

Meeting Minutes

January 19, 2022

GWAC Members

David Forfia, GWAC Chair

Kay Aikin, Founder, CFO, Dynamic
Grid/Introspective Systems

Ron Ambrosio, Independent Energy
Transformation Professional

Ron Bernstein, President, RBCG, LLC

Andrew Bordine, VP Energy Mkts & Innovation,
Anterix

Ron Cunningham, American Electric Power

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

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

Stuart McCafferty, President, GridIntellect

Ahlmahz Negash, Sr. Engineer, Tacoma Power

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

Aaron Snyder, Dir. of Grid Tech. Consulting,
EnerNex

Leonard Tillman, Partner, Balch & Bingham, LLP

GWAC Associates & Emeritus

Rahul Bahadur, VMWare, Inc.

Mark Knight, 1898 & Co., Part of Burns &
McDonnell

Ken Wacks, Home, Building & Utility Systems

GWAC Members and Assoc. not present

Jeff Morris, Schneider Electric

Mark Paterson, CSO, Strategen

Chris Villarreal, President, Plugged In Strategies

GWAC Guests

Larisa Dobriansky

Christopher Fleck

Tony Giroti, EBC

David Katz

Jaime Kolln, PNNL

Mark Knight, Emeritus

Seemita Pal, PNNL

Hayden Reeve, PNNL

Tim Schoechle

Ken Wacks, Emeritus

David Wollman, NIST

PNNL Support

Susan McGuire, GWAC Coordinator

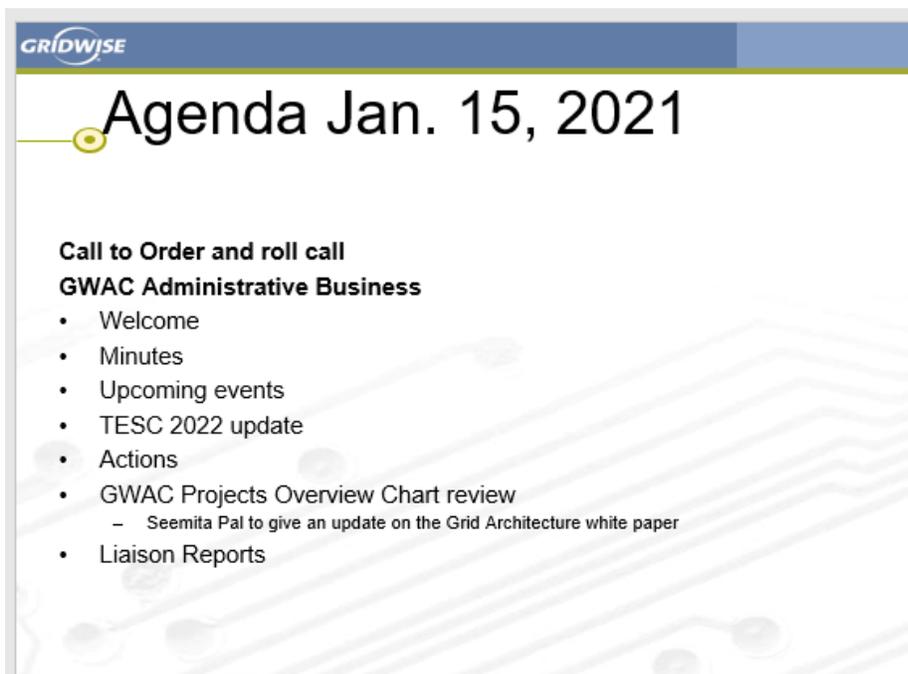
Ron Melton, Acting PNNL Administrator

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David called the group to order at the top of the hour with a quorum. He asked for a motion to approve the meeting minutes from December.

Ron Bernstein gave a motion to approve the minutes with the edits submitted by Ken Wacks and Ron Ambrosio seconded the motion. The minutes were unanimously approved by the group.



GWAC2022 Call for Candidates

Ron Melton, the acting GWAC Administrator, noted that the GWAC Call for Candidates application site is open on the GWAC website. Nominations are being accepted for one to two new members.

Mark Knight noted in the chat that there is no limit to the number of terms that one can serve.

Action: Susie will get the Call for Candidates up on the new website before it goes live (done)

Ken Wacks commented that he has to put “www” ahead of the URL to get to the site. He said that would indicate a DNS error. Ron Melton said he would check into it.

