

## Meeting Minutes

Oct. 16, 2019

### GWAC Members

David Forfia, Director, Enterprise Architecture & IT Transformation, Electric Reliability Council of Texas (ERCOT)

Ron Bernstein, President, RBCG, LLC

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

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

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

Leonard Tillman, Partner, Balch & Bingham, LLP

### GWAC Members not present

Ron Ambrosio, Chief Scientist, Utopus Insights, Inc.

Tanya Barham, Principal, Community Energy Labs

Joe Hagerman, Deputy Chief Scientist, NRECA

Doug Houseman, Grid Modernization Lead, Burns & McDonnell

James Mater, Co-Founder and Director, QualityLogic, Inc.

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

### GWAC Associates & Emeritus

Kay Aikin, CEO, Introspective Systems

Rahul Bahadur, VMware

Ron Cunningham, AEP

Aaron Snyder, EnerNex

Ken Wacks, Home, Building & Utility Systems

### GWAC Guests

Jamie Coffel, Honeywell Smart Energy

Dave LeVee, PwrCast

Robert Burke, R. Burke Consulting

David Katz, Sustainable Resources

Stuart McCafferty, Black and Veatch

David Wollman, NIST

Larisa Dobriansky, General Microgrids

### PNNL Support

Ron Melton, GWAC Administrator

Susan McGuire, GWAC Coordinator

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### Administrative

## Conferences and Events

(**Bold** indicates GWAC speakers)

- **NARUC Annual Meeting, San Antonio, TX, November 17 – 20, 2019**
- **AHR Expo, Orlando, FL, February 3 – 5, 2020**
- **NARUC Winter Policy Summit, Washington, DC, February 9 - 12, 2020**
- **IEEE ISGT 2020, Washington, DC, February 17 – 20, 2020**
- **IEEE PES General Meeting 2020, Montreal, August 2 – 6, 2020**

- Action items from previous meetings
  - **All:** please let Ron know if you will be unable to attend a call ahead of time.
  - ✓ Draft Agenda for November F2F Meeting – Melton
  - ✓ Explore location for November F2F Meeting – Melton ORLANDO FL
  - ✓ Set date for November F2F Meeting – Melton – AHR EXPO – FEB 3 – 5
  - ✓ Pull TESC 2019 Call for Abstracts from GWAC Web Site – McGuire DONE
  - ✓ Circulate the Economic Resilience White Paper to the Council - Melton
  - Action: Ron Bernstein and Ron Cunningham to discuss the production of Grid 3.0 future white papers and Ron Bernstein to note them on the GWAC Activities Matrix. (On Hold for Now)

### ACTIONS FROM SEPT:

- Action: Two Emeritus members could serve on the new member committee.
- Action: Ron Melton will update the call for new members for 2020. Susie will send the announcement out to the GWAC lists.
- Action: Ron Melton to schedule a meeting with Doug Houseman to further discuss IEEE and TESC
- Action: Ron Melton to schedule a call with David Forfia and David Wollman to discuss what is needed regarding the Interoperability checklist.
- Include a history slide on the GWAC accomplishment matrix for completed actions

Ron Melton reviewed the action items. He noted that the actions from previous meetings are complete, but some September actions are not.

Ron Melton noted that the date for the next GWAC Next F2F will be Feb 5 and 6, 2020 in conjunction with the AHR Expo in Orlando. AHR Expo will provide meeting room space at no charge. Details will be forthcoming.

GWAC F2F meeting attendees do not have to register with AHR, it is public space. But to go on the show floor GWAC attendees will need a badge. We will get information about this out to the GWAC.

**Action: Susie to work with Kim at AHR regarding show passes for GWAC Attendees. Note: Kim will send us information about how to pre-register online.**

Update: **Kim's reply: No cost to register in advance at this site – guests must register individually:**

Website: <https://registration.experiencevent.com/Showahr201/>

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(the other option is for her to send us VIP invitations which could be handed out onsite by GWAC staff and then each person would have to go through the onsite registration process and use that pass.)

Ron Bernstein recommended the control and automation section of the floor for GWAC members, noting that the show space is a few square miles.

### New Members

Ron Melton noted that we can slow down a bit on the new member effort since the F2F is not going to be in November; he is now hoping to get the call for new members posted on the GWAC website next week.

#### ◉ GWAC Call for New Members

- Working on this now
- We skipped a cycle – will do a combined refresh
- Need to have 4 to 5 new members
- Updating the call – Next Week
- Plan to complete by Feb. F2F meeting
- Plan to randomly assign 1- or 2-year terms due to delaying the refresh

**Action: Ron Melton to post the GWAC new member call on the GWAC website.**

Ron Melton will talk with all current GWAC members to determine their intent to stay on or go off the Council. The effort will coordinate with the F2F in February so that new members can be recognized at that meeting.

