Meeting Minutes

Mar. 19, 2020

GWAC Members

David Forfia, GWAC Chair

Ron Ambrosio, Chief Scientist, Utopus Insights, Inc.

Tanya Barham, Principal, Community Energy Labs

Ron Bernstein, President, RBCG, LLC

Andrew Bordine, VP Energy Mkts & Innovation, Anterix

Ron Cunningham, American Electric Power

Farrokh Rahimi, Senior Vice President, Open Access Technology International, Inc.

Gerald R. Gray, Sr. Program Manager, Electric Power Research Institute (EPRI)

Lorenzo Kristov, Principal, Electric System Policy, Structure, Market Design

Stuart McCafferty, Managing Director, IoT Architect, Black & Veatch

Leonard Tillman, Partner, Balch & Bingham, LLP

Aaron Synder, EnerNex

GWAC Members not present

Stephen Knapp, Vice President of Quality Assurance & Energy Markets, Power Analytics Corporation

GWAC Associates & Emeritus

Kay Aikin, CEO, Introspective Systems

Mark Knight, Burns & McDonnell

Ken Wacks, Home, Building & Utility Systems

GWAC Guests

Abhinav Tiwari, presenter, Alectra Utilities, head of advanced planning

Larisa Dobriansky, General Microgrids

Chris Irwin, US DOE

David Katz, Sustainable Resources

Elizabeth Sisley

David Wollman, NIST

PNNL Support
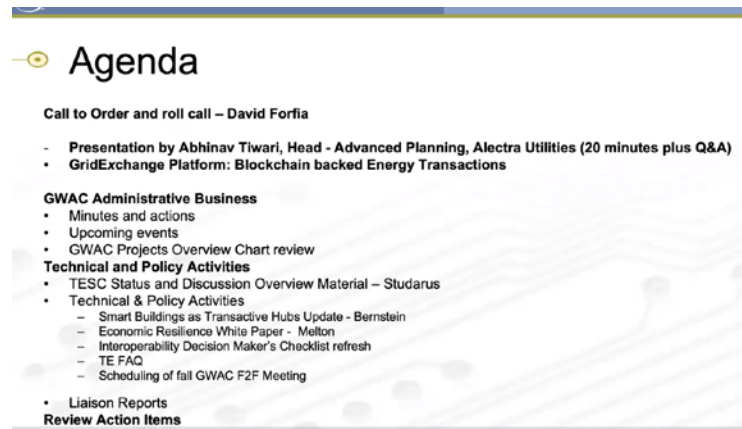
Ron Melton, PNNL, Administrator

Karen Studarus, PNNL Administrator

Susan McGuire, GWAC Coordinator

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Administrative Business

Agenda

Call to Order and roll call – David Forfia

- **Presentation by Abhinav Tiwari, Head - Advanced Planning, Alectra Utilities (20 minutes plus Q&A)**
- **GridExchange Platform: Blockchain backed Energy Transactions**

GWAC Administrative Business
- Minutes and actions
- Upcoming events
- GWAC Projects Overview Chart review

Technical and Policy Activities
- TESC Status and Discussion Overview Material – Studarus
- Technical & Policy Activities
  - Smart Buildings as Transactive Hubs Update - Bernstein
  - Economic Resilience White Paper - Melton
  - Interoperability Decision Maker's Checklist refresh
  - TE FAQ
  - Scheduling of fall GWAC F2F Meeting

- Liaison Reports
Review Action Items

Ron Melton opened the meeting and read the Proprietary Information notice.

