



## International Energy Conservation Code Electric Power, Lighting, and Renewables (PLR) Subcommittee

### Meeting Agenda

January 24, 2022

11:00 AM EST to 1:00 PM EST (2 hours)

[Webex Link](#)

**Committee Chair:** Michael Jouaneh ([mjouaneh@lutron.com](mailto:mjouaneh@lutron.com)); **Committee Vice Chair:** Jack Bailey ([jbailey@oneluxstudio.com](mailto:jbailey@oneluxstudio.com)); **Note Taker:** Michael Myer ([Michael.myer@pnnl.gov](mailto:Michael.myer@pnnl.gov))

1. Call to order – Jouaneh [**11:02 am**]
2. Roll Call – Bailey (11 SC voting members needed for quorum)

	First Name	Last Name	Category	Company
X	Ali	Alaswadi*	Gov. Regulator	DC
<b>X</b>	<b>Jack</b>	<b>Bailey*</b>	<b>User</b>	<b>One Lux Studio/Int'l Assoc. of Lighting Designers</b>
X	Bernard	Bauer	User	Integrated Lighting Concepts
X	Payam	Bozorgchami	Gov. Regulator	CA Energy Comm
X	Joe	Cain	Manufacturer	Solar Industries Assoc
X	Nick	Ferzacca	User	Architectural Engineers, Inc.
X	Anthony	Floyd*	Gov. Regulator	City of Scottsdale
X	Glenn	Heinmiller	User	Lam Partners/Int'l Assoc. of Lighting Designers
X	Bryan	Holland*	Standards Promulgator	NEMA
X	Harold	Jepsen	Manufacturer	Legrand
<b>X</b>	<b>Michael</b>	<b>Jouaneh*</b>	<b>Manufacturer</b>	<b>Lutron</b>
X	Joyce	Kelly	User	GLHN Arch
	Andrew	Klein*	Consumer	BOMA
X	Mark	Lien	Standards Promulgator	IES
X	Jon	McHugh	Gov. Regulator	CA codes & standards
	Hope	Medina*	Gov. Regulator	Cherry Hills Village
12:00	Melissa	Moseley*	User	HDR/American Society of Interior Designers
X	Susan	Musngi*	Consumer	Camden
<b>X</b>	<b>Michael</b>	<b>Myer</b>	<b>Consultant</b>	<b>PNNL</b>
X	Steven	Rosenstock*	Utility	Edison Electric Institute
X	Wayne	Stoppelmoor	Manufacturer	Schneider Electric
X	Mitchell	Tolbert	Gov. Regulator	City of Austin
X	Michael	Turns	Gov. Regulator	MA Program Administrator

\*denotes member of EC4 consensus committee

3. Introduction of any guests -- Bailey (name/representation type into chat)

- Jerry Phelan, Covestro
- James Earley, Edison Electric Institute
- Doug Powell, University of Texas System - Engineering
- Amanda Hickman – The Hickman Group
- Chris Perry - DOE
- Farhad Farahmand, TRC, representing NYSERDA
- Garrett Jaynes, Engineer - City of Austin/Austin Energy Green Building
- Emily Kelly, ChargePoint
- Diana Burk, NBI
- Yiyi Chu, TRC. On behalf of NYSERDA
- Andrei Moldoveanu - NEMA
- Jim Meyers - SWEEP
- Sean Denniston - New Buildings Institute
- Michael Tillou - PNNL
- Brendan McEwen, AES Engineering (Representing ChargePoint)
- Claire Miziolek, Energy Solutions
- Kevin Rose - NEEA
- Noelani Derrickson – Tesla
- Bruce Swiecicki - NPGA
- Jason Vandever – SPEER
- Eric Lacey – RECA Codes

4. Review/approve agenda – Jouaneh

5. Meeting conduct -- Jouaneh

- [Antitrust](#) Reminder
- Identification of Representation / Conflict of Interest ([CP#7](#) Section 5.1.10)
- [Code of Ethics](#)

