

Meeting Minutes

May 16, 2018

GWAC Members

David Forfia, Director, Enterprise Architecture & IT Transformation, Electric Reliability Council, TX

Ron Ambrosio, Chief Scientist, Utopus Insights, Inc.

Tanya Barham, Director of Operations, PECI

Doug Houseman, Grid Modernization Lead, Burns & McDonnell

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

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

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

Tom Sloan, State Representative, Kansas

Leonard Tillman, Balch & Bingham, LLP

Members Not Present

Ron Bernstein, President, RBCG, LLC

Stephen Knapp, Vice Pres. of Quality Assurance & Energy Markets, Power Analytics Corp.

Gerald R. Gray, Technical Executive at the Electric Power Research Institute (EPRI)

Joe Hagerman, Senior Program Manager, ICF

GWAC Associates & Emeritus

Jeff Morris, Principal, Energy Horizon Corp.

Ken Wacks, Home, Building and Utility Systems

GWAC Guests

Rahul Bahadur, VMware

Rolf Bienert, Open ADR Alliance

Robert Burke, Principal, Robert Burke Consulting

David Katz, Sustainable Resources

Dave LeVee, Powercast

Aaron Snyder, EnerNex

PNNL Support

Mark Knight, GWAC Administrator

Susie McGuire, GWAC Coordinator

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GWAC Online Meeting

David Forfia opened the meeting at 12:03am Central time.

David Forfia asked for a motion to approve the April meeting minutes. Ron Ambrosio gave the motion and Doug Houseman seconded the motion to approve them. David Forfia accepted the motion; there were no exceptions.

Review Action Items

Mark Knight reminded GWAC participants to let him know in advance if you will miss any GWAC meetings.

Mark noted that he has created a list of upcoming meetings and GWAC participant are noted as well as speaking opportunities relevant to GWAC participants.

Mark had sent the one page GWAC resume out to the group and is asking for everyone to take a look and to please send him any feedback on it. He is particularly interested in how GWAC information has been used by others to capture the impact of the GWAC.

White paper groups have been announced, everyone who is participating should have gotten an email.

The TESC18 tutorial overview that went out is for a proposed, second tutorial by Ron Bernstein. Mark will send out the overview for the scheduled TESC18 tutorial.

Ron Melton is talking with Mark Knight and SEPA about facilitating the TESC18 tutorial.

Mark has spoken with Jeff Morris about the tutorial to answer his questions about the target audience.

Action: Mark or Susie to send out the overview of the scheduled TESC18 tutorial session.

A prominent link to the TESC18 meeting website has been added to the GWAC website.

Abstracts have been selected. Many abstracts came in just before and after the due date.

Susie has local travel information for those who will attend TESC18 in Cambridge which will be sent out soon – Mark will give more information about that later in this meeting.

Susie has resent the TESC18 Meeting announcement out to the GWAC participant list, suitable for the GWAC to send to their colleagues.

Lorenzo has sent out a link to the FERC technical conference webpage.

Mark sent information to James Mater about the Interoperability Roadmap.

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GWAC Related Conferences and Events

- ANSI CTA Spring Meeting, Santa Clara, CA, May 1-3
- [TESC 2018](#) MIT Cambridge June 12-14
- SEPA Grid Evolution Summit July 9-12
- IEEE PES General Meeting, August 5-9, 2018 Portland, OR
- ISO/IEC Tysons Corner, VA, Sep 24-28
- World Engineering Summit, Charlotte, October 17-19
- GWAC / Grid 3.0 Workshop, DC, Oct/Nov (date TBD)
- POWER-GEN International, Orlando, FL, December 4 - 6
- ASHRAE Winter Conference, Atlanta, GA, Jan 14-16
- Smart Energy Summit, Austin, TX, Jan/Feb
- DistribuTECH, New Orleans, Feb 2019
- IEEE ISGT, Feb 2019

David Forfia sent the link to the CTA Technology and Standards Forum May 1 – 3, 2018:

<https://www.cta.tech/Events/Event-List/Technology-Standards-Spring-Forum.aspx>

Doug Houseman sent the link to the EPRI Electrification 2018, Aug. 20 -23, in Long Beach, CA. Doug will be speaking at this event. <http://www.electrification2018.com/>

Doug Houseman noted that he will be speaking at the POWER-GEN meeting.

If anyone has other conferences that should be added please let Mark know.

TESC 2018 Update

- Keynotes all set
- Plenaries all set
- Panels all set
- Questions for Workshops all set
- 4 registrations for the tutorial
- 50 registrations for conference
- SEPA evaluating alternate locations within MIT
- SEPA / GWAC held early conversation about 2019. No decision yet.

There are 3 panels with 4 participants each. –

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- The Business and Policy panel will be led by Leonard Tillman
- The Design and Technology panel will be led by Ron Ambrosio
- The Business and Technology panel will be led by Stephen Knapp
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Mark will be talking with the Panel Leads regarding the order of the panels and the facilitation process.

To help expedite the meeting flow, TESC18 speakers are being asked to send in their presentations by June 6 so that they can be pre-loaded on the AV equipment.