**Action: Ron Melton will contact current GWAC members regarding their intent for 2020.**

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### GWAC Projects

Project	GRID 3.0	Transactive Energy Framework Update	Smart Buildings as Transactive Hub White Paper	Economic Resilience White Paper	TESC Conference
Scope	Future Grid States Document with an industry consensus on future states of the electric power grid through a collaborative process	GWAC publication providing explanation of TE system elements, four primary perspectives, and examples of TE systems	Discuss use case for building integration with grid and how/what a TE model might look like	Overview of TE impact on resiliency issues. Possible interoperability, control, monitoring, real-time data sourcing and related solutions	Annual GWAC sponsored conference focused on Transactive Energy and related topics
Audience	Policy, Regulators, Legislators, ISOs	Utilities, regulators, system suppliers, energy managers	Building owners, energy managers, utilities, end users	Utilities, integrators, solution providers, policy makers	Decision makers, solution providers, labs, academics, policy, solution providers
Status	Update planned for Nov. GWAC F2F	Published in 2015. Update published July 2019	Calls now underway	White paper draft complete	Conference held, final invoice paid
Actions	Further flesh out agenda for F2F	None	Currently five "next steps" in progress	Council review and feedback, next steps?	Close out, posting of presentations, papers, recordings, discuss next TESC
Leadership	Ron Melton	Ron Melton	Ron Melton, Ron Bernstein, Joe Hagerman	Rahul Bahadur	Various – Ron Melton Lead

### GWAC Activity Matrix

GWAC projects matrix– no changes at this time, but Ron Melton will create a GWAC history slide for completed tasks.

**Action: Ron Melton to create a history slide for the GWAC activity table.**

David Forfia – will speak at the Energy Block Chain meeting next week as a GWAC representative. It will be held in Atlanta, Georgia.

Ron Melton reminded everyone that the gridCONNECT hosted by GridWise Alliance will be held in Washington DC on December 10-12. He commented that last year’s meeting attendees including a high level of C Suite attendees. He will not attend this year most likely.

### TESC Planning

Ron Bernstein noted that TESC19 generated about \$15K income for IEEE this year. Ron Bernstein has completed all the final tasks as treasurer.

Ron Melton said If we are going to organize another TESC it is time to start planning. He suggested that the proposed dates for the next conference be on either side of Thanksgiving and for location he

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suggests coming back to the West Coast. Both ideas are based on various conversations that he has had with others.

Proposed west coast options might be Portland, California or even Washington state. Arizona might also be something to consider. The weather in Portland in Nov. and Dec. the weather may not be good. IEEE might still be the main host and if so, the GWAC would still have input. Doug Houseman had said that IEEE PES is trying to expand their number of conferences so he didn't think they would want to combine TESC with another conference.

Ron Melton asked everyone to be thinking of locations and send an email to him and Susie McGuire with their ideas.

Ken Wacks asked if any public utilities might be willing to work with GWAC .

Ron Bernstein noted that SMUD might be an option. He is currently working with them; with their director of training. He could ask her if they would be willing to partner with GWAC for the meeting.

Dave LaVee suggested he might talk with Ben Kropsky about the Breckenridge Colorado area. Ron noted that the weather there in December might make traveling difficult.

Rahul Bahadur suggested the south San Francisco/Santa Clara area.

Ron Melton noted that he has been planning to talk more with Doug Houseman about IEEE's perspective.

**Action: Ron to talk with Doug Houseman about TESC and IEEE.**

Action: GWAC to let Ron Melton and Susie McGuire know if they have ideas about where to hold the next GWAC meeting.

### GWAC White papers

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- Smart Buildings as Transactive Hubs Update – Ron Bernstein
    - 6<sup>th</sup> meeting took place on Sept. 19<sup>th</sup>
    - Pulling material from TE tutorial material
    - Target is a narrative document - ~5 pages
    - Status update

#### Smart Buildings

The group had another meeting on October 4. There has been good progress, and good teaming on this paper. They are still collecting content. Ron Bernstein reminded group members to work on their

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assignments. Content may end up at 7 to 10 pages based on what has been suggested. The hope is to have a draft at the GWAC F2F and to present a seminar at AHR in Orlando.

**Action: Susie and Ron to set up another SBETH meeting for next week. (David Forfia asked to be added to the invite list).**

**Action: Ron Melton and Ron Bernstein to talk later this week about the AHR Expo and a talk on the smart buildings white paper**

Dave LeVee said that Ken Sinclair has the educational portion at AHR, and this might good place to socialize the white paper as a talk – or to have GWAC present it as a public seminar on buildings to grid interactions as part of the AHR seminars. But Wednesday would not work since the GWAC meeting will be held that day.

**Economic Resilience White Paper**  
– Rahul Bahadur

- Sent to Council for review and comment by Ron Melton
- Panel proposal for ISGT 2020 submitted by Rahul Bahadur
- Need comments back so white paper can be finalized – any comments by Rahul?

Participants (7)  
Find a participant  
Stephen Knapp  
David Forfia

Rahal Bahadur is awaiting a response from ISGT, and still looking for feedback on the paper from the GWAC.

Steve Knapp wondered if not getting the first-round response to the white paper should we should then assume that no response means no negative feedback? He suggested sending a poll to the GWAC to verify this response.

