



GOVERNOR'S OFFICE OF ENERGY

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

August 16, 2016

The Technical Advisory Committee (TAC) on Distributed Generation and Storage held a public meeting on August 16, 2016 beginning at 9:00 a.m. at the following locations:

LAS VEGAS

Grant Sawyer State Office Building
555 East Washington, Room 4412
Las Vegas, NV 89101

Also available via videoconference:

CARSON CITY

Nevada Legislative Building
401 S. Carson Street, Room 3138
Carson City, NV 89701

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
Bo Balzar

TAC Members Absent

Adam Kramer
Tom Ewing

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

Tom Dudas discussed storage and lithium in Nevada. He was concerned with the Department of Energy funding research that is open to non-American companies and he asked for oversight.

Judy Trickle, a residential solar owner thanked the committee for all their time and attention. She was concerned with the ballot referendum that was denied narrowing our options.

Ms. Sherman talked about the proposals that were provided and different options to revive the solar industry. She asked that voting be delayed until the public has had an opportunity to review the proposals.

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 stated there were no minutes to approve at this meeting. Agenda item number 3 was closed.

4. Report on the July 27, 2016 Meeting of the New Energy Industry Task Force: Vice Chair Tuma opened Agenda item number 4.

Mr. Tuma discussed fossil fuels and the plan for the conclusion of the Task Force and some of the initial BDR's that have been picked up. The recommendation that was picked up from this committee is on grandfathering existing net-metering customers.

Vice Chair Tuma closed Agenda item number 4.

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

Mr. Tuma stated, your packets contain two types of proposals: establish policies which support distributed generation, with a specific focus on rooftop solar and net metering and establish policies which support energy storage. There are several different proposals that were articulated in those, we can talk about these issues in general.

Several committee members voiced their concern because they were not able to access the proposals until early morning. Mr. McGinley suggested perhaps anything new in the proposals can be pointed out by the author.

Mr. Balzar discussed his new proposals, I presented 1-b stating, to provide the PUCN the authority to require Time of Use/Time of Delivery for premises with a net metering system. This is primarily for residential systems, I was not proposing all residential customers go to TOU just the ones that voluntarily want to participate in net-metering. We saw how the PUCN didn't feel they had the authority to mandate TOU rates. A rate payer can't determine if a system is a good system or not because it is complicated. My intention was to provide the PUCN a tool that can be used at the next rate case.

Mr. Tuma stated, items 1-a, 1-c, and 1-d were combinations of proposals and ideas we have had during discussions here. Item 1-e is a proposal we received at the last meeting and discussed, 1-f is a new proposal from Chairman Susac, item 1-g was a proposal that we have discussed on several occasions, and item 1-h was another recommendation that Bo circulated. Item 2-a is similar to the storage amendment that Sarah has offered and we have discussed before, and items 1-b and 1-c came from Bo.

Mr. Tuma began with recommendation 1-a: establish polices which support distributed generation, with a specific focus on rooftop solar and net metering. A. a bill to establish Nevada customers' authority to obtain distributed generation and give PUCN limited authority to address consumer complaints regarding unlawful business practices in the delivery of distributed generation

i. NRS 703.210 Powers of Commission to add, "Adopt necessary and reasonable regulations and policies which encourage the increased use of distributed generation in the State."

Mr. Balzar noted that distributed generation has a wide definition. He also mentioned the PUCN could increase rates, if the utility raises our rates then we would be more inclined to put in a system, not that I support that but those are my observations.

Mr. Velotta asked, doesn't another agency handle this already?

Mr. Stransky answered, we do receive complaints and they are confidential and other agencies receive these as well. The PUCN may not be the right agency to do that but maybe filtering them all to one place may be the answer.

Mr. Tuma added, people make those complaints to multiple agencies at the moment.

Mr. Velotta suggested the Contractor's Board may be a good alternative only because most of what we see has to do with contractors. He stated they may be a little more set up and equipped for this.

Mr. Geddes suggested the BCP if not the Contractor's Board.

Mr. Balzar said, the hard part is that you can sell energy in the state and not be a contractor, so may be the BCP is better.

Mr. Tuma stated, this is a proposal that will need to be modified a little.

Mr. Tuma moved on to item 1-b, to provide the PUCN the authority to require TOU/TOD for premises with a net metering system.

