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GOVERNOR'S OFFICE OF ENERGY

MINUTES
Technical Working Group on Innovation, Technology, & Renewable Energy

January 23, 2018

Technical Working Group on Innovation, Technology, & Renewable Energy held a public meeting on January 23, 2018 beginning at 1:00 P.M. at the following locations:

CARSON CITY
Legislative Counsel Bureau
401 South Carson Street, Room 3137
Carson City, NV 89701

LAS VEGAS
Grant Sawyer Building
555 East Washington, Rm 4401,
Las Vegas, Nevada 89101

1. **Call to order and Roll Call:** The meeting was called to order at 1:00 PM by Chair Jennifer Taylor. Chair Taylor thanked all for attending and noted the agenda would be taken out of order. Agenda item No. 1 was opened for roll call and quorum was confirmed.

The following Board Members were present:

Committee Members Present	**Committee Members Absent**
Jennifer Taylor	Adam Kramer
Paul Anderson	
Dana Bennett	
Daniel Witt	

2. Public Comment and Discussion

Chair Taylor opened Agenda Item No. 2 and asked if anyone from the public sought to make a comment.

Mr. Fred Voltz, Citizen, provided public comment in Carson City. Mr. Voltz referenced the presentations on the agenda and noted the EQ Research Net Metering (NEM) presentation did not appear to address the 25,000 to 30,000 existing net metering customers, the contract they have with NV Energy (NVE), and what would happen to those contracts if a new net metering program was implemented. Mr. Voltz advised he wished to hear information regarding this in conjunction with other state's experiences. Many state's Energy Choice initiatives were passed before there was much of a net metering effort available. Other issues of interest are the potentially inconsistent billing cycles between NVE and new providers, and the issue of IT connectiveness.

Regarding energy storage and the recommendations being made, there is not a need for a state incubator. Existing national laboratories are funded by the Federal Department of Energy and receive multibillion dollars annually. Currently there are approximately 200 incubator test sites, of various technologies, around the country and none of these has become particularly prevalent or broken through some of the limitations.

Mr. Voltz highlighted the Technical Working Group (TWG) proposed recommendation about time of use rates. Given the air conditioning requirements, particularly in southern Nevada, any sort of time of use rates or mandates should be expressly avoided due to impacts on low income Nevadans.

Mr. Voltz proposed, as an addition to the TWG draft recommendations, a proviso requiring a costing of 100 percent renewable energy as well as rebuilding the grid to handle widespread bi-directional energy exchanges.

Ms. Elisa Cafferata, on behalf of Filament, provided public comment in Carson City. Ms. Cafferata noted she was developing a background paper, to provide to the TWG, on Blockchain companies and the technology they are bringing to the energy sector. Ms. Cafferata provided an example of how Blockchain technology is being used in the energy sector. Filament has worked with NASDAC and IDO to develop a pilot system that automates the creation of renewable energy certificates. Sensors detect power that is generated and stored and the Blockchain, a super secure database, is used to create the certificate which can be used to buy, sell, and pay for the energy. Ms. Cafferata proposed the TWG considering including this emerging technology in its recommendations.

Ms. Linda Saunders, Citizen, provided public comment in Carson City. Ms. Saunders referenced the Cooler Smarter book and noted several years ago the State of Kansas implemented an energy cost saving contest for businesses. The winner was the business who saved the most money on its annual energy costs. Ms. Saunders requested the TWG consider

recommending something similar perhaps involving a college and university student competition to create the best energy use conservation and efficiency plan.

3. Approval of December 5, 2017 minutes

Chair Taylor opened Agenda Item No. 3 and asked if there was a motion to approve the December 5, 2017 meeting minutes. Mr. Daniel Witt made a motion to approve the minutes. This motion was seconded by Dr. Dana Bennett. The motion passed unanimously.

4. Presentation: Overview of Net Metering Opportunities and Policies for Open Retail Markets – Justin Barnes, EQ Research *(For Discussion)*

Chair Taylor opened Agenda Item No. 4 and introduced Mr. Justin Barnes, Director of Research, EQ Research. EQ Research provides policy research, analysis and data services to businesses active in renewables, energy efficiency, energy storage and electric vehicles.

Mr. Barnes noted his presentation would provide an overview NEM in a retail choice market and issues other states have encountered. The presentation would also cover basic background on supply choice and billing options, important overarching themes, specific transactional issues, and nuances associated with AB 405.

Typically, in a retail choice market, customers have an opportunity to choose a competitive supplier or they're going to be placed on default or standard offer service. Historically, states have gone in two different directions regarding the provider of a standard offer service. Occasionally it has been utilities but in most other states it's been through standard procurement auctions held annually. There will significant variation on the offers suppliers make to customers. These offers will vary by market segments. The distribution utility typically continues to perform distribution functions such as interconnection and possibly NEM.

