

## Meeting Minutes

September 20, 2023

### **GWAC Members**

Ron Bernstein, GWAC Chair and President  
RBCG, LLC

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

Ron Ambrosio, Independent Energy  
Transformation Professional

Andrew Bordine, GWAC

Ron Cunningham, IT Enterprise Architect,  
American Electric Power

David Forfia, Principal Consultant, Utilicast

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

Ahlmahz Negash, Sr. Power Analyst, Tacoma  
Power

Mark Ortiz, Lead Architect, Schneider Electric,  
New GWAC member

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

Aaron Snyder, Dir. of Grid Technology  
Consulting, EnerNex

Leonard Tillman, Partner, Balch & Bingham, LLP

### **GWAC Associates & Emeritus**

Rahul Bahadur, Associate

Marc Costa, Associate

Jeff Morris, Associate

Mark Knight, Emeritus

### **GWAC Friends**

Amara Fatima

Sean Crimmins, EPRI

Toby Considine

Chris Irwin, DOE OE

Don Hammerstrom, PNNL, Guest speaker

Olayinka Kolawole

Seemita Pal, PNNL

Hayden Reeve, PNNL

### **PNNL Support**

Susan McGuire, GWAC Coordinator

Ron Melton, PNNL Administrator

Jaime Kolln, PNNL Co-Administrator

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## Agenda Sept. 20, 2023

### Call to Order and roll call

#### GWAC Administrative Business

- Welcome
- Minutes
- Upcoming events
- Actions
- Speaker: **Don Hammerstrom**, *"Transactive Energy Communications Interface Standards Landscape"*
- **GWAC Associate nominees**

#### Future Activities

- GWAC Fall F2F – Knoxville
- Planning 2024 "TE" Conference
- Next Big Thing

#### Status Reports

- GWAC Projects Overview Chart review
- Working Party Status Updates
  - Grid Architecture White Paper
  - Grid Future State White Paper
  - Grid Arch for Regulators White Paper
- Liaison Reports

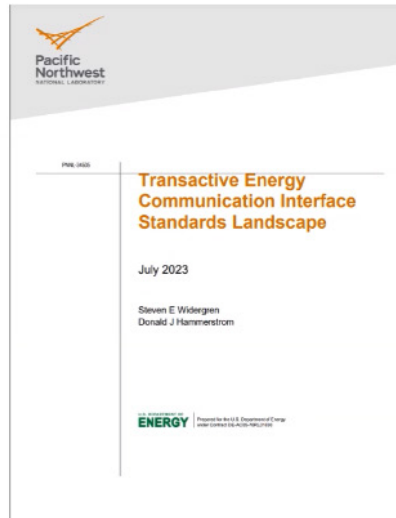
Ron Bernstein opened the meeting with quorum. He noted that he has reviewed the August GWAC minutes and had no issues but others had not reviewed them so the minutes will be held until the next meeting.

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PowerPoint Slide Show - [2023 SEPT GWAC online MTO NEW slides]

GRIDWISE Architecture Council



Today's Presenter

Don Hammerstrom : *Transactive Energy Communication Standards Landscape*

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**Transactive Energy (TE) Communication Standards Landscape**

September 20, 2023

**Don Hammerstrom**  
Sr. Research Engineer, PNNL



PNNL is operated by Battelle for the U.S. Department of Energy

PNNL-SA-190332



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Don noted that the technical report supporting this work is posted on the OSTI.gov website. Steve Widegren is the principal author but has retired from PNNL.

