

Meeting Minutes

August 18, 2021

GWAC Members

David Forfia, GWAC Chair

Ron Ambrosio, Independent Energy Transformation Professional

Kay Aikin, Introspective Systems

Ron Cunningham, American Electric Power

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

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

Stuart McCafferty, President, GridIntellect

Ahlmahz Negash, Sr. Engineer, Tacoma Power

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

Aaron Snyder, Dir. of Grid Tech. Consulting, EnerNex

GWAC Associates & Emeritus

Rahul Bahadur, Mgr. of Eng., VMWare, Inc.

Jeff Morris, Principal, Energy Horizon Corp.

Ken Wacks, Home, Building & Utility Systems

GWAC Members and Assoc. not present

Ron Bernstein, President, RBCG, LLC

Andrew Bordine, VP Energy Mkts & Innovation, Anterix

Mark Paterson, CSO, Strategen

Leonard Tillman, Partner, Balch & Bingham, LLP

Chris Villarreal, President, Plugged In Strategies

GWAC Guests

Fatima Amara

Toby Considine

John Chowdhury

Larisa Dobriansky

Christopher Fleck

Ali Ipakchi

David Katz

Jaime Kolln, PNNL

Seemita Pal, PNNL

Elizabeth Sisley

Tim Schoechle

PNNL Support

Karen Studarus, PNNL Administrator

Susan McGuire, GWAC Coordinator

Ron Melton, PNNL

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GWAC Administration

Chair David Forfia called the meeting to order at 12:04 pm central time. David welcomed everyone to the August GWAC meeting.









Karen Studarus welcomed any new attendees and asked them to say hello. She noted the Transactive Energy Theory workshop and early GWAC meeting start time next month. She commented that the Transactive Energy Theory workshop is in line with GWAC council work.

Karen noted that TESC 2022 conference planning will be discussed later in the meeting.

Congratulations to GWAC Associates – Class of 2021 – 2022!

Congrats

Associates

 Rahul Bahadur  (Aug 2020 - Jul 2021) Manager of Engineering, VMware, Inc	 Jeff Morris  (Aug 2020 - Jul 2021) Sr. Director, State Governn Relations, Schneider Electr North America	 Mark Paterson  (Aug 2020 - Jul 2021) Chief Strategy Officer, Managing Director, Australia Pacific Strategen	 Chris Villarreal  (Aug 2020 - Jul 2021) President, Plugged In Strategies
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Karen thanked the re-elected GWAC Associates for their support to GWAC and congratulated them on their approval as the class of 2021 - 2022.

Karen asked Susie McGuire about changes received to the July minutes. Susie noted that changes were received from David Forfia, Leonard Tillman and Ken Wacks. All changes have been incorporated.

David Forfia then asked for a motion to approve the minutes as amended; Ron Ambrosio gave the motion and Ron Cunningham seconded the motion. It was noted that the minutes will be posted on the GWAC website.

Kay Aikin asked about the status of the updated GWAC website and Karen noted that the firewall problem with the new website has been identified and she hopes that it will be resolved and that the new site can be rolled out soon.

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Karen noted that due to continued COVID restrictions the GWAC Fall meeting will not be able to be Face to Face but was optimistic about a face to face Spring meeting.

Call to Order and roll call

GWAC Administrative Business

- Welcome to New Attendees
- Congratulations GWAC Associates class of 2021-2022
- Minutes and Actions
- Upcoming events
- GWAC Projects Overview Chart review

August Agenda Format:

- **PNNL TE Theory workshop announcement reminder**
 - TE Theory Workshop –
 - Sept. 15, 16, 10:00am to Noon each day
 - Sept. GWAC meeting (Administrative only) 9:30am to 10:00am
 - GWAC members invited to attend
 - Abhishek Somani, PNNL host

Technical and Policy Activities

- **Technical & Policy Activities**
 - CPUC's "High DER Future" Rulemaking R. 21-06-017 Discussion 7/30/2021 – Kristov
 - Electric Industry Visions – Statements of the Future Grid – Cunningham
 - GWAC publication citation review by Jaime Kolln
 - New Website (Studarus)
 - Blog Content

