

Meeting Minutes

Nov. 18, 2020

GWAC Members

David Forfia, GWAC Chair

Ron Ambrosio, Independent Energy
Transformation Professional

Ron Bernstein, President, RBCG, LLC

Andrew Bordine, VP Energy Mkts & Innovation,
Anterix

Ron Cunningham, American Electric Power

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

Stuart McCafferty, President, GridIntellect

Aaron Snyder, Director of Grid Technology
Consulting, EnerNex

Leonard Tillman, Partner, Balch & Bingham, LLP

GWAC Associates & Emeritus

Rahul Bahadur, Mgr. of Engineering, VMWare

James Mater, QualityLogic, Inc.

Chris Villarreal, Plugged In Strategies

GWAC Members and Assoc. not present

Kay Aikin, Introspective Systems

Tanya Barham, Principal, Community Energy
Labs

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

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

Stephen Knapp, VP Quality Assurance & Energy
Markets, Power Analytics Corporation

Jeff Morris, Energy Horizon Corp.

Mark Paterson, Strategen

GWAC Guests

Larisa Dobriansky, General Microgrids, Inc.

Marin Galvin

Cody Hartley

Michelle James, CTIA

Jaime Kolln, PNNL

Dave LeVee, PwrCast, Inc.

Christina Metzger, CTIA

Hayden Reeve, PNNL

Aaron Smallwood, SEPA

Tim Schoechle, Colorado State Univ.

David Toquica, LIREI, Univ. of Quebec

David Wollman, NIST

PNNL Support

Ron Melton, PNNL, Administrator

Karen Studarus, PNNL Administrator

Susan McGuire, GWAC Coordinator

Meeting Minutes

Nov. 18, 2020

—● Agenda

Call to Order and roll call – David Forfia

GWAC Administrative Business

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

Guest Speaker from CTIA <https://www.ctia.org>

Michelle James – VP, Strategic Industry Programs

Technical and Policy Activities

- TESC Status and Discussion Overview Material – Studarus
- Technical & Policy Activities
 - Electric Industry Visions – Statements of the Future Grid - Cunningham
- Liaison Reports

Review Action Items



GWAC GUEST SPEAKER MICHELLE JAMES, VICE PRESIDENT, STRATEGIC INDUSTRY PROGRAMS, CTIA

CTIA SMART CITIES TEAM:

MICHELLE JAMES, VP OF STRATEGIC INDUSTRY PROGRAMS AT CTIA

CHRISTINA METZGER, DIRECTOR OF STRATEGIC INDUSTRY PROGRAMS AT CTIA

MARIN GALVIN, DIRECTOR OF STRATEGIC INDUSTRY PROGRAMS AT CTIA

CODY HARTLEY, COORDINATOR OF STRATEGIC INDUSTRY PROGRAMS AT CTIA

BOB BORZILLO, CTIA SMART CITIES CONSULTANT AND PRESIDENT OF SUSTAINABLE URBAN STRATEGIES, LLC

Meeting Minutes

Nov. 18, 2020

CTIA Smart Cities Program: Groups & Members

Steering Committee

Smart Transportation

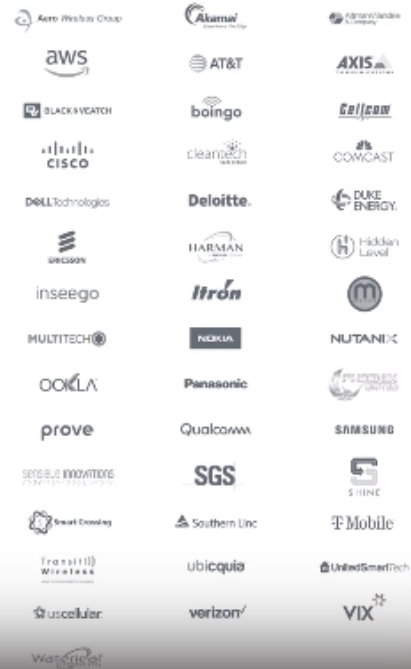
Smart Public Services

Smart Utilities

Maturity Model Committee

Smart Cities Research Initiative

Started initially as a small task force to help identify and approve educational materials, this public-sector group is made up of city leaders, safety officials, CIOs, CTOs, academic institutions, and like-minded non-profit organizations. These individuals help inform our works and participate in our member events and outreach.



