

Meeting Minutes

December 15, 2021

GWAC Members

David Forfia, GWAC Chair

Ron Ambrosio, Independent Energy Transformation Professional

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

Ron Bernstein, President, RBCG, LLC

Ron Cunningham, American Electric Power

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

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

Jeff Morris, Schneider Electric

Ken Wacks, Home, Building & Utility Systems

GWAC Members and Assoc. not present

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

Stuart McCafferty, President, GridIntellect

Mark Paterson, CSO, Strategen

Chris Villarreal, President, Plugged In Strategies

Andrew Bordine, VP Energy Mkts & Innovation, Anterix

GWAC Guests

David Holmberg, NIST

David Katz

Mark Knight, Emeritus

Hayden Reeve, PNNL

Tim Schoechle

Elizabeth Sisley

David Toquica Cardenas

Wade Troxell

Ken Wacks, Emeritus

PNNL Support

Susan McGuire, GWAC Coordinator

Ron Melton, PNNL

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David Forfia started the meeting with quorum at 12:09pm Central Time. He read the proprietary message.

David Forfia asked for a motion for approval of the modified November minutes.

Susie McGuire noted that Ken Wacks sent in some edits to his liaison report and that those changes have been made.

Ron Bernstein gave the motion to accept the minutes with Ken's changes and Ron Ambrosio gave the second. There was no discussion and the GWAC approved the November minutes.

Ron Melton noted that Erich Gunther's birthday was this week. Eric was a founding father of the GWAC and had passed a few years ago. Ron noted that he was a well-respected member of the GWAC and is missed by his colleagues.

Ron will post the Call for participation on the TESC2022 website in Teresa Carlon's absence.

He will also take down some of the remaining 2020 content.

David Forfia noted that the meeting had quorum and began the meeting.

Agenda Dec. 15, 2021

Call to Order and roll call

GWAC Administrative Business

- Welcome
- Minutes
- Upcoming events
- TESC 2022 update
- Actions
- GWAC Projects Overview Chart review
 - Seemita Pal to give an update on the Grid Architecture white paper
- Liaison Reports

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

- National Governor's Association, Washington DC, Jan. 28 – 31, 2022
- DistribuTech 2022 – Jan 26 – 28, 2022, Dallas, TX
- 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
- **IEEE ISGT 2022, Washington, DC, February 21-24, 2022 – face to face format**
GWAC Speakers: Kay Aikin
- Grid FWD, April 19-20, 2021, Seattle, WA
- IEEE PES T&D, April 25 – 28, 2022, New Orleans, LA
- IEEE Rural Electric Power Conference REPC, Cleveland OH, May 17 – 20, 2022
- **TESC 2022 May 3 – 5, Virtual**
- IEEE PES General Meeting, Denver, CO, July 17 – 21, 2022

David will be at DistribuTech in Dallas. Mark Knight is still considering going. Doug Houseman is planning to attend. David asked that anyone planning to attend please let him know and he will invite you to some gatherings held in the evenings.

Ron B might talk at ASHRAE live or virtual - not sure yet He will let us know.

Ken Wacks asked who will attend DistribuTech. Farrokh replied that he will attend.

Hayden Reeve noted that PNNL staff cannot attend the AHR Expo due to travel restrictions.

David noted that ISGT will be a face to face meeting.

No new conferences were noted.

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

May 3 – 5, 2022 and Tutorial on May 2

- The conference will be virtual only
- Budget will include new costs
- Sponsorship
- Call for Participation
- Call for abstracts

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

TESC 2022 Update

David noted that the TESC 2022 Conference has been approved by IEEE and a budget has been established. A call for sponsorship has gone out and interest has been expressed. The website is up. Other groups have expressed interest.

David noted that the networking poster session will be facilitated by the software platform known as Spatial Chat depending on how the demo goes for that software.

OATI has returned their form as the Platinum sponsor already and there are three other expressions of interest so far. The diamond and platinum levels may now be sold out.

The call for abstracts is expected to go out today. He also noted that until the sponsorship form is returned to Roseanne they are not considered to be sold out.

Ron Bernstein noted he has sent the final, edited versions of the Call for Participation and the Sponsorship Prospectus to Susie and Roseanne to be emailed out. The forms are final. The forms should go out to the GWAC from Susie, and Roseanne. Ron Melton noted that the Call is located on the TESC 2022 website.

Ron B. also encouraged everyone wanting to be a TESC22 sponsor to complete the form located on the last page of the Sponsor Prospectus. This would then be returned to Roseanne Jones at IEEE.