TESC 2022 planning update

Liaison Reports

Adjourn

Conferences and Events (Bold = GWAC speakers, blue = con

- Smart Energy Summit 2021, Virtual, Apr. 28, Aug. 4, Oct. 27
- ISO/IEC meetings, various times in the weeks of Sept. 14 and Sept. 21
- Solar Power International (SEPA) Sept. 20-23, 2021, New Orleans, LA
- NCEP Sept. 13-15, 2021 (National Council on Elec Policy)
- **GWAC Fall Meeting: Discuss virtual/f2f, location, date**
- CEATI Smart Grid Conference & Protection and Control, [online](#), Nov. 2-3, 2021
- NARUC Annual Meeting, Nov. 7 – 10, 2021, Louisville KY
- Grid Forward Nov. 9 – 10, 2021, Seattle, WA
- 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
- IEEE ISGT 2022, Washington, DC, February 21-24, 2022 – face to face format
- IEEE PES T&D, April 25 – 28, 2022, New Orleans, LA
- IEEE Rural Electric Power Conference REPC, Cleveland OH, May 17 – 20, 2022
- **TESC2022 – tentatively scheduled for May 3 – 5, location to be determined**

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Karen reviewed the list of upcoming GWAC related conferences. It was noted that the GWAC Fall meeting will not be able to be Face to Face due to continued travel restrictions. The group discussed a potential agenda for the meeting and suggested doing a Doodle Poll for dates in October. David Forfia suggested said a format similar to last year's workshop with several two hour blocks spread over two different days.

Karen noted that last year's GWAC fall workshop topic was grid architecture and Deepak Divan from Georgia Tech had been a guest speaker.

Ron Melton suggested that a Fall workshop theme be discussed in line with GWAC current topics. He said the F2F format has allowed participation with people outside the group in an effort to engage the community more broadly. He suggested finding a topic that is of substance with people on the council as well as with people outside the council. He recalled that past workshops have had a specific theme and topic and spanned a full day on the first day and then ended at about 2pm on the next day.

Karen said that has been the focus and we just need to find a way to get the same good engagement in a virtual format.

Ron suggested that a small organizing committee form to come up with a guest speaker and a technical topic.

Karen agreed to lead the committee and asked for volunteers. David Forfia, Ahlmahaz Negash and Ron A agreed to be on the committee to pick a topic and format an agenda.

Action: Karen and Susie to organize a GWAC Fall meeting organizing committee meeting

Karen noted that the AHR Expo to be held in January 2022 has an agreement with GWAC to help them promote their conference and they will give GWAC the use of a meeting room for a seminar if we need it.

Karen noted that a TESC 2022 organizing meeting will be held this coming Monday. She said that venues in California and Denver are being considered.

Jeff Morris commented on NARUC meetings coming up November in Louisville. He said that abstracts are being accepted. He will put something in the chat. He also asked if GWAC is interested in NASIO meetings. He said they work with national policy recommendations; state energy policy advisors attend. Karen said that sounds of interest to GWAC. He will note the dates of their October meeting in the chat as well.