Mr. Balzar stated, this is pretty generic so that it gives the PUCN authority until we have a more permanent solution. A couple of the common themes I heard were that there should be an opportunity to support the growth of renewable energy in Nevada and that rate payers should have the ability to take control of their energy costs. I also heard from net energy ratepayers that they are fine with paying their share but necessarily more. I understand that raising the cap every few years

is not sustainable so this becomes more of a rate design issue which can be done at the PUCN so they can support everyone's goals.

Mr. Stransky asked, are you proposing that it is required that they go to time of use.

Mr. Balzar responded, I am saying that there would at least be an option to do this at the next rate design case.

Mr. McGinley added, what you're saying essentially is that you want the PUCN to require net metering customers to go to TOU but perhaps we should table this for next time.

Mr. Tuma added, it seems like you are providing more tools for the PUCN kind of like with the decoupling recommendation as opposed to creating more finite directives.

Mr. Balzar said, yes so we would clarify the language so that it primarily deals with residential rate class customers and it will be limited to new customers.

Ms. Van Cleve stated, when California was trying to do this the PUC they said for new net metering customers they have to be on mandatory TOU rates. So it is a tool that has been used as a compromise.

The Committee decided to table this recommendation for the next meeting.

Mr. Tuma moved on to item 1-c, to direct the PUCN to create a Value of Distributed Solar structured around quantifying 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

As background, the PUCN is going through the IRP for Sierra Pacific as we speak and southern Nevada is on a longer timeline.

Mr. Velotta stated, I wanted to put together a list that gets to the quantified benefits and costs. This is a good baseline that we can add to as well. This gets to set a rate for residential and small commercial so it is codified in statute. There needs to be consideration for the other alternatives and how they interplay with each other. Like how time of production gets factored into it.

Mr. Geddes added, some of the existing law disappeared with SB 374 that I think we should recommend putting back in.

This recommendation will be re-evaluated and considered at the next meeting.

Mr. Tuma moved on to item 1-d, a bill to consider reinstating retail rate net metering (NEM1) for a time specific period until a full Value of Distributed Solar can be determined.

- i. Alternative options to fund any cost shift.

Mr. McGinley said, we have concerns about going back to NEM1 until the value of solar is figured out especially if it is unlimited. The question is if this is just a timing issue, we will find out what the value of solar is this year. There may be a way to bring it to Nevada Power before the next rate case and there is a workable solution.

Mr. Velotta asked, what would be the appetite for an interim period if you open it up to just any resource.

Mr. McGinley answered, right now there are \$11.5 million in wind and hydro. So what I am hearing you say is, is there a way to put this in Solar Generations or solar rebates, and I kind of like that idea.

Mr. Murray added, I believe the current rebate level for residential customers is 14.75 cents/watt.

Mr. Tuma said, we can reword this proposal and have it in a couple of different options. He then moved on to item 1-e, to reinstate retail rate net metering (NEM1) with an added minimum bill and decoupling for all customers. Minimum bills as defined by the Regulatory Assistance Project (RAP) are charges that set a billing threshold under which a customer's monthly bill cannot be further reduced through the application of net metering credits or consumption reductions.

- i. Under this proposal, solar DG customers are restored to their prior rate classes, and will not be subject to different customer, minimum or demand charges than non-solar customers. Vote Solar proposes a \$20 minimum bill for Sierra Pacific (current basic service charge is \$15.25) and \$15 minimum bill for Nevada Power (current basic service charge is \$12.75).

Ms. Scott stated, Nevada needs to send a signal that it takes clean energy seriously. It does set a minimum bill which you can never go under, so this is a nice compromise for all.

Mr. McGinley said, the calculation of a minimum bill, it is not a cost based services and it doesn't recover the fixed cost that a utility has, and it would be closer to \$60.00 so we are creating a new subsidy here. I don't think we should be setting this in statute, it is not our job to set rates. I have a hard time saying this is a good idea, it is just too problematic.

Ms. Scott added, and I am perfectly comfortable with taking away the mandate and creating the authority for the PUCN to do this. There is an urgency to reset the market immediately and not wait for the market to solve this eventually. Ms. Scott agreed to table this until further changes were made.

