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## A Message From the Executive Director:



**Hello, everyone!**

We are moving into fall, school started, where did the summer go?

I recently attended the NERA (National Electrical Reciprocal Alliance) meeting in Portsmouth, NH. As most of you know this group consists of 20 states that have "similar" laws and rules for electricians as North Dakota. This allows for electricians to reciprocate their license when moving between these states. ND has journeyman reciprocity with 10 and master reciprocity with 2 of the NERA member states. Due to various conflicts with schedules, only 11 states were represented this year.

We had an interesting meeting where Mark Earley (from NFPA) did a presentation on Power Over Ethernet

(POE) circuits and the concerns associated with them. Also NFPA's Jeff Sargent discussed the upcoming 2020 NEC and subject matters that some of the code making panels will be facing. All the states gave reports on activity in their jurisdictions and they all say work is picking up and their inspectors are busy.

Attending these meetings gives North Dakota a great opportunity to network, collect new ideas and get a good view on what's happening around the country in the electrical industry. We learned that of the states attending, four of the states have some sort of licensure requirements for power limited circuits so we will continue to visit with those states about how they accomplished that and determine whether or not it's a fit for North Dakota.

As a reminder, the enforcement & exam content of the 2017 NEC and new title

24.1 of the 2017 Laws, Rules & Wiring Standards of North Dakota went into effect July 1<sup>st</sup>. The 2017 ND Laws and Rules are available at our office or on our website at [www.ndseb.com](http://www.ndseb.com).

I want to close with the following thought: We still see apprentices applying to take their journeyman license exam and they do not have the required education part of their apprenticeship completed. Master and Journeyman, please remind these apprentices to keep a current registration with the NDSEB office and of the education requirement which has been required since 2008.

Please call if you have questions or comments and have a happy fall of 2017!

Be safe out there,  
James Schmidt

## Changes in 2017 ND Wiring Standards and NEC

With the adoption of the 2017 edition of the National Electrical Code and the North Dakota Laws, Rules and Wiring Standards effective July 1, 2017, it is important to review some of the significant changes that occurred to ensure compliance for projects that started after July 1, 2017. The following is a brief outline of some of the more significant ones. We recommend that you review them fully in your code book, and take time to participate in a class where more of the changes are covered as part of your continuing education.

- **ND Standards 24.1-06-01-40(1) (b) Heat alarms:** For new construction, an approved heat alarm shall be installed in the attached single tenant garage of a residence and interconnected with the smoke alarms within the residence.
- **NEC 210.8(B) GFCI protection for other than dwelling units:** Single phase receptacles rated 150 volts to ground or less, 50 amps or less and three phase receptacles rated 150 volts to ground or less, and 100 amps or less installed in the listed

locations shall have GFCI protection for personnel.

- **NEC 210.8(E) Crawl space lighting outlets:** GFCI protection shall be provided for lighting outlets not exceeding 120 volts installed in crawl spaces in all locations.
- **NEC 210.11(C)(4) Garage branch circuits:** At least one, 120 volt, 20 amp circuit shall be provided to supply receptacles in dwelling unit's attached garages and detached garages with electric power.
- **NEC 210.12 AFCI requirements:** North Dakota now follows the NEC in regard to locations where AFCI protection is required to include kitchens and laundry areas.
- **NEC 210.52(A)(2)(1) Wall space:** Fixed cabinets that have countertops or similar work surfaces shall be included when measuring wall space.
- **NEC 210.52(C)(3) Peninsular countertop spaces:** The only change here is how the countertop

is measured; we do not interpret this change to not require a receptacle be installed on the peninsula.

- **NEC 210.71 Meeting rooms:** Requirements added to require a minimum number of receptacles be installed in meeting rooms of less than 1,000 square feet.
- **NEC 230.95(C) Performance testing:** The ground fault protection system shall be performance tested by a qualified person using a test process of primary current injection and a written record shall be made and available to the AHJ.
- **NEC 250.104 Bonding of piping systems and exposed structural metal:** The bonding jumpers for metal water piping and exposed structural metal shall be sized according to NEC Table 250.102(C)(1).
- **NEC 310.15(B)(7) Single phase dwelling services and feeders:** Single phase feeder conductors of 120/208 volt systems are now permitted to be sized according to 310.15(B)(7)(1) through (3).
- **NEC 406.12 Tamper resistant receptacles:** Expanded to 250 volt 15 & 20 amp nonlocking type receptacles and added four more locations where they are required.
- **Short circuit current ratings:** New requirements for short circuit current documentation have been added for control panels, motor control centers, air conditioning equipment, industrial machinery, and transfer equipment.

