

Meeting Minutes: Board of Electricity

Date: Jan. 31, 2023 (rescheduled from Jan. 10, 2023)
Time: 9:00 a.m.
Location: **In person/WebEx/Phone**

Members Present

1. Alfreda Daniels – via WebEx
2. Cole Funseth
3. Sarah Gudmunson
4. Duane Hendricks – Chair
5. Steve Haiby
6. Dean Hunter – CO’s Designee
7. Todd Huttner – via WebEx
8. Peter Lindahl – Vice-Chair
9. Travis Thul
10. Desiree Weigel – Secretary

Members Absent

Mike Hanson
Jeff Heimerl

DLI Staff & Visitors

Jeff Lebowski (Board Counsel, DLI)
Brittany Wysokinski (Bd. Counsel, DLI) – WebEx
Lyndy Logan (DLI)
Marty Kumm (DLI)
Sean O’Neil (DLI)
Steve Dudley (DLI)
John McNamara (DLI)
Amanda Spuckler (DLI)
Derrick Atkins (JATC)
Michelle Dreier (Electrical Assn.)
Nick Erickson (Housing First)
David Fisch (MNESTA)
Adam Hanson (MN ABC)
Bryan Holland (NEMA) – WebEx
Chad Kurdi (BKV Group) – WebEx
Gerry O’Connor (EATON) – WebEx
Andy Snope (IBEW)
Gary Thaden (NECA/MMCA/SMACNA)
Trevor Turek (JATC)
John Williamson (former board member) – WebEx

1. **Call to Order**

- A. **Roll Call:** Chair Hendricks called the meeting to order at 9:12 a.m. Roll call was taken by Secretary Weigel and a quorum was declared resulting in 10 of 12 voting members present in person or via WebEx.
- B. **Announcements/Introductions – Chair Hendricks**
 - Everyone present in person and remotely are able to hear all discussions.
 - All votes will be taken by roll call if any member is attending remotely.
 - All handouts discussed and WebEx instructions are posted on the [Board’s website](#).
- C. WebEx instructions/procedures were explained.

2. **Approval of Meeting Agenda**

A motion was made by Lindahl, seconded by Haiby, to approve the agenda as presented. The roll call vote was unanimous with 10 votes in favor of the motion; the motion carried.

3. Approval of Previous Meeting Minutes

- A. A motion was made by Lindahl, seconded by Weigel, to approve the Nov. 1, 2022, regular meeting minutes as presented. The vote was unanimous with 10 votes in favor of the motion; the motion carried.
- B. A motion was made by Haiby, seconded by Weigel, to approve the Dec. 6, 2023, NEC 2023 Code Adoption Committee special meeting minutes as presented. The vote was unanimous with 4 Committee member votes in favor of the motion; the motion carried.

4. Regular Business

- A. **Expense Approval** – Expense reports will be forwarded to Financial Services for payment.
- B. **Enforcement & licensing update** – See **Attachment A**. Electrical Enforcement Actions can be found on the department’s website at: <http://www.dli.mn.gov/business/electrical-contractors/electrical-enforcement-actions> -
- C. **Inspection update** – see **Attachment B**.

5. Special Business

- A. 2023 NEC – Advisory Rules Committee Report and Recommendation – Dean Hunter
Hunter presented “Board of Electricity Report for the 2023 NEC Subcommittee” – summary of slides immediately below:
 - The NEC subcommittee met on 4 occasions to review the significant 2023 NEC Changes
 - Informational Handout Book was provided (Analysis of Changes, 2023 NEC)
<https://www.iaei.org/store/>
 - Free access to the 2023 NEC maybe found at: <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70>
 - 2023 National Electric Code Subcommittee work
 - Opportunity for both Committee and Public questions and comments during and after the meeting.
 - Questions and comments were sent to DLI.Electricity@State.MN.US
 - Repeated process until the committee review until recommendation was made
 - Sub-Committee meeting objectives
 - Cover the Significant 2023 NEC Changes
 - Review Committee 2023 NEC Spreadsheet
 - Cost Analysis (Department)
 - Recommendation
 - NFPA 70 – this presentation is based on the requirements of the 2023 edition of the National Electrical Code (NEC)
 - General Information – 2023 National Electric Code
 - Model Code Development
 - NFPA NEC 1st and 2nd Draft Meeting
 - Public Input and Public Comments
 - The Development of the 2023 NEC
 - Interesting information about this revised document
 - IAEI provided 36 members as CMP representatives to the NEC revision process
 - IAEI Codes and Standards Committee vetted and submitted IAEI endorsed Public Inputs and Public Comments to NFPA for consideration

- NFPA NEC First and Second Draft meetings were conducted virtually instead of in person Code Making Panel Task Group meetings were also conducted virtually
- There following were submitted to NFPA for this edition of the Code:
 - 4006 Public Inputs
 - 1805 First Revisions
 - 1956 Public Comments
 - 900 Second Revisions
 - 441 Correlating Notes
 - 55 Certified Amending Motions
- Several IAEI members served on NFPA Correlating Committee Task Groups to work on issues needing resolved
- Code Wide Changes
 - NEC Style Manual Changes
 - Definition Location
 - Reconditioned Equipment
 - Medium Voltage Requirements
 - New Articles for 2023 NEC
- Article 100- Class 4 Circuit
 - A new definition for a Class 4 Circuit has been added as it applies to equipment and installations located in Article 726
 - This was the result of the Packet Energy Transfer (PET) Systems Task Group tasked to provide guidance towards this new technology
 - This emerging technology has been referred to in the past as Packet Energy Transfer (PET), Digital Electricity (DE), Pulsed Power, Smart Transfer Systems and Fault Managed Power (FMP)
 - Involves a fault-managed system that verifies the powered device is present and operating correctly prior to a greater than Class 2 power being applied (a fault would cause a termination of the output power)
 - Must ensure safety in design, implementation, installation, and use of this technology
 - There are now a total of seven (7) definitions associated with this Class 4 technology
- 110.16(B) Service Equipment/Feeder Supplied Equipment
 - This adds “Feeder Supplied Equipment” to the title, adds the phrase “arc flash” for the type of permanent label required, and reduces 1200 to 1000 amperes for equipment rating amperes
 - Clarifies that the requirements apply to both service equipment and feeder-supplied equipment. It was necessary to add the phrase “arc flash” to clarify the type of permanent label required for this equipment
 - The revision from 1200 to 1000 amperes will protect worker safety
 - The four previous list items and exception deleted and now references label to meet applicable industry practice