Susie McGuire will send out the Call for Participation/Abstracts to the GWAC and Friends of GWAC lists today and Roseanne Jones will send it to the IEEE mailing list.

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Ron Melton noted that he posted the Sponsorship Prospectus and the Call for Participation on the TESC 2022 website this morning.

David Forfia noted that the TESC 2022 Agenda is now final and he briefly reviewed the topics. It is now finalized. DOE keynotes and the GWAC foundational session will be held on the morning of day 1.

David noted that the due dates for abstracts and other related dates are noted on the Call for Participation which is now posted on the TESC 2022 website.

Review of Actions from last month -

David reviewed the previous action items, neither seems to be complete. Mark Knight confirmed that he has not met with Karen about the DOE ideas for GWAC future direction. Jaime Kolln was not on the call to give us a status on the review of the Interoperability Constitution.

GWAC Project Matrix



GWAC Projects

Project	Grid Arch for Regulators	Grid Architecture White paper	TESC2022 Conference	Grid Future States	GWAC Blog Content and Review Committee
Scope	Applying Grid Architecture in the Policy & Regulatory Arenas	An introduction to Grid Architecture – including best practices and real-world examples.	Annual GWAC sponsored conference focused on Transactive Energy and related topics	Update Grid 3.0 Future States	Decarbonization, GA for Policy
Audience	Policy makers	Geared to stakeholders who aren't familiar with grid architecture	Decision makers, solution providers, labs, academics, policy, solution providers	Industry Stakeholders	
Status	Abstract in development		Program structure created for virtual or F2F	Started in January. Now meeting regularly. Coordinating with GMLC Grid Architecture results	Group: Stuart McCafferty, Ahmahz Negash, Larisa Dobriansky, Ron Bernstein, Tonya Barham, Rahul Bahadur, Leonard Tillman, David Katz, Tim Schoeche, Heather Donaldson
Actions	Group: Lorenzo Kristov, Larisa Dobriansky, Kay Alkin, Farrokh Rahimi, Chris Villarreal, Mark Paterson, Karen Studarus		Promote conference, work on identifying and recruiting keynote(s) and plenary panels	Working group is gathering inputs and organizing material and has a work plan	
Leadership	Lorenzo Kristov	Seemita Pal, PNNL	Various – Karen Studarus, lead	Ron Cunningham, Karen Studarus	Stuart McCafferty

David Forfia reviewed the GWAC tasks in progress.

Seemita did a short presentation on the GRIDARCH white paper last month and updated the GWAC.

No updates from Lorenzo regarding the GridArch for Regulators task.

Ron Cunningham said that the Grid Future States Core Team will meet tomorrow for the last meeting this year. There is one assessment to complete. The white paper visuals have been decided. The

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assessment scoring is being completed and some edits have been made. They are working on pro's in the white paper and on the similarities and differences section on how vision statements are similar or diverge.

There are some new contributions to review, particularly with regard to architectural gaps. This will be a key component for GWAC future work items and with stakeholder outreach. We plan to have the draft complete by the end of January so they can get it finalized and published and then formulate a panel session for TESC 2022.

(Lorenzo had to leave early)

David Forfia asked about the status of the GWAC website. Ron Melton asked Hayden Reeve, PNNL about it and Hayden said he didn't know the latest status but he will check into it and get back to the council.

Kay Aikin noted that there are six GWAC related blog posts now and more are in development. Ahlmahz has completed one. Ahlmahz has also updated the GWAC LinkedIn group site. They are waiting for the website to post the blogs. Kay noted that the website delay is on the DOE side, not on the GWAC side. Kay noted that it has been a firewall issue. The mockup site is ready to go.

(Susie sent Hayden some information on the website after the meeting)

GWAC Progress Slide review



Progress & Accomplishments

- 2015-2021 – Annual Transactive Energy Systems Conference (since 2019, IEEE PES partnership event)
- 2015 – [Valuation of Transactive Energy Systems Proceedings](#)
- 2018 - [TE Systems Research, Development and Deployment Roadmap](#)
- 2020 – [Reliability and Resilience Considerations for TE Systems](#)
- 2016 - [TE Decision Makers Checklist](#)
- 2020 [Decision Maker's Interoperability Checklist v.1.6](#)
- 2020 – [Smart Buildings as a Transactive Energy Hub](#)
- 2020 – [Transactive Energy FAQ](#)

Transactive Energy Systems Conference
www.ieee-tesc.org

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David noted that the GWAC history slides are up to date and may be used by GWAC presenters. They are located on the GridArch site for monthly meetings, in the meetings folder under GWAC RESOURCES.