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## News & Notes from NDSEB

- ELECTRICAL INSPECTION FEES:** As a reminder, effective August 1, 2017, inspection fees shall be as follows. Areas affected have been highlighted:
- APPRENTICE REGISTRATION RENEWALS COMING UP:** If you are an active Apprentice, your registration expires January 31, 2018. Renewal reminders will be

JOB COST	INSPECTION FEE
Up to \$500.00	\$25.00 (minimum fee)
\$500.00 to \$3,000.00	\$25.00 for the first \$500.00 plus 2% on balance up to \$3,000.00
\$3,000.00 to \$10,000.00	\$79.00 for the first \$3,000.00 plus 1.5% on balance up to \$10,000.00
\$10,000.00 to \$15,000.00	\$184.00 for the first \$10,000.00 plus 1% on balance up to \$15,000.00
\$15,000.00 to \$100,000.00	\$234.00 for the first \$15,000.00 plus ½ of 1% on balance up to \$100,000.00
Over \$100,000.00	\$659.00 for the first \$100,000.00 plus ¼ of 1% on balance

mailed out the first week of December, 2017, and apprentices can begin the renewal process any time after November 1, 2017. Again, we encourage online renewal at [www.ndseb.com](http://www.ndseb.com). It is quick, easy and instantaneous.

We want to again stress the importance of staying registered. We have had apprentices losing valuable work experience as they work towards their Journeyman license by not staying registered.

- WIRING CERTIFICATES VALID FOR ONE YEAR:** Contractors: This is a reminder that wiring certificates with a job cost of twenty thousand dollars or less are valid twelve months from the original filing date (N.D. Administrative Code 24.1-05-01-

01(3)). This was put into administrative rules to eliminate the smaller jobs lingering from year to year and where owners are occupying unfinished projects. If the project remains unfinished, a new wiring certificate shall be filed on all unfinished work.

- SERVICE AWARDS PRESENTED:** Congratulations to Richard Krause (District 2 Inspector) on 10 years of service, and James Schmidt (Executive Director) and Zachary Paetz (District 11 Inspector) on 5 years of service and dedication to the Board!
- POWER LIMITED TECHNICIAN LICENSE (PLT License)** The Board is taking email comments on your opinion of a power limited technician license, similar to what other states may have. The Board has received requests to create a

power limited technician license for doing low voltage work (the low voltage maximum has not been defined yet). The concern is power over ethernet (POE) work where you have a device drawing current on the data cabling running long distances, plus grouping the cables together. Plus there is installation where the installer of data cabling may not be aware whether they are installing in a classified area or where plenum cabling may be required. There is a lot of other concerns, so the Board would like to hear from you as your input is valuable to them. Please email us at [electric@nd.gov](mailto:electric@nd.gov).

- ANNUAL NDIAEI CONVENTION:** The annual NDIAEI convention will be held at the Baymont Inn & Suites in Mandan on **Oct 19th & 20th**. There will be representatives from

UL, NFPA, NEMA and other code professionals that will be covering topics such as Transformer Protection --- Working Space Requirements --- Energy Storage Systems --- Induction Motor and Drive Applications --- Short Circuit Ratings and Fault Current Markings, as well as other code topics. Twelve hours of CEU will be provided, as well as display booths from our local vendors providing a look at the newest products for the electrical industry. Registration forms are available at [www.IAEI.org/web/NorthDakota](http://www.IAEI.org/web/NorthDakota). If you have questions or comments contact Scott Halle at the NDSEB office.

- NDSEB CONTINUING ED CLASSES STILL AVAILABLE.** Online-only pre-registration is required. Go to [www.ndseb.com](http://www.ndseb.com), Continuing Education, "2017 NDSEB CEU Classes & Registration." Register early.
- NORTH DAKOTA GOVERNOR BURGUM HAS APPOINTED MARK CHRISTOPHER TO BOARD:** On July 1, 2017, Governor Burgum appointed Mark Christopher to the 5-year term of journeyman representative. Mr. Christopher replaces Kyle Miller, who we want to thank for his years of service.