- 110.26 Spaces About Electrical Equipment
 - This change concerns equipment doors and their interference with egress and access from working space
 - Many instances of electrical equipment installations violate the previous Code language involving this working space (entrapment when doors are open)
 - Worker entrapment by equipment doors can cause serious injury or death
 - This change recognizes open equipment doors can impede egress from electrical equipment when dangerous situations arise (arc blast, etc.)
 - Access and egress is impeded if an equipment door(s) is opened and restricts the working space access to less than 610 mm (24 in.) wide and 2.0 m (6 ½ ft) high
 - This code provision also applies to the space between two simultaneously opened doors on opposite sides of the aisleway
- 210.8(A)(6) Dwelling Units- Kitchens
 - Ground-fault circuit-interrupter (GFCI) protection has been expanded to include any cord-and plug equipment in the kitchen, regardless of whether the outlet serves the countertop
 - There have been 104 electrocutions that have taken place from 2011 to 2022 based on the consumer products safety commission (CPSC) database
 - Eighty-one percent of these accidents were from working on an appliance or other equipment, GFCI protection required within a kitchen for receptacles that are 125-volt through 250-volt and supplied by single-phase branch circuits rated 150 volts or less
- 210.8(B) Other Than Dwelling Locations
 - A new list item (4) has been added for the addition of buffet serving areas to the list of locations requiring ground-fault circuit-interrupter (GFCI) protection
 - All receptacles are to be GFCI protected if they are:
 - Single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, 125-volt through 250-volt
 - Three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less. The buffet serving area typically contains various food wells which hold hot water
 - Customers or staff members touching the stainless steel are subject to electric shock in the event of an accident
 - It was demonstrated that these locations are similar in safety concerns to those surfaces which are in kitchens
- 210.8(B) Other Than Dwelling Locations
 - Language at list item (7) has been modified addressing cord-and-plug-connected fixed and stationary appliances at sinks locations in other than dwelling units
 - The electrical hazard is typically not with the 125-volt through 250-volt receptacle supplying a fixed or stationary piece of equipment, but from the equipment itself
 - Equipment such as a refrigerator or range is typically constructed of metal and located within 6 feet of a sink
 - A person at the sink making contact with these metal appliances has been injured or killed as a result
 - This action was necessary to prevent needless electrocutions or shocks to people from occurring

- 210.8(B) Other Than Dwelling Locations
 - A new list item (13) has been added for aquariums and bait wells in locations other than dwelling units
 - Receptacles installed within 1.8 m (6 ft.) of aquariums, bait wells, and similar open aquatic vessels or containers need to be provided with ground-fault circuit-interrupter (GFCI) protection:
 - Single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, 125-volt through 250-volt
 - Supplied by three-phase branch circuits rated 150 volts or less to ground, 100 amperes or less. The areas around bait wells, aquariums, and the like tend to be wet conductive locations where various types of electrical equipment are used
 - Examples are aerators, luminaires, and pump motors
 - GFCI protection of the receptacle provides a level of protection from accidental electrical shock to both workers and the public
- 210.8(D) Specific Appliances
 - The appliances (cord-and-plug and hard-wired) requiring ground-fault circuit-interrupter (GFCI) protection was placed into a list format for ease of use
 - GFCI protection will apply to outlets supplied by a branch circuit of 150 volts or less to ground and 60 amperes or less in a single-phase system
 - Appliances now appear in a list format for enhanced useability and also to correlate with section 422.5
 - New appliances appear in red text:
 - Automotive vacuum machines
 - Drinking water coolers and bottle fill stations
 - High-pressure spray wash machines and tire inflation machines
 - Vending machines
 - Sump pumps
 - Dishwashers
 - **Electric ranges**
 - **Wall-mounted ovens**
 - **Counter-mounted cooking units**
 - **Clothes dryers**
 - **Microwave ovens**
- 210.8(F) Outdoor Outlets
 - Ground-fault circuit-interrupter (GFCI) protection is to be installed when the equipment supplied by an outlet covered under the requirements of this section is replaced
 - This addresses issues of older existing outlets that are not GFCI protected
 - Will require GFCI protection for dwelling outdoor outlets when the electrical equipment is replaced that receives power from that older existing outlet
 - This change will increase the overall level of safety by providing the same level of protection
 - Notice: TIA 23-3 (TIA Log #1664) created Exception No. 2 stating that GFCI protection not required for listed HVAC equipment

