make net metering economical.

Mr. Stransky interjected, what can you do in jurisdictions where rates are so low. I think I remember Jeremy saying that places like Nevada don't even go there because the rates are too low. I don't think we can guarantee to make this economic for anybody, rates are going down now and what if they continue to go down. We don't want to make it look like it has to happen because it may just be impossible in certain situations.

Mr. Susac continued, this was not just a NEM play but where we could make trade-offs, we are doing business in Texas but I understand your general comment but at least if they know the rules and that they are not going to be upside down they continue to invest in that market.

Mr. McGinley, said, and the answer is no at times. If costs are low, then no but when they are hey, then definitely. That's why we do integrative planning. If you are saying that this doesn't make sense economically, then you are creating subsidies because someone needs to pay.

Ms. Van Cleve responded, if resources are not economical then the customer can choose to invest or not. The day a customer decides to make that investment based on the facts today, there should be a certain level of certainty but not absolute certainty.

Mr. McGinley asked, if we implement this today how do you handle those 25 MW.

Mr. Tuma added, the distributed resources are becoming a larger component and the more we approach this issue we need to make sure our regulators have good policy guidance along with flexibility. May be we can change direct the PUCN to authorize.

Ms. Van Cleve added, if we change it to authorize the policy will not be very meaningful because the PUCN already has that authority.

Mr. Tuma said, they were specifically given the guidance to not allow any unreasonable subsidy which put some parameters around how they could interpret the information. I am thinking of broadening authority and flexibility and adding to how these things can be utilize for everyone's best interest.

Ms. Van Cleve stated, the net metering decision shook the whole industry.

Mr. Tuma continued, it's best when you provide some flexibility. So right now I have the first part of the recommendation which states, a recommendation that the 2017 Legislature consider a bill to direct the PUCN to ensure that customers investing in distributed energy resources be reasonably certain that future changes in policy and rate design will not significantly lessen the economics of their distributed energy resource investments. Mr. Susac moved to approve and another member provided a second, the recommendation passed with 6 votes for and 0 against.

Mr. Tuma moved on to the rest of the recommendation which Mr. Stransky stated was no longer necessary. Mr. Tuma moved on to item 1-E, A recommendation that the 2017 Legislature consider a bill to authorize a reasonable minimum bill structure as a compromise measure to resurrect the residential solar market in Nevada. The bill would reinstate retail rate net metering and restore solar DG customers to their prior rate classes. In return, solar customers would pay a minimum bill not to exceed \$25 per month to ensure a minimum customer contribution from all ratepayers and to reduce the potential impacts of customer cross-subsidization.

Ms. Scott stated, I would just add that a minimum bill would ensure that every customer pays a set billing threshold. So it's important to keep the minimum bill at a reasonable rate to ensure that there is not an undue burden on particularly low income.

Mr. McGinley said, I will voice my opposition for this bills once again. A minimum bill is not an effective rate mechanism for net metering. It does not guarantee an allowed recovery of fixed assets. This is not as simple as it seems, we are not here to set rates.

Mr. Tuma asked, does this proposal mandate a minimum bill or does it provide the authority to institute a regime like this.

Ms. Scott answered, you are right, it is authorizing the ability to choose a minimum rate bill as one of the options. I am happy to make revisions or changes.

Mr. McGinley continued, if you are willing to change it to, it allows the PUCN to consider a minimum bill that would be better.

Mr. Susac said, I would take a similar approach under B.

Mr. Tuma asked about a language insertion that read something like, consider a bill to authorize the PUCN to implement...other members agreed. Mr. Tuma read the modified recommendation: A recommendation that the 2017 Legislature consider a bill to authorize the PUCN to implement reasonable minimum bill structure as a compromise measure to resurrect the residential solar market in Nevada. The rest would remain the same.

Mr. McGinley asked, is that the PUCN can consider a minimum bill or are we making the commission do it.

Mr. Tuma responded, correct, that was my understanding.

Mr. Stransky added, I think the PUCN is already authorized to do this.

Mr. McGinley said, I don't know the PUCN has the authority to do this now but if this bill is giving them that ability then I don't have a problem with that.