Potential customer billing options include utility consolidated billing, retail supplier consolidated billing, or separate billing. All billing options require transition of dates between suppliers and utilities. Option Choice is driven by law, supplier’s preference, and/or consumer preference.

Core principals applying to NEM are symmetry, clarity, and simplicity. Symmetry has various elements. Whether retails suppliers are obligated to offer NEM is ultimately a policy question. Assuming this obligation is placed on competitive retailers the rules should apply equally to utilities and suppliers to avoid discriminatory treatment of Distribution Grid (DG) customers.

Symmetry is also reflected in the arrangement or accounting of the service being provided such that retail suppliers are funding the energy supply portion of the credits while the utilities are funding the distribution portion of the net metering credits. Symmetry is essential because it supports a level playing field and makes the process less complicated for customers looking to shop for electricity.

Clarity is important for purposes of clearly defining all obligations to avoid confusion and billing mistakes. It is necessary to define where the net metering obligation or netting obligations lie. It is necessary suppliers understand the billing data they receive from utilities to mitigate erroneous billing of net metering customers. It is also critical to provide clarity around wholesale settlements and what happens when a customer switches supplier.

The principal of simplicity pertains to retaining as many current protocols as possible. There is already a net metering billing system in the NVE utilities system and this provides a foundation to build out and accommodate the unique needs of retail suppliers and customers in a retail choice environment. Advantages of utilizing an existing system include customers knowing what to expect, and existing DG providers and utilities' experience with educating customers.

Clear and consistent standards help avoid billing mistakes in retail transactions. NEM transactions can operate different via a few different options. Some states have implemented Utility Side Netting where utility operates the credit bank. Before the retail supplier gets billing data the utility is effectively applying whatever credits have been carried forward from prior months to that customer's usage. When the supplier receives data, the netting transaction has already been accomplished. This is consistent with what is already taking place in Nevada. Other states utilize Split Netting where suppliers maintain credit banks on their own behalf. Texas uses Supplier Side Netting where everything takes place on the supplier side and transmission distribution utilities are required to net their charges.

Retail NEM Transaction issues to consider include increased errors due to having separate credit banks being maintained by both a supplier and a utility. Multiple suppliers and numerous individual billing systems can create more opportunities for error. Alternatively, suppliers may want untouched' meter data. Another potential issue is the relatively inflexible utility side framework can inhibit suppliers' ability to offer unique products and services. This is a reason some states have specifically started to consider retail supplier consolidated billing to mitigate limitations around supplier offers. The same thing could be present with data transmission. Suppliers may want different data than the utility system is capable of providing.

The other important transaction is on the wholesale side. DG customers are beneficial to suppliers in several different ways including lower cost energy to serve load not provided by solar, lower generation capacity needs based on customer contribution to coincident system peaks, and credit for excess customer generation. These tend to be critical points for suppliers because they don't have a regulated cost recovery mechanism. The only way suppliers recover their costs is to change their rates or make money off the wholesale market.

Credit rate is one of the nuances associated with AB 405 and there are various options to address the declining percentage of retails rate for monthly credit such as reducing excess kWh by the applicable percentage before rates are applied, applying reduction only to distribution portion of the rate, and applying reduction only to energy portion. Other nuances include disclosures in Section 11 (I)(4) and equivalents, crediting protocol upon switch of supplier and supplier/utility obligations.

Dr. Bennett asked who, in each state, is responsible for ensuring a new supplier is legally and properly prepared to provide service. Mr. Barnes noted licensing requirements provided light

regulation on the commission side of things. These requirements are oriented around consumer protection and ensuring suppliers are fully bonded and insured. There are also testing protocols where a supplier is required to demonstrate, to the utility, its system has the ability to accurately bill customers. This is based on a set of test date sent from the utility to the supplier.

Dr. Bennett queried whether, in states that have open markets, there was a model for having the required oversight regarding new suppliers. Mr. Barnes advised New Jersey had the most detailed model. The state's previous experience and issues have enabled it to develop some strong guidelines.

Mr. Witt asked if it would be reasonable to simply require any potential providers to adhere to the policies already in place. If the state wants to ensure the policies it puts forward are embraced by a diversity of suppliers it is necessary to provide a certain level of flexibility so suppliers may find suitable business models in order to be effective in the state. Mr. Barnes agreed and noted the intent of AB 405 is relatively clear.