David Forfia asked for a motion to approve the February meeting minutes which had been sent out ahead of the meeting. Ron Bernstein gave the motion and Ron Ambrosio seconded the motion. Ken Wacks noted that he had contacted Susie McGuire with changes which she noted have been made to the master copy. The motion was amended to include the changes. David Forfia heard no objections and the March meeting minutes were approved.
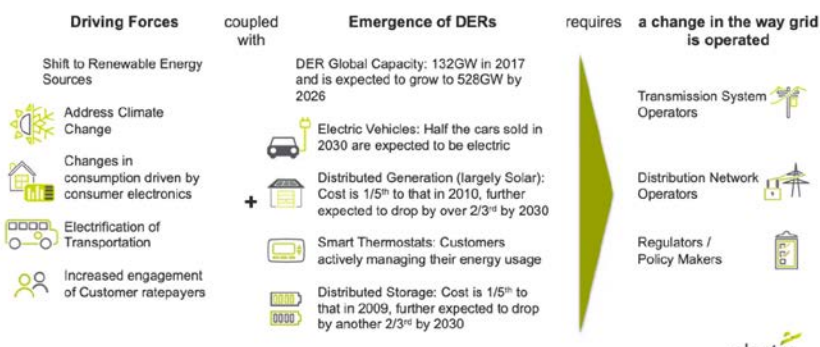
Alectra Utilities Presentation

Abhinav Tiwari, Advanced Planning, Alectra Utilities was introduced by Ron Melton. Mr. Tiwari explained that in his job he looks forward 5 to 10 years for his company. He supports several pilot projects. His work supports many external facing projects and contacts. He also helps with digitalization efforts of the company. Alectra is the 2nd largest municipally owned distribution utility in North America and the largest in Canada, serving over one million customers.

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How the current landscape is changing

The electrical market is being transformed by many forces which requires a change in the way we operate today
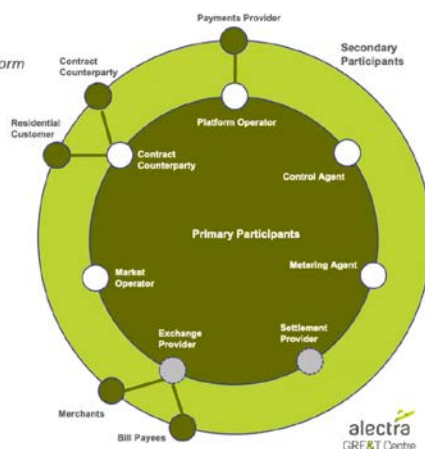

GridExchange Platform

Alectra's approach for Transactive Energy Platform

A software platform to facilitate a **wholesale ↔ distribution ↔ end user** marketplace for energy products, including contracting, delivery, and settlement, based on enterprise blockchain technology

Blockchain based transaction management enables smart procurement, contracting, verification and settlement of services for different participants and stakeholders

Alectra wants to make things more secure and effortless with the use of Blockchain.

Lorenzo Kristov – is this system intended to facilitate wholesale but not distribution?

Abhinav Tiwari – these are some of the discussions that we are having about settlement providers; it could be a third party. Alectra has their own process but it is often outsourced. We are enabling handling at the blockchain level.

In answer to questions regarding the largest US public power utility, David Forfia sent this link to the group:

https://www.publicpower.org/system/files/documents/100-Largest-Public-Power-Revenue-2017.pdf

Farrokh Rahimi asked about provision of grid services.

Abhinav said that Alectra is not covering anything on their side.

Another person asked if there are peer to peer transactions for CO_2 reduction – is Alectra using dynamic pricing in the pilots?

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Abhinav replied that Alectra is creating a framework and a platform to enable these transactions. They are following data that is one year old …the framework allows the utility to make changes based on need. The utility can control and decide which takes precedence.

Abhinav invited the group to provide any feedback to him.

Ken Wacks asked if this work could be done with conventional bookkeeping. What does blockchain add?

Abhinav replied, it's a 3-year program – the first year was called Spark – Alectra wanted to stay away from centralized governance. He gave an example of a residential user. Such as a user might not use power when it's expensive. He talked about who would validate that. He explained the transactions that follow. He noted that metering agents can write directly to the blockchain. Each control agent can write direction and have an inherent trust. Local DERMS write directly to the blockchain and can verify what happened for the various actions and confirm to Alectra.

He told Ken that at this time they are not looking at peer to peer. They must sell back to the utility.

Ron Melton said it seems they are taking advantage of the non-repudiation properties of block chain.

Abhinav agreed. Once they write to the block chain it cannot be changed.