- This exception made it into the 2023 NEC published edition and will expire September 1, 2026
- 210.12 Arc-Fault Circuit-Interrupter Protection (AFCI)
 - This section was reformatted making it easier to reference and utilize the requirements
 - The 10-ampere branch circuit was added to the branch circuit sizes allowed for these locations and subdivisions were renamed
 - Subdivision (A), Means of Protection, now lists the protection methods available
 - Subdivision (B), Dwelling Units, Subdivision (C), Dormitory Units, and Subdivision (D), Other Occupancies, contains a list format of locations requiring the 120-volt, single-phase, 10, 15, and 20-ampere branch circuit outlets or devices to have AFCI protection
 - Subdivision (E) is titled Branch Circuit Wiring Extensions, Modifications, or Replacements
- 210.52(C) Dwelling Units- Island and Peninsular
 - The requirement for receptacles serving the countertop or work surface of a kitchen island or peninsula has been made optional, but guidance for their location has been maintained when they are provided
 - Data compiled by the Consumer Products Safety Commission (CPSC) document 45 reports of burns or other injuries between January 1991 and 2020
 - An estimated 9,700 burns or other injuries were treated in U.S. hospital emergency rooms
 - Most injuries were the result of hot contents being spilled from electric countertop cooking appliances onto children who pulled on appliance cords hanging from the side of the countertop or peninsular island
 - The installation of a receptacle outlet for these locations will now be optional, but if provided the receptacle must be located on top of the countertop or peninsular island
 - In the event a receptacle outlet is not provided, the electrical contractor must provide a method to the island or peninsula for the future addition of a receptacle outlet (Example: NM or UF cable in a box with cover)
- 210.70 Lighting Outlets Required
 - Laundry areas have been added to the existing list of locations in 210.70(1), requiring a listed wall- mounted control device to be installed for the lighting outlet
 - Prohibits the switch or wall-mounted control device to rely solely on a battery power unless provided with a means to energize lighting outlets upon failure
 - This requirement only applies to dwelling unit locations in the following locations: every habitable room, kitchen, laundry area and bathroom
 - It should be noted that a wall-mounted control device controlling a receptacle(s) can be installed instead of a lighting outlet(s)
- 215.18 Surge Protection (Feeders)
 - Language requires Type 1 or 2 SPDs when a service or feeder supplies a dwelling unit, dormitory unit, guest rooms of hotels and motels, and sleeping rooms/areas of nursing homes and limited-care facilities

- Voltage surges can damage important sensitive equipment, such as smoke alarms, AFCIs, and GFCIs
- These devices are very important in areas where people sleep
- Rules have been expanded to ensure that SPDs are also required for feeders supplying other occupancies or areas used for sleeping purposes
- Requirements specify SPD's must have a nominal discharge rating not less than 10kA
- Note new requirements located for SPDs at sections 225.42 and 230.67
- 220.5(C) Floor Areas
 - Areas such as garages, or unused or unfinished space(s) are no longer excluded from the calculated floor area of the building, dwelling unit, or other area
 - A new subsection (C) was added to Section 220.5(C) titled "Floor Areas." The previous text "not adaptable for future use" was considered subjective
 - Garages and other spaces often are used as ancillary space to the habitable portions of the dwelling
 - These spaces will now be included in dwelling, building, or other space square foot calculation
- 225.41 Emergency Disconnects
 - Requires an emergency disconnect at a readily accessible outdoor locations for one-and two-family dwelling units that are served by feeders as well as service
 - One-and two-family dwelling units are not always fed by a service but instead by an outdoor feeder. This ensures that all new one-and two-family dwelling units are provided with an emergency disconnect located at a readily accessible outdoor location
 - This disconnect to be marked as "EMERGENCY DISCONNECT"
 - Plaque or directory must also be provided adjacent to the emergency disconnect identifying the location(s) of any other energy source disconnect on the premises
 - The disconnect must be on or within sight of the dwelling unit
- 230.67(A) Surge-Protective Devices
 - Revised the subsection by changing the existing term "dwelling units" to "the following occupancies" and added a list of additional locations that now require protection by a surge-protective device (SPD)
 - Service equipment can at times be subjected to surges that inflict damage on systems designed to provide life safety
 - Recognized industry authorities such as NEMA, IEEE, and UL, have collected data showing surges cause significant damage
 - Electronic life-saving equipment such as fire alarm systems, GFCIs, AFCIs, and smoke alarms could be rendered inoperable when a surge occurs (Many times, this damage is undetected by the owner). Additional occupancies have now been added that include:
 - dormitory units, guest rooms and guest suites of hotels and motels, and areas of nursing homes and limited-care facilities used exclusively as patient sleeping rooms
- 230.85 Emergency Disconnects
 - Section 230.85 was reorganized into sub-sections with titles to better align with the formatting requirements of the NEC Style Manual

- Clarifies that meter disconnects integral to meter mounting equipment or other listed disconnects used as the emergency disconnect cannot be marked as “suitable ONLY for use as service equipment”
- This requirement does not apply to the regular service disconnect(s) for the one- and two-family dwelling [see 230.85(B)]
- Section 230.85(C) was added to clarify that all of 230.85 applies to new or replaced service equipment
- An exception was added to clarify that when only meter sockets, service conductors, service raceways, and/or fittings are replaced, 230.85 does not apply
- Section 230.85(D) specifies that a plaque or directory be provided adjacent to the emergency disconnect identifying the location(s) of any other energy source disconnect on the premises
- 406.12 Tamper-Resistant Receptacles
 - Allows for an easier understanding of where tamper-resistant receptacles are required
 - Additional areas and occupancies were added where tamper-resistant receptacles will now be required to help protect children
 - Required for public transportation facilities such as bus stations, airports, and other areas such as gymnasiums, skating rinks, and fitness centers
 - Required for agricultural buildings accessible to the general public such as pumpkin patches, petting farms, Christmas tree farms, and similar venues
 - Text for clinics, medical, dental offices, and outpatient facilities was revised to clarify the areas where these receptacles are to be installed
- 410.10(F) Luminaires Installed in or Under Roof Decking
 - Requires a minimum of 38 mm (1 ½ in.) to luminaires under any roof system where physical damage can occur to the luminaire
 - Roofers installing screws and other fasteners occasionally miss trusses or rafters and could inadvertently damage luminaires
 - This previously only applied to metal corrugated style roof systems
 - An exception was added for installations of 50 mm (2 in.) of concrete covering metal- corrugated sheet roof decking
 - This exception utilizing concrete does not require 38 mm (1 ½ in.) spacing between the deck and the luminaire
- 410.71 Disconnecting Means for Fluorescent or LED Luminaires
 - Relocated the requirement for disconnects for luminaires to this location because LED drivers were added to this section
 - Originally added to the Code in response to an accident involving a double-ended lamp fluorescent ballast replacement
 - Many fluorescent lamps are being discontinued and replaced with LED lamps
 - Many are being upgraded to incorporate LED lamps to meet energy conservation requirements and to address a hazard that would exist with either style of luminaire
 - Only addresses LED-type luminaires that are the equivalent to fluorescent luminaires that utilize double-ended lamps
- 440.14 Location