Ms. Scott, the PUCN already has that authority so I would make a motion for the original language to pass, a recommendation that the 2017 Legislature consider a bill to authorize a reasonable minimum bill structure as a compromise measure to resurrect the residential solar market in Nevada.

Ms. Van Cleve stated, does this off-set a different long-term solution, would this be temporary until the full value of solar can be considered at the PUC.

Ms. Scott responded, I think that this would address a stalled market and we would all work together to find a long-term solution but this would revive the market.

Mr. Tuma spoke about the decoupling language, ...giving the PUCN the authority but not mandate...would this be something we could do here?

Ms. Scott responded, so this is a chicken and the egg because minimum bill was proposed during the NEM hearing and moving forward the PUCN does have that authority so I think that it does need to have a little more bite to it.

Ms. Van Cleve said, we need to do something but this is a compromise and not a long term solution but it will work until we get a true value of solar. If we say it is an interim solution maybe others would get on board.

Ms. Scott said, I am fine with it, maybe say interim measure to resurrect the solar market.

Mr. Stransky then said, to me 1-D had more importance in being interim than this does. The idea was to come up with some interim step until the PUC determines the value of solar. It seems like were using one excuse to do one and not the other.

Ms. Scott responded, I strongly believe that a comprehensive solar fix needs to include solar customers being restored to the residential rate class so I didn't feel like 1-D included that measure.

Mr. McGinley said, neither does this one, are you suggestion we are going back into rate-making?

Ms. Scott stated, my original proposal included restoring to the residential rate class, this one is allowing LCB to come up with the exact language. We can provide general policy guidance but we should allow our Legislators to weigh in on what they think would be the most effective policy.

Mr. Stransky said, the Commission affects residential and small commercial, large commercial are still under net metering with the old NEM, so are you just looking at residential because you still have this other group that falls in between. Do you understand that there is also the small commercial class who is impacted.

Ms. Scott said, this is specifically for residential. Would you propose this include residential and small commercial?

Mr. Stransky responded, I am not suggesting anything I am just pointing it out.

Ms. Scott asked for any changes that would persuade them one way or the other.

Mr. Susac agreed with including small commercial.

Ms. Scott moved to pass the whole recommendation and just include small commercial.

Mr. McGinley asked, so you are essentially undoing anything the Commission did instead of just grandfathering through the end of the year.

Ms. Scott responded, it's an interim measure that would undo the PUCN's decision.

Ms. Van Cleve added, if we would just make sure to include interim that would be great.

Mr. McGinley asked, how do you define interim, one year, six months? I think this is important.

Ms. Van Cleve said, until the PUC goes through their full value of solar proceeding.

Ms. Scott stated, so I would put, compromise interim measure until the PUCN has a final decision on the value of solar docket.

Mr. Tuma re-read the full recommendation with its amendments, a recommendation that the 2017 Legislature consider a bill to authorize a reasonable minimum bill structure as a compromise interim measure until the PUCN has a final decision on the value of solar docket for both Sierra Pacific and NV Power to resurrect the residential solar market in Nevada. The bill would reinstate retail rate net metering and restore solar DG customers to their prior rate classes. In return, solar customers would pay a minimum bill not to exceed \$25 per month to ensure a minimum customer contribution from all ratepayers and to reduce the potential impacts of customer cross-subsidization. We have a motion, and Ms. Van Cleve provided a second. The recommendation passed with 5 in favor and 4 against.

Mr. Tuma moved to item 1-F, a recommendation that the 2017 Legislature consider enabling legislation to authorize community solar (also called Shared Solar, Community Solar Gardens,

Solar Gardens) with a focus on expanding solar access to communities of color and low income neighborhoods.

Mr. Velotta asked, was this a recommendation that was passed through another TAC? This is definitely something that we should be doing. The city has been examining this for quite a while and I know of other states that have legislation on this. It's important that people who cannot afford it have access to this. I would support this in concept.

Ms. Stransky asked, how does this work, we already have community solar now.

Ms. Scott responded, my proposal is for a broad policy concept that allows LCB to figure out the details. There are a lot of case studies across the country that would be beneficial.

Mr. Velotta said, this allows for personal ownership of something that is tangible or a renewable energy asset.

Mr. Stransky asked how 1-D and 1-E fit in with 1-F.