The Smart Cities Research Initiative - a small group of cities and related services is involved as an advisory group. Common industry challenges that they work on with industry stakeholders. Work is voluntary. They create working groups. She works on the engineer side of the house but is not an engineer. They promote things that they want adopted throughout industry.

Some aspects related to smart cities. Her group is focused on technology.

In 2017, CTIA started programming initiatives centered around "Connected Life."

The Smart Cities Business & Technology Program was founded as a way to convene the business members of the wireless industry, collaborate and create best practices, and educate municipalities in the hopes of increasing smart city deployments and adoption.

Today, our Program convenes 100+ wireless smart cities experts specializing in the areas of Public Services/Safety, Transportation, and Utilities.

Meeting Minutes

Nov. 18, 2020

Now that everything is connected, there is a need to bring everyone together, not just with wireless devices but with the whole IoT.

The Smart Cities program helps members convene from engineering and development...in terms of cities.

They have over 100 groups in their program. They don't define a smart city but look at a city as a platform.

Smart Cities Research Initiative

Started initially as a small task force to help identify and approve educational materials, this public-sector group is made up of city leaders, safety officials, CIOs, CTOs, academic institutions, and like-minded non-profit organizations. These individuals help inform our works and participate in our member events and outreach.

They have a small task force with a roster of cities willing to participate with them and vet ideas and give feedback on usefulness. Some cities have CIOs and CTOs and usually that is who they can work with. Stuart has gone with them to visit city officials and collaborate with them.

The Town Square initiative is a new platform that anyone can join. It will help raise awareness of their public work and smart city deployments. She provided a link to the Town Square website:

<https://smartcities.ctia.org/>

They also have launched a smart cities playbook. It is available to any city that asks for it.

Meeting Minutes

Nov. 18, 2020



Charter: We are a group focused on the advancement of smart utility solutions to help communities improve utility performance and mitigate costs, generate additional value, and increase the quality of life for citizens.

Advanced technologies offer a variety of benefits to the utility space including fiber and cellular network management, deployment services, energy/water plant efficiencies, and data/asset management.

Our group consists of a variety of companies specializing in energy, gas, and water services, deployment, engineering, procurement, and construction as well as network operators.

Meeting Cadence: 60-min monthly call, quarterly in-person meetings

Leadership



Brian
Lee

Working
Group Co-
Chair



Kevin
Taylor

Working
Group Co-
Chair



Mauricio
Subieta

Working
Group
Secretary

Aaron Snyder asked about the wireless mesh. Michelle said that is a choice but for point to multi point is more secure.

Aaron said he is working with international groups and they favor wired solutions. He said often they have a mix of wired and wireless.

Dave LeVeé said he is working with the committee but is a bit of an outlier. He said if you get the pricing right, which is very complex and difficult, if looking at time and location specific pricing - thinking from a wholesale standpoint and location marginal pricing, - it is very volatile and changes rapidly. He asked if there is thought about pricing with value creation. Michelle said her group doesn't discuss price but may discuss how it works. Various levels of secure technologies might be something they cover.

Karen Studarus said she would like to get a copy of the Smart Cities playbook.

Action: If allowed, distribute the CTIA Smart Cities playbook to the GWAC.

Andy Bordine said he liked the information about wireless. He straddles both technical and regulatory. He noted the rural broadband initiatives coming out. Fiber is the middle mile and wireless is the grid edge. He would like to talk with CTIA more.

Ron Ambrosio asked about a fiber backbone with a wireless last mile - with or without wire mesh technology.

Michelle said they don't dictate the evolution of that, but they instruct their members on having constructive conversations. She noted that not everyone will move at the same time. She discussed

Meeting Minutes

Nov. 18, 2020

various infrastructure choices to support utility infrastructure. She said her group lobbies for enough spectrum for everyone for their use cases and to have an eye to how to approach infrastructure in various situations such as new builds and retrofits. She said the members drive what happens next. Some will move faster than others.