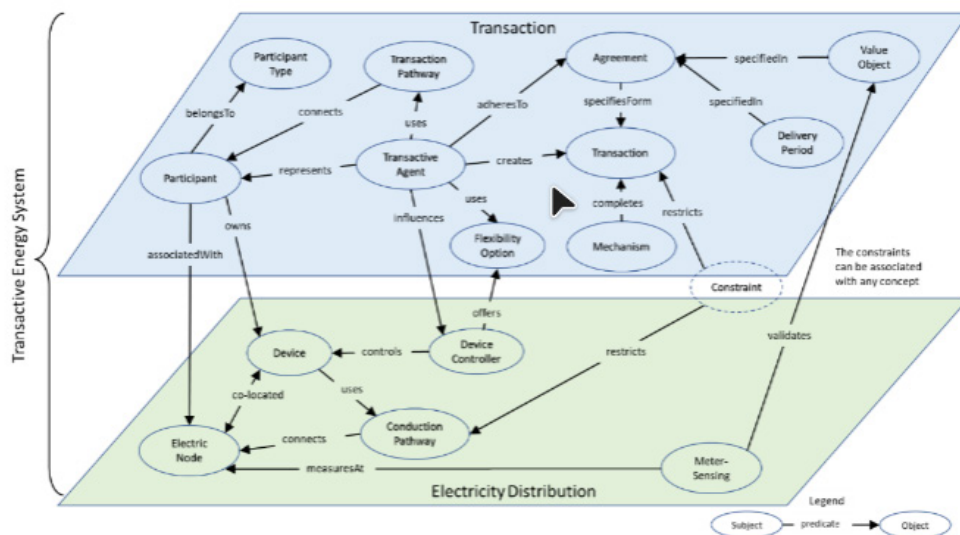


Presentation Content

- Context—Current state of the landscape
- Assessment methodology
- What’s in the TE communication standard landscape?
- Results and discussion
- Additional insights



Transactive Energy Concept Model Concepts (SEPA 2022)



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### Recommended Activities for the TE Community

- Converge (reconverge?) on a clear, broadly held definition of TE.
- Strive to support all valid TE price discovery mechanisms.
- Promulgate and strengthen the SEPA Transactive Energy Concept Model (TECM).
- Complete more detailed evaluations of TE-related standards and profiles.
- Continue to develop open interfaces for DER coordination platform integration.

Kay Aikin commented in chat, “Don thanks for defending my price reaction method!”

Rahul Bahadur said he thought interop sessions would be helpful, many approach from different aspects, allowing a neutral place for discussion is helpful and can move things along at a faster pace.

Marc Costa asked how we can move this forward noting that some regulators are deploying things before issues are resolved. He asked how to get this information into the arena.

Don said regulators are in a difficult position and their job is to protect everyone. And he said that as innovators we think differently than regulators.

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**Meeting chat** ✕

reverse that. IEEE PAR 825 seemed like the right idea but perhaps too early (like Fred Schweppe's work in the late 1970's). Is now the right time for a new PAR to identify areas for transactive energy standards? Apparently the answer may be no since I see that IEEE pulled PAR 825 ("administrative withdrawal") in December 2020.

Irwin, Christopher (External) 10:45 AM

cl Thank you Don! Thanks to Steve as well.

Knight, Mark R. (External) 10:45 AM Edited

MK great presentation

Toby Considine 10:39 AM

TC When will the Power Flow Controller, identified as the necessary missing equipment type (with circuit design) back in the 1990s become a product one can buy?

Reeve, Hayden M 10:41 AM

Rahul - great point. DOE and the labs have a role as convener. Happy to talk more (Jaime is a great POC)

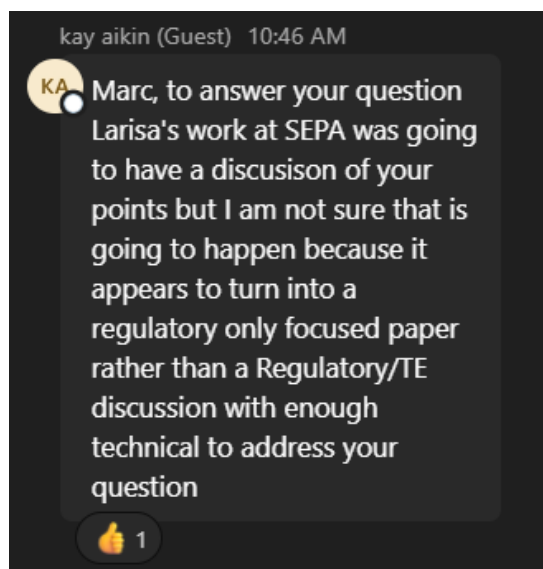
Ken Wacks (Guest) 10:41 AM

KW GWAC TE framework and roadmap are now ISO/IEC publications

↓ New message

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Jamie Kolln announced the nominations for GWAC Associates.