Action: check the website URL for external users

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David is not sure all the suggested edits are done. He said the development site wasn't working for him last week. David would like to have a GWAC QA check upon launch. He asked the GWAC to check it as soon as it goes live and please send feedback to Ron Melton, David Forfia and Susie McGuire.

DistribuTech is now pushed out 3 months (Conference page) - David said this

Selection committee composition: Two GWAC members whose terms are not expiring, Ron Melton, Acting PNNL Administrator, Chris Irwin, DOE, someone from outside of the council. Ron will check with Chris Irwin and we may ask Dave Wollman. Dave Wollman was on the call and said that he is willing to be on the committee.

Kay Aikin, David Forfia and Ron Bernstein agreed to serve on the committee. Gerald Gray also volunteered. Ron and Gerald will be the backup person.

Action: Hayden to check with Chris Irwin about the selection committee composition.

GWAC 2022 Call for Candidates

2022 GWAC
Call for Candidates
Now Open

- Expiring Terms
 - Ron Ambrosio
 - Andrew Bordine
 - Ron Cunningham
 - Farrokh Rahimi
 - Stuart McCafferty (will transition to emeritus)
 - Aaron Snyder
 - Leonard Tillman
- Non-Expiring Terms
 - David Forfia
 - Kay Aikin
 - Ron Bernstein
 - Gerald Gray
 - Lorenzo Kristov
 - Ahlmahz Negash
- Call for Candidates at gridwiseac.org
- Application and information at the site
- Applications due by March 16, 2022
- Need two GWAC members whose terms are not expiring to serve on the selection committee

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Conferences and Events (Bold = GWAC speakers, blue = complete)

- National Governor's Association, Washington DC, Jan. 28 – 31, 2022
- ASHRAE Winter Conference, Jan 29 – Feb. 2, 2022, Las Vegas, NV
- AHR Expo, Jan. 31 - Feb. 2, 2022, Las Vegas Convention Center, NV
- NARUC Winter Policy Summit, Feb. 13 – 16, 2022, Washington DC
- Grid FWD, April 19-20, 2021, Seattle, WA
- IEEE ISGT 2022, New Orleans, LA; April 24 - 28, 2022 – face to face format**
GWAC Speakers: Kay Aikin, Farrokh Rahimi
- IEEE PES T&D, April 26 – 28, 2022, New Orleans, LA
- IEEE Rural Electric Power Conference REPC, Cleveland OH, May 17 – 20, 2022
- TESC2022; May 3 – 5, Virtual**
- DistribuTech 2022 – May 23 - 25, 2022, Dallas, TX (date change)**
- IEEE PES General Meeting, Denver, CO, July 17 – 21, 2022

NEW Dates and location

TESC2022 Update

Ron mentioned that DistribuTech is Tues, May 23 to 25 in Dallas, TX and ISGT is moving to New Orleans, LA - will be April 24 (Mon) to 28.

ISGT and PES T&D will be co-located. ISGT will start on May 24 and PES T&D will start on May 25. The dates are staggered to allow people to attend both openings.

Farrokh noted that the ISGT tutorials will be on Sunday.

Farrokh said the main conference will be 4 days instead of 3. Whoever registers for ISGT gets a pass to attend all venues at T&D without paying extra. ISGT registration fees have been reduced to match T&D's registration fee schedule so the ISGT registration fees have been reduced to match T&D's registration fees.

Ron A asked if this would affect TESC. He noted it is the week after and while TESC is virtual, the time commitment being back to back might be a problem.

Ron M thought that ISGT and TESC are generally not the same set of people. He asked if moving it out a week or two might be prudent.

Rahul said that his company has approval for TESC2022 sponsorship and are waiting for the registration to open so they can pay.

Gerald Gray mentioned that EPRI's Electrification 2021 meeting will be held as a face to face meeting, on March 14 in Charlotte, NC. F2F at the EPRI facility there.

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Ken Wacks noted that the Smart Energy Summit will be held the week of Feb. 28 in Dallas, TX, as a face to face meeting.

Action: add both to the conference slide

Ron B. said most meetings for subcommittees at ASHRAE will be virtual - it starts next Friday with a few meetings. The AHR Expo will still be face to face.

