



President: Mark Chrysler
1st Vice President: James (Rusty) Anderson
2nd Vice President: Martin Montessoro
Secretary: Tiffany Kirk
Treasurer: Steve Jones
Membership Chair: Dean Mastrovic
Education Chair: Bruce Barnes
Sergeant at Arms: Nancy Martinez
Ex-Officio: Bruce Barnes
Other Members: Billy Duggins and Pat Healy

IAEI Border County Division

San Diego, California

Minutes for April 12, 2011

12:00 p.m. No-Host Lunch

1:00 p.m. - 3:00 p.m. Meeting

Sizzler Restaurant (Meeting Room)

3755 Murphy Canyon Road

San Diego, CA 92123

1. Call to Order and Self Introductions

Meeting was called to order by Mark Chrysler, President of the Border County Division, at 1:00 P.M. 37 in attendance made self introductions. There were 3 first timers.

2. Review and Approval of Minutes

Minutes from the March 8, 2011 meeting were reviewed and approved as presented.

3. Reports

Treasurer's Report: Steve Jones was not present. Nancy Martinez presented the treasurer's report which was reviewed and approved as presented.

Membership: Dean Mastrovic reported there are 3 new members for a total of 71 members for the Border County Division of the IAEI.

Education: Bruce Barnes reported today's education will be presented by Ken Parks from San Diego Gas & Electric on PV from a Utility's Perspective. May's education will be presented by Bruce Barnes on the SDG&E's Service Standards Updates, Part II. June's education will be presented by Eric Jensen from Esgil Corporation on the "Quirks of the Code". There are no meetings in July and August. September's education will be presented by ETI on Ground Fault and Medium Voltage. October's education will be presented by Appleton on Hazardous Locations (articles 500 – 517). November's education topic is still open. December's education will be presented by Chuck Leisher on Medium Voltage Switchgear (the condensed version) with emphasis on the inspections side of the business.

Bruce reported there's a training seminar on PV presented by Scott Humphrey this Thursday (4/14/11) sponsored by the ICC. Please see Scott if you're interested in attending, there are still

openings for registration. Scott mentioned that NECA is coming out with a standard (draft) for the Electric Vehicle Charging.

4. Old Business

Mark Chrysler highly suggests attendance for the IAEI Southwest Section meeting this coming August in Reno, NV. He attended last year's meeting in Phoenix and reported it was well worth his time and he learned a lot from the interaction between the code making panel and the audience. Registration is now available on the IAEI website.

The 2012 Southwest Section meeting will most likely be held in San Diego. If this is the final decision, we'll need your help in making this meeting successful. For now, please send in education topics to the section education chairman.

5. New Business

No new business to report at this time.

6. Education Program

Presenter: Ken Parks with San Diego Gas & Electric

Subject: PV from the Utility's Perspective – Photovoltaic Electric Generation

The following were covered in the presentation:

- Net Energy Metering (NEM) Facts
 - From 1999-2008 SDG&E averaged interconnecting 950 new Net Energy Metering customers per Year
 - In 2009 SDG&E authorized 2,697 new Net Energy Metering customers for a total of 17,018kW
 - In 2010 SDG&E authorized 3,201 new Net Energy Metering customers for a total of 25,834kW
 - As of March 31, 2011 SDG&E authorized 751 new Net Energy Metering customers for a total of 5,712kW
- How Much Power Will PV Make
 - In San Diego
 - 1 kW of PV will produce 1400 – 1700 kWh annually
 - We can assume 1.2 kW = 1700 kWh annually
 - Assumes due south @ 33 degree tilt
 - Does not take into account shading
- What is net Energy Metering
 - Two-Way Relationship with SDG&E
 - Receives electricity from SDG&E
 - Sends electricity to SDG&E
 - Retail Credit for Excess Power
 - Up to 1 MW
 - No Standby Charges for Businesses
- Residential Electric Rate Tiers
 - Break down by Summer/Winter
- New Online Application as of January 2010

- Online application and interconnection agreement
- One-line diagram
- Plaques
- City/County Inspection
- SDG&E Inspection
- 24/7 Hour Meter Access