Action Mark: talk with Panel Leads regarding workshop panel facilitation

About 70% of abstracts were declined because there were so many. There were a lot of good abstracts. We will conduct an online vote at the end of each panel to gather questions to be discussed at the workshop session. As of last week there were only four tutorial registrations. We are still taking registrations up to the last two weeks before the meeting. SEPA is hoping it will be a go.

The conference has about 50 registrations so far. It is typical for them to come in at the very end. Mark encourages everyone to register as soon as possible so that we can keep our current meeting location. Otherwise TESC18 may need to move out of the Kresge Auditorium because it is too large for this size meeting.

There is talk with SEPA about next year's conference being aligned with the Grid Evolution Summit Conference.

The agenda for the meeting is going well, all is looking good.

Sponsorships have come in including PNNL, NIST and LO3. Intel has also expressed interest, they are currently listed as an exhibitor. There are some other companies still talking with SEPA about sponsorship but we could use more.

Chair David Forfia noted to the GWAC group that moving to the east coast was a risk and SEPA was gracious enough to support this move. He is really hoping that registrations can move up to a number closer to 150. Anything that the council can do to raise sponsorship support and increase attendance is truly needed and would be greatly appreciated.

Action: GWAC Participants are asked to help with TESC18 outreach for registrations and sponsorships

Tanya noted that public employees are not able to be reimbursed through their employers. If there is any funding available for them that would be helpful. The National League of Cities might be a resource for them it was suggested. Tanya noted the people she has spoken to are west coast based.

Mark was asked to send the TESC18 flier out to the GWAC again regarding the conference.

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Action Mark: Resend the TESC18 announcement to the GWAC.

Mark Knight noted that a message about TESC 2018 went out today from the MIT Industrial Liaison Office regarding TESC18 to their mailing list which is extensive.

Mark thanked David Hardin for helping put together the Thursday afternoon Plenary on “The Power of Blockchain,” with four industry panelists.

Mark also thanked Chris Villarreal for his helping in setting up the Wednesday afternoon plenary session on “Customers as the Ultimate Regulators” session with regulators from the Midwest and Northeast.

GWAC White Papers

Smart Buildings as Transactive Hubs

- Ron Bernstein
- Gerald Gray
- Joe Hagerman
- Phil Davis
- Ken Wacks

Valuing control in a TES/Economic Evaluation Metric for TES

- Stephen Knapp
- Farrokh Rahimi
- Dave LeVee
- Rahul Bahadur

The groups are now connected by email and plans are starting to take shape. There will need to be a call on the Valuing Control /Economic Evaluation paper to mesh it into a singular topic focus with a new title and scope plan.

Robert Burke asked to be added to the Smart Building paper.

Action Mark: Add Robert Burke to the GWAC Smart Building white paper effort.

GWAC/Grid 3.0 Workshop

The Grid 3.0 workshop on architecture and resilience is tentatively scheduled for either October 25 and 26th or the first week of November. This is something GWAC has been interested in developing.

Many groups are involved in this topic and a workshop in fall is loosely planned. NEMA had offered to host it in Washington DC but this is not yet definite. A Grid 3.0 workshop with GWAC facilitating it is

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something we will talk about at the next call. If anyone has any ideas or information please contact Mark.

Action: GWAC participants interested in contributing ideas and information for Grid 3.0

David Forfia has had some involvement with this as well although hasn't been able to make the most recent meetings due to conflicts.

Doug Houseman noted that he is all in for Grid 3.0 and willing to work on the Agenda.

Ron Ambrosio also volunteered. Aaron Snyder mentioned that he needs to re-add Ron to the mailing list for this effort.

Aaron Snyder will add people to his email list as appropriate. Mark Knight asked to be added to his list.

Action Aaron Synder: Add Mark Knight and Ron Ambrosio to the list for Grid 3.0 and talk more about it at the next GWAC meeting.

TE Framework Refresh

Mark Knight reviewed the progress on the TE Framework.

A common overview for the Framework, Roadmap and checklist has been created and was sent to the GWAC in late April by Mark. Please send Mark any feedback on this overview.

Updates for TEF sections

- Section 4.1 brainstorming completed
- Section 4.2 draft is ready for team contributions
- Section 4.3 limited planning is complete, more is needed
- Section 4.4 a draft is ready for team contributions

Mark summarized progress on Section 4; Section 4.1 hasn't moved lately, Mark will follow up with that group. Section 4.2 has had a lot of discussions thanks to Lorenzo and Farrokh. Section 4.3 has had a call, Ron Ambrosio and David LeVee have been working on that. Mark will check with them more. Doug has sent a draft of section 4.4 and Mark will get with him about that.

Framework teams: Please be aware that this work is basis for the TESC18 GWAC Foundational Session.

The key sections are all subsections of section 4. We have had a series of brainstorming discussions. Some very good discussions have taken place.

Framework teams were asked by Mark to use the [GWAC Sharepoint site](#) for editing the Framework using track changes.

The overall goal for the updated Framework Document is September 2018.