**Action: Ron/Susie to send out a questionnaire to the GWAC on acceptance of the Resilience white paper.**

### IMM Maturity Model

**Interoperability Decision Maker's Checklist – update?**

- Feedback at NARUC meeting last week suggested that an update would be useful
- Need to schedule coordinating call – action from Sept. GWAC Meeting

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Ron Melton brought up the IMM maturity model as a product that GWAC needs to do the follow up on. David Forfia said he didn't know any more than Ron Melton after the NARUC meeting but that it does need an update. David and Leonard (and others) volunteered to be on a review committee. It was discussed and agreed that not a lot is needed.

### Future Grid / GWAC F2F Planning

Trevor Hardy, PNNL, and Mark Patterson, GWAC Associate, have material for the Future States discussions. Ron Melton will be talking with Chris Irwin and Jeff Taft about attending this meeting at AHR in Orlando. We will have good background material to feed into the future states discussions.

Ken ISO/IEC: Met the week of Sept 23 -27 in Nagasaki Japan. They worked on international standards for the Home Electric System and Internet of Things in Homes and Buildings.

The focus was on developing standards for: Interoperability to create integrated systems from diverse products; Cybersecurity to protect customer privacy, data, and safety; Energy management for apartment complexes; and Energy allocation based on artificial intelligence (AI). Development continued a systems-architecture and communications-protocol to facilitate applications to work together seamlessly.

Ken Wacks got word that the Transactive Energy Roadmap has been approved for publication as an international document that we had discussed at the September GWAC meeting. The IEC editor has provided suggested format changes to meet ISO/IEC publishing standards and PNNL editorial staff are working changes to the document.

Ron Melton had suggested the TE Framework be submitted to the ISO/IEC for consideration as an international technical report and this was approved for nomination. Ken Wacks agreed to support that nomination. He requested that Ron Melton send him a cover letter like the Roadmap letter to start the process.

**Action: Susie/Ron to send a letter to Ken Wacks regarding submission of the TE Framework to the IEC publication as an international document.**

Approving the document will require a 3-month ballot once the ISO/IEC receives the document. Ken will send the press release from the most recent IEC meeting to Susie to be distributed along with the meeting minutes.

Ken noted that the next ISO/IEC JTC 1, SC 25, WG1 meeting venue will be the DC area if possible, the week of April 20. They hope to find a venue host. Typically, the max attendance is 20. If anyone is interested in hosting it, please contact Ken Wacks.

Ron Melton mentioned that PNNL hosted IEC 57 working groups 13, 14 and 19 in September.

SEPA – David Forfia: the last TAC meeting was held at the Grid Evolution Summit – the next one is not set to start until next year. SEPA is planning for the coming year.

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Ken Wacks noted that the Grid Edge SEPA working group will meet tomorrow

EPRI - Gerald Gray noted that Plug Fest IEC 61968-8, held in Charlotte, North Carolina, went very well. It was attended by 140 people and a lot of vendors. Open FMB with Duke and Stuart Laval, brought about 50 people to their meeting and extra space was needed.

There will be another interoperability meeting in March 2020, in Dallas Texas. Margaret Goodrich is involved with that. It will be on the power system model and CIM based.

ASHRAE - Ron Bernstein; there is a new work item for a building web services interface. This may relate well to the SBETH white paper. It is an interface between outside things and things inside a building. It would be a CATA standard and then go to ANSI. This should come to a vote by the next CATA meeting (in the first quarter next year). This might be a good addition to the white paper.

Ken Wacks asked about how it works, and if it is a logical interface or a physical gateway. and Ron replied that it could be implemented on a computer and have something physical attached to it, but it is a logical gateway. Ken suggested that gateway architecture publications from 2004 and 2012 would be applicable. Ron Bernstein noted that it is under the 709.10 profile but it's more logical. It will be implementable on any piece of hardware.

Ron Bernstein said that it is an interface with an edge server or a BMS computer that interfaces to the cloud. It is something lacking in industry at this point.

Dave LaVee told the group that he just watched a video on this about using hardware to facilitate the transfer from a BAS system to the cloud where they can then do the digital twin. Ron Bernstein said there are lots of these things, but many have a proprietary interface. Privacy, security and other aspects are important. There are companies that are using the digital twin although it's still being defined.

Energy Blockchain Consortium - David Forfia noted that will attend the 2<sup>nd</sup> Annual Block Global Power and Energy Block Chain Conference next week in Atlanta (Oct. 24, 25). He will be presenting as a GWAC representative.

Ron Melton noted that that since there was no quorum today the GWAC September minutes approval will be by email or deferred to next online meeting.

Ron Bernstein has been working with Kim Pires of AHR Orlando about the F2F GWAC meeting logistics and will check on hotel rooms.

Ron Melton noted that the September meeting minutes will be voted on at the next meeting or by email.

David Forfia asked for a motion to adjourn early. Gerald Gray objected since there was no quorum, however no one wanted to remain on the call as was determined by a unanimous vote on that matter. Leonard Tillman then gave the motion to adjourn the meeting early and Ron Bernstein seconded that

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motion. David Forifa asked if there were objections to the motion. Hearing none David adjourned the meeting at 11:00am Pacific time.