Kay Aiken asked if everyone must validate the block? Likewise, as the system gets bigger won't that take a lot of energy – perhaps more than is saved?

Abhinav replied that the blocks have certain protocols – a hyper ledger fabric with many mechanisms. Alectra is making the interfaces to be very simple. It is a privately commissioned block chain to ensure privacy so that no one outside the network can see it.

Kay noted that he doesn't like proprietary block chain because he feels it defeats the purpose of block chain.

Chris Irwin commented that HyperLedger is a good foundation.

Abhinav said it is a privately commissioned block chain and they need to ensure privacy but allow trust.

Kay described it as a permission block chain.

Discussions about how customers can accumulate token points and redeem them at various vendors explained how customers could make informed decisions through transparency.

Tanya Barham expressed concern about consumers not understanding varying discounts. She thought the rewards sound good, but she said the savings seemed low. She thought consumers might be easily confused about the reward varying by day and time.

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Abhinav said the benefits are not too small to be effective. He said they try to address the concerns she has regarding customers not understanding how savings vary. He would be happy to follow up with a separate call about this later.

Ken Wacks asked what was the motivation for the program?

Abhinav replied that the program was inspired by many factors. Alectra is one of the most innovative utilities. Currently there are many pilot projects underway. DERMS studies and pilots. Customer devices. One project often motivates another.

Abhinav said that Alectra is happy to talk about this with others. The company will even manage this service for others; they happy to discuss what services are available.

David Forfia thanked Abhinav Tiwari for his talk. It was a very interesting discussion and generated a lot of questions. He told Abhinav that anytime he would like to come back and give GWAC an update they would be pleased to host him again and he noted that GWAC will include contact information for Mr. Tiwari in the meeting minutes.

Abhinav Tiwari, Alectra Utilities; Abhinav.tiwari@alectrautilities.com

Abhinav appreciated the good questions and said he would love to follow up with individuals about their questions if they want to reach out to him.

Review Meeting Minutes & Actions

- Approve minutes from February GWAC Meeting

Action items from previous meetings

- ➤ **All**: please let Ron know if you will be unable to attend a call ahead of time.
- ➤ Action: Include a history slide on the GWAC accomplishment matrix for completed actions – Ron Melton
- ➤ Action: Ron and David to discuss adding a Liaison report on Interoperability as noted by James Mater.
- ✓ Action: David Forfia to ask Aaron Smallwood about becoming the GWAC SEPA liaison. **Complete, Aaron may not be able to take on the GWAC Liaison role.**

Previous Action Items

GWAC history slide – David Forfia created a draft and sent it to Ron this morning.

Interoperability liaison action proposed previously by James Mater – David and Ron have discussed the idea, but they are not sure what it means. They will review the topic when they get more information.

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Aaron Smallwood is confirmed as the GWAC SEPA liaison now and is on the call today.

Events

The CABA US meeting is cancelled.

The IEEE PES in August meeting is still on for now, in Montreal Canada

TND Expo Chicago has been rescheduled to Oct. 12 – 15

AHR Expo is scheduled for January 2021 and GWAC will endorse it again.

GWAC TESC 2020 is scheduled for Dec. 9, 10, 2020 with a tutorial on Dec. 8

GWAC Website Refresh

- Restarted this effort
- Have determined that PNNL hosting can continue with access by small number outside PNNL managed by PNNL
- Drupal vs. WordPress - discussion
- Next Step
  - Decide on Drupal vs. WordPress
  - Finalize cost estimate and inform Chris Irwin
  - Proceed with refresh

GWAC Website Refresh

Ron Melton has met with PNNL IT staff and he noted that people external to the lab, with permissions will be able to do some maintenance activities. Also, we can tackle Drupal ourselves rather than the by having the in-house team do it or we could use basic Word Press although there are some Cyber issues with advanced features.

Tanya thought Word Press is easier to use based on her experience. She has experience with Word Press and Drupal. For an easy interface, out of the box themes, and ease of use she feels Word Press is best.