Vice Chair Paul Anderson asked who, in an open market, is responsible for the meters and the data collected in those meters. Mr. Barnes advised some states had moved towards competitive metering. This involves a third-party meter reader that presumably is more cost effective. Utilities may aware a credit because they don't have to go out and read meters. Alternatively, this might be done by the utility or individual suppliers qualified as meter readers. There have been data issues created by utilities having different metering arrangements and suppliers then having to deal with the practices of different utilities and various metering arrangements.

Vice Chair Anderson asked if there was any correlation between whether a state had net metering before they became an open market versus after. Mr. Barnes noted the only two states to have net metering, prior to the introduction of retail choice, were Massachusetts and Maine. Both are effectively optional states.

Vice Chair Anderson queried how to balance potential supplier revenue stream and customer base inequalities if the state were to adopt a policy mandating acceptance of net metering customers. Mr. Barnes advised suppliers determine their contracts and can change these if they do not like the returns they are receiving from a particular offer. Good customer relationships and robust services are also a significant contributor to customer attraction and retention.

Chair Taylor asked if there were markets where tariffs and credits are set at the wholesale and Federal Energy Regulatory Commission (FERC) level as opposed to a state based Public Utilities Commission (PUC) level. Mr. Barnes advised net metering was a state jurisdictional item. However, this gave rise to another question of whether the credit rate is administratively determined to wholesale electricity rate or the actual rate that a supplier is charging for its services. In most states credits are carried forward on a kilowatt hour basis so effectively the delivery rate and supply rate is bundled within that kilowatt hour credit. The exception is Massachusetts which operates a monetary crediting system.

Chair Taylor inquired if retail prices would be raised across the board if a retailer was unable to realize the value of its return to energy. Mr. Barnes noted retailers react to the profitability of their customers and if they are receiving a lower return than anticipated they may end or review a specific pricing plan.

Chair Taylor asked about cash out issue options and if there was one that made the most sense for Nevada. Mr. Barnes noted when switching suppliers there is a cash out and the supplier holding credits on your behalf is obligated to pay them out. This doesn't necessarily have to result in the distribution portion being refunded as there is no change to the distribution utility.

Chair Taylor asked if Mr. Barnes had any experience with the overlay of community solar and rooftop solar in some of the open market states. Mr. Barnes advised the wholesale issues were largely the same. As some states adopt rules suppliers are concerned about being made whole for the generation debt that they own. Supplier want this credit as its reducing what can otherwise be sold to a customer. Other parts of the community solar discussion are more specific with discussions around what the credit rate should be, if it should include the transmission component of the rate or solely the energy portion of the rate, and how this is reflected in the suppliers' hourly energy or capacity obligation.

There are potentially common elements between consumer protection for residential customers generally under retail choice and consumer protection for residential customers under a community solar Community Solar arrangement. There may also be differing opinions regarding how much regulation needs to occur for community solar and whether this should be the same regulation applied to retail suppliers generally.

Chair Taylor thanked Mr. Barnes for his time and expertise.

5. Presentation: Overview of Community Owned Models – Hank James, Nevada Rural Electric Association *(For Discussion)*

Chair Taylor opened Agenda Item No. 5 and introduced Mr. Hank James, Executive Director, Nevada Rural Electric Association, Mr. Jesse Wadhams, Fennemore Craig, and Mr. Clay Fitch Chief Executive Officer, Wells Rural Electric.

Mr. Hank James noted the Nevada Rural Electric Association (NREA) was founded over 40 years ago to represent the interests of six not for profit rural electric cooperatives, two power districts, and one municipal electric distribution system in the state of Nevada. Each NRA member is an individual association of people with a common purpose to procure and distribute aggregated energy load solely for the members of their Association. Local democratically elected boards are at the center of each member's electric distribution system with a common mission to distribute safe, reliable and low cost electric service for their owner members. The Public Utilities Commission of Nevada (PUCN) oversight is limited as prescribed in various NRS enabling statutes relative to Association entities NRS Chapter 81, NRS Chapter, and NRS chapter 268.

Mr. Jesse Wadhams noted NRA member owners consistently make choices. Those choices occur from the very inception of their intent to associate within an NRA member. NRS Chapter 81 governs how associations are formed so when the associations come together it's a voluntary association of persons coming together for a common purpose. These choices include electing representatives for various organizational decisions, the energy mix, policies, and energy distribution.

Each Cooperative, Power District, and Municipality aggregates member-owners' energy requirements and procures the best available resource at the best available price. Membership is not mandatory. In accordance with each NREA members' Board policies related to safety and reliability, individual members have the right and potential ability to seek and procure energy generation resources for themselves, with other owner-members, or, outside of the Board approved resource mix. The cooperatives and entities providing power to their own members act in the public interest and therefore they do not get subjected to additional regulatory oversight of the PUCN.