David Forfia thanked Michelle James and her team for the presentation today and for addressing the questions from the group. He also thanked Stuart McCafferty for inviting Michelle to speak.

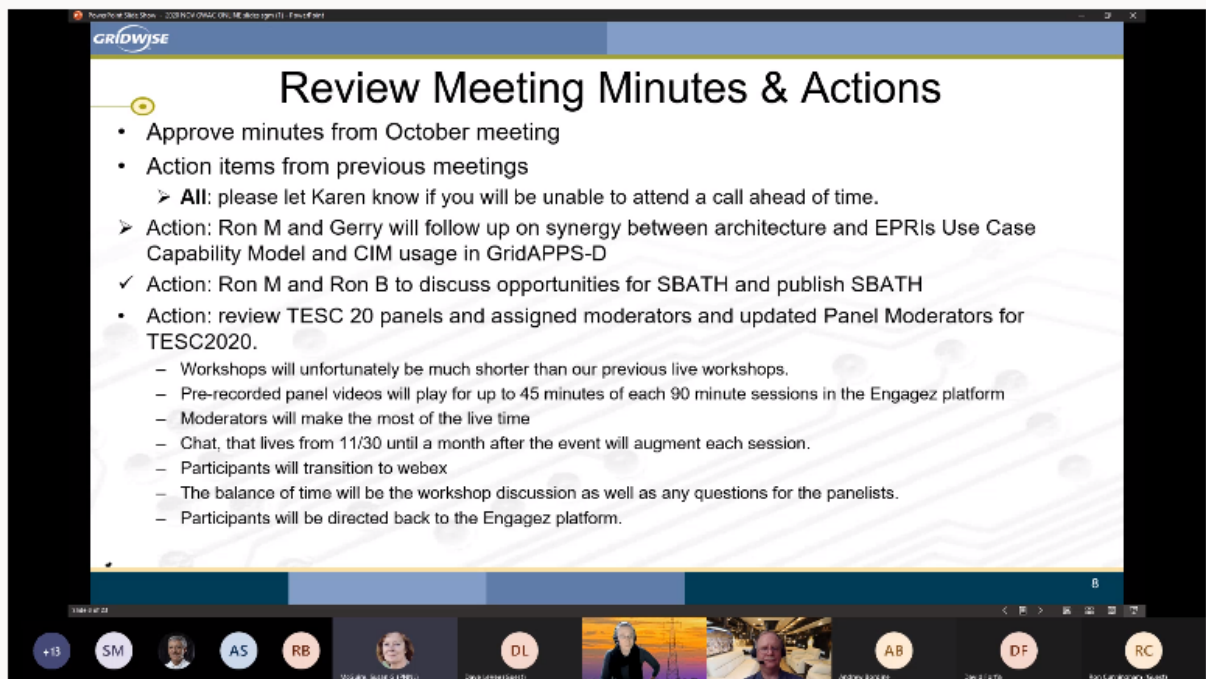
Michelle James thanked GWAC for the opportunity to speak to the group.

David Forfia asked about the October Meeting minutes from the Fall GWAC meeting. Susie said the minutes have been distributed to the GWAC by email.

David asked for a motion to approve the GWAC October minutes.

Leonard Tillman gave the motion to approve the minutes and Ron Ambrosio seconded the motion.

There was no discussion and the meeting minutes were unanimously approved.



The screenshot shows a Zoom meeting window with a slide titled "Review Meeting Minutes & Actions". The slide content is as follows:

- Approve minutes from October meeting
- Action items from previous meetings
 - **All:** please let Karen know if you will be unable to attend a call ahead of time.
 - Action: Ron M and Gerry will follow up on synergy between architecture and EPRIs Use Case Capability Model and CIM usage in GridAPPS-D
 - ✓ Action: Ron M and Ron B to discuss opportunities for SBATH and publish SBATH
 - Action: review TESC 20 panels and assigned moderators and updated Panel Moderators for TESC2020.
 - Workshops will unfortunately be much shorter than our previous live workshops.
 - Pre-recorded panel videos will play for up to 45 minutes of each 90 minute sessions in the Engagez platform
 - Moderators will make the most of the live time
 - Chat, that lives from 11/30 until a month after the event will augment each session.
 - Participants will transition to webex
 - The balance of time will be the workshop discussion as well as any questions for the panelists.
 - Participants will be directed back to the Engagez platform.

