

# NEW JERSEY SKYLANDS CHAPTER

## International Association of Electrical Inspectors

### Hunterdon, Morris, Somerset, Sussex, and Warren Counties



**14 March 2019**

**Officers:**

**President**

**Robert Rutan**

**1<sup>st</sup> V/President**

**Frank Baguiaio**

**Secretary**

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President Bob Rutan opened the meeting at 6:04 pm with the flag salute and a moment of silence for our men and women overseas. Rutan requested a report from Treasurer Don Storms who reported our balance and followed up with a report that the Audit Committee met and the books are accurate thanks to the wonderful assistance of Kimberly. Rutan then asked Greg Chontow for the Secretary's report. Chontow stated that the January minutes were posted on the Chapter's website. He asked if there were any necessary corrections. As there were none, he requested and received a motion to accept the minutes. Rutan then asked for any old business. Chontow commented that the previously discussed training for the on-line Cut-In cards that JCP&L was offering to give is in the works, and an announcement will be made when they have chosen a date. As there was no additional old business, Chontow continued the meeting with New Business. He stated that when installing a whole house generator, installing a service rated transfer switch, and converting the main panel into a sub panel, The range and dryer cables may no longer be in compliance as they may not have the required insulated neutral conductor. Any installation that creates a non-compliant installation from a previously compliant installation, is a violation and must be "repaired". Vice President Frank Baguiaio stated that on 17 December, the Governor signed into law a requirement that all applicants for the Electrical Contractors license exam shall now be required to attend a four year accredited apprenticeship program. However there is a four year grace period to this law. Chontow stated that he will be running a License Prep course in May, and anyone that may be interested should contact him. Rutan moved on with his request for questions from the floor. A member asked about the accuracy and usefulness of the AFCI tester, as it does not work with every manufacture of AFCI breaker. Chontow stated that UL states that the only approved method of testing an AFCI is with the integral test button. Additionally, as the device in question does not actually test an AFCI but rather injects an arc signature on the circuit, it is called an AFCI Indicator. Another question was whether a new sump pump installation could be failed when installed with an extension cord to an existing receptacle. The response was yes, as extension cords can only be used for temporary installations and a sump pump is permanently installed. Another question was whether a well pump was required to be grounded. A request for clarification was made as there is a requirement

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for an equipment ground to be run with the current carrying conductors to ground the motor, however, a bond does not need to be run, as the well pump/well casing is not defined as a grounding electrode. (Editor's note: The bonding of well casings was a previous requirement, but as detailed in the Spring 2004 Construction Code Communicator, it is no longer a requirement). Another question arose as to whether a multi conductor cable containing six hot conductors and six neutrals (12 current carrying conductors) are required to be derated. The general consensus was they do not (Editor's note: 310.15(B)(3) is the adjustment factor requirement for both raceways and cables). A question was asked as to whether a NEC code book could be used once it is published, regardless of whether it was adopted. The answer is no. It can be used only after adoption due to the fact that the state has not reviewed whether specific articles would be implemented into the UCC until adoption. As there were no additional questions from the floor, President Rutan turned the meeting over to Christy Rosati, Field Applications Engineer from Bussmann. Christy started out by introducing Bussmann's FC<sup>2</sup> app that is available for smartphones and desktop computers. An app that will calculate available short circuit with simple information. She then asked the membership to download it for use later in the program. She then went on to explain that the effect of a short circuit could cause a warped busbar and damaged conductor insulation among other things. In addition to the utility's ability to supply short circuit current, other items such as generators, motors, and solar arrays can also increase the available short circuit current. Items that are in a circuit that limit the level of short circuit include items such as transformers, cable, busways, and reactors. We then went on to calculate the available short circuit current based on a simulated scenario, starting with a transformer then adding length of conductor. The app produced a number that we would use to size the interrupting rating of the overcurrent device. It was explained that hazards of an insufficient interrupting rating could cause shock, fire and projectiles. Then we were shown a video of the effects on a device when an the available short circuit current is greater than the interrupting rating of the device. A question arose as to the difference between an interrupting rating and short circuit current rating. It was explained that the interrupting rating is the highest current rating that an overcurrent device is intended to "interrupt" while the short circuit current rating (SCCR) is the maximum fault current that equipment can handle without sustaining damage. She also demonstrated the label printing ability of the app that could be sent directly to your email address. At the conclusion of her presentation, she handed out a checklist for the use of verifying interrupting rating and short circuit rating. Christy ended her presentation with a round of applause from the 39 members present.

Respectfully Submitted  
Greg Chontow, Secretary