TESC2022

Ron M suggested that the organizing committee start meeting weekly. Others agreed

Action: Roseanne to schedule weekly TESC22 organizing committee meetings (done)

Farrokh Rahimi, the Technical Chair of TESC 2022 said that three reviewers will be assigned for each of 34 abstracts. He has made reviewer assignments. Ron, Farrokh and Ahlmahz have a larger number of abstracts to make it work for the team given some restrictions on available time. The reviews are due by Jan 31. The spreadsheet is located on GridArch and also on the Google Drive that Ron B. manages. Names of reviewers, and columns for their grades and comments are included. The grading criteria is 0 to 5, similar to last time.



TESC 2022 - Grid Architecture to Decarbonize, Distribute, and Decentralize the Grid

May 3 – 5, 2022 and Tutorials on May 2

- 34 Abstracts received
- Abstract review is underway
- Sponsorships still available
- Call for Participation posted
- Registration coming soon
- Tutorials to be announced soon
- Keynotes

Website: <https://ieee-tesc.org/>

Results will go out to authors on Feb. 7

Ron B. asked if we are using our own versions of Excel? Farrokh said he has trouble using the Google drive but he thought the other authors were using the Google drive. Ron B. said if we use Google Docs edits can be made live, without downloading and uploading the spreadsheet. Ron B. offered to manage

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the Google drive. Ron Cunningham said he can't use a Google drive from his company. The data will still be located on GridArch.

Ron B. said that he could put in the links to the papers from the spreadsheet.

Ron B. will get it set up and we can try it. He envisions hot links and connecting future submissions with the numbering system for abstracts.

Ron M. and Susie noted that there is now a Team Site that was just created for the GWAC to try. It is new and not proven so we will stay with the Google drive that Ron B. has offered. GWAC members are welcome to try the Microsoft Team site through PNNL for other work products. Edits can be made live in Teams as well. Channels can be set up for subgroups to share documents and messaging. PNNL is the host of that site.

Ron M. noted that the TESC22 conference this year is being supported by IEEE SmartGrid. Last year it was supported by the Smart Buildings, Loads and Customer Systems Technical Committee. Ron has discussed this within the former's technical committee and he is hopeful to reaffiliate with that group next year. He has asked the group to consider how they could support it since there are several GWAC members within that technical group.

Lorenzo asked about how abstracts are scored. Farrokh said there is guidance in the worksheet. The main issue is keeping things in line with the theme of the conference and the paper. If a paper is really good but not in line with the theme of the conference or of the panel indicated, please grade accordingly but add a comment to indicate the high quality of the paper. Soundness, logic, and quality are also a grading criteria. The reviewers should also comment if it has been previously published if the reviewer knows that, but they are not expected to do searches for previous publication. Ron Melton noted that it should also not be blatantly commercial.

Rahul has sent the sponsorship paperwork to Roseanne. He is waiting for confirmation from IEEE when the registration site is open so they can send funds.

Ron B. noted the sponsors who have come forward, I missed one OATI, Utilicast, VMWare, Anterix and Strategen.

A few others are checking with their companies.

For organizations that cannot sponsor an alternative would be a virtual exhibitor booth.

Andrew said his company will need an invoice for his request.

Ron B. said that IEEE is setting up all the financial details for the conference including the bank account. Then invoices can be generated.

Kay Aikin said that she has a weekly client meeting that conflicts with the TESC Organizing Committee meetings. It is simply a time conflict but Kay remains committed to the conference success and is staying involved.

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Ron M. noted that tutorials were sorted out for the most part on Tutorials. Mark P. is involved with both.

TESC2022 Keynote Speakers

Kay has arranged with Ahmad Faroqui to be one of the conference plenary speakers. Kay will follow up with him about the paper for the talk.

Hayden Reeve will meet with Chris Irwin this morning and will ask him about the keynote. We don't know if there will be others involved with his talk. We are not sure yet if his talk will be live or recorded.

Action: Kay and Hayden will get back to the conference about the keynote presentations including the talk title and format (live or recorded).

David asked about the conference tutorials and would like to have a meeting on the Grid Arch content for this year's conference.

Action: David, Ron Melton and Mark Paterson will meet to discuss the Grid Architecture tutorial.

Ron M. noted that a tutorial meeting for the tutorial on Transactive Energy is needed as well and Mark Patterson will be invited to that meeting also. Farrokh said that Ron B. and Farrokh did one in 2020 and it was not so well received. He asked what we can do to be better. Ron B. said we need new content for this year.

Ron B. said he feels that new content is needed and Ron M. agreed with him. A name change might be in order.