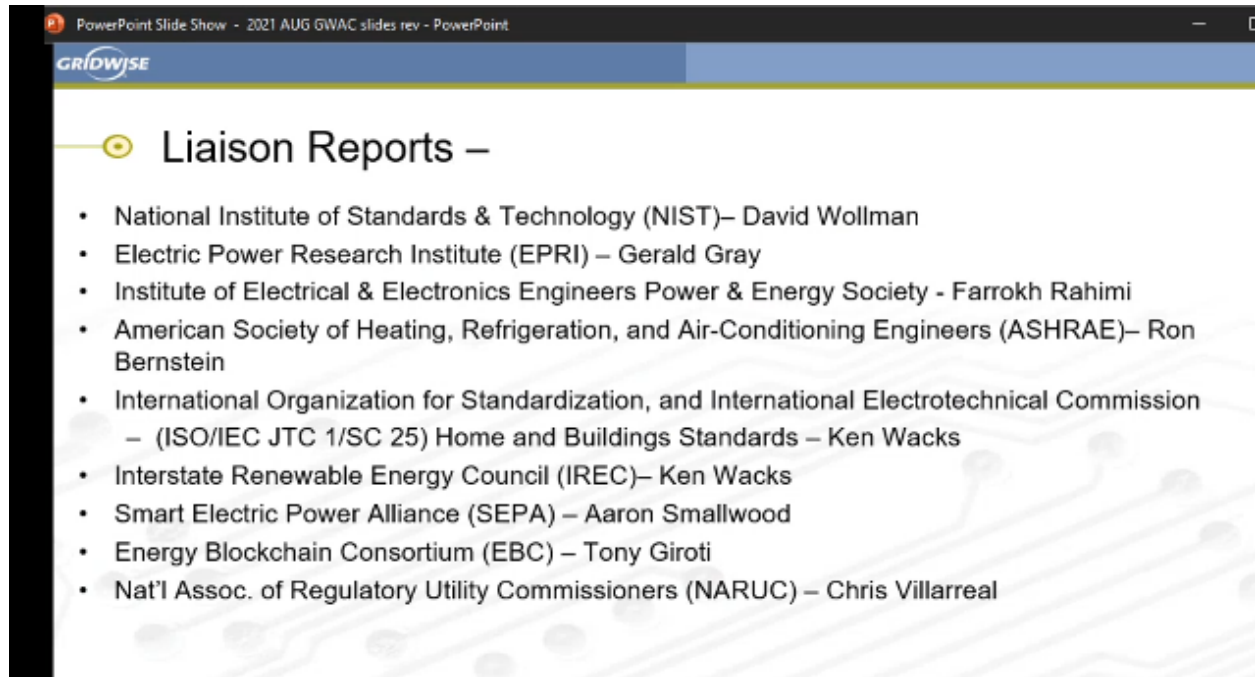
NARUC: <https://www.naruc.org/>

Farrokh requested that the next IEEE PES GM in Denver be added to the conference list.

Action: add IEEE PES GM in Denver to the conference list

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PowerPoint Slide Show - 2021 AUG GWAC slides rev - PowerPoint

GRIDWISE

Liaison Reports –

- National Institute of Standards & Technology (NIST)– David Wollman
- Electric Power Research Institute (EPRI) – Gerald Gray
- Institute of Electrical & Electronics Engineers Power & Energy Society - Farrokh Rahimi
- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)– Ron Bernstein
- International Organization for Standardization, and International Electrotechnical Commission – (ISO/IEC JTC 1/SC 25) Home and Buildings Standards – Ken Wacks
- Interstate Renewable Energy Council (IREC)– Ken Wacks
- Smart Electric Power Alliance (SEPA) – Aaron Smallwood
- Energy Blockchain Consortium (EBC) – Tony Giroti
- Nat'l Assoc. of Regulatory Utility Commissioners (NARUC) – Chris Villarreal

Liaison Reports

David Wollman was not available to give the update for NIST.

Ken Wacks - ISO/IEC JTC 25: Ken noted that this standards committee develops a family of standards call "Home Electronic System" (HES) for homes and buildings. Meetings with experts from Africa, Asia, Europe, and North America are held twice a year. The next meeting via Zoom is scheduled for about three hours each day over two weeks starting September 13. The final meeting day on September 24 will be a UN style gathering to approve various resolutions country by country. About 55 HES standards and reports have been published. These cover communication protocols, device interfaces, cybersecurity, access via gateways, interoperability, and applications including energy management. They are developing standards that support consumer-centric energy management with locally-sited generation instead of central generation and control. They welcome Transactive Energy documents.

Ken Wacks said if anyone is interested in becoming an official member of the US team of experts to help develop international standards, please contact him.