Ms. Scott stated, net metering would need to be in place in order for community solar to be successful. Do you see a potential conflict?

Mr. Stransky answered, no I just want to see if 1-E overlaps 1-F.

Ms. Scott said, you can have 1-E without 1-F but then you are excluding renters or churches, community solar opens it up as a much broader concept.

Mr. Stransky said, wouldn't 1-E also apply to 1-F.

Mr. Susac added, there is one issue we have encountered in Colorado with solar gardens being sited near our solar neighborhoods. There can be siting and over sight of sighting. If property is permanent for industrial uses, there is nothing we can do so it tied up a feeder and it became contentious as to who was going to replace that feeder. So if there is some way to have a coordinated siting we would welcome that.

Ms. Scott said, I think it would be appropriate to include as a background. The intent was for the Legislature to draft that language.

Mr. Hollis stated, I think the regulators would still need to adopt regulations to make sure things are done responsibly. You could say something like, the PUCN will be responsible for adopting appropriate guidelines.

Mr. Stransky added, should we include a definition?

Mr. Tuma repeated the recommendation, a recommendation that the 2017 Legislature consider enabling legislation to authorize the PUCN to adopt appropriate guidelines to implement community solar (also called Shared Solar, Community Solar Gardens, Solar Gardens) with a

focus on expanding solar access to communities of color and low income neighborhoods.

Mr. McGinley stated, I don't support the notion of virtual net metering. There's an existing subsidy that has been calculated at \$18 million, if we are going to expand that subsidy because of the last bill and even further past that with this then there is a cost shift that is occurring that we need to be aware of. I do support shared and community solar and there are other ways to go about doing it as well as other pricing mechanisms. It ought to be done in a way that you are not shifting costs to other customers.

Mr. Geddes asked, what did the Commission say when you proposed it?

Mr. McGinley responded, it was done in the IRP and we went to the Commission with a proposal for 10 MW. Our intention is to do it but through a subscription process, it will be a direct investment that you get credit for. So there's a mechanism to facilitate it without virtual net metering.

Mr. Stransky added, in the Resource Plan it asked for input that they do plan on filing something after next year but they just wanted input from the parties. Why is there a focus on communities of color or low-income when it seems like we will make it available to anyone that wants it?

Ms. Scott responded, to the extent that you can't put solar on your roof or it would be cost prohibited that there would be some flexibility in the program that you could participate to the extent that you wanted to. In other states there are carve-outs for low-income customers.

Mr. Velotta added, there is definitely an equity side but it is open to all with some carve-outs.

Mr. Tuma received a motion from Ms. Scott to pass the recommendation, a recommendation that the 2017 Legislature consider enabling legislation to authorize the PUCN to adopt appropriate guidelines to implement community solar (also called Shared Solar, Community Solar Gardens, Solar Gardens) with a focus on expanding solar access to communities of color and low income neighborhoods. With a caveat that we won't favor one over the other. A second was received from Mr. Velotta. The Recommendation passed with 9 in favor and 0 against.

Mr. Tuma moved on to item 1-G, A recommendation that the 2017 Legislature consider a bill to authorize the use of uncommitted Renewable Generations funding to promote the implementation of new technologies, battery storage projects, low income residential solar, and community solar gardens. Mr. Tuma asked to add, implementation of Green Banks and Mr. Velotta supported that. Green Banks were considered in a separate committee but I wanted to think of this as inclusive.

Mr. McGinley asked for the history on the Green Bank discussion.

Mr. Stransky asked for a definition of Green Banks.

Mr. McGinley provided it, there is a fund that is created and lends money to do energy efficiency and distributed generation projects. The concern the utility has is that we don't want to fund it and we don't want to collect it through our resources and rates.

Mr. Stransky continued, so adding Green Banks would take money from the Generations program to create a bank.

Mr. McGinley, correct, and that's fine I just don't want NV Energy to have to fund it with rate-payer money. The money that you make in returns does not go back to the rate-payers but rather back into investing.

Mr. Velotta interjected, let's take the two concepts separately, G as it is and on a separate motion recommend a Green Bank and where that money comes from.

Mr. Tuma said, another TAC is moving forward the Green Bank idea so I can withdraw that addition.