- Adds a reference to 110.26(A), which makes it clear that working space clearances are required for air-conditioning and refrigerating equipment
- HVAC contractors install their equipment per the manufacturer's specifications
- Some are not aware of the minimum required clearances in 110.26 for disconnects that require servicing
- Adds clarity for the inspector and installer that minimum clearances must be maintained at air- conditioning and refrigerating disconnects
- 547.26 Physical Protection (Agricultural Buildings)
 - Nonmetallic cables will be prohibited from being concealed within walls and above ceilings of buildings that are contiguous with or physically adjoin livestock confinement areas
 - It has been substantiated that rodents and other pests cause damage to wiring systems such as nonmetallic sheathed cables
 - There is also a requirement that protection is to be provided for all types of electrical wiring that is subject to physical damage
 - Electrical wiring installed in this environment must be protected against physical damage
- 550.32(A) Service Equipment
 - The electrical service disconnect can now be located "within sight from" the mobile home as opposed to the previously required 30 feet
 - Service equipment cannot be installed in or on mobile home
 - The service disconnect can also serve as the emergency disconnect (230.85)
 - "Within sight from," "In sight from," and "Within sight" are defined terms in Article 100
 - Visible and not more than 15 m (50 feet)
 - Reference 250.32 in the NEC for requirements concerning grounding
 - Note: Manufactured homes (with permanent foundation) not required to have remote service equipment
- 555.15 Replacement of Equipment
 - Equipment at Marinas, Boatyards, Floating Buildings, and Commercial and Noncommercial Docking Facilities
 - The "replacement" of electrical equipment at docking facilities to be installed to the current edition of the NEC
 - The new language will allow the authority having jurisdiction (AHJ) to inspect the existing electrical equipment for any damage
 - The damage found for existing equipment needs only to be repaired to the NEC edition for which it was originally installed
- 555.36(C) Emergency Electrical Disconnect
 - Language has been added at a new subsection 555.36(C) to mandate that an emergency disconnect be located within sight of a marina power outlet or enclosure that provides shore power to boats
 - The location of the emergency disconnect is critical
 - A circuit breaker handle is expressly prohibited from being used for this purpose. Time is critical and disconnecting the boat nearest the swimmer is very important
 - This will help to save the lives of electric shock drowning (ESD) victims and responders

- The installer and the AHJ will need to make sure that this requirement is adhered to for these locations
- Note: The source of voltage threatening a swimmer may not be the nearest boat
- 620.51(A) Type Ex. No. 2 (Stairway Chair Lift)
 - Clarification for situations where cord-and-plug connection of a stairway chair lift utilizing batteries is permitted
 - Revised existing exception concerning cord-and-plug connections
 - Some modern chairlifts are supplied by batteries as their primary power source. Recognizes this type of stairway chair lift as being suitable for plug-and-cord connection
 - This is in lieu of the previous requirement for a fused motor switch/lockable circuit breaker
- 680.5 GFCI and SPGFCI Protection
 - Text has been revised and subdivided to address ground-fault circuit-interrupter (GFCI) protection and introduce Special Purpose Ground-Fault Circuit-Interrupter (SPGFCI) protection in swimming pool locations
 - SPGFCI protection is a relatively new GFCI protection requirement for circuits above 150 volts to ground, but not more than 480 volts phase to phase, single or three phase
 - The protection for higher voltage circuits shall not exceed 20-mA ground-fault trip current
 - GFCI protection has been required and the equipment to be readily available for pool installations at typical single-family dwellings and smaller commercial facilities (120/240, single phase and 208Y/120, single and three phase installations)
 - Some larger installations utilize electrical systems that operate outside the voltage system parameters of Class A GFCI protection
 - This change is directed at providing protection at those installations
- 680.54(C) Equipotential Bonding of Splash Pads
 - Substantiation was submitted for the creation of 680.54(C) to address bonding requirements for splash pads
 - Provides additional information to assist with identification of the splash pad boundary. Many splash pads are constructed such that the area outside the splash pad perimeter is also concrete
 - This change is an effort to identify the termination point(s)
 - This will help to assure the electrical safety of the user of this equipment and the public
 - The electrical professional should seek information and understanding of splash pad structure from the splash pad (pool) designer
 - Communication will have a significant impact on the installation and inspection approval of these bonding provisions
- 690.12 Exception No.2 and Informational Note
 - New language to eliminate rapid shutdown requirements for structures where firefighters will not need to access the roof
 - The PV Industry Forum (PVIF) helped provide substantiations for these changes

- Rapid shutdown requirements were created to provide a greater degree of safety for rooftop firefighting operations
- Previous language did not clearly delineate any exceptions for rapid shutdown requirements. Ground-mounted PV system and carport structures do not present similar hazards as a roof-mounted system on buildings for first responders
- Rapid shutdown equipment is not as critical for a ground-mounted PV system because it is not installed on the roof of a structure
- Article 722
 - Cables for Power-Limited Circuits, Fault-Managed Power (Class 4) Circuits. New Article 722 was created for the general requirements for these cables
 - There are concerns that installations and inspections of Chapter 7 work is not conducted to the level that you would find for installations covered by Chapters 1-4
 - In some jurisdictions an electrical permit is not required for installations of this nature. Combines common cabling requirements found in Articles 725, 760, and 770 and relocates other cabling requirements from those articles into a single article
 - This change is intended to make it easier for the electrical professional to find requirements, which will aid with installation and enforcement
- Article 726 Class 4 (CL4) Power Systems
 - A new Article 726 was created for fault-managed power (FMP) systems in occupancies other than dwelling units
 - There have been over 1,000 installations of “Digital Electricity” in the United States. These are mostly at stadiums where large numbers of people gather
 - A failure in this environment could be disastrous, causing needless loss of life
 - Class 4 systems have ground-fault circuit-interrupter (GFCI) equivalent protection (line to ground) while also introducing similar protection line to line
 - This allows for installations that do not require raceway systems
 - The higher voltage associated with this technology leads to lower current allowing the electrical professional to install smaller conductors when compared to 120-volt AC systems
- **Subcommittee Review**
 - See **Attachment C** and previously provided cost analysis– Summary of Significant 2023 NEC Section Changes and BOE cost analysis.
- **Cost Analysis**
 - Hunter referred to **Attachment D** – correspondence received from Central Minnesota Builders Association (CMBA) and Housing First MN and distinguished BOE’s Cost Analysis Spreadsheet and Summary. Both associations’ cost estimates and the BOE estimates were similar, but the BOE estimates were further broken down into mandatory costs vs. optional costs
- 1. (210.8(A)(6)) GFCI Protection for all Kitchen Receptacle Outlets.
 - 2020 NEC: Only required the kitchen receptacle outlets serving the countertop to be GFCI protected.
 - 2023 NEC: Will require all kitchen receptacle outlets to be GFCI protected.