Kay agreed that Word Press a very user-friendly program. Features needed are not that extensive. Drupal can become very complex.

Ron B. noted that he has a lot of experience also with Word Press. He feels it is the easiest to use. He asked if anyone has experience with Drupal?

Ron M. said we can use assistance from the GWAC to build and or to maintain the site.

Tanya noted that she has extensive experience with Drupal, but she thinks it's a bit complex. She said that if we want simple Word Press is best.

Ron B. replied to Ron M. that the materials that he would send to the site require about 4 gigabytes.

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Ron M. said the site upgrade is required by PNNL IT because it is a legacy site and there are some required updates. He noted that there will be some on-going maintenance costs.

GWAC Matrix

Ron M. noted that the GWAC activity matrix needs a few updates . He also asked if those involved with Grid 3.0 are comfortable if we fold any future discussions into GWAC meetings. He also suggested cancelling the meeting scheduled for tomorrow morning. There were no objections. Ron M. will then close that column on the matrix.

Action: Ron M. to close Grid 3.0 on the GWAC Activity Matrix

Ron B. commented on the smart buildings white paper noting that he has some tasks to do, he needs to shorten the paper a bit and then schedule a call; he plans to do that in the next couple weeks. He has been traveling which pushed it back a bit. Tanya has offered to assist with the next steps.

David Forfia noted that Ron Cunningham had sent out a proposal this morning by email for another white paper. Ron M. has a slide about it for this meeting. David noted that it might be a good time now with no one travelling to set a goal of one white paper per month from the GWAC for the rest of 2020.

Tanya suggested that GWAC create a content calendar by month. She thought that a list of papers in progress listed on the website might be a good way to drive traffic from the GWAC website to TESC2020. She thought these would be one-pagers.

Ron M. noted that most papers are longer than one page, but he suggested that we can have topical blogs on the new website as well. He thought one paper a month was a bit ambitious.

Ron A. agreed with Ron M. that one paper a month might be more than we can really keep up with.

Kay noted that they have staff that routinely manage blogging and public outreach and track who is working on what with a content calendar and agrees with Tanya that this is something for GWACs new website. Kay would be willing to offer that assistance.

Ken Wacks said that he has experience with developing white papers at CABA and commented that getting people to write papers is very challenging. He also thought one paper per month would be difficult to do.

David Forfia clarified that shorter papers that generate more thought on relevant topics would be beneficial. He noted the value of the thought leadership of this group. FAQs and blog posts would work also. He envisions less footnotes and formal reviews with a goal to facilitate more thought leadership and get content out faster.

Kay Aiken said that the green mountain power article email discussion this week is an example. We need to be more responsive and timelier on the new grid architecture.

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Tanya said GWAC doesn't have a LinkedIn group and that one is needed. She said that the Harvard Business review retweeted articles back to 2017 on National Women's Day as an example of what we could do as topics arise in the headlines. A content calendar and easily findable content would be very useful.

Rahul Bahadur asked Ron M. to send the comments for the Resilience paper to his committee. Ron M. said that rewrites are underway, and they will be sent to the group. Farrokh Rahimi and Don Hammerstrom, PNNL are working on the rewrites with a goal of having them done by mid-April.

Action: Ron M. to send the Resilience paper rewrite out to the white paper committee when complete.

Ron M. asked Karen Studarus to give a status of the TESC 2020 conference.

TESC 2020

- IEEE Advanced Technology -PSOPE Power Systems Operations, Planning & Economics and SBLC as partners, and AMPS – *send the conference description*
- GWAC Organizing Committee Members: *Stephen Knapp, Gerald Gray, Leonard Tillman, Ron Bernstein, Farrokh Rahimi, Mark Knight, Jeffry Morris, David Forfia, Karen Studarus, Ron Melton*
- Location – Portland General Electric agreed to host @ Portland World Trade Center,
- Confirmed dates are 8 – 10 December 2020
- Theme – "Grid architecture – beyond TE"
- Conference Application and budget submitted, now IEEE is working on finalizing MOU
- Next Steps:
  - Agree on theme/breadth
  - Conference description
  - Save the Date notice mailing
  - Initial website setup
  - Recruit keynote
  - Send announcement
  - Get organizing committee members from outside of GWAC (send conference description from IEEE PES Application)
  - Call for Abstracts