Mr. Tuma then moved on to item 1-f, the New Energy Industry Task Force recommends that the 2017 Legislature consider a bill to create a new and separate net metering rate class for new solar-home communities. The bill would require an investor-owned utility to offer new net metering to customer-generators within a new solar-home community in a manner consistent with systems under NRS Chapter 704 as it existed before the enactment of Senate Bill 374 by the 78th Session of the Nevada Legislature and notwithstanding any statute, rule, or determination of any kind by the PUCN to the contrary for a period of five consecutive years for new solar home communities. New solar home communities are comprised of twenty solar-homes or more, and, the solar technology is incorporated into the building envelope shortly after the construction of the home. The utility is allowed to petition the PUCN for loss of revenue by the utility that directly correlates and caused by the increase of net metering customer-generators using transferable tax correlates to use of residential solar through regulatory cost recovery that decouples the utility's revenue from the sale of electricity and makes the utility financially whole. The PUCN shall open a docket on an annual basis, and determine the appropriate level, if any, of utility revenues lost from net metering customer-generators within one hundred twenty days (120) of the utility's filing.

Mr. Susac explained, this is a modified motion from my previous one. I thought you could create a new rate class for new solar home communities. There is a component to look at the value of solar in this case as well. Something to note is that new solar homes bring new load and new revenue.

Mr. Velotta asked, why go through the PUCN instead of setting up a PACE district.

Mr. Susac answered, we would allow the consumer to choose how they want to finance it. The financing is not in the executive order so don't worry about that.

Mr. McGinley asked, is an alternative to do the study first or is there a sequence we can consider.

Mr. Susac responded, we are still faced with the problem of we can't launch that product with the uncertainty in the market. I don't think it would be an unreasonable cost shift. We currently have a community where we are installing solar and decided to put it on hold because we didn't know if it was in the best interest of the consumer.

Mr. Balzar asked, have you done any analysis and would this result in a higher rate class for these communities.

Mr. Susac answered, it would only be for the crediting of the net metering, I don't envision a higher rate than a retrofit model.

Mr. McGinley added, the plug load has increased because people have more toys and electronics.

Mr. Tuma asked if they should do some type of straw vote.

Mr. Susac responded, I would ask can you conceptually get behind this proposal.

Mr. McGinley said, some of the details I would like to discuss are, will we have rates that are 3 years for individual customers, this could be problematic but I would like to further discuss it. Lost revenue might also be an issue.

Mr. Tuma said, ok let's go through the proposals for net metering and then move on to storage. They moved on to item 1-g, all energy codes (IECC) adopted after June 1, 2017 have three performance paths.

- i. After July 1, 2018 all jurisdictions in Nevada must have adopted the three performance paths if they have not adopted a new IECC since the effective date of the bill.
- ii. Both performance-based paths must use a "net score" that takes into account energy producing features that have been installed on a home via the Dynamic Scoring matrix that is also attached.
 1. In the proposed matrix, the impact of energy producing features on the "net Energy Rating Index score" is enhanced by having storage capability installed in the home.

Mr. McGinley summarized it, there's a stricter requirement coming down in 2018 and if solar is a way to meet those requirements more efficiently then I fully support it.

Mr. Velotta added, there were concerns that the city planning department had, whether it is being done through the appropriate channels. Enabling legislation may make more sense so we can make those paths a little more tailored to the needs of the state. In concept there is no issue with doing performance based paths or alternative compliance but it is a matter of has there been enough stakeholder input. I just wonder if this is a little past our expertise.

Mr. McGinley responded, I agree and don't want to step on anyone's toes I am just looking for a way to encourage solar.

Mr. Stransky said, what we are trying to do is encourage solar so maybe we can just encourage some more interaction with the builders and stakeholders.

Ms. Scott added, I feel like this is not a good substitute for good solar policy and it is a little out of our purview.

Mr. Velotta continued, if this is a pathway we can achieve now I think that would be appropriate too.

Mr. Tuma asked to move to item 1-h until Mr. Susac returned. Item 1-h, a bill that would use the remaining Solar Generations funds to be distributed through the utilities lower income solar pilot program.

Mr. Balzar stated, my thought was that this a mechanism that is already set in place. It would be a pretty clean way to use the rest of the funds and it would be positive for the communities.

Mr. McGinley asked, are you talking about the remaining Solar Generations or the remaining wind and hydro.

