



## **MINUTES**

### Orange Empire Division International Association of Electrical Inspectors

Date: Jan 3<sup>rd</sup> 2012.

Location: Santa Ana Elks Lodge, 212 S. Elk Lane, Santa Ana, California.

Called to order by Randy Buck at 11:48 a.m.

Self-introductions were by all attendees.

Randy Buck began by thanking Tom Griffith of Griffith Electric for arranging for this venue for the next year and for his many other contributions. All done on his own time – including: work as the Southwestern Section Membership Chair; maintenance of the websites for the Southern California Chapter, the Orange Empire Division and the Border Counties Division; and the handling of secretarial functions for the Southern California Chapter when Chuck Leisher was not available.

Scott Davis announced that the Orange Empire Division officers for 2012 are the same as for 2011. Randy Buck encouraged others to fill those positions. Membership evidently believes they are being served well as nobody objected or volunteered.

Minutes of Dec, 2011 approval was postponed; they are on the website for review.

#### **Membership Comm. Report**

Report given by Tom Griffith: 107 Division members.

#### **Treasurers Report**

The Treasurer's Report was postponed until next month.

#### **Old Business**

Tom Griffith reminded the group that this year's Section meeting is in San Diego and scheduled for Monday through Thursday, 27 through 30 August.

Tom also reminded the group that members without name tags could pick up a name tag here for no charge for the first tag and \$5.00 for a replacement or second name tag. He added that the template for the name tag is on the website and could be printed out from there.

Tom expressed kudos to Scott Davis for the documents that he had provided after last month's meeting. Scott added that there were a "couple guys" that had signed up to receive those documents whose writing he could not read; he advised that, if anyone had paid for the documents and not received them, they should call him at his office.

Regarding the upcoming Southwestern Section meeting, Scott opined that Section meetings are a great opportunity to ask the hard questions and meet significant people. Tom added that it was a good opportunity to acquire one's CEUs. Steve Schinko of Eaton/Cutler-Hammer added that there will be day passes which will be when most of the education is done. Tom added the U. S. aircraft carrier Midway has been reserved for the night event; including a tour. Scott added that he has been to two Section meetings and that both were "totally" worth his time.

Tom Griffith informed the group that he has a couple more 2008 Analyses at \$40.00, which is a bit less than we had paid for them. Scott suggested that we purchase one for our library.

Tom asked the group what they thought about going back to doing a raffle at the end of each meeting. A discussion to establish a raffle followed with a multitude of perspectives and options expressed. Randy Buck ended the discussion by stating that an effort will be made to prepare proposals for a few different options for presentation to the group at the next meeting; he encouraged attendees to e-mail suggestions to him or Scott.

Scott reported that acquisition of a wireless microphone and additional monitor was still in process.

### **New Business**

None proposed.

### **Code Questions**

Scott Davis showed the group a drawing showing the cold-water grounding-electrode conductor attached to the supply side of the water meter; he cautioned against this practice. The same drawing showed a main bonding jumper at a sub panel, and Scott cautioned against this also. He mentioned the exception for sub-panels in existing, detached structures.

Randy Buck described a design that he had seen that showed a 277-Volt supply and a 277-Volt load with a 120-Volt UPS between the two of them. A 277/120-V transformer was installed on the line side of the UPS and a 120/277-V transformer was installed on the load side of the UPS. There was no reference to ground on the load side of the 120/277-V transformer connected to the load. He cautioned that there could or could not be a neutral-ground bond at the load circuitry in such installations. He stated that it was his experience that the UPS technicians did not like to ground the neutral (bond neutral and ground) at the load circuitry.

Scott Davis described a PV-system design of PV arrays on top of 162 separate carports. He said that he had suggested that a DC disconnect be placed on both sides of each carport so that any single carport could be electrically isolated. He added that LA County has that stipulation to provide such disconnects in their public handout.

Jerry with the City of Eastvale stated that he had concerns about the accessibility of PV-system DC disconnects at single-family dwellings. Scott opined that the Code required such disconnects when entering a structure unless the DC conductors are in hard conduit. Randy Buck suggested that State guidelines be consulted. Scott added that Santa Ana has their version of the State guidelines available on the City's website. For micro-inverters, Scott said that he is asking for AC disconnects on the roof within sight of the source array.