IREC Customer Grid Edge Ken Wacks - IREC Customer Grid Edge has been on hiatus since July. The next meeting is scheduled for Sept 10. Jeff Morris will be a speaker at the meeting. Jeff's talk will be on the modular communication interface for energy management, officially called the ANSI/CTA-

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2045 standard. It has been adopted through Jeff's initiative in the state of Washington and it will be coming online in Oregon. It is being debated in California.

Ken suggested that anyone willing to give a GWAC related presentation at IREC should contact him. To join this group Ken suggested going to IREC.org and navigating to Customer Grid Edge.

There you can register by putting your name on the mailing list (at no charge), or contact Ken Wacks

Gerald Gray - EPRI - EPRI has launched an initiative to help ensure sufficient electricity supply; it has to do with assessing risks to power supply resources due to extreme weather and other hazards. Also, IREA - International Renewable Energy Agency and EPRI have signed a memorandum of understanding to accelerate smart electrification and on a related note he commented that the U.S. has rejoined the World Energy Council. EPRI will host a WEC committee. A press release has gone out.

Farrokh Rahimi - IEEE: The Blockchain Energy standards group is now under the SBLC Technical Committee. Ron Melton was the chair of this committee.

Ron Melton noted that he is the now the past chair of the Smart Buildings, Loads and Customer Systems technical committee and he noted that Johanna Mathieu from Univ. of Michigan is the new chair of the committee. He said there is an architectural subcommittee in this technical group. Ron encouraged GWAC council and friends to be a part of this group because it is closely aligned with the interests of the GWAC. He also said that the awards role on the committee has also been reassigned to him as a past chair. Ron noted that there is room for GWAC collaborations with this committee or a subcommittee. He said GWAC may also want to know that last January the blockchain TE standards work (IEEE P2418.5 PAR) work moved from IEEE SA sponsorship as an entity standard to an individual standard (reformulated PAR). This allows individuals to join instead of just corporations and organizations. To allow that change the committee had to move from IEEE ISA into a home technical committee and working group. IEEE O2418.5 PAR, which is TE block chain transactive energy, is a subgroup. Farrokh Rahimi is involved and so is Sri Nikhil Gourisetti, PNNL. Gourisetti is leading the cyber security dimension of it. Claudio Lima and Umit Cali are actively involved as well. They had well over 100 people sign up to participate in this group. Ron noted that the committee would benefit by some GWAC involvement. Farrokh is fighting a good fight to avoid conflation of Transactive Energy and Blockchain but he could use some help keeping the relationship between those two areas straight between blockchain and transactive energy.