Action: Ron M., Ron B. Farrokh and possibly others will meet on the TE tutorials.

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Actions

2022 GWAC
Call for Candidates
Now Open

GWAC call for Candidates is open – GWAC asked to help recruit

- Call for Candidates at gridwiseac.org
- Application and information at the site
- Applications due by March 16, 2022

On hold:

- Action: Karen to start an effort to review the Interoperability Constitution with Jaime Kolln and consider it for a rework.
- Action: Karen Studarus and Mark Knight to discuss DOE's ideas for GWAC future direction.

GWAC Call for Candidates

Ron M. encouraged the GWAC participants to consider broadcasting the call to others who are familiar with GWAC and may have some experience with GWAC activities.

Lorenzo sent an email to the team for Grid Arch for Regulators - he wants to propose that in the Regulatory Perspectives panel at TESC22 that we focus on that panel and afterwards we discuss a GWAC project based on feedback from the conference. He can follow up on this with the group.

Kay thought that was a good idea. Kay mentioned a SEPA project that Larisa Dobriansky and Mark Knight are working on. Larisa had invited Lorenzo to join that effort and he is considering it.

The SEPA effort will continue in the next few months. The SEPA effort is a bit more on the regulatory side.

The GWAC effort is more technical in the area of grid architecture.

The TESC panels can also contribute to this effort. Lorenzo and Kay will work on planning the conference panel sessions and then after the conference the committee can review these efforts and determine a future effort.

Stuart McCafferty said there are now 7 blog posts ready to go on the new GWAC website.

Ron Melton said the blog site on the new GWAC website is ready.

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Kay stressed that we want to feed out the blogs over time. Ron M. suggested every 2 weeks. Stu cautioned about waiting too long. Ron M. agreed to give it some thought. Ron A. thought we could release a few at first to get people hooked and then taper off a bit.

Stuart said he will be stepping down as a GWAC member but he will continue to support this effort and stay somewhat engaged with GWAC. He isn't ready to give up his friendships with GWAC.

Seemita Pal, PNNL updated the group about the GridArch white paper noting that she had presented a summary to the group a couple months ago. Her team is planning to add a few modifications based on input that Karen summarized from the GWAC meeting. The paper when on hold for a bit after that. Seemita talked with Ron M. this morning and they discussed next steps and what is needed to finalize the paper.

Ron M. asked if Seemita has a working party for the paper. She does not have a work group for the paper. She would like to get some help from the GWAC participants to give a careful look at the white paper and see how different stakeholders can benefit from it. She would welcome a working meeting to finish up the paper.

Action: Set up a work group including Ron Cunningham, Ron Ambrosio, Larisa Dobriansky, David Forfia, and Aaron Snyder

Liaison Reports

— Liaison Reports —

- National Institute of Standards & Technology (NIST)– David Wollman
- Electric Power Research Institute (EPRI) – Gerald Gray
- Institute of Electrical & Electronics Engineers Power & Energy Society - Farrokh Rahimi
- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)– Ron Bernstein
- International Organization for Standardization, and International Electrotechnical Commission – (ISO/IEC JTC 1/SC 25) Home and Buildings Standards – Ken Wacks
- Interstate Renewable Energy Council (IREC)– Ken Wacks
- Smart Electric Power Alliance (SEPA) – Aaron Smallwood
- Energy Blockchain Consortium (EBC) – Tony Giroti
- Nat'l Assoc. of Regulatory Utility Commissioners (NARUC) – Chris Villarreal

David Wollman, NIST - DOC NIST call for experts to service on a new IOT advisory board. Some GWAC attendees maybe interested. Self-nominations are encouraged.

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As described in <https://www.nist.gov/news-events/news/2022/01/departement-commerce-seeks-internet-things-experts-new-advisory-board> (and its link to a Federal Register notice), NIST is looking for IoT experts to serve on a new Internet of Things Advisory Board – self-nominations are encouraged – due 28Feb2022.