- CONTRACTOR REMINDERS:**
  - When calculating job costs, make sure you include any allowances for electrical work that may be provided by the general contractor such as a lighting allowance.
  - A start-up copy of the wiring certificate shall be submitted to the state electrical board and a copy to the power company before work commences.
  - Within fifteen days of completion, use, or occupancy, whichever is foremost, the final paperwork shall be submitted to the office of the state electrical board, along with the proper fee. ☺

## GFCI in NON-DWELLING Locations An Important Change

**Fall** is once again upon us !!!

As you know, NDSEB has adopted the 2017 NEC and ND Standards, and as of July 1, 2017 we started enforcing all the newly adopted codes and code articles. There were some changes and additions to the ND Wiring Standards that might make it worth your time to read.

We are now following the NEC when it comes to AFCI protection in dwellings. There is a new requirement for a heat detector wired in an attached garage, and several other code issues.

NDSEB also raised the minimum job cost for requiring a wiring certificate from

\$300 to \$500, but there are occasions that work may be under \$500 and a certificate is required. ND 24.1-05-01-01.

One of the changes in the 2017 NEC that seems to be a topic of discussion is NEC 210.8(B) and the requirements for GFCI in NON-DWELLING locations.

If a 50A, 250V single phase receptacle is installed in a farm shop, commercial garage, grain bin site, etc., it must be GFCI protected. When it comes to the 50A receptacle installed in an RV ped, at an RV park, NEC 551.71 tells us what receptacles are required, and which

receptacles shall be GFCI protected, and the only requirement for GFCI in an RV park, is on the 125V, 15 and 20 amp receptacles. NEC 551.7(F).

If you have any questions, feel free to contact any of our State or City Inspectors.

Currently, we have 11 State Electrical Inspectors, and you can find their contact information on our website under Inspection Districts. There are also City Inspectors in Grand Forks, Fargo, Bismarck and Minot that can help you with any code questions you may have. ☺

each site with a 50 ampere supply facility.

Again, these are just some of the changes. Please refer to your copy of the 2017 North Dakota Laws, Rules and Wiring Standards and the National Electrical Code to familiarize yourself with the complete text and with the other changes that were introduced. ☺

## Making A Connection: Training & Compliance Admin. Scott Halle

Scott Halle has worked for the NDSEB for a total of seven years, serving as the Training and Compliance Administrator for the last three years. Originally from Grand Forks, ND, Scott graduated from Grand Forks Central High School and has a degree in Electrical Technology from the North Dakota State College of Science.

Scott and his wife Brenda have been married for 27 years and have two sons: Matt and Josh. Josh and his wife Amy have a son, Atticus. Scott and Brenda also have two black labs, Widgeon and Leinie.

**Where have you worked previously?** *I worked for a couple of contracting firms in Grand Forks for many years, and then I was hired as a maintenance electrician at the hospital in Grand Forks. After several years, I took a position teaching Construction Electricity at a community college and had a small contracting business of my own. After leaving the college, I worked as a maintenance electrician at a manufacturing plant in Grand Forks*

*until starting with the NDSEB.*

**What is your favorite part of your job?** *Meeting with and talking to many different electricians around the state.*

**The best thing about North Dakota is . . . ?** *All the great people who live here and all the beautiful places we have access to in our state.*

**What would be your dream vacation?** *Someday I would like to go to Europe and tour Germany and England.*

**What are your hobbies?** *North Dakota hockey. Also pheasant hunting and fishing, and working on projects around the house. Go Sioux!!!*

**The best movie of all time is . . . ?** ☺



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- NEC 440.9 Grounding and Bonding:** Air conditioning and refrigeration equipment installed on rooftops shall have an equipment grounding conductor installed in raceways that use non-threaded fittings.
- NEC 551.71 RV receptacles provided:** A minimum of 40 percent of new RV sites shall be equipped with a 50 amp 125/250 volt receptacle.
- NEC 551.73 Calculated load:** Electrical services and feeders of RV parks shall be calculated on the basis of not less than 12,000 VA for