Karen said that she is speaking on behalf of the Organizing committee and said that they have submitted the conference application and IEEE has accepted it and the budget. The MOU is being finalized and then the website will be finalized as well. The conference website is in progress so that conference promotion can start. It is noted on the IEEE PES conference calendar already. The meeting dates are Dec. 8 -10 with the 8th being a tutorial. The conference will be hosted by PGE in Portland, Oregon and she noted that thanks to PGE there will be no cost to use the World Trade Center facility.

Karen told the group that in response to an email from David Forfia regarding a NARUC meeting the week of Dec. 7, 2020, Farrokh Rahimi had pointed out that it is the same week as the TESC 2020 conference. This may limit our ability to attract regulators to this meeting.

David Forfia clarified that the meeting in conflict is a planned workshop by the National Council on Electricity Policy (NCEP). David posted the email that he received from Kerry Worthington of NARUC about the workshop at the end of this document.
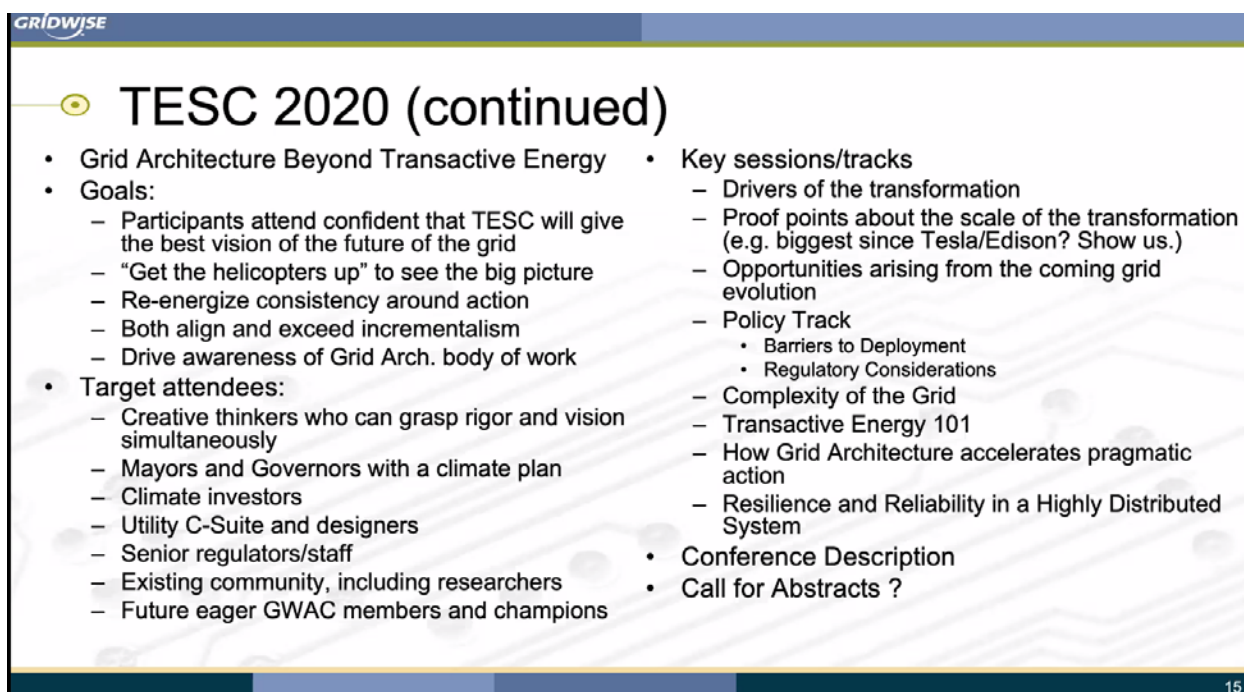
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Ron M. noted that additional members of the organizing committee are expected to come from the IEEE Technical Committees soon and he is working to make that happen.