NREA owners, members, and consumers are not vertically integrated, don't generate power to satisfy their own needs, and don't typically own full generation assets. NREA members do not buy energy as a commodity to sell and resell across other customer bases. They simply take their aggregate members' energy needs, combine this and buy for themselves.
NREA owner-member/consumers own and operate their Association's electric transmission and distribution systems. Each member in an NREA member Association owns a portion of the Association's physical assets. These systems are solely used to serve their own requirements and meet high reliability standards. These systems directly benefit the owner-member because the system is operated at cost. NREA utility members have no excess margin component when setting rates.

Mr. Clay Fitch noted the question regarding moving forward noted of co-op members are different and a different approached area taken depending of geographical locations, the focus is to always provide solutions that make sense to members. If those solutions don't make sense members can run for the Board, change the Board, or request the board act on a specific matter.

If Energy Choice is implemented there is the question of what future products and actions will be necessary and how the co-ops are going to deal with this? The Board currently offers meaningful choice to its members by enabling them to select their source of electricity via elected representatives. Members can also terminate membership as an owner at any time. The options members select are not mandated and programs already in place include GD, and net metering. An energy efficiency program has been operating since 1981 and low-income programs are currently available. To date, the most successful Community Solar project in Nevada came from the ownership model for Lincoln County.

Dr. Bennett asked how many Nevadans the NREA serves. Mr. James confirmed NREA served Sixty- five thousand Nevadans from Wells to Boulder City.

Dr. Bennett asked about the mix of residential and commercial. Mr. James advised this number varied depending on location. There is one co-operative with a considerable industrial load and minimal residential and anther with lots of residential and minimal industrial. Mr. James

advised he would seek out specific statistics. Mr. Fitch added Kearney Electric, Inc. had approximately 600 accounts within Humboldt County and these were all residential or irrigation accounts. In contrast, Wells Rural Electric has 7000 customers equating to about 90 percent residential and 85 percent commercial industrial.

Dr. Bennett queried what changes might be necessary, for NREA members, should the Energy Choice ballet pass in November 2018. Mr. Fitch stated currently no potential change had been identified. Currently the NREA aligns with the intent written in the constitutional amendment. However, Local Boards will need to ensure there are rules allowing members to do something else should they wish to. It will be necessary for the NREA to ensure all procedures and processes are in place if a member wishes to terminate membership and to also protect remaining members.

Mr. Witt noted the NREA did not mandate its programs and asked the presenters for their thoughts on whether mandating that suppliers offer certain programs would be suitable to include in the TWG recommendations. Mr. Fitch advised, in the case of NREA, a necessary require was unlikely as programs would still be driven by member demand. Mr. Witt noted this was a good example of the need to be sensitive to different constituencies and consider solutions for a variety of situations.

Chair Taylor asked if the NREA members or co-ops had a certificate from the PUCN as a monopoly. Mr. Wadham advised NREA members have a certificate of public necessity and convenience (CPCN) from the PUCN. Because they serve the interests of their members they are only subject to limited PUCN oversight.

Chair Taylor thanked the presenters for their technical expertise, time, and presentation.

6. Committee Consideration and Approval of Policy Recommendations to the full Committee on Energy Choice *(For Possible Action)*

Chair Taylor opened Agenda Item No. 6 and advised discussions would focus on moving forward with a finalized set of policy recommendations to the full Committee on Energy Choice.

The TWG reviewed the Recommendations document and agreed the four issues listed reflected the main, overarching focus areas for the group. Members agreed to continue reviewing the current recommendations and send any proposed updates, modifications, and additions to Mr. Matt Morris, Legislative Director, Nevada Governor's Office. In compliance with Open Meeting Law each member would send their input separately. Mr. Morris would then incorporate these into the master document for discussion at the February 6, 2018 TWG meeting.

7. Public comment and discussion.

Chair Taylor opened Agenda Item No. 7 and asked if anyone from the public sought to make a comment.

Mr. Fred Voltz, Citizen, provided public comment in Carson City. Mr. Voltz noted his belief the Recommendations document was missing certain elements. The implementation of ECI, if passed, is the overarching principle. The final document needs to include action items and costs. Currently these are not currently reflected. Mr. Voltz suggested The TWG go back to the presenters, the Governor's Office of Energy, and the Governor's Finance function to help calculate costs even if it's a broad overview due to current unknowns. Mr. Voltz proposed an action item example may be to create an MDI committee. Another example may be that each electric retailer will individually meet the state standard for energy sources.

8. Adjournment. (For Possible Action)

Chair Taylor opened Agenda Item No. 8 and asked for a motion to adjourn the meeting. A motion was made by Mr. Witt. This motion was seconded by Vice Chair Anderson. The motion passed unanimously.