Mr. Geddes stated, do we just want to say, to promote the implementation of new technologies, battery storage projects, low-income residential, and community solar as determined through the stake holder process.

Mr. Geddes moved to approve the recommendation and Mr. McGinley seconded the motion. The recommendation passed with 9 votes in favor and 0 against.

Mr. Tuma moved on to item 1-H,

Mr. Susac gave an overview, the Renewable Generations program could incentivize new ideas for new innovation. It essentially sets up a rebate program for residential battery storage, and enables the utility to deploy battery storage for solar neighborhoods. I kept it all solar community that would automatically qualify for an all battery project where the utility could do an evaluation as to whether the battery storage should be deployed or not. To the extent that it didn't, the home builder could then elect to install residential solar to create somewhat of a micro grid.

Mr. Geddes asked, how would they automatically qualify for a rebate?

Mr. Susac responded, if NV Energy did not deploy the batteries the customer could elect to take the rebate and install residential. That would cover 50% of the battery cost and to try and cap it we would keep it from a half a million dollars and a million per community up to about \$3 million per year.

Mr. Velotta said, would an SID as a model work even though there is a rate component as well.

Mr. Stransky voiced several concerns regarding the accelerated appreciation.

Mr. Susac added, we would only take less than half of the Renewable Generations money in the next five years. It would look at any cost savings that may or may not take place. The underlying reason for the accelerated appreciation is just an incentive for the utility to go down that investment road. I am open to whatever is more palatable.

Mr. McGinley said, if we create a rebate program for batteries, it seems like we are going back to the old rates and we've complicated this issue. I think it is a good idea to use this money for batteries but I am concerned when we say we are going to use it for new homes. If we could structure this as more of a program that uses rebate money for batteries including on new construction.

Mr. Susac said, a comprehensive review can be done with new solar homes because this data has not been examined. We just need some certainty that goes with Sarah's policy statement and having it make financial sense.

Mr. McGinley, we can do this by getting together and making sure people don't over size their systems. I support the use of batteries but rate making concerns me.

Ms. Van Cleve added, putting numbers in here is challenging.

Mr. Susac said, I didn't want to tie the hands of the petitioner as to where to locate the battery. But I would be happy to require that all battery technology be located within the community. Prior to the NEM hearings we met with the utility and got nowhere.

Mr. Velotta asked, can we leave it general when it comes to the percentage offset. You are not talking about establishing a brand new rate just for these communities, right, we are sticking with 1-C?

Mr. Susac said, yes we can do that. I put that in based on something Jack said in the last meeting. I am here to bring some kind of resolution and we find this to be innovative that follows the Governor's mantra. We think we need 3-5 years of data to learn what the cost savings are.

Mr. Geddes added, I prefer to see the dollar amounts and annual gap. Other TAC members voiced their concerns with various aspects of this recommendation. The first paragraph was left unaltered, in the second paragraph we removed some of the specifics on the 50%.

Mr. McGinley asked for a clarification, the first paragraph regarding a separate net metering class, was this deleted.

Mr. Tuma responded, no changes were made to the first paragraph.

Mr. Susac made a motion to pass the recommendation and Mr. Tuma provided a second. The recommendation did not pass with 4 for and 4 against and 1 abstention. Mr. Susac proposed negating the separate rate class to see if the motion would carry. The motion passed with 6 votes for and 2 who abstained.

Mr. Tuma moved on to item 1-I.

Mr. Velotta went over proposed language changes for this recommendation. There are not too many new policy proposals in this.

Mr. Tuma stated, any proposals we have made will be crafted by the Legislature so if we have anything that is in conflict they will take care of it. We need to focus on what we have missed and which need a new proposal. A discussion continued by all TAC members regarding this recommendation. After a discussion the proposal was withdrawn.

6. Public Comment: Vice Chair Tuma opened public comment.

A member of the public (didn't provide name) stated that she wanted to bring the conversion back to 1-A regarding the Contractor's Board and the liability that lies with the licensed contractor. She encouraged them to look at existing resources instead of creating new laws and regulations. She was concerned with having consumers sign a 30-year contract that can have rates change.

Agenda item number 6 was closed.

7. Adjournment: Vice Chair Tuma provided closing comments.