6. Review key actions from last meeting and approve minutes – Jouaneh **[11:10 am]**

- CEPI 185 (Horticulture) – approved by SC in last meeting and moving to full EC4
- CEP 012 (Biomass) – approved by SC in last meeting and moving to full EC4
- Meeting minutes
  - Moved: Bryan Holland
  - Second: Steve Rosenstock

7. New business.

- Proposal grouping update – Bailey
- Meeting procedure update – Jouaneh **[11:15 am]**
- Discuss proposal(s): -- Jouaneh

<b>Electric Vehicles (5) [complete discussion/voting by 11:55 am]</b>	
EV Charging Working Group	Consensus Proposal
CEPI-026-21	Require EV Charging

CEPI-146-21	Require EV Parking
CEPI-201-21	EVSI Parking Spaces
CEPI-258-21	Require EV Parking

- Presented by Steven Rosenstock
  - Where possible, intending proposed definitions to be consistent with other codes (terms, values, etc.)
  - Trying to provide technically accurate, minimum standards for EV charging
  - Seeking mandatory language that is technically correct
- Susan
  - Questions about carbon savings?
  - Steve: No carbon estimates were performed, as there are calculation issues with both operational and embedded carbon
  - Brendan McEwen: The carbon savings from EV operations more than offset by the small increase in carbon in “embedded” carbon
  - Questions about residential applications?
  - Brenan McEwen: Supports it. Proposed applications will make sense in the future for EV charging
- Jon McHugh: Question related to EV-capable
  - Bryan Holland: Capable = everything, but the branch circuit, Ready = everything and the branch circuit
- Anthony Floyd: Does capable include conduit and conductors?
  - Bryan Holland: In short, capable is some, under ready, the connections are waiting for final termination
- Jon McHugh: Question about the time-value of money of EV systems not coming online until 10 or 20 years from now. Is more cost effective to do this in the future?
  - Steve Rosenstock: Installing new and larger transformers in the future can be expensive and can require the building to be shut down.
  - Brenan McEwan: Cheaper to do in new construction and not in terms of retrofit
- Anthony Floyd: We are assuming that 100% of future cars will be EV. As part of a minimum code, I think that this is not a correct assumption.
- Payam Bozorgchami: What exception C405.13.1 “occupancies other than R2”
- Steve: Are items #6 and #7 dealbreakers? No one raised an issue
- Jon McHugh: Requests explanation of the 4.1 kVA
- Bryan Holland – Can we agree that there has to be some level of
- Vote:
  - Motion: Approve the EV proposal as presented
  - First: Bryan Holland
  - Second: Joe Cain
  - No additional discussion
  - Vote: Yes: 10 | No: 4 | Abstain: 4
  - Reason: Consensus proposal combines four EV proposals provided this cycle and will improve the effective use of energy supplied to a building by providing electrical connections for automobile spaces
    - No objections to the reason statement
  - Note: This is a consensus proposal and as a result, PLR is the author
  - Motion from Wayne S. (seconded by Steve R.) to table the four EV consensus proposals until the consensus committee discusses this (Feb 9<sup>th</sup>). Motion passed.

- Vote: Yes 14, No: 0, Abstain 2

<b>MANDATORY RENEWABLES REQUIREMENTS FOR SECTION C405 (6)</b>	
CEPI-007-21	Energy Storage (Mandatory Req. in C405) [12:05 pm complete discussion/voting]
CEPI-142-21	Inverter Standards (Mandatory Req. in C405) [12:15 pm complete discussion/voting]
CEPI-233-21	Appendix CB Solar Ready [12:25 pm complete discussion/voting]
Renewable Working Group	Consensus Proposal
CEPI-005-21	Renewable Energy (Mandatory Req. in C405)
CEPI-143-21	Renewable Energy (Mandatory Req. in C405)
CEPI-144-21	Renewable Energy (Mandatory Req. in C405) [12:59 pm complete discussion/voting]