- The cost increase is based on the existing breaker already being required to be AFCI protected, and the circuit breaker would now be dual function to provide both AFCI and GFCI protection.
- 2. (210.8(A)(7)) GFCI protection for areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking.
 - 2020 NEC: Was not addressed in 2020
 - 2023 NEC: Additional GFCI protection required in areas with a sink and food, beverage preparation, or cooking that is outside of the 6' measurement.
 - The cost increase is based on the existing breaker already being required to be AFCI protected, and the circuit breaker would now be dual function to provide both AFCI and GFCI protection.
- 3. (210.8(D)) GFCI protection is required for appliances such as the microwave, counter-mounted cooking units and range.
 - 2020 NEC: Refer you to 422.5 for appliances that require GFCI Protection
 - 2023 NEC: Removed the reference to 422.5 and add five appliances the require GFCI protection: Electric ranges, Wall-mounted ovens, Counter-mounted cooking units, Clothes dryers, and Microwave ovens
 - GFCI protection is required for appliances that are either hardwired or receptacles. Previous code only required the protection receptacles within 6' of the sink.
- 4. (210.8(F)) Expanded GFCI protection to additional outdoor locations at dwellings.
 - 2020 NEC: GFCI protection was only required for Dwelling Unit Outdoor Outlets. There was confusion about associated dwelling buildings.
 - 2023 NEC: Clarification was made that the outdoor outlets at dwelling associate structures also require GFCI protection.
 - With the new exception eliminating the GFCI protection on outdoor HVAC equipment, We are not aware of other “outlets” that might be a concern. The new exception will lower cost because a GFCI breaker will not be required for these installations until September 2026.
 - Adding mention of the additional types of structure was only meant to be a clarification. The 2020 NEC already required these outlets to be GFCI protected.
- 5. (210.52(C)(2)) Kitchen Island and Peninsular Countertop and Work Surface Receptacle Outlets
 - 2020 NEC: One receptacle outlet was to be provided for the first 9 ft², or fraction thereof. An additional receptacle outlet was to be provided for every additional 18 ft², or fraction thereof.
 - 2023 NEC: A receptacle outlet is now optional, however, if not provided, provisions shall be provided at the island or peninsula for future addition of a receptacle outlet.
- 6. (210.52(C)(3)) Countertop and Work Surface Receptacle Outlet Locations
 - 2020 NEC: Allowed the receptacle outlets to be below countertop or works surfaces.
 - 2023 NEC: Receptacle outlets are no longer allowed below Counter or worksurface. Also, receptacle outlet assemblies must be appropriately listed.

- 7. (220.5) Additional Space Cost (per Square Footage) Calculations
 - 2020 NEC: Did not require a garages and unfinished areas to be included in the floor area for load calculations.
 - 2023 NEC: Requires garages and unfinished areas adaptable for future use as a habitable room or occupiable space to be included in the floor area for load calculations.
 - The cost increase would be for sizing the of service or feeder to a dwelling unit by including the garage and unfinished areas as a part of the load calculation. This load is being added to eliminate panelboard loading concerns when spaces are renovated into a habitable space.
 - The calculation is based on 3 VA per square foot. For our cost analysis, we will consider 3 different options:
- 7. (220.5) Option 1 Additional Space Cost (per Square Footage) Calculations
 - 1,500 square foot single-family dwelling with a full unfinished basement and a 24' x 24' two car attached garage.
 - 2023 NEC:
 - $1,500 \times 2$ (main floor and basement) = 3,000 + 576 (garage) = 3,576 X 3 VA = 10,728 VA
 - $10,728 \text{ VA} - 3,000 \text{ VA} = 7,728 \text{ VA} \times 35\% = 2,705 \text{ VA}$
 - $3,000 @100\% + 2,705 = 5,705$ - total VA load calculation
 - 2020 NEC:
 - $1,500 \times 3 \text{ VA} = 4,500 \text{ VA}$
 - $4,500 - 3,000 = 1,500 \text{ VA} \times 35\% = 525 \text{ VA}$
 - $3,000 @100\% + 525 = 3,525$ - total VA load calculation
 - $5,705 \text{ VA (2023 NEC)} - 3,525 \text{ VA (2020 NEC)} = 2,180 \text{ VA}/240 \text{ volts} = 9 \text{ amps load added}$
- 7. (220.5) Option 2 Additional Space Cost (per Square Footage) Calculations
 - 2,500 square foot single-family dwelling with a full finished basement and 24' x 40' three car attached garage.
 - 2023 NEC:
 - $2,500 \times 2$ (main floor and basement) = 5000 + 960 (garage) = 5,960 X 3 VA = 17,880 VA
 - $17,880 \text{ VA} - 3,000 \text{ VA} = 14,880 \text{ VA} \times 35\% = 5,208 \text{ VA}$
 - $3,000 @100\% + 5,208 = 8,208$ - total VA load calculation
 - 2020 NEC:
 - $2,500 \times 2 = 5,000 \times 3 \text{ VA} = 15,000 \text{ VA}$
 - $15,000 - 3,000 = 12,000 \text{ VA} \times 35\% = 4,200 \text{ VA}$
 - $3,000 @100\% + 4,200 = 7,200$ - total VA load calculation
 - $8,208 \text{ VA (2023 NEC)} - 7,200 \text{ VA (2020 NEC)} = 1,008 \text{ VA}/240 \text{ volts} = 4.2 \text{ amps load added}$
- 7. (220.5) Option 3 Additional Space Cost (per Square Footage) Calculations
 - 4,500 square foot single-family dwelling with an unfinished full basement and 24' x 40' three car attached garage.
 - 2023 NEC:
 - $4,500 \times 2$ (main floor and basement) = 9,000 + 960 (garage) = 9,960 X 3 VA = 29,880 VA