The committee has a goal to incorporate the council's priorities and to pivot from Transactive Energy to Grid Architecture while managing complexity. She described the outline of the meeting that came out of the theme meeting in Orlando.

The organizing committee is anxious to get this on calendars and to push to attract notable keynote speakers.

Panels are not yet set but the list is under consideration based on the summary of the discussions in Orlando.

Karen asked if there is anything anyone would like to add. She is working with Mark Paterson on a conference them summary with input from Ron Melton and David Forfia. When complete this will be sent out to the GWAC.

Ken Wacks said that GWAC offers the big picture such as with the Framework and Roadmap. Karen appreciated Ken's perspective. She said the goal is to give big picture organizer tools, not a cheat sheet. She will be careful of the language.

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Lorenzo Kristov suggested a theme such as – "the role of local government in power system transformation…what are the barriers and what is working well?"

Karen will add this to the list.

Ron M. asked everyone to please send their thoughts to him and to and Karen or other TESC 20 Organizing Committee members.
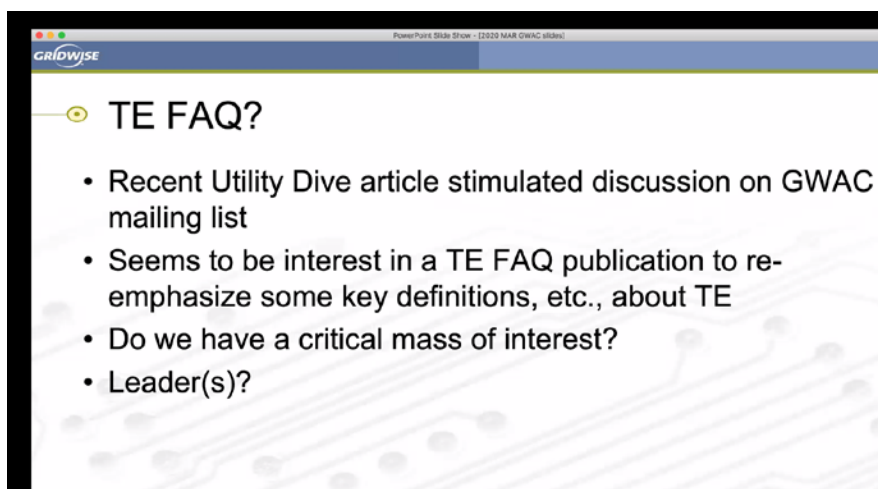
Ron M. noted that a theme and call for abstracts will be circulated for review by the GWAC very soon.

As previously noted, the Smart Buildings white paper is underway and will be updated shortly.

The Resilience white paper is undergoing a rewrite effort lead by Don Hammerstrom, PNNL. Mark Knight asked about the need for Information Release by PNNL. Ron M. said that the rewrite was driven by Steve Widergren and Don Hammerstrom having taken issue with some of the content.

Jaime Kolln gave an update on the Decision Maker's Checklist saying that the they have had a couple of good meetings. The team discussed and clarified the changes that need to take place. They have created a working document and are adding some graphics. He thanked David Forfia for his assistance with this task.

David Forfia said he thought that the new document will be much more current while the main theme will be the same.

Ron M. presented a slide on TE FAQ in response to the email string last week after the GWAC mention in the Green Mountain article. Ron said this task should be short and should pull material from existing GWAC documents.

Tanya agreed with Ron M. and offered to create a draft of the FAQ by pulling from existing material. It would be short and practical for a broad audience.

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Lorenzo asked how broad the scope would be. He said there were a lot of misconceptions in the Green Mountain article.

Ron B. agreed that it should address the "top ten misconceptions about TE." He envisions 3 to 4 sentences for each of the ten items. He posted his list in the Chat Window of this call. He would like a one-page document, front and back that could be easily reused as needed.

Kay Aiken said the ten TE misconceptions could feed two months of GWAC twitter feeds which could be made very visible. He sees it as a very powerful marketing tool and able to attract a wide audience.