#### CEPI-007-21 (Energy storage)

- Diana Burk spoke in favor citing improved resilience by requiring energy storage in new buildings.
  - Steve Rosenstock asked if the NFPA section reference was accurate. Diana said the DOE wants to revise some of the language. Michael noted that we can approve it and the public comment period allows for revision which Diana was fine with.
  - Joe Cain suggested this go back to a task group to work on before voting since the fire code has increased in complexity with individual requirements that needs to align and be referred to specifically. This would have to come back to our committee again.
  - Jack Bailey noted that it states building sites and in NYC that means buildings as there is little other site space so it should be restated,
  - Motion to send to proponents:
    - First: Joe Cain
    - Second: Payam
  - Vote: Yes 15 | No 1 | Abstain 1
  - Reason (to send back to proponent) Needs more work
  - WG: This working group consists of Joe Cain (lead), Jon McHugh, Mitchell, Payam, Nick F., and Bryan Holland
  -

#### CEPI-142-21

- Diana presented this advocating for Smart Inverters for various reasons.
  - The UL references should be run by UL per Joe Cain who offered to verify this with UL Staff suggesting that we do not modify this 'on the fly' without checking with UL
  - Jon McHugh asked if this would allow utilities to curtail inverter output. Diana said she would get back to him.
  - Bryan Holland wanted to wordsmith this but did note that NEMA is 100% supportive

- Motion to modify to add the UL year (1741-2021) and reference (Anthony Floyd seconded)
- Vote: Yes 17 | No 0 | Abstain 1 (Motion Approved)
- Motion to approve CEPI-142-21 as modified by
  - First: Bryan Holland
  - Second: Harold Jepsen
- Vote: Yes 16 | No 0 | Abstain 1 (motion approved)
- Reason: to ensure that inverters are compatible with safety standards

#### CEPI-233-21

- Joe Cain spoke concerned with an aspect that could impede solar readiness. He said he plans to make a motion to send this back to task force for modification. It is so specific that it might conflict with fire code
  - Jack suggested that we may approve this conditionally
  - Steve Rosenstock noted that sending it back makes sense or accept conditionally
  - Problem with first sentence in second paragraph per Bryan Holland who advocates sending this back to the task force
  - Jon McHugh had a voltage drop concern but Bryan replied that it was not about voltage drop so citing the NEC would be good for the task force to do
  - Motion by Joe Cain to return to proponents for further work
  - Vote: Yes 13 | No 2 | Abstain 2

#### Other:

- Jack Bailey noted that we just took this time to vote to send two items back that we will need to review again so this delays the process, so proponents need to get these better prepared before submitting
- Harold J. noted that the time constraints from IECC are too restrictive

#### Mandatory Renewable Proposal:

- PNNL conducted an analysis
- Includes an off-site renewable energy requirement
  - Steve Rosenstock: Believes changes need to be made, this is a minimum code. Steve's comment: As of now, ASHRAE 90.1-2022 is requiring 0.25 W/ft<sup>2</sup> of on-site renewable energy (for all new commercial buildings). There are proposals to raise the levels to 0.50 – 0.75 W/ft<sup>2</sup> depending on the occupancy, but nowhere near the levels being proposed in document that you sent.

Also, ASHRAE has an exception for buildings under 10,000 square feet, while this proposal has no exceptions for smaller buildings based on size. Smaller commercial buildings have higher turnover and higher vacancy rates.

In addition, it would probably be helpful to have definitions or informative notes about what qualifies as IT equipment and phone equipment for the table.

In C405.13.2.2, it says "The contract shall be structured to survive a partial or full transfer of ownership of the building property." Is that really enforceable by a code official? Do all code officials have training in contract review / management?

8. Other business – Jouaneh

9. Future meeting: 11:00 am – 1:00 pm ET on Feb. 14, 2022

10. Adjourn [**1:00 pm**]

FOR FURTHER INFORMATION BE SURE TO VISIT THE ICC WEBSITE:

[ICC Energy webpage](#)

[Code Change Monograph](#)

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

Subcommittee Chair