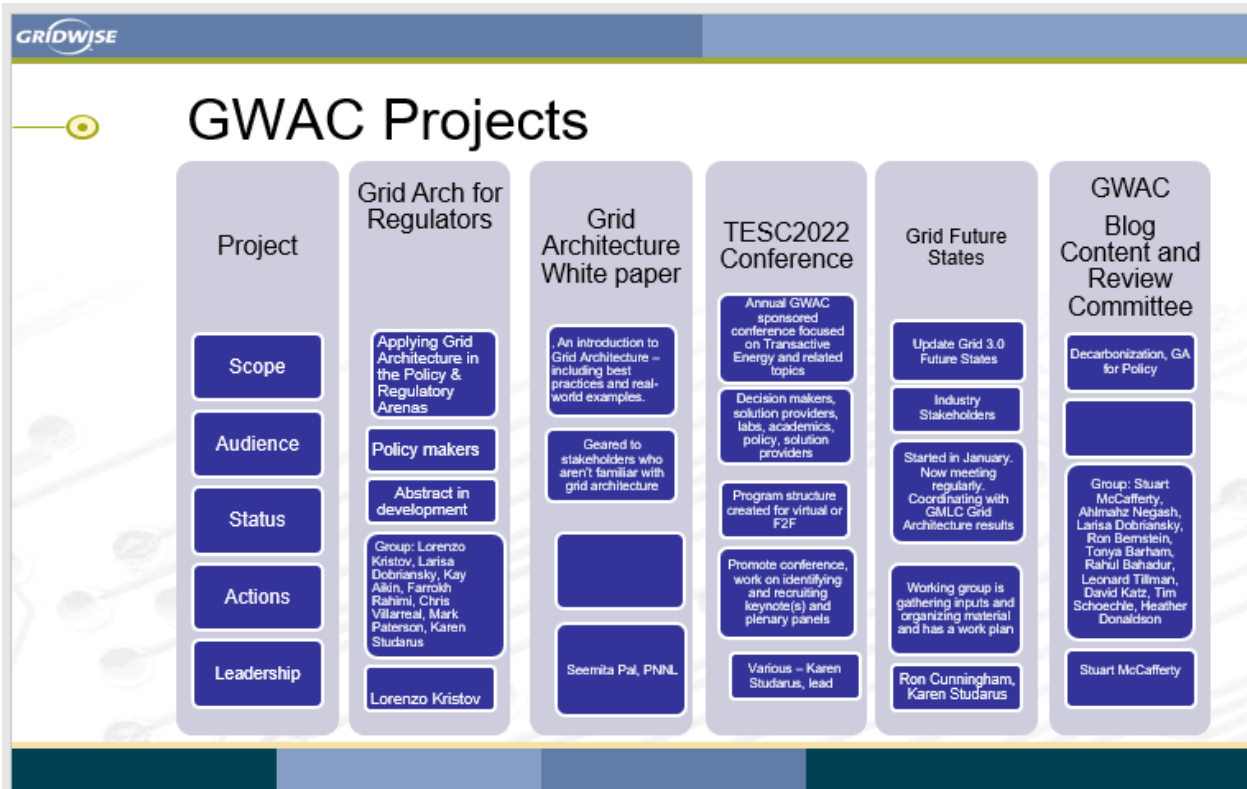
Farrokh commented that he agreed and thanked Ron for mentioning it.

SEPA - Aaron Smallwood was not able to attend today but sent detailed notes that will be attached on the last page of the August minutes.

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GWAC Matrix



Ron Cunningham said that there are 2 additional Future States assessments that have come in. Then they will be ready to do the assessment and begin writing the white paper. They will start the characterizations and content writing. He expects to have the paper later this year.

Grid Architecture for Regulators will now be tied more closely with the blog group. Lorenzo Kristov said that at last month’s meeting the blog idea was proposed and he thought that because this group is also so diverse that rather than trying to make one large work product, it might be better to break into smaller groups for multiple blog posts. This seems like something that would work better with the time commitments of the group. Stuart and Kay said it made sense to them as well. They are not limiting their group to decarbonization.

Stuart McCafferty said there are several articles already written and ready to go.

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Jeff Morris expressed his interest in joining Lorenzo's group. He also suggested a paper from this group could be submitted for the NARUC November meeting in Louisville. These basic concepts could make an excellent panel topic at NARUC.

Action: Lorenzo Kristov to add Jeff Morris to the attendee list for Grid Architecture for Regulators.

Lorenzo asked how to submit to NARUC. Jeff Morris replied there is a simple form to be submitted for a panel topic. He suggested attaching a paper with the submission for a better chance of being selected for the panel.

Karen Studarus noted that the panel submission may need to be a separate effort from the blog post.

Kay Aikin said that the blog committee is really about content and social media. And the advantage is that eventually the topic can go from blog to white paper. A panel submission is to far afield from where they are.

Lorenzo said the California PUC call on the high DER future where they ask about Grid Architecture. He has already submitted comments to it and this could be discussed in a blog. He said the group may want to have a call to discuss what topics would be good for blog posts. Jeff Morris agreed and said he would like to be invited to that call.

Also, on the GWAC matrix Karen noted that Seemita Pal has been working on a grid architecture white paper with SEPA activities. It is an introduction to grid architecture - best practices and real world examples. It is to be sent as a draft to the GWAC soon for feedback. Seemita said she needs to look at the latest version of the Grid Architecture primer and make sure there are no overlaps. Once she has completed that check, she will get it to the council for their input. Karen told the group to be expecting to receive an email about this. Karen said that she is glad that Seemita is participating in both groups.