Recent EPRI/International Trade Administration (ITA) report on Smart Grid Interoperability Standards Adoption in Southeast Asia, this work builds directly from the NIST Smart Grid Framework v4, and NIST guided the development and execution of case studies. See <https://www.trade.gov/smart-grid-interoperability-standards-adoption-southeast-asia>

EPRI -Gerald Gray posted in the chat -

A recent EPRI/International Trade Administration report (ITA) on Smart Grid Interoperability Standards Adoption in Southeast Asia. This work builds directly from the NIST Smart Grid Framework V4, and NIST guided the development and execution of case studies. <https://www.trade.gov/smart-grid-interoperability-standards-adoption-southeast-asia>

EPRI, Shell, and the City of Houston Partner with Greentown Labs and the NYU Urban Future Lab to Launch the Low-Carbon Hydrogen Accelerator. <https://greentownlabs.com/lcha/>

LCHA applications are due by Feb. 9, 2022, at 11:59 p.m. ET. Applicants may apply from anywhere. To learn more and apply, visit the LCHA website.

Ron M. also will give an update on IEEE PES ISGT since Farrokh Rahimi had to leave early. The meeting has been moved to April in New Orleans as noted earlier.

ASHRAE - Ron Bernstein; there is a new effort about access in cyber security for systems inside a building and to grid aware services, through a utility or through a co-generation facility, not part of the building owner. There is an interesting cross correlation on interoperability. Also, something interesting on a semantic interoperability group that is working on a model. The effort is championed by Steve Bushby on how to find info and access the modeling capability of a working control system. Ron B. said the group meets every two weeks and has done so now for about a year. He hopes to be able to give a brief presentation on this soon since it is related to grid architecture modeling and building controls smart interoperability modeling. Hopefully in the next two months.

Ken Wacks: ISO and IEC are still not allowing face-to-face meetings at least through the end of April. The ISO/IEC committee that Ken chairs develops international standards for home and building networks, and for applications including energy management. The next semi-annual meeting will be virtual using Zoom starting May9 and continuing for 2-3 hours per day for two weeks. The meeting times will be adjusted to accommodate colleagues in Asia, Australia, Europe, and North America.

IREC - Continues to meet virtually every two weeks. At last Friday's meeting Dr. Robert Cruickshank with Cable Labs presented a technique for estimating optimum load shape without requiring utility

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participation. It helps customers estimate the best load shape to minimize consumption peaks and to reduce costs, assuming they are under time of use pricing.

The discussion will continue a week from next Friday.

Anyone interested is welcome to contact Ken Wacks for access.

SEPA - David Forfia filled in for Aaron Smallwood. David Forfia has joined the research advisory council's first meeting will be the week of March 1.

There are publication highlights of transportation/electrification planning strategy work has been posted. The framework of the consensus and strategic planning process, the critical steps document is free for members and \$199 for non-members.

On Jan. 22 publications of the SEPA energy IOT task force report, Cyber Security Guide for Securing IOT Interactions with the Power Grid will be posted in January. Renewable Energy Plus formerly called Solar Power Northeast is planned to occur as an in person event Feb. 23, 24 in Boston.

Ron Cunningham added that the SEPA working group called Transactive there is a core group working on a concepts model for transactive energy. They are using knowledge graph and ontology techniques to review a model that they had and identify gaps and changes. He said visual representations and graph techniques can implement and help improve your products.

Ron M. said noted that Ron C. gave a presentation on Knowledge Graph to the SEPA working group recently. He asked if Ron C. might be willing to give this presentation to the GWAC as well. Ron C. agreed.

Action: Susie to schedule Ron C. to do a presentation on Knowledge graph next month (done)

Tony Giroti - 3 updates

EBC is planning for a conference in June and Nov 2022. First is digital and second will be F2F. Both will have a TE track. He would like to get some speakers from the GWAC. The second meeting will focus on decarbonization and decentralization with respect to carbon tracking and how block chain can be used for carbon traceability and for measurement and verification and a way to reduce double counting.

At the end of February or early March, they will start a series of three webinars to be held once a month and will focus on energy and blockchain. Topics include decarbonization, managed or smart energy from an EV perspective and the third one be on the EFT. <https://energy-blockchain.org/webinars/>

The webinars will be held once a month on a Friday. They will focus on decarbonization, managed or smart energy from an EV perspective and the third maybe on NFT. From EBF grant research emerged a blockchain based decarbonization open source platform which allows SMEs to buy carbon offsets

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from a non-compliance market through verification to ensure no double counting. That platform will be launched in the next few months.

NARUC - Chris Villarreal was not on the call.

Ron Melton noted that the next meeting will be Feb 16.

David gave notice that the March meeting will be a conflict for him; he will likely not be able to attend.

David asked for a motion to adjourn. Ahlmahz gave the motion and Ron B. seconded the motion. There were no objections and the meeting adjourned early.