### GWAC Associate Nominees



GWAC Associate Nominees:  
Rahul Bahadar, Mark Paterson, Jeff Morris, Mark Costa, Anthony James

Vote will be held via e-mail.

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GWAC reviewed the upcoming list of GWAC related conferences.

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PowerPoint Slide Show - [2023 SEPT GWAC online MTG NEW slides]

**GRIDWISE** Architecture Council **Conferences and Events**

Date	Event	Location	Attend	Speaker	Topic
Sept. 11-14, 2023	RE+ Solar Power International	Las Vegas, NV	Ron Melton, Jaime Kolln, Kay Aikin		SEPA
Sept. 12-14, 2023	T&D World	Sacramento, CA			Future distribution grid
Oct. 16-18, 2023	GridFWD	Skamania Lodge, Columbia River Gorge	Ahlmahz Negash	TBD	Grid Modernization – northwest region
Oct. 17-19, 2023	V2G Forum	Detroit, MI	Jaime Kolln, James Mater		Accelerating V2G in the emerging V1G charging standardization regime.
Nov 6-9, 2023	ISGT Latin America	San Juan, PR	Farrokh Rahimi, Lorenzo Kristov and maybe Kay Aikin		Disaster recovery and network transformation in times of climate Change
Jan. 17-19, 2023	Energy Storage North America	San Diego, CA	Russ Weed		Combined with Intersolar North America
Jan. 22-24, 2023	AHR Expo	Chicago, IL			Co-sponsored by ASHRAE and AHRI and is held concurrently with ASHRAE's Winter Conference
February 19-22, 2024	ISGT North America	Washington DC	Mark Paterson, Farrokh Rahimi, Paul DeMartini, Kay Aikin	February 19-22, 2024	ISGT North America
February 26-29, 2024	DistribuTech 2024	Orlando, FL	Farrokh Rahimi		

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Ron M. commented that we may not have a GWAC presence at the 2024 AHR Expo. Ron B. reminded GWAC that he will not be there this year, a first in several years for him.

### Actions Items

- GWAC participants who have suggested topics or presenters please let Jaime Kolln and Ron Bernstein know and copy Susie.
- Speakers from AHR Expo Have uploaded their presentations. Jaime needs to redo his.
- Look into speakers for future GWAC meetings. Possible speakers: SunSpec, Ecogy
- Website updates
  - Reorganize, check links, and add video presentation section with YouTube links
  - Create a GWAC database of presentations for future talks and a speakers bureau post on the website.
  - Create a catalog of speaker materials with links.
- Discussion of the GWAC Mission statement - form "strawman" Task Force
- Ron B. to edit James Mater's EV presentation from August GWAC Meeting. With James' approval, ti will be posted to the YouTube site and GWAC web page.



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Jaime has reached out to his contacts at SunSpec about speaking at a future GWAC meeting. He also has contacted Philip Court with Ecogy Energy about speaking at a GWAC meeting.

Jaime thanked Aaron Snyder and EnerNex for hosting the October GWAC F2F in Knoxville, Tennessee.



### GWAC F2F

- **Thanks to Aaron Snyder and EnerNex!**
- Monday Oct. 2 *optional* no host dinner for early arrivers
- GWAC Meeting Oct. 3 - 5, 2023, in Knoxville; starts at Noon
- Oct. 3 *Optional* morning EPRI tour. Requires security check no less than 30 days prior. RSVPs are in.
- Gunther Recipe (v2.0) Shrimp Boil on Wednesday evening.
- Oct. 4 *Optional* Post-meeting University of Tennessee, Knoxville CURENT tour after lunch

Thanks everyone for your RSVP

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### Planning the “TE” Conference