The Zoom interface at the bottom shows a grid of participants with initials: +13, SM, AS, RB, DL, AB, DF, RC. The top of the window shows the title bar "Zoom Client - GridWise Architecture Council (Nov 18, 2020) - Zoom".

Karen Studarus reminded everyone of the TESC call at Noon PT today in which IEEE staff will demonstrate the IEEE TESC20 platform. She said that the platform is a hybrid between the virtual lobby and individual meetings, and asynchronous chat. The conference will utilize Engagez for the virtual

Meeting Minutes

Nov. 18, 2020

conference and WebEx for live chat discussions after each session including the poster session. The platform will be live starting November 30 and will remain available for one month after the event including the presentation materials, chat sessions, recorded panels and poster sessions.

Karen reminded the group that the workshops will be shorter than in the past so we will need to be very efficient with our time. Moderators for each panel session have been identified from the GWAC group.

Karen asked if there were questions related to moderators and presenters.

Karen reminded the group that the TESC20 Organizing Committee meets every Monday. But offered the GWAC to discuss the meeting format and other points if needed in this meeting.

Leonard Tillman said he had a meeting with his session panel this meeting. They were hoping to have a bit more clarity on the workshop. Leonard is interested in audience participation.

Karen said the more the moderator can center the Q&A around thought-provoking questions that steer toward GWACs future direction, looking at the seven conference topics, will be helpful. Karen would like moderators to send proposed questions to the organizing committee for review and feedback.

Action: Moderators to send their proposed Panel Session Questions to Karen and to the Organizing committee in advance.

Leonard Tillman asked about recordings. Karen said that all Q&A sessions will be recorded, and the participants will be notified by the platform at the beginning of each Q&A session that the recordings are taking place. The questions will go out ahead of the Q&A Session.

David asked if other than prompting for the questions, is there a need for the second moderator to take notes or do mind mapping. Karen said that would be something to consider. She asked the group what they would like to see based on prior workshops.

David noted that in the past we did take down notes from the Q&A discussion sessions including a summary of the discussion. He asked for more ideas.

Ron Ambrosio said that this meeting will be significantly different than past meetings and time is more limited so we can't use prior workshops as a guide. He said that having things very structured including having relevant pre-written questions for discussion is a good idea to get things moving very quickly.

Ron C. said we need to capture ideas from the participant. He thinks the mind map would be too cumbersome and would stall the discussions or distract from them.

Ron A. said we will have the recordings afterwards if needed. Each Q&A session will be only about 30 minutes.

David asked what will show on the screen during the discussion. Ron A. said the pre-determined questions would be good to show during the workshop discussion.

Meeting Minutes

Nov. 18, 2020

Ron B. said we will only have 4 to 6 questions per panel session and that would be a good place to start. The questions and discussions could be returned to the council by email after the conference.

Acton: First draft of questions to be submitted to the organizing committee and turned in the Tuesday before Thanksgiving. Questions should be relevant to the conference theme and panel theme should provide direction to the GWAC for future direction of industry. Questions should aim to generate as many new ideas as possible.

Ron A. thought the questions developed in advance should be on the screen during the Q&A time. He thought the moderator should start with the questions created in advance.

David asked if we could get questions turned in between now and next Tuesday (before Tuesday).

Karen asked about the questions. Ron A said the questions should be relevant to this year's conference theme. Ron B. said they should provide direction to the GWAC for new engagement, be thought provoking, and what would move GWAC forward with an eye to what will move the industry forward as well.

David agreed that they should center around the future of GWAC and should generate as much content as possible.