Mr. Balzar said, I would be open to all of that wherever the funds are so we can use them for the greater good of the community.

Mr. Geddes stated, I like the idea and the request would be to reallocate the solar and wind and hydro balances for low-income programs.

Ms. Scott asked that pilot be removed from the language.

Mr. Tuma now went through each recommendation to get a straw poll to identify where everyone is. Mr. Tuma stated as follow: 1-a, 1-b – I like the direction; 1-c – I like the approach; 1-d, 1-e – I have some concerns but I believe we should continue the conversation; 1-f, 1-g – I think they make sense in concept; 1-h – I support it.

Mr. Velotta stated as follows: 1-a – makes sense; 1-b, 1-c – these are kind of together and they need refinement but I am supportive; 1-d – it depends but I would be supportive; 1-e – there are some concerns but in general I am supportive; 1-f – I am supportive of the concept; 1-g – with input from building officials I think it can be done; 1-h – I agree with this.

Ms. Van Cleve stated as follow: I agree with expanding the PUCN's toolbox. Additionally, we need to do something to get the solar industry back on its feet and we could put forth a few ideas to accomplish this. The value of solar makes sense but I am concerned about the investment certainty. On alternative compliance paths to meet energy codes makes sense as it helps us meet conservancy and clean energy goals.

Mr. McGinley stated as follows: 1-a – I think that is something we need to do; the value of solar is something I can support. The new home community, I need a little more information but I think it is intriguing. Using solar if it is more economically efficient, that makes sense to me. Reallocating the leftover money makes sense as well and I would like to apply that to emerging technologies like storage.

Mr. Balzar stated as follows: 1-a – I support it; 1-b – I support it; 1-c – this is in line with what we want the PUCN to be doing; 1-d, 1-e – going back to NEM-1 seems like we are taking two steps back instead of forward; 1-f – I trust Jeremy on that one; 1-g – I don't have an issue with this; 1-h – I think this would be great.

Ms. Scott stated as follows: 1-a – I am opposed to burdensome regulations for an industry that's gasping for air but I would be supportive of codifying SEIA code into law; regarding TOU I am supportive in general; 1-c – I am on the fence, I don't think they have earned the public's trust so I am skeptical; 1-d, 1-e – I am supportive of these; 1-f – I thank Jeremy for this proposal but I am fundamentally opposed to solar customers being in a separate rate class; 1-g – I will abstain; 1-h – a working group would be needed to get the details right.

Mr. Stransky stated as follows: 1-a – I think we do need one agency; 1-b – we have the option now; 1-c – I am ok with that but it needs some language changes; 1-d, 1-e – not supportive as written; 1-f – no comment; 1-g – I am supportive; 1-h – I am supportive as we revised it.

Mr. Geddes stated as follows: 1-a – I am supportive; 1-b – I like TOU but I think the authority is there; 1-c – I am supportive with my additional comment; 1-d – not very supportive; 1-e – I would like to explore this; 1-f – I am hung up on transferable tax; 1-g, 1-h – fully supportive.

Mr. Susac stated as follows: 1-a – I support it; 1-b, 1-c, 1-d – I agree with; 1-e – I like the minimum bill and I can support it but the minimum bill should probably be set by the PUCN; 1-f – I support it; 1-g – I support it; 1-h – I support it.

Mr. Tuma said, these are not official votes on any of these proposals.

Mr. Susac made a motion to approve item 1-g and Ms. Van Cleve provided a second, the motion carried with 7 yes, 1 no, and 1 abstention.

Ms. Van Cleve moved on to item 2, establish polices which support energy storage. Proposals:

- a. The Distributed Generation & Storage Technical Advisory Committee recommends that the 2017 Legislature consider a bill to update NRS Chapter 704 to include energy storage procurement targets for the state's utilities 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 set for 2019, 2021, and 2023, as to ensure that lessons learned from earlier procurement inform subsequent procurement.
- b. A bill that would create a pilot program for battery storage at the residential and small commercial level
- c. A bill that would define "energy storage". Technologies and Attributes
- d. Expand PACE to include storage systems.

First I would like to talk about energy storage cost-effectiveness. This should be determined with a utility proposal where they would provide an analysis on the net present value of those resources. On the benefit side we have generation capacity value, energy shifting value, ancillary services value, distribution investment deferral, distribution operation value, blackstart value, and GHG and criteria pollutants emissions reduction.