- Co-Locate at RE+ in Anaheim, CA September 9-12, 2024
  - Specific Format TBD, but planning on plenaries and two tracks
  - RE+ Technical session is Monday and Tuesday.
  - GWAC " TESC" will be Wednesday and Thursday
- Schedule Organizing Committee (OC) Meeting
  - Coordinating with Lesley Fondren and Lori Smith
  - May collaborate with IEEE for technical publications. Awaiting direction from RE+
- Council Members Participating in the Organizing Committee
  - At Least 4 Council Members
  - Will we accept papers?
  - Sponsorship TBD
  - David Forfia has volunteered to be the Treasurer. This may not be needed for RE+
  - Need to understand associated fees. Will be tiered based on SEPA/SEIA membership.
  - Call for participation is the kickoff; it will include a timeline of due dates by authors and presenters.

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Jaime would like to see the GWAC at least still have posters if not papers.

Jaime noted that with RE+ a treasurer will not be needed for the next conference.

Ron M. said he and Jaime asked that there be a lunch for the GWAC group as a standalone option and it will be tiered for membership as to the extra cost.

It is expected that sponsorship will not be needed this year, costs will be managed with a fee.

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 GRIDWISE Architecture Council

### “Next Big Thing” / “Back from the Future”

- Presented at AHR Expo
- Recordings to be Developed and Published to YouTube
- What next?
  - Council Member volunteers needed to develop a webinar on "The Next Big Thing"
  - Development of a concise slide deck
  - Web Page with details including GWAC activities



#### White papers

Seemita expects to have her paper this week.

Ron C. expects to have Future States ready for another review in a couple weeks.

Rahul Bahadur and Ron Ambrosio volunteered to be a part of a committee to create a Webinar on “the Next Big Thing.”

**Action: Form a committee to create a webinar for “The Next Big Thing.”**

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### Grid Architecture for Regulators

September 2023 update

- Team = Lorenzo Kristov, Kay Aiken, Larisa Dobriansky, Jeff Morris, Mark Paterson, Farrokh Rahimi, Chris Villarreal, Ron Bernstein
- White paper will be aimed primarily to GWAC community:
- Document experiences, observations & lessons learned from the use/non-use/value of Grid Architecture in policy & regulation venues
- Provide a basis for strategies to promote Grid Architecture among policy makers
- Paper will be a living document, starting with a few initial case studies and adding new case studies as available
- Initial case studies
  - U.S. — FERC Order 2222
  - State — Xcel Minnesota rate case; CPUC High-DER docket
  - Municipal — Portland Maine
  - International — Ontario, Canada
- Tentative target date: Draft for GWAC review by mid-November; ready for posting early 2024.

Lorenzo's paper is short set of case studies, but it will be published as a living document that can be updated. He needs to refresh the draft, but he has a goal of a draft by Mid-November.

If others want to contribute to this paper and are not on the committee, please contact Lorenzo.

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### GWAC Future Work Products Discussion

#### *Applying Grid Architecture Concepts to Bridge Back from the Future Grid*

In concert with current work and building on the previous GridWise Architecture Council work products, this document attempts to provide a roadmap for operators, planners, developers, integrators, and policy makers as guidance to develop interoperable systems that will architect the grid of the future as described in the future states. This paper will include discussions of motivating participation of customer owned assets and opportunities for avoided costs by working toward a long-term vision rather than only short-term needs. This document will be completed in FY24.

#### *Grid Architecture Concept Model for Interconnection, Electrification, and Decarbonization*

Analyze various visions of the electrification of fossil fuel-based systems and identify areas where GWAC concepts could provide architectural value to bridge and coordinate between customer and grid objectives. Electrification will introduce dependencies such as those seen in the transportation sector due to electrification. Grid Architecture will be used to describe the touchpoints (for example through sector coupling) that will require collaboration. GMLC reference cases will be included. The majority of this activity will take place in FY24 and be completed FY25.

Jaime asked for new volunteers. Ron A. is planning to help on the first paper.

Farrokh Rahimi would like to help on the second paper.

Ron B. said we can talk about the 2<sup>nd</sup> one at the F2F, there will be some presentations on that topic.