Ron B. said he would also like to see this used on Linked In and in trade magazines blog posts. Ron said this would help GWAC to define what we are marketing and why we are doing it.

Kay is on the State of Maine Climate Council where they are discussing 100% renewable energy. They don't realize the constraint problems and the value of grid architecture. He is the only person on the council with grid architecture experience.

Tanya offered to take Ron B. and Ron C's messages and draft something for review and then host a meeting.

Ron B. said that he would like to have a one-pager front and back on TE that he can use when talking with people. Something short and concise that would get broader interest. One paragraph for each question as FAQs. It would be good to have on the website and to do as a YouTube video.

Kay said that the ten misconceptions about TE would drive traffic to the GWAC site and create more awareness.

David Katz told Ron Bernstein about an ASHRAE contact at NREL who is very interested in what he is doing with net zero buildings. It is the former ASHRAE president who is doing a guideline for ASHRAE. Ron B. was familiar with this effort and will expect the call.

David Forfia reviewed the action of the FAQ task noting that Tanya is willing to lead the FAQ draft and volunteers are Ron Bernstein, Kay Aiken, Lorenzo Kristov.

Action: Tanya and Ron B. to draft a GWAC TE FAQ

Tanya hopes to have a draft done by April 8 and it done by mid-April.

Ron B. said he would take a stab at a paragraph for each of the ten questions. Lorenzo and Kay agreed to review Ron's first draft at the material.

Ron Melton noted that the meeting was out of time for the liaison reports today.

David Forfia asked for a motion to adjourn. Ron Bernstein gave the motion and Ron Ambrosio seconded the motion.

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David Katz asked if the slides from today will be made available. Ron Melton noted that the slides will be available. Ron Bernstein offered to reduce the file size and post the meeting presentation on his site. Ron M. and Ron B. will work together on it.

Action: Ron B. and Ron M. to post today's Alectra video and slides

Ron Ambrosio noted that there is a GWAC group site that he had created some time back and we may be able to post this presentation on LinkedIn. Ron Melton asked to be added as an administrator to the site. Tanya agreed this would be a great idea. She also noted GWAC could have a business site.

Chat Window

Abhinav Tiwari: Hello Everyone, I should have emphasized more on the "Municipally-owned" aspect. Would like to highlight again that Alectra is second largest LDC among "municipally-owned" utilities. In North America, there are many utilities larger than Alectra but may not fall under the category of municipally owned utilities. Hope that clarifies what I meant. I appreciate all the questions and will be glad to connect for answering more questions on GridExchange and Alectra's efforts in this direction. Thank you everyone :)

From Ron Bernstein to Everyone:

A Transactive Energy Primer/FAQ
1.   What is Transactive Energy?
2.   Why is TE relevant?
3.   Who are the relevant stakeholders?
4.   What is the value of TE?
5.   What are the relevant policy issues regarding TE?
6.   What is NOT TE – Misconceptions?
7.   How do TE and Interoperability relate?
8.   What is the state of adoption today?
9.   Who is championing the TE cause?
10.   What are some valuable resources?

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Kerry Worthington · 1st
Senior Manager at National Association of Regulatory Utility Commissioners
1mo · 🌐

States:

We know you are rescheduling many of your activities. Please continue to hold the week of December 7, 2020, for the National Council on Electricity Policy (NCEP) Annual Meeting & Workshop 2020.

Continuing on the theme of Transmission and Distribution system coordination and interface, we will be discussing markets and their impact on T&D coordination, planning, and operations. Abstract submissions will open in the spring.

Please continue to submit resources to the T&D Resource Catalog for your colleagues in other states! https://lnkd.in/epwU-sj

Join the NCEP listserv by creating a mynaruc account and selecting it as an interest area – or just let me know. States and stakeholders are eligible to join the NCEP listserv. https://lnkd.in/eJQWf6Q?

T&D Resource Catalog

electricitypolicy.org

The NCEP T&D Resource Catalog documents an ongoing conversation about the intersection and coordinat...