Stu McCafferty said that the next meeting of the blog content group will be held Wed. Sept. 8. It is held the 2nd Wed. of each month at 11am Pacific time. Stu said that the group is looking for content even though they aren't sure yet exactly where it will be posted but that will be resolved soon. He also said that if GWAC members and friends have content that they could "re-purpose" as a blog the group will take a look at it and hopefully get it published. Kay added that they are trying to get to the point where they have a back-log of blogs so that they can meter them out. They want to have some consistency in how often things post such as once a month, or twice a month. Kay noted that there are a lot of writers in this group.

Lorenzo asked about blogs that raise a lot of questions and don't necessarily provide answers?

Kay replied that those are perfect and added that the group wants to raise. Karen agreed and said that our DOE sponsor would also agree with that idea.

Karen would like to talk with Kay and Stuart later this week or early next week about the frequency of posting and where to post.

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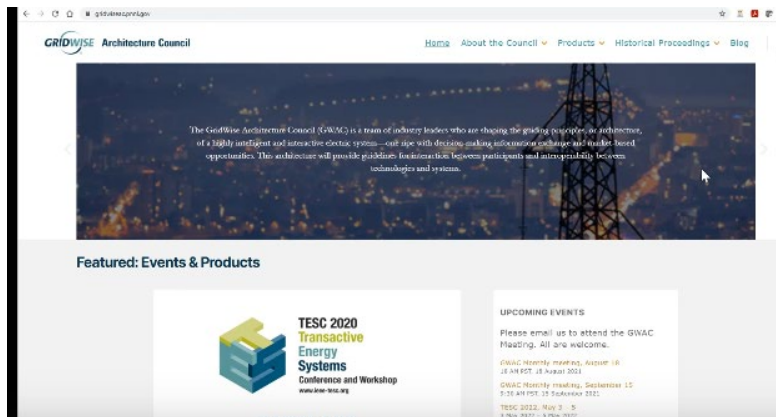
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Action: Karen to talk with Kay and Stu to look at the current blog content offline

David Katz asked if there will be a comment area. Karen replied that the blog group has decided to use LinkedIn rather than curating their own comment section.

David Forfia asked if the content has to be original? Kay said it can refer to content that is already out there and discuss it but Stu commented that they aren't going to repost other people's content. The author should be a GWAC participant (member, associate, emeritus or friend).

Jaime Kolln asked how to get to be a friend of GWAC and Karen said that regular participation in GWAC meetings makes you a "friend" of GWAC.



Karen gave a brief demonstration of the new GWAC website.

One comment was that the opening photos should feature something more state of art instead of switch gear. Solar panels, and wind turbines were suggested. That point was generally agreed upon.

Jaime Kolln asked about the work products. He said there isn't much descriptive about the material listed on the site currently. He asked if we could we create a way to show the abstract for viewers if you hover over them? Jaime has been trying to create some summaries for the highly cited topics. He would like to talk to Karen more about this. Karen agreed, saying that we need ways to search by keywords, and to add dates and product titles and expand on "why should you care about each of them." She noted that the objective is also to feature a few of our most impactful products.

Kay suggested creating a view such as is used on the on the emeritus page where if that if click more information will display.

Action: Jaime and Karen to meeting and discuss ways to make the work products page of the new GWAC website to look better and be easier to navigate.

Ron Ambrosio asked about the council - under mission and structure and suggested that we should use the GWAC pentagram which calls out how the various GWAC members represent different aspects of the industry. Ron said that adding that logo to the page might help to better convey the idea of GWAC.

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Karen noted the GWAC blog page and she showed a card of one of Mark Knight's blogs. She would like to see a photo of the author added to these as well. Good comments were received about the photos for the blogs. Gerry Gray did suggest that the graphics be equally sized. Karen agreed.