Mr. Stransky asked, would this be something the utilities control.

Ms. Van Cleve responded, these are the benefits from the utility perspective. On the cost side you have capital expenditure, operations and maintenance costs, network upgrade costs, debt equivalency costs, market participation costs, and property taxes. It is possible that there are projects that are not cost-effective.

Ms. Van Cleve continued with understanding the cost of energy storage systems. The cost of storage systems is not easily compared with the cost of generation because storage is not generation. Storage does not produce electricity, it stores electricity when it is relatively less valuable to the grid and then discharges that electricity when it is more valuable to the grid. Again, the cost-effectiveness of energy storage systems should be determined on a project-specific basis by calculating the net present value of both the benefits and costs of storage at specific locations on the grid.

Mr. Stransky asked, do these calculations include the loss of energy?

Ms. Van Cleve answered, no these were simplified assumptions so you can add 10%.

Ms. Van Cleve continued, there are only a few states with energy storage procurement targets policy and one of them in California. The CPUC decision allows the California utilities to defer 80% of their targets if projects are not economically viable, I am proposing this should be 100%. Ms. Van Cleve discussed policies in Oregon, Massachusetts, and California.

Mr. McGinley asked, in previous conversations you said you wanted to see 7% of retail sales, have you adjusted that number?

Ms. Van Cleve responded, I think we need substantial procurement but I am not wedded to a specific number.

Mr. McGinley stated, determining what cost-effective is can be debated and I am very concerned with that. We will have limited applications in Nevada. I would propose rather than setting a target or mandate, we reallocate those Renewable Generations funds to build some specific projects. If that doesn't work, then I would encourage us to have it changed to have it funded by general fund money rather than taking it out of NV Energy's ratepayer pockets and it should apply to all utilities including those not regulated by the PUCN, any energy supplier. Our engineers are not going to ignore a cost-effective solution and they don't need a mandate for that.

Mr. Velotta stated, maybe change the language from mandate to goal or target.

Ms. Van Cleve said, I understand that everyone should have a goal but the issue is that not everyone is under the jurisdiction of the PUC. This is not an RPS, you don't have to achieve these goals, so I we can change the language to make you more comfortable.

Mr. McGinley continued, first of all, the benefits are to the state so that's who should fund it. I appreciate the fact that we have talked about this and I do believe in storage technology and think it should be applicable to all and be more transparent.

Mr. Stransky asked, you are recommending that the Legislature set the target, are you open to the PUCN setting this?

Ms. Van Cleve answered, that would be fair. The important thing is that we agree that having some goals set is a priority.

Mr. McGinley continued, again, if it is a viable option we do it anyway we don't need to be forced to do something that works. Setting targets really just creates upward pressure on rates and I am not ok with this.

Mr. Tuma said, how can we make it applicable to all who provide electricity?

Ms. Van Cleve said, I will look further into this.

Mr. Tuma continued, as we look at ways that we want to grow these industries we want to make sure we target all of our customers regardless of who provides their energy.

Ms. Van Cleve said, I don't know that having the PUCN set the targets is the best idea but I am open to it. I just want us to approve something a little more broad for our purposes.

Mr. Tuma moved on to item 2-b, b. A bill that would create a pilot program for battery storage at the residential and small commercial level.

Mr. Balzar stated, I am thinking of other programs that have happened and this seems to be another part of that equation. The actual dollars spent on this would be decided at the Legislature.

Mr. Tuma added, I like the idea of some kind of a pilot program. Now we can move on to item 1-c, a bill that would define "energy storage". I think we can all agree that we need this definition in order to make good decisions.

Mr. Velotta made a motion to approve item 1-d, to expand PACE to include storage systems. Mr. Tuma made a motion to pass it and Ms. Van Cleve provided a second, the motion passed with 7 in favor.

Vice Chair Tuma closed agenda item number 5.

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

A member of the public stated her appreciation for all the work. She said, regarding roof top solar, we need to fully weigh the benefits and costs. I would like to see regulation of the solar industry, the key issue is that consumers don't know who to call.

Chandler Grey stated, I lost my solar job last December, please do something.

Agenda item number 6 was closed.

7. Adjournment: Vice Chair Tuma provided closing comments.