- 29,880 VA – 3,000 VA = 26,880 VA x 35% = 9,480 VA
 - 3,000 @100% + 9,480 = 12,408 - total VA load calculation
 - 2020 NEC:
 - 4,500 x 3 VA = 13,500 VA
 - 13,500 – 3,000 = 10,500 VA x 35% = 3,675 VA
 - 3,000 @100% + 3,675 = 6,675 - total VA load calculation
 - 12,408 VA (2023 NEC) – 6,675 VA (2020 NEC) = 5,733 VA/240 volts = 24 amps load added
- 8. (230.67(E)) Surge Protecting Rating
 - 2020 NEC: Required that service supplying power to dwelling units be provided with a surge- protective device (SPD).
 - 2023 NEC: Requires the listed occupancies to be provided with an SPD that has a nominal discharge current rating (In) of not less than 10kA.
 - Prior surge protection devices were not required to have a minimum discharge current rating.
- Recommendation by NEC Subcommittee
 - At our December meeting, a motion was made by the members to recommend that the Board of Electricity adopt the 2023 NEC without amendments and that associated costs were negligible

A motion was made by Lindahl, seconded by Thul, to adopt the NEC 2023 without amendments as per the NEC 2023 Committee’s recommendation. The vote was unanimous with 10 votes in favor of the motion; the motion carried.

Chair Hendricks said next the Board must decide at what point the 2023 NEC should become effective. The National Electrical code is typically adopted by Minnesota on July 1st of the edition year. July 01, 2023, would be earlier than the 270-days presumed by section 326B.13; however, the statute allows the Board to provide for an earlier effective date due to public welfare and safety and training concerns, if any. The 2023 NEC and ongoing training has already been in process for contractors and enforcement officials since September in anticipation of the July 1st effective date, so a later effective date may not be necessary.

A motion was made by Lindahl, seconded by Weigel, to adopt the NEC 2023 with an effective date of July 1, 2023, without amendments. The vote was unanimous with 10 votes in favor of the motion; the motion carried.

Chair Hendricks suggested another motion to adopt a Board Resolution providing the Chair with authority to proceed with the rulemaking process, including publication of a final order for adoption, immediately.

A motion was made by Lindahl, seconded by Gudmunson, to authorize the Chair to proceed with all rulemaking requirements needed to publish a final order for adoption of the NEC 2023 with an effective date of July 1, 2023, without amendments. The vote was unanimous with 10 votes in favor of the motion; the motion carried.

Lebowski said now the Board will finish the SONAR (statement of need and reasonableness) and provide for all the notifications required by statute and get approval by an Administrative Law Judge to file the dual notice for hearing. The dual notice provides notice to the public that the Board's intent is to go forward with adoption of the 2023 NEC. Lebowski briefly explained the rulemaking process.

6. Committee Reports

Construction Codes Advisory Council (CCAC)

The CCAC met on Sept. 29, 2022 – view the presentation [here](#).

7. Complaints and Correspondence

- A. CMBA Letter to Board dated Nov. 10, 2022 – see **Attachment D**
- B. Housing First MN Letter dated Nov. 10, 2022 – see **Attachment D**

8. Open Forum

- Adam Hanson, Associated Builders and Contractors MN/ND Chapter addressed the board regarding licensing data. Over the past year, several contractors and their employees have been solicited to join a union. They've been able to capture some of these interactions, but they are wondering what the purpose is of having home addresses available in licensing. This has been used in targeting employees at their homes. Employees that use a business address aren't being targeted at their homes. Do other neighboring state's share home licensing data information? Could this be changed to non-public data?
 - Lebowski said the data you are talking about from a licensing aspect is already "private data" under 13.41 with the exception of a public address that is listed as the "designated address" for the contractor. If the contractor chooses to list their business address as their designated address, then their home address is private data not being released to the public by CCLD. As far as where the information is being obtained from, it isn't coming from CCLD's licensing database and if it is, then the contractor must have listed their home address as their designated address. Sounds like an education issue for your members.
 - Hanson said he just wanted to raise the issue for Board members, so they are aware of what is happening in the industry.
 - Thul said this isn't true for professional licensed engineers – this database excludes home addresses.
- Gary Thaden, Minnesota contractors of the National Electrical Contractors Association (NECA), said he and Mr. Atkins would like to address the board regarding their efforts to increase exposure to a career in the electrical industry/trades.
- Derrick Atkins, Training Director of Minneapolis Electrical Joint Apprentice Committee, talked about his Committee's outreach efforts including visiting high schools and technical colleges. He also outlined the ratio of applicants to those who get into the program of 10 to 1, thus there is no issue with attracting applicants. Mr. Atkins sits on the Dunwoody College Advisory Committee, and they are in a similar position.
- Gary Thaden, Government Affairs Director of the Minnesota contractors of the National Electrical Contractors Association, told the Board that the Minnesota Electrical JAC is just one of half dozen the electrical JACs in Minnesota, all of which do similar outreach efforts. In addition, Minneapolis, and St. Paul NECA has been working with local Girl Scout troops and

educating them on electrical construction. Mr. Thaden also outlined the efforts on behalf of the whole construction industry to reach out to youth by the Construction Career Foundation www.ccf.org

- CCF's web site has information about all the different construction trades and who to contact to sign up for apprenticeship. CCF also sponsor's middle school and high school summer programs and high school curriculum oriented towards construction. CCF financially supports Construct Tomorrow which holds 4-8 events a year in large venues where 500 to 2000 high school students are bused in and are exposed to the construction industry. As to the age of the electrician in Minnesota, looking at the information from the various pension plans the average age of an electrician in Minnesota is in the low 40s.
- Hunter said as far as the department goes, they currently approve 20 technical colleges around the state. The department is actively engaged, and all the technical colleges have an allowance from the high school level to accept credits. There are a lot of people that are trying to increase awareness of a trades career.

