



GOVERNOR'S OFFICE OF ENERGY

MINUTES

New Energy Industry Task Force

April 8, 2016

The Technical Advisory Committee for Grid Modernization (TAC-Grid Mod) held a public meeting on April 8, 2016, beginning at 9:00 AM. at the following location:

Governor's Office of Energy
755 North Roop Street, Suite 202
Carson City, Nevada 89701

1. Call to order and Roll Call: The meeting was called to order at 9:10 AM by Chairwoman Starla Lacy. The agenda item was opened up for roll call and a quorum was confirmed.

The following Task Force Members were present:

Task Force Members

Starla Lacy, Chair
Angela Dykema, NGOE Director
Rebecca Wagner, Member
John Candelaria, Member (via teleconference)
Chris Tomchuk, Member
Hank James, Member

Task Force Members Absent

Brian Whalen, Member

Members of Public in attendance

Fred Voltz, Rate Payer
Jennifer Taylor, CEP (via teleconference)
Stephen Goss, NASCEO (via teleconference)
Matt Walker, Southern Nevada Home Builders (via teleconference)
Dan Chia, Solar City (via teleconference)
Marji Thomas, LCB (via teleconference)
Sue Stephens, NGOE, Energy Program Manager
John Fairman, NGOE, Management Analyst

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2. Introductions: Chair Lacy calls attendance for each member of the Technical Advisory Committee for Grid Modernization (TAC-Grid Mod) and public:

John Candelaria is present.

Brian Whalen is absent.

Rebecca Wagner is running late, however later present.

Chris Tomchuk is present.

Hank James is present.

Public members present are Fred Voltz.

Governor's office of energy staff that are present include:

Angela Dykema, NGOE, Director

Sue Stephens, NGOE, Energy Program Manager

John Fairman, NGOE, Management Analyst.

Other persons available by teleconference include:

Jennifer Taylor, CEP

Stephen Goss, NASCEO

Matt Walker, Southern Nevada Home Builders

Dan Chia, Solar City

Marji Thomas, LCB

3. Public Comment and Discussion: Chairwoman Lacy asked if there were any public comments to be made. No comments made.

Chair Lacy thanked them all and closed this agenda item.

4. Grid Modernization Technical Advisory Committee Purpose Discussion

The Chair opened agenda item number 4, by reading the following:

- a. The Grid Modernization TAC will work with coordination with the Governor's Office of Energy (GOE) and the National Association of State Energy Officials (NASEO) as party of the Energy Markets and Planning (E-MAP) Program supported by the US Department of Energy (DOE). The TAC will generally follow the guidance provided through the E-MAP Program to analyze how trends and emerging technologies are affecting Nevada's energy infrastructure including generation, transmission and distribution systems and will develop policy recommendations on how grid modernization can be used to ensure a reliable, affordable, and environmentally sustainable electric system. This TAC will present progress to date at the next Task Force meeting scheduled for May 26th.

Additional guidance – The TAC team will focus on policies that foster the creation of a modern, resilient and cost effective energy grid.

Chair Lacy offers to open this topic for discussion.

Chris Tomchuk, Valley Electric (Member) feels it will be interesting to see how the changing electric utility world and technologies will fit together with the task force initiatives. Valley Electric has submitted a project for an

additional transmission line from their service area to Pahrump up to the Bishop area. The project is intended to serve renewables, using OVF and other systems.

Hank James (Member) also has an interest to see how the parts will fit together. The Nevada Rural Electric Association operates independently of the larger utilities and he wants to see how the combined approach will be effective, and how the independent power districts can contribute.

Starla Lacy (Chair) states that from an economic perspective, each are scaled differently with relation to smart meters and smart grid systems, and any TAC-Grid Mod proposals will not want to unduly burden any one set of customers within the State of Nevada, but rather move forward collectively to get the best result.

John Candelaria comments on the reference to the E-MAP Program and would like a better understanding of it. He would like to know more about what is in the contract between the State of Nevada and Department of Energy, and what is included in the contract. Chair Lacy asks Stephen Goss to comment on his knowledge of the contract, as well as Angela Dykema.