Karen hopes to be able to send a link out to the GWAC soon in the hopes of getting additional feedback. she also noted that it will convert to mobile easily as a continuous scroll.

Karen noted that the TESC 22 Organizing committee is meeting regularly and that a keynote speaker has been identified thanks to Kay Aikin.

Kay said Ahmad Faruqi, an economist and experienced speaker has agreed to speak at TESC 22 and added that he is a good fit for the regulatory and reform portions of the conference.

Karen noted that location venues are difficult to select right now because in many cases the venue meeting planning staff is not available talk to discuss meetings and many of the most suitable facilities are mothballed at this time.

Karen asked if anyone else wants to join the TESC 22 planning meetings noting that they are welcome to join the meeting this coming Monday at Noon.

Lorenzo Kristov briefed the group on the California PUC discussion that he led on July 30. Attendance was good. The first round of comments was submitted this week including comments by Lorenzo. People who are interested can to <https://www.cpuc.ca.gov/> and in the search box just plug in R.21-06-017 to see the comments that have been submitted. It's the only proceeding of its kind that he knows of in the US regarding a high DER future. It is a very broad proceeding and should be of interest to this committee.

Karen thanked Lorenzo for presenting this talk.

David Katz mentioned a [link to a recently published book](#) by Peter Kelly-Detwiler titled, ***The Energy Switch: How Companies and Customers Are Transforming the Electrical Grid and the Future of Power.*** He said it would be of interest to this group.

Karen noted it was time to end the meeting. Ron Ambrosio gave a motion to adjourn the meeting and Kay Aikin seconded the motion.

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Smart Electric Power Alliance

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Liaison Update to GWAC – August 2021

Programmatic:

- **North American Smart Energy Week is on:**
 - Attendee, venue, and City of New Orleans COVID protocols in place.
- **SEPA Working Group Series 2021 – NEW EVENT** - evolutionary step of the SEPA Working Group in person meetings inaugurated at SEPA Grid Evolution Summit in 2017. SEPA Working Groups will have the opportunity to engage with SEPA membership about their topical domain, share their work products and their vision for the group and industry.
 - October 26th, 28th, Nov 2nd, Nov 4th
 - SEPA Working Groups lead attendees through short, virtual sessions going deep into the trends and challenges of the Journey to a Carbon-free Future.

Content:

- A Microgrid Design Framework report published recently – included with SEPA membership, \$199 for non-members
 - <https://sepapower.org/resource/microgrid-design-framework/>
- Carbon Reduction Tracker 2.0 release in September.
 - <https://sepapower.org/utility-transformation-challenge/utility-carbon-reduction-tracker/>
 - Enhanced granularity in the source data, addition of a downloadable dataset
- Upcoming blog on *Increasing Grid Resilience Under Differing Distributed Control Architectures* (OpenFMB)

Technical Program:

- **SEPA Catalog of Standards platform and launch:**
 - A new SEPA CoS site will launch in September. It will have a new backend and UI, and increased search ability. The new CoS site will enable publication relevant data about a standard that is produced during the candidate review process.
- **Two technical focused staff openings currently at SEPA**
 - **1) Grid Integration Lead:**
 - <https://recruiting.paylocity.com/Recruiting/Jobs/Details/575094>
 - Expert in specific topic areas such as electric power delivery and integrating new technologies into electric utility operations and planning, including but not limited to standards and interoperability, grid modernization, grid architecture, distributed energy resource integration and management, and IT/OT

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convergence. This position will provide the incumbent with the opportunity to expand existing subject matter expertise and build a reputation across the industry.

- \$75-95K/yr.
- **2) Technical Program Manager:**
 - <https://recruiting.paylocity.com/Recruiting/Jobs/Details/560472>
 - Executes SEPA's collaborative programs in support of grid integration and grid modernization. This includes the facilitation of work products and member-value outputs, proposing and executing key grants and initiatives, managing a portfolio of small projects and communicating the successes and value of SEPA programs to SEPA members and industry. AND they get to work for Aaron. 😊
 - \$65-98K/yr.