### **Consultant Time**

Dan Vaughan asked if anyone knew of a reference for a length at which a sleeve becomes a conduit when penetrating a fire-rated assembly. Steve Schinko of Eaton/Cutler-Hammer said that he remembered the existence of such a rule, but could not remember where it came from. Scott opined that the rule of thumb was "three feet" and Randy opined that it was "two feet". Scott also mentioned that a fire-rated assembly is also a smoke barrier and that smoke travel must also be considered in the analysis. Larry LeVoir of the City of Irvine suggested that, regarding conduit at both ends, look in the UL directory for info on conduit installed in the firestop system where it says that conduits are to be installed per the rules of the NEC. He went on to suggest that the penetrating conduit be terminated in an enclosure just beyond the rated assembly. Bill Brownell with GE suggested that UL Fire Systems Directory has a real description of every fire-rated construction. Larry went on to suggest that applying a rule-of-thumb was not appropriate, that we would not find anything in the Building and that the AHJ would have to make a judgment. Randy suggested that the fuel loading also be considered.

Saum Nour gave a handout of his blogs and invited all to visit them.

### **Testing Lab Time**

None taken.

**Contractor Time**

None taken.

**Manufacturer Time**

None taken.

**Utility Time**

None taken.

**Inspector Time**

None taken.

**Education Program: California Electrical Code vs. National Electrical Code**

by Scott Davis.

Scott used some pictures from Code Check; told the group that they can view Code Check material at [codecheck.com](http://codecheck.com).

Scott touched on or expressed the following.

Local Amendments are allowed.

The CEC text is identified by "CA" at the side margin and/or text is italicized.

The following sections contain CA text.

Section 89.101.

Section 352.12.

Coordination (Selective) pg. 70-25

Section 89.110 OSHPD; OSHPD 3 is enforced by the local building dept. (There is an OSHPD office in Santa Ana.) Saum Nour commented that "CANS" on left side of OSHPD web sites; that's where you can find recent changes. Discussion of OSHPD issues followed.

CEC section *89.110.3.2* Applicable building standards. lists the California Codes to be applied to OSHPD 3 occupancies.

*210.50 (E)*: we enforce this.

Scott provided a handout containing agency-adoption tables for the various CEC Chapters.

Electrical requirements for State historical buildings are found only in the State Historical Building Code (SHBC).

394.12 Knob & Tube wiring is not generally allowed by NEC, but CEC does with an Exception: [HCD 1].

Article 404 Switches. Accessibility rule details is no longer in our code. Accessibility is addressed in the building code. Compliance with that regulation by an informational notes are now in the 2010 California Electrical Code.

Article 406 Receptacles. Note at beginning refers to the building code for accessibility issues. 406.8 gives minimum distance from showers and tubs for receptacles; but, only applies to OSHPD-enforced projects.

NEC 210.52, Exception: Counter-top kitchen receptacles can be installed below the counter top when providing for the physically impaired. This is an accessibility issue specifically addressed by the NEC.

Chap 5 Matrix is very complicated.

The local building department may well be the enforcing agency for OSHPD 3 occupancies.

No non-metallic conduits or multi-outlet assemblies are allowed for OSHPD 3 occupancies, including Low-Voltage systems.

517.10 Applicability, not used for OSHPD 3, use 517.10.1 instead.

*CEC 517.24* addresses mobile medical facilities.

515.22 Artificial Lighting. Compliance with another document published by IEEE is required.

590.3(C) Temporary Installations for tests and emergencies must have AHJ approval; State Fire Marshal (SFM) overrides the AHJ.

Use CEC rule 625.29(E) rather than 625.9(D) for ventilation of electric-vehicle chargers; i.e. use the California Mechanical and California Building Code requirements rather than the Electrical Code requirements.

680.13 Gas Chlorination Equipment Rooms [DPH]. For automatic chlorination, switch interlocks are required for ventilation and for chlorinator/pump operation. The room is a corrosive atmosphere, so regular electrical equipment is not suitable.

680.14 California signage. Public spa must have a sign at specified height and lettering.

700.3 Power Sources Test (*2010 CEC is: 700.4 Tests and Maintenance*). OSHPD 3, an ASC (Ambulatory Surgical Center) must have a permanently installed emergency power supply.

760-1.1 Fire Alarm Systems 760.1.1 Equipment and Systems. .... shall conform to...NFPA 72-2007.

Apply OSHPD 3 rules over normal Building Code requirements for hospitals.

760 Fire Alarm Systems: Accessibility for actuation devices is no longer in our code; it's addressed in the Building Code.

Meeting adjourned at 1:45 p.m.

Respectfully submitted by  
Dan Vaughan (*Italics are my own comments.*)