Karen noted the virtual paper session which will be at the end of Day 2. She said the abstract and paper will be available in the platform as well as a prerecorded 5-minute pre-recorded video. Authors will stand by in a WebEx meeting to discuss their talk with others. The format is cool. WebEx will facilitate this well.

Karen reminded everyone to register for the conference. So far about 50 have registered.

Meeting Minutes

Nov. 18, 2020

GWAC IEEE PES TESC 2020

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

- Theme: Architecting a Resilient Transactive Grid
- Dates: Tutorial Dec. 7 Conference Dec. 8 - 10
- Planning group met and roughed out schedule
 - Panel talks are pre-recorded
 - Keynote is live

Reminder to Register

Conference website link <https://tesc.ieeeepesreg.com/index1.asp>

Available on the conference site under the Welcome tab

Registration cost price list: <https://tesc.ieeeepesreg.com/Docs/TESC.pdf>

David said if we could get GWAC members and friends to rebroadcast conference material on social media and drive interest it will help increase the number of attendees in the next 15 or so days. He also suggested getting the two tutorial sessions posted on the web site for interest. He would like to see registrations increase to 150.

Karen noted that IEEE is posting on LinkedIn, Twitter and Facebook.

Ron B. reminded Moderators to prerecord their introduction of speakers for each panel session. He would be happy to talk with any Moderators who have questions about this. He would like to see a written summary from each panel session to help him as he assembles things.

Karen reminded everyone that each panel session will have one video that Ron B. is splicing together. Each will have the introductions of panel speakers at the start, followed by each panel presentation. After that plays then everyone will be asked to move to WebEx for the live Q&A workshop session.

Karen urged everyone to get their MP4 videos in this week so that Ron can then stitch them together.

Ron B. reminded everyone that he needs the introductions from each moderator. Moderators will do a brief introduction of their panel speakers.

Ron A. asked if he needs to register as a tutorial leader for the tutorial session. Karen thought that should be complimentary.

Action: ask Rosanne about our two tutorial speakers

Dec. 4 is the last day for sponsorship commitments. She noted that the conference has 4 sponsors at this time. Sponsors will be noted on the conference website and on the conference platform. She also

Meeting Minutes

Nov. 18, 2020

noted that each sponsor will have their own exhibit hall in the platform to be populated by the sponsors with content.

David noted that there are still 8 open silver sponsorship level spots open. He also noted that there are 2 meetings left of the TESC Organizing Committee before the TESC 20 Conference.

GWAC Projects

Project	TE FAQ	Smart Buildings as Transactive Hub White Paper	TESC Conference	Grid Future States Update
Scope	Short document reviewing key features of TE systems as documented in TE Framework doc. is published	Discuss use case for building integration with grid and how/what a TE model might look like	Annual GWAC sponsored conference focused on Transactive Energy and related topics	Update Grid 3.0 Future States
Audience	Policy, Regulations, Engineers, TE Practitioners	Building owners, energy managers, utilities, and users	Decision makers, solution providers, labs, academics, policy, solution providers	Industry Stakeholders
Status	Short form complete, long version underway	Reviewed	Program structure created for virtual or F2F	Started in January. Now meeting regularly. Coordinating with GMLC Grid Architecture results
Actions	Post to new website	Address peer review comments	Thematic conference work on identifying and recruiting knowledge and plenary panels	Working group is gathering inputs and organizing material and has a work plan
Leadership	Tanya Barham	Ron Melton, Ron Bershadan	Various – Karen Stadenius, lead	Ron Cunningham, Karen Stadenius

The long version of the GWAC FAQs, led by Tanya Barham, is in development. Ron B. said he did his final review yesterday and Rahul Bahadur will look at it today. They hope to have it published before the conference so that it can be referenced from the conference. Ron also noted that the TESC Conference tutorial on TE Fundamentals is using the flow and format of the FAQ as the basis of the tutorial.

Grid Future States will meet this Friday - Ron Cunningham said there is a lot of additional assessment to do. For the conference they will go over key talking points for the GWAC foundational session. Their key part is that the paper for the effort will be moved into the first half of next year. They will look for other work and deliverables. The core team will continue to do their task in preparation for the conference.