9. Board Discussion

Board members thanked Hunter and the NEC 2023 Committee for all their hard work.

10. Announcements

Next regularly scheduled meetings – 9:00 a.m., Tuesday – DLI / WebEx

- April 11, 2023
- July 11, 2023 (annual meeting)
- October 10, 2023

11. Adjournment

A motion was made by Lindahl, seconded by Haiby, to adjourn the meeting at 10:49 a.m. The roll call vote was unanimous with 10 votes in favor of the motion; the motion carried.

Respectfully Submitted,

Desiree Weigel

Desiree Weigel
Secretary

Green meeting practices

The State of Minnesota is committed to minimizing environmental impacts by following green meeting practices. DLI is minimizing the environmental impact of its events by following green meeting practices. DLI encourages you to use electronic copies of handouts or to print them on 100% post-consumer processed chlorine-free paper, double-sided.

CCLD LICENSE EXAM PASS RATES 2018-2022

(# passed/total exams)

ELECTRICAL

EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Journey	29% (292/991)	39% (492/1,271)*	36% (396/1,089)	37% (535/1,465)	33% (481/1,443)	35% (2,196/6,259)
Master	44% (136/311)	45% (178/399)	45% (136/302)	42% (213/504)	44% (202/459)	44% (865/1,975)
PLT	50% (118/234)	48% (131/272)	47% (84/179)	39% (94/238)	37% (83/224)	44% (510/1,147)
Satellite	100% (2/2)	100% (1/1)	33% (1/3)	50% (1/2)	100% (2/2)	70% (7/10)

*Number of exam questions reduced from 100 to 80 in March 2019

ELEVATOR

EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Journey	80% (20/25)	65% (13/20)	75% (36/48)	72% (21/29)	68% (21/31)	73% (111/153)
Master	83% (5/6)	50% (2/4)	100% (4/4)	78% (7/9)	75% (6/8)	77% (24/31)

RESIDENTIAL BUILDING CONTRACTOR

EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Builder	61% (687/1,127)	59% (746/1,262)	61% (524/853)	60% (720/1,206)	62% (782/1,264)	61% (3,459/5,712)
Remodeler	58% (30/52)	54% (32/59)	46% (16/35)	48% (45/96)	44% (38/87)	49% (161/329)
Roofer	67% (14/21)	55% (18/33)	68% (19/28)	50% (22/44)	56% (29/52)	57% (102/178)
MH Installer	30% (3/10)	73% (11/15)	80% (4/5)	50% (2/4)	100% (2/2)	61% (22/36)

PLUMBING

EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Journey	76% (185/242)	71% (177/249)	77% (174/225)	70% (242/348)	76% (315/412)	74% (1,093/1,476)
Master	74% (63/85)	66% (52/79)	84% (48/57)	79% (62/78)	90% (83/92)	79% (308/391)

HPP

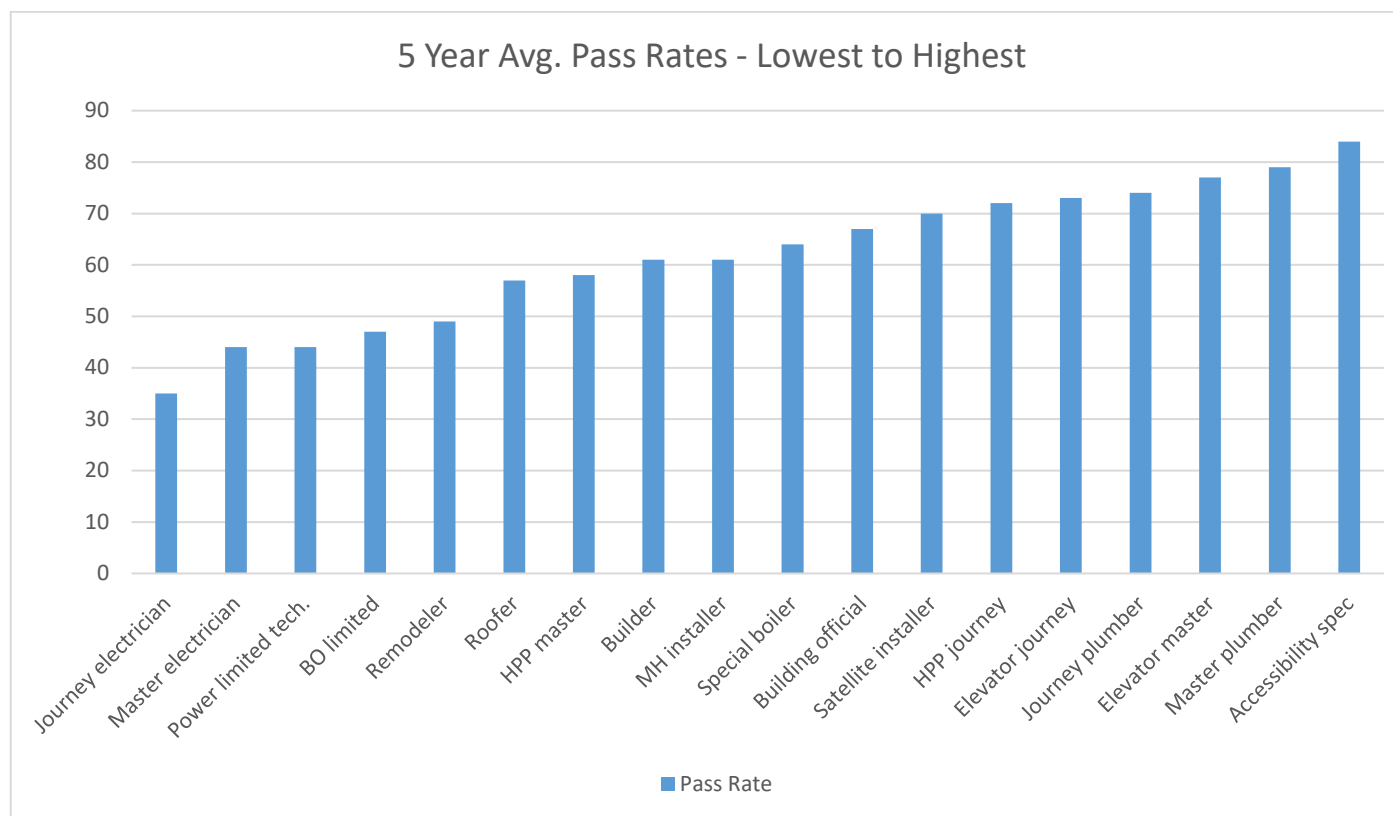
EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Journey	74% (121/163)	67% (132/196)	71% (117/164)	70% (154/221)	76% (172/227)	72% (696/971)
Master	57% (13/23)	48% (10/21)	44% (8/18)	51% (20/39)	100% (19/19)	58% (70/120)