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To be ready for the Foundational Session at TESC18 Mark presented, “plan A: Introduction plus overviews of the main part of section 4 or plan B: Introduction plus an overview of the framework, checklist, and roadmap relationship followed by key changes since 2015 and how they impact the Framework.

Mark then discussed “plan A” and “plan B” in more details with examples. Plan B gives more information about why GWAC is refreshing the Framework and helps relate the Framework to the Checklist and the Roadmap. Mark pulled information from the Framework Section 4 refresh meetings and also from discussions with some GWAC members to create Plan B. Mark thought that to keep it interesting we could talk about some of the big changes and drivers that are starting to happen in the industry rather than just speaking about the document itself.

Dave LeVee said that a good lead-in on the different aspects of how things get accomplished and decisions made about the comparative economic value of the different options. He thinks it needs a lead-in fundamentally of how these things compare. We had spoken previously at this meeting about price signals to the customer end use or to some transactive agents so that decision are made.

Ken asked if Mark had a preference and Mark said his preference would be plan B but that the other Council members might feel differently.

Next steps would be to find out which GWAC members will be available and willing to be a presenter for the Foundational Session. He thought that Ron Ambrosio and Leonard Tillman would be available. Presenters must be comfortable with what they are presenting.

Mark summarized what he thought Leonard had said, saying that we should focus on issues tied to the upcoming panels related to the Framework and to what GWAC participants are interested in.

Leonard agreed and said that he thought it might be better to focus more on giving information and to outline some of the issues rather than to take a position.

Mark asked if Leonard and David are good meeting with him and Ron Ambrosio as a starter to plan the session. Leonard and David agreed. David said he had a hybrid plan in mind that combines a bit of both plan A and plan B.

Action: Mark to schedule a meeting with Ron Ambrosio, David Forfia and Leonard Tillman to review the TESC18 GWAC Foundational Session plans and to find out who will be available to speak at this session.

Liaison Reports

David Forfia – SEPA: there will be a call to expand the working groups, a call went out at the Utility Conference. There will be a TAC at the Grid Evolution Summit to go over future direction. Mark noted some changes to TE working group.

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Ken Wacks – ISO / IEC – Their next meeting is at the end of September. Ken is giving a paper on our Cyber Security work on the Gateway at the Connections Conference next Tuesday, May 22. It is a major Home Automation Conference. This is being held at the San Francisco Hyatt Regency with 600 to 700 people. Ken will also be speaking at a workshop on Tuesday on standards for cyber security and privacy.

Tanya Barham noted that any funds that are available to help CCA members attend would really help that group of people. Lorenzo was familiar with that group and with recent actions by the CPUC that are detrimental to their position. Tanya would like to help this group to better understand what TE is and why it is important to them. Mark offered to participate in a continued conversation on this topic offline and he will pull up the document about what is TE that they all including Ron Melton, had started some time back. Mark meant to put a bit more into the document, he will do that and get it to Tanya and Lorenzo.

Action Mark to send the “Why TE” document to Tanya and Lorenzo and to schedule a call with them to discuss more in depth.

Some discussions about transactive energy took place. Mark noted that when the first TE Framework came out the term was Transactive Energy and a year later, after the revamp of the Framework, the term became Transactive Energy Systems. Now he has even heard the term participatory energy although he is not in favor of this term and finds it awkward.

Ken noted that there is evidence of various schools of thought on the use of the term. He felt that showing people examples and helping them learn by association might be a way to resolve this. Mark said that there is much documentation available but popular usage may vary.

Farrokh Rahimi noted that “For Transactive Energy applications of Blockchain, the “Proof of Work” is not appropriate, but “Proof of Stake” and “Proof of Control” (also known as “Proof of Authority”) are suitable.”

Ron Ambrosio said that blockchain is a supporting mechanism for an auditable ledger. As a ledger it’s fine, but it’s not a basis for TE. When you need to use TE to coordinate DER resources for lots of different use cases, many of which would be operational, and also for business use cases then blockchain doesn’t have the performance characteristics needed. And he went on to say that using economic value signals should not be equated to prices. Dynamic prices are one incentive mechanism but there are lots of others. If you build a proper TES with economic value signals that are more representative of the cost of delivery to a point in the network, then you can use those signals to drive any number of different incentive mechanisms including dynamic pricing.

Lorenzo then asked if we want to keep the definition of TE broad enough to encompass these different implementations.

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Doug Houseman noted that while blockchain is a ledger technology to record successful transactions, it does nothing for bid/ask, rejected bids, setting up an LMP and the like. He also noted that bitcoin can do 7 transactions per second but also noted that bitcoin does not equal blockchain.

Mark said that there is a plenary on Blockchain at the conference because it does have relevance. But Transactive Energy is another subject. Ken said that would be something to stress at the conference, that blockchain is not equivalent to TE. Mark agreed and said that TE is a tool to address the challenges of industry. Block chain is a tool to help implement another tool.

David Forfia asked for a motion to adjourn at 11:33am Pacific time. Doug Houseman gave the motion and Ron Ambrosio seconded the motion and David adjourned the meeting.