Stephen Goss offers that the E-MAP program is a partnership of NASCEO/other agencies and DOE which will essentially take a comprehensive look at the transformation of the energy system to identify opportunity, challenges, market barriers as well as align policies to bring about affordability and reliability for customers. E-MAP just had the official kick off meeting and are now ready to start identifying specific goals of what they wish to accomplish. Through NASCEO and its partners, this process will offer funding for tactical assistance and provide access to DOE policy analysis, national labs and consultants to help with energy planning, gathering DOE input, and essentially build a roadmap to identify pieces of the transformation. They will also look at the different key stake holders involved, and what input they can offer to address how to move forward and align policies to make opportunities flourish in a more economical sense. At this point, the process will be to work with the Nevada Energy Office to establish priorities in order to move forward and build a baseline of Nevada energy infrastructure, resources and systems and identify opportunities and challenges that can arise, and identify the initiatives already underway within the state and prepare a matrix to see how they interact with one another. This matrix will identify those opportunities and challenges and then the key stakeholders and the department of energy can propose ways to overcome obstacles as well as work with the energy office to make recommendations for the future. This was initially designed to be a statewide programming process, and as NASCEO continues to work with Angela Dykema and her team, they can get a better idea of what is happening in the state, find out what each stakeholder can bring to table, and by doing so, this should allow for a process to ease the transition and foster economic development and reliability.

Starla Lacy asks Mr. Goss to explain that before the baseline analysis is required, the early deliverables required will be a Technical Assistance Needs Document. Mr. Goss goes on to explain that initially in the proposal, NASCEO and its partners along with DEO would be able to offer technical assistance in the form of staff expertise and consultants expertise in energy policy experience but also logistically in planning webinars, training and assistance like that. Also, with the partnership of DOE, they can tap some technical assistance from energy policy advisors and experts as well as solicit limited assistance from the national labs as needed. So in this deliverable, and effort, NASCEO is essentially drafting a technical needs document based on the proposal of the Nevada Energy Office to share with everyone and move forward to provide this document as a baseline for technical assistance that will be needed. It is an evolving document to get an idea on the front end, what technical assistance is needed, and may evolve particularly if the scope were to change at some point down the line.

Chris Tomchuk asks Stephen Goss for clarification when he said that the purpose was to “ease transition”. Mr. Goss explains that emerging technologies may impact the current energy system and given the challenges that could bring, they will need to identify those opportunities and find ways to move forward.

John Candelaria asks when the Technical Assistance Needs Document would be finalized. Mr. Goss states that the final draft will go to the Energy Office next week. He further explains that this document is part of the E-MAP program and they are working together on the document with the Energy Office. Angela Dykema further explains that the Energy Office has dedicated staff that are also providing research and filling in any gaps for the document. Other stakeholders and agencies and utilities will be contacted to get information required to fill out the document.

The Chair thanked everyone for their input and closed this agenda item.

5. Review of State’s Goals (Discussions and Possible Action): Chair Lacy opened agenda item number 5.

a. Governors’ Accord for a New Energy Future

Chair reads excerpt of this document into the record:

State’s Modernization Infrastructure: Modern distribution and transmission grids are required to give consumers more control over their own energy use, increase electricity reliability and integrate more renewable energy and energy efficient technologies into our energy systems. Electrical grid improvements advanced in a cost effective way can empower utilities and consumers to manage electricity flexibility and efficiency.

b. Executive Order 2016-04

Chair references the approach to foster the creation of a modern resilient and cost effective energy grid.

Chair asks if there are any thoughts on the two items. Ms. Lacy prefers not to reinvent the wheel and at a minimum, use and update the work from past efforts such as that produced for renewable energy sources. As for exporting energy from the state, Ms. Lacy would like to see Nevada renewables used first for the benefit of state residents before any excess is exported.

Angela Dykema states that using the Governors’ accord as a guideline principal and focusing on what opportunities are out there to modernize the current energy infrastructure can help to identify things to focus on.

No other comments are made. The Chair closes this agenda item.

6. Define Scope of Deliverables for Discussion and Possible Action

Chair Lacy reiterates that Stephen Goss has explained the Technical Needs Document and the information needed to bring in to the baseline assessment. The Chair asks Angela Dykema if the TAC-Grid Mod group will be developing this. Or will they be tasked with gathering and providing information to the Office of Energy. Ms. Dykema states that the Office of Energy will be looking at what NASCEO is drafting and filling in the gaps as needed. She states that it may be a future agenda item for the committee to fill in gaps or provide information once the draft is under way. Initial research will come from the Office of Energy staff. The first thing is to identify the current infrastructure and what kinds of things need to be accomplished.

Rebecca Wagner feels that it is necessary to start with a benchmark before figuring out the impacts of new technologies or policy barriers to achieving a de-carbonized grid or more efficient transmission system, whatever those goals may be. From that point, the TAC-Grid Mod can identify needs and impediments. From that benchmark you can brainstorm about what will be needed and prepare for it. The reliability perspective plays a role in the transmission system, but beyond reliability, the TAC-Grid Mod is trying to be consistent with goals of the Governor, and if he wants to boost a clean energy economy, what does the TAC-Grid Mod need to do in order to achieve that? There may be physical barriers as well as policy barriers and identifying those barriers. For example, as Starla Lacy earlier stated that Nevada energy should be used in Nevada first before being exported, that is a great goal, however, what barriers, whether technical or policy driven will be at issue for such a goal to be met? The TAC-Grid Mod can make the scope whatever we feel it should be as long as it is consistent with the Governor's goals from a cost efficient and reliable standpoint.