Liaison Reports

David gave an overview to David Holmberg about the TESC 2022 abstract due dates and TESC 2022 website. He had submitted an idea for the conference.

David noted that the Call for Participation is up on the [TESC 2022 website](#). The topics for the six panel sessions have been selected. He noted that the NIST topic would fit best on Day 2, under Consumer Perspectives in the afternoon. David will call him to talk more about this.

David noted that TESC 2022 Abstracts are due by January 14, 2022.

David Holmberg asked about a TESC 2022 panel that he had proposed. David Forifia said that his material would fit well under Consumer Perspectives session on Day 2. David F. will contact David H. offline to discuss further.

David Wollman was not on the call; he was unable to attend today to update the group on NIST.

David Holmberg said he couldn't speak for David Wollman on the NIST updates.

Gerald Gray, EPRI was not available to provide information.

IEEE - Farrokh Rahimi: Farrokh said he had nothing to add for IEEE meetings. He did note that Blockchain energy activity related to transactive energy and architecture is happening under PES with GWAC participation. David F. reminded everyone that it is time to register for the ISGT Conference.

ASHRAE - Ron B. Ron noted that the upcoming ASHRAE meeting will be a live event with virtual meetings and participation as well. He may or may not participate in person. Of interest to GWAC might be meetings Grid to Buildings to Cyber Security. He will participate in that one and might speak - he will let us know. He said the full topic is titled, System Architecture and Design Principals for Interoperability and Integration of Cyber Secure Systems.

No new standards since the last meeting. CABA has a new CEO.

ISO/IEC ISO/IEC JTC 1/SC 25/WG 1, "Home Electronic System" (HES) international standards committee - Ken Wacks, the HES chair, noted that four proposed standards are out for review by the member nations. These include two on energy management for apartment complexes, one on the application of artificial intelligence (AI) for tailoring energy management to the customer's environment, and one on the management of energy storage devices for communications among these devices to controllers. The US has taken a position of supporting all four standards. ANSI (American National Standards Institute) will cast the vote for the United States before end of the year.

IREC (Interstate Renewable Energy Council) Customer Grid Edge (CGE) committee - Ken Wacks, the CGE chair, said that the Modular Communication Interface (MCI) for Energy Management standard (officially

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called ANSI/CTA-2045-B) is being adopted and mandated for electric water heaters in the States of Washington (2021), Oregon (2022), and California (for new construction). California is considering a broader mandate. CGE recently featured presentations from Tony Koch of BPA and Geoff Wicks of the Northwest Energy Efficiency Alliance (NEEA) on adopting MCI. They have been serving as advisors to the state governments of Oregon and Washington on the deployment of water heaters equipped to coast through peak demand time for electricity so that customers maintain a supply of hot water while the grid is spared peak demands of electricity to keep the heaters running. The design takes advantage of thermal inertia in water heaters.

Farrokh Rahimi asked a question about the programs - do they provide grid services, such as spin, non-spin, and regulation or is it just about peak reduction.

Ken replied that it is primarily about peak reduction. He hasn't heard yet if local utilities are using their control capabilities for these services. He said other elements for control are being advanced as well with the same interface for energy management in the home. This would include EV chargers and pool pumps.

Ken described the use of FM radio stations to carry MCI signals in the FM data channel (available to all FM stations in North America), as he has previously mentioned during the November GWAC meeting. Ken said that in mid-January there will be a presentation by Cable Labs on an approach that they have developed to help customers minimize energy costs by optimizing the demand for energy.

Ken Wacks invited anyone interested in participating in the next Grid Edge - IREC meeting to contact him for more information. He will add you to the mailing list. There is no charge to participate.

David Forfia - SEPA: David has joined the Research Advisory Council - he will keep us updated on that group. Aaron Smallwood was not able to join today.

David Katz will send something to the group on Blockchain. It has to do with sensors that may be applicable to Transactive Energy.

David Holmberg gave an update on TE Working Group of SEPA. They are developing field guide for transactive pilots and also are developing information help regulatory aspects to help regulators with more Transactive approaches. Larisa is leading the regulatory effort and Stephan McDonald is leading the field guide effort.

Farrokh Rahimi added that IEEE is providing funding for a pilot of a demonstration project for blockchain enabled transactive energy. It's under IEEE Blockchain. David Katz expressed interest.

David Forfia noted that the next GWAC meeting will be January 19, 2021.

David asked for a motion to adjourn the meeting.

A motion given by Farrokh Rahimi and Leonard Tillman seconded the motion to end the last meeting of 2021. There were no objections and the meeting adjourned.