#### **Liaison Reports**

David Wollman – NIST: As part of the implementation plan development for the US National Standards Strategy for Critical and Emerging Technologies, NIST hosted an executive business roundtable and listening session in Detroit last week on automated, connected, and electrified transportation and infrastructure.

<https://www.nist.gov/news-events/events/2023/09/standards-and-performance-metrics-road-automated-vehicles-workshop>

David also provided a link on how to engage in standards creation.

Here's the link: <https://www.federalregister.gov/documents/2023/09/07/2023-19245/request-for-information-on-implementation-of-the-united-states-government-national-standards>

EPRI - Sean Crimmins had no updates on EPRI.

IEEE - Farrokh Rahimi reminded everyone that now is the time to submit for panels in line with the technical committees for the next general meeting that will be in Seattle next year.

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If anyone has ideas for a GWAC panel, contact Ron Melton and Farrokh Rahimi and they will help support it inside IEEE.

Ron B: noted the ASHRAE past president has agreed to speak to GWAC at the face-to-face meeting.

Ron B. - CABA is now known as ASHB. It's a name change; Association for Smarter Homes and Buildings.

ISO/IEC -Ken Wacks noted a new standard called Safety Framework for connected Devices and Appliances is in development; Ken is project leader. If you are interested in joining let Ken Wacks know.

IREC – Ken Wacks; this week's speaker will be Trevor Hardy with PNNL. He will present on work he leads for a SEPA work group.

NARUC – Jeff Morris reminded everyone of the mid-October NARUC meeting in LaQuinta, California. Chris Villarreal is putting a report together for NARUC on data sharing, DERs, DSOs and cyber security.

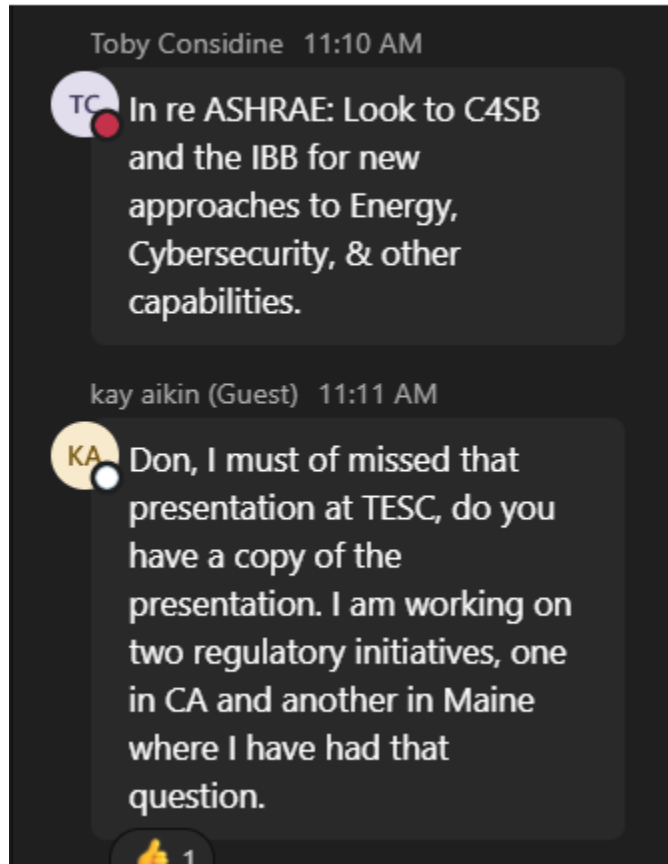
Marc Costa recommended the ACEEE Summer 2024 meeting on Energy Equity and Climate Change. He suggested that GWAC have a presence at this meeting.

<https://www.aceee.org/2024-summer-study-energy-efficiency-buildings>

Jaime reminded everyone that there is not a GWAC Conference website yet but RE+ should be able to create one for us when there is an agreement. The name may change. This will be discussed at the F2F.

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Adjourn

Next meeting - Knoxville, TN Face to Face  
Oct. 3 – 5, 2023



<https://gridwiseac.org/>