REQUIRED BEFORE SYSTEM OPERATION

- Online Submittal Steps
- Communication Via E-Mail
 - New Notification Process – Customer & Contractor e-mails are mandatory
- New MEM Requirements as of January 2010
 - No AC Utility Disconnect for residential with 400 amps or less of service
 - No AC Utility Disconnect for Commercial with 200 amps or less of service
 - Yes AC Utility Disconnect for all transformer rated metering
 - Yes AC Utility Disconnect for all generator output metering
- New NEM Application Requirements Greater than 30 kW as of January 2010
 - 3 copies of application
 - 3 copies of one-line diagram
 - 3 copies of bill of materials
 - 2 copies of interconnection agreements

REQUIRED BEFORE SYSTEM OPERATION

- Plaques
- City/County Inspections
- SDG&E Inspection
- 24/7 Hour Meter Access

For additional information, please contact Ken Parks, Manager, at 858-636-5581 or netmetering@semprautilities.com.

7. Code Question(s) of the Month

Question: I have a customer who has installed a listed/labeled spa for the US market rated at 70 amps, 240 volt single phase.

The installation instructions call for a 70 amp 240 volt two pole breaker with #4 AWG (THWN-2) type conductors. The breaker has appropriated ratings and all connections are at 75 C. Load calculations for the additional load have been approved and meet all Article 220 and Table 316 requirements (2008 NEC). The service conductors are utility supplied 120/240 volt at 200 amps (black in color).

The customer used rigid metal conduit (RMC 1-1/4 trade size) with approved listed fittings for the equipment grounding conductor (per Article 250,118) and the raceway is installed indoors within the building lines. The RMC runs from the main service panel to the GFCI Sub-PNL provided with the listed equipment. The GFCI Sub-PNL is installed per 110.3B and meets all requirements of Article 680. The total number of bends in the conduit system is 450 degrees. The raceway meets all requirements of Article 344. The customer has installed a listed, code complaint, pull point at 270 degrees. The customer has installed 3 white #4 AWG (THWN-2) conductors in the raceway. Two of the white conductors are re-identified as ungrounded conductors, six inches with 3-M type Scotch black tape at all accessible locations and termination points (main service, pull point, and GFCI Sub-PNL). The third #4 AWG conductor will be used as the grounded conductor.

Is this installation (utilizing two white #4 AWG THWN-2 conductors re-identified as current carrying conductors) code compliant?

Answer: The consensus is that this installation is code compliant as long as the conductor is permanently identified as a grounded conductor.

8. Organizational Time

Inspectors – None

Consultants – None

Testing Agencies – None

Contractors – Daric with Rowan Electric had a question regarding a set of plans that were returned for a "Riding Stable" @ 120/240v residential service for a classroom type building. His client bought an air conditioner (A/C) rated at 208/230v. The plans were returned because the A/C wasn't rated at 240v. Again, the consensus was that his plans shouldn't have been returned.

Manufacturers – None

Utilities – Bruce reported the 2011 Service Standards & Guide (SS&G) has been printed and internal training completed. The SS&G are available to the public for a small fee of \$50 + tax. There were significant changes to our Underground (UG) Standards which directly affect the UG section of the SS&G. The major change is the new 3309 hand hole to accommodate the new 3 inch conduit requirements. As a result of the UG changes, the SS&G book will be accompanied by an errata package. There is consideration for grandfathering of the 2 inch conduits. Please work with your SDG&E planners. The changes are expected to be updated on line by the end of April.

Bruce is asking for assistance from the AHJ's to report inspections on new installation of "Electric Vehicle Charging Stations" whether or not there is a sub meter being installed. This information will help SDG&E to manage the added loads and plan their infrastructure to better serve the public.

Rusty asked if SDG&E cares if a meter serving a "well" (PA) can be used for other purposes such as a residential garage or barn. Basically, can the well meter serve anything else? Bruce will verify this question and provide an answer at the next meeting.

9. Final Business

Per Karen with NECA, the EV Standards will be available in the 2014 NEC.

10. Adjournment

There being no further business, meeting was adjourned at 2:18 P.M.

Next meeting: Tuesday, May 10, 2011 at 1:00 P.M.

Respectfully submitted,

Tiffany Kirk
BCIAEI Secretary