Hank James states that there has been quite a bit of work done from when the task force was first started and there has been a lot of information collected. The TAC-Grid Mod can start by updating that information and scenarios in which was a preferred scenario at the time, and have something tangible to work with to begin with.

Rebecca Wagner also feels that there are many areas that have been researched and well underway that can be used as a starting point for the TAC-Grid Mod.

Chair Lacy asks for recommendations for presentations for technical information on prior scenarios listed.

John Candelaria feels that the TAC-Grid Mod needs to look at and capture value from the sources. To look at the functionality of the distribution levels and see how many are currently in place, how many are needed and capture a value. Secondly, look at the transmission system and see functionality there what we have what we will be needed. Identify any holes and find ways to overcome the holes. Understand policy and see what needs to be enacted in a way which is expected to do in the future. What we have now, where we need to go and how to get there.

Rebecca Wagner feels we should identify for future agenda item, who can come and speak on the research that has previously been done, and bring the TAC-Grid Mod up to speed on the information and find out how other jurisdictions are handling similar issues.

Chair Lacy suggests that Chris Tomchuk can talk about Valley Electric's position, as a presenter at the next meeting. Further, possibly John Candelaria can also offer some information going forward in later meetings and suggest speakers as well as provide presentations.

Chris Tomchuk and Valley Electric want to discuss how to get folks take responsibility for the system, i.e. how to maximize the system and take advantage of the amount of sunshine in the state and use the resources in the state.

Rebecca Wagner would like to see NV Energy present on the Eldorado to Harry Allen line. This was an ISO competitive process and the dynamics would be interesting, as to what it means for export, or for better utilization in the state.

John Candelaria would like to hear from metering companies that can help with that end. Using energy from batteries, using energy from utilities technology could be more beneficial for the home owner. Chris Tomchuk states that Valley Electric is running fiber to homes on the decentralized grid and giving the homeowner the ability for storage, and knowing when to buy or when to sell. Communication and metering are primary pieces of the puzzle.

John Candelaria would like to hear about broadband metering technology and have someone provide information, so the TAC-Grid Mod can compare with what we currently have. Chris Tomchuk says that there isn't a lot of information out there, and that Valley Electric is trying to research that end without much success.

Chair Lacy expresses that it is important to remember the rural folks who may endure long hours of outages based on location and the TAC-Grid Mod needs to think about potential work-arounds within the existing grid so that the rural areas are considered when figuring out how to collectively increase reliability across the state.

John Candelaria would like clarification on utilizing past reports. John feels that the intentions were great, but these products were done in a very different time with different objectives than those currently. Rebecca Wagner expresses that the past reports show where the discussion left off, and in review, the TAC-Grid Mod can see if there is anything useful, and if so, it should be recognized. Past reports will also reflect what being discussed years ago and what has been accomplished, and in many cases, significant improvements can be seen.

Chris Tomchuk asked Chair Lacy about the Renewable Task Force, and Starla Lacy stated that one of the deliverables was to assess the costs associated with promoting new solar and other renewable technologies. Rebecca Wagner states that the renewables project was a big lesson as to what will be necessary to get the TAC-Grid Mod to move forward recognizing the cost factors. John Candelaria believes that the transmission lines need to run closer to the solar fields so that they can tie in together, and if the renewable reports can be reviewed, it might give some information for resources, and by comparison the scenarios may be quite different today. Rebecca Wagner feels geothermal still provides baseload capacity but also has opportunities to fit with the way they are running utilities to be more flexible. Considering that Valmy will be offline down the road, geothermal may be an option to look at.

Chair Lacy states that the Clean Energy Task Force may be able to contribute to the Modernized Grid module as well and that it might be beneficial to work together.

Chair Lacy stated she also sits on the Sage Brush Ecosystem Council and there will be challenges for new transmission based on perceived detriment to sage grouse habitat and that the committees need to be very cognizant on those limitations.

In relation to the next meeting, Chair Lacy will contact someone to speak from NV Energy, as well as have Chris Tomchuk from Valley Electric to discuss Cal-ISO and broadband at the next task meeting. Would like to see if there is a party to speak on the past renewable energy work and present. Rebecca Wagner will see if there is a speaker for advanced metering at the next meeting. Hank James can speak with his CEO's to come and talk to the TAC-Grid Mod about any concerns. Rebecca Wagner feels that the conceptual documentation from the NV Energy IRPs could be of future interest.