Karen said the new GWAC website is moving slower than we had hoped but she is pushing to finalize it in the next couple weeks.

Meeting Minutes

Nov. 18, 2020

GWAC Liaison Reports

gridwise

☛ Liaison Reports – *limited time today*

- NIST – David Wollman
- ISO/IEC JTC 1/SC 25 – Ken Wacks
- SEPA – Aaron Smallwood
- EPRI – Gerald Gray
- ASHRAE – Ron Bernstein
- IEEE PES – Farrokh Rahimi
- EBC - Ward Camp
- NARUC – Chris Villarreal

David Wollman - NIST: NARUC has posted more interop learning models, with presentations by GWAC members and friends <https://www.naruc.org/cpi-1/energy-infrastructure-modernization/smart-grid/interoperability-learning-modules/>

Karen said the GWAC met to provide a unified feedback response but was not able to provide that input in time for the NARUC deadline.

David said they must follow the process of the federal register notice, but they are always happy to get feedback. They will just put it in a different bucket than the federal register notice.

David Forfia noted he received positive feedback from the former NARUC president Nick Wagner last week on this document.

ISO/IEC JTC Ken Wacks is not available today.

EPRI - Gerald Gray - was not available today.

ASHRAE - Ron B. is getting ready to publish a specifications guide related to grid interactive systems tie in to building management systems through things like webservices. They hope to have that by the new year. For CTA (Consumer Technology Association) which he will chair next year, they are working on brainstorming for new areas of support for interactive home and building networking systems with outside systems such as grid services. This relates to the GWAC SBATH paper. Ron suggested that at a future meeting we bring in the technical chair of CTA and have him speak to the GWAC. This would be sometime early in 2021, possibly in February. Ron B. will work on setting that up.

EBC - David Forfia noted they are working on some of the DER use cases and data exchange for registration. He is helping the Consortium with this process.

Meeting Minutes

Nov. 18, 2020

NARUC - Chris Villarreal announced the new NARUC head will be Paul Kjellander of Idaho PUC. He said that NARUC usually has a one-year theme but in this case, they were able to come up with a multi-year theme in conjunction with future leaders who are now in supporting leadership roles.

The multi-year theme is on innovative disruptive technology and regulation. It is focused on exploring the many different emerging technologies and innovations affecting electricity, natural gas, telecommunications, water and wastewater utilities.

Chris said the National policy conference scheduled for the first full week of December. He will look for opportunities for GWAC to work with them. The group includes governor's offices, legislators, environmental regulators, state energy offices and consumer advocates.

The meeting will start on Dec. 7 with a talk by FERC on Order 2222. There will be a fireside chat on Tuesday with NARUC Paul Kjellander. Mark Paterson and Tanya Barham will be involved with that and will discuss what the future of the system is going to look like. There is no cost to attend. It is a public meeting.

Chris gave a link to the National Council on Electricity Policy Dec. 7 - 9 meeting agenda:

<https://pubs.naruc.org/pub/A1301C18-155D-0A36-314A-1081B06EFA2E>

Ron B. asked if any of the meeting will be recorded? Chris will check and let us know but he doesn't think that it is.

Ron B. mentioned that the DOE Building Technology Office (BTO) is hosting their preview of building technologies for energy related activities. He has been sitting in on those meetings. Some technologies related to equipment within the home environment becoming smarter, smart cities and topics related to energy, communication, integration, management and interaction with grid services. There are some funding opportunities coming for innovators. If he finds a link to a summary of the meetings, he will share it with the GWAC. He said there was very good coverage of interoperability issues.

It is very relevant to the Consumer Technology Association, CTA, and to the future of GWAC.

SEPA - Aaron Smallwood not available.

Karen Studarus noted that the 2021 GWAC call for candidates announcement went out this morning to the GWAC and is now posted on the GWAC website:

https://www.gridwiseac.org/call_for_candidates_2021.aspx

Meeting Adjourn

David Forfia asked for a motion to end the meeting 35 minutes early. Aaron Snyder gave the motion; Ron Bernstein seconded the motion. The motion was approved, and he adjourned the meeting.