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Chair Lacy states that she will be making an upcoming presentation to the Clean Energy task force on RPS compliance and can provide that presentation to the TAC-Grid Mod group. Policy language at a legislative level must be sent by June 1st, to the Governor's office, and it will be important to coordinate with the other groups and committees.

Chair Lacy would like to identify additional publically available work products for review. It appears the best way to get the information out is to post it to the website so that all can access it. John Candelaria will try to find the Aspen Report to get to the TAC-Grid Mod.

Hank James wants to have more information on NASCEO. Angela Dykema explains that NASCEO's role will be to draft the Technical Need Document and the Energy Office can be of assistance for additional information as a case study.

The Chair closes this agenda item.

7. Discussion and possible action on assigning Co-Chair (for possible action): The Chair moved on to agenda item number 7. It is a good idea to have a Co-Chair for this TAC-Grid Mod and asks to nominate Rebecca Wagner as a Co-Chair. A motion is made and carried. Rebecca Wagner is Co-Chair.

Chair Lacy closes this agenda item.

8. Discussion and possible action on development of schedule and goals through September 2016: Agenda item number 8 is opened for discussion. The Chair and Angela Dykema explains the three deadlines for this committee.

1. The New Energy Industry Task Force will be meeting at the end of May 2016 (May 26, 2016) and will be specifically looking for any bill draft language which is due to the Governor's office by June 1 2016.
2. The TAC-Grid Mod has until September 30th to come up with additional findings and recommendations.
3. The TAC-Grid Mod will also serve as a stakeholder group for the grant period of NASCEO for the remainder of the 18 months for the E-MAP Program.

It is further noted that the New Energy Industry Task Force is made up of the 12 members called from the executive order. Three separate technical advisory committees. Each committee is chaired by a member of the task force.

The 18 month window started April 1, 2016.

9. Set time and date of next meeting(s):

Discussion as to upcoming meetings and dates will be offered later, keeping other Task Force Committee Meetings and schedules in mind. Discussion of video north/south to video conference from Carson City to the PUCN or to the Grant Sawyer Building.

Potential dates would be as soon as the week of April 18th, and Chair Lacy will send out proposed dates the following week.

10. Public Comments and Discussion:

Fred Voltz (Rate Payer) states that there hasn't been much progress, visibly to the public, since the Net Cap attack that cost California rate payers \$16M to fix almost three years ago. He stated he has security related concerns around the potential to create an outage to thousands of customers because of grid vulnerability. Therefore, some suggestions for future presentations would be:

- An overview of the security of the current electric system(s)

- Possible application of wireless or digital sensors that would shut down the transformers if there was any compromise.

- Surveillance drones, and the FAA requirements and SEC in relation to same for security; and

- Concrete walls around each substations instead of the chain link fence with privacy screening now installed in the Carson City area.

Chair Lacy explains that the latest FERC/NERC requirements may address some of this. NV Energy could arrange a speaker on the current FERC/NERC grid security program.

Chris Tomchuk states that drones are being considered at this time due to the wide span of the miles along certain transmission and distribution systems. At Valley Electric they are building concrete walls around substations as well due to copper theft, and vandalism.

Fred Voltz suggests that a broadcast to rate payers and the community at large could be made regarding security concerns and assure the public that they are being addressed (without divulging confidential information) and that maybe those items could be addressed by the sub committees. For example, a February 8, 2016 document from NV Energy referenced electric grid cyber security, talking about computer systems, and something like that would be appreciated.

Chair Lacy states that NV Energy can address that public comment as well as Valley Electric and give the public some perspective on those items.

Dan Chia (Solar City) would love to contribute to the dialog and discussion, by having their grid engineering team (former PG&E engineers) offer information relating to grid modernization for integrating demand side and resources on the grid, as a reliable cost effective and safe enhancement, as the grid transitions. He stated it is a very ambitious area to focus on modernization. California has some parallel proceedings that might be able to give information to the TAC-Grid Mod which can be used and encourage the TAC-Grid Mod to explore these assets, within these proceedings. Would like to make sure that returns on a system will outweigh the costs of a system and how best to empower the customers with information and data about that so the customer can use the information as needed to manage their energy usage.

Chair Lacy would be happy to have the engineering team give a presentation at a future meeting, and asks that Mr. Chia put together an outline of what would be discussed. Chair Lacy asks Mr. Chia for additional information in regards to the California reference and possibly get a rate case docket number or other reference so that information can be explored. Mr. Chia will email Rebecca Wagner the information.

Chris Tomchuk mentioned rail energy storage and that there are other things are out there in the conceptual stage that will be coming to the grid for future consideration. Chair Lacy offers that the Clean Energy TAC may be

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able to incorporate this conceptual information as well. Community solar is another topic to fit in, for a future meeting.

The Chair took a motion to close the meeting, thanked all for their participation and attendance and adjourned the meeting.