BOILER

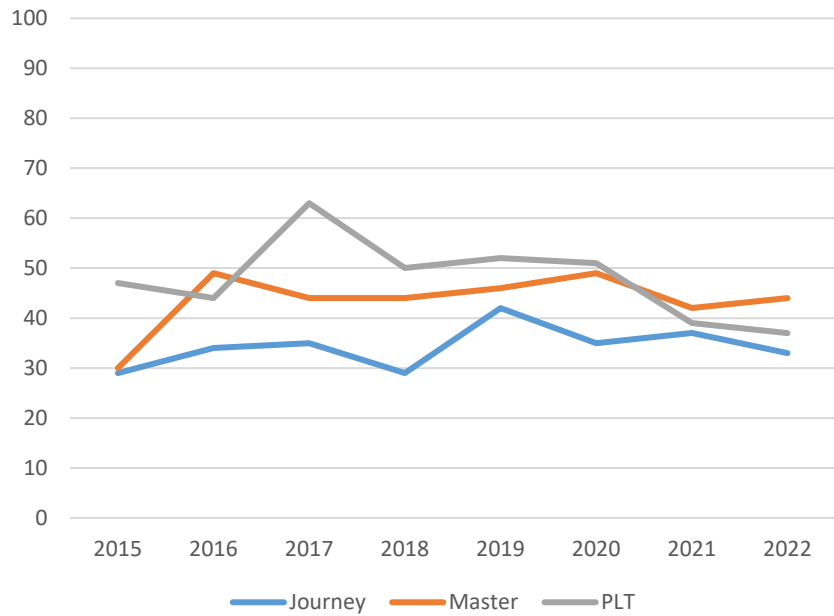
EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Special	67% (1,508/2,237)	63% (1,376/2,193)	65% (873/1,336)	63% (1,298/2,058)	60% (1,306/2,167)	64% (6,361/9,991)

BUILDING OFFICIAL

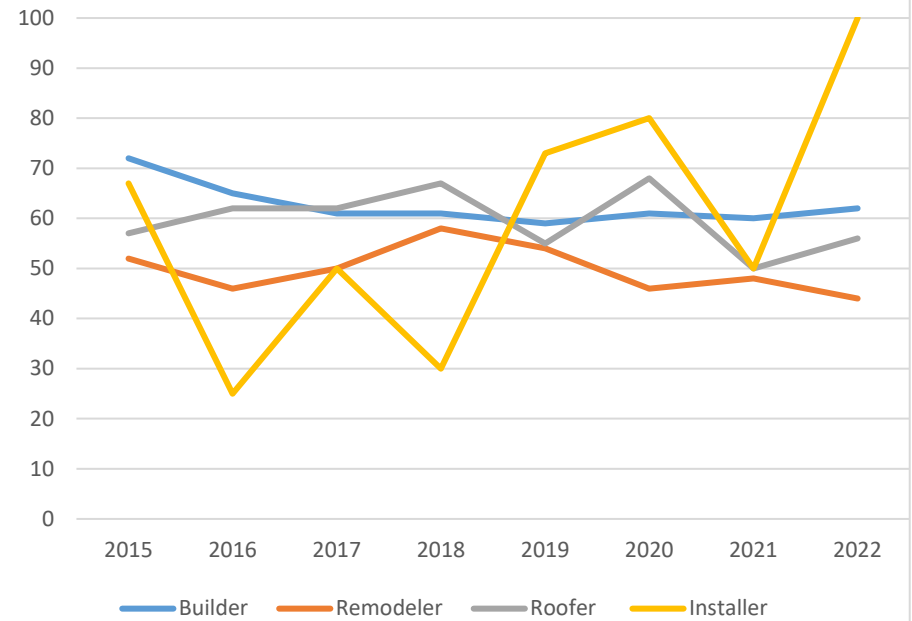
EXAM	2018	2019	2020	2021	2022	5 Year Avg.
Building official	72% (33/46)	62% (34/55)	67% (24/36)	71% (36/51)	61% (33/54)	67% (160/242)
BO limited	50% (54/108)	48% (49/103)	40% (24/60)	52% (46/89)	42% (44/104)	47% (217/464)
Accessibility	78% (7/9)	91% (32/35)	100% (4/4)	70% (14/20)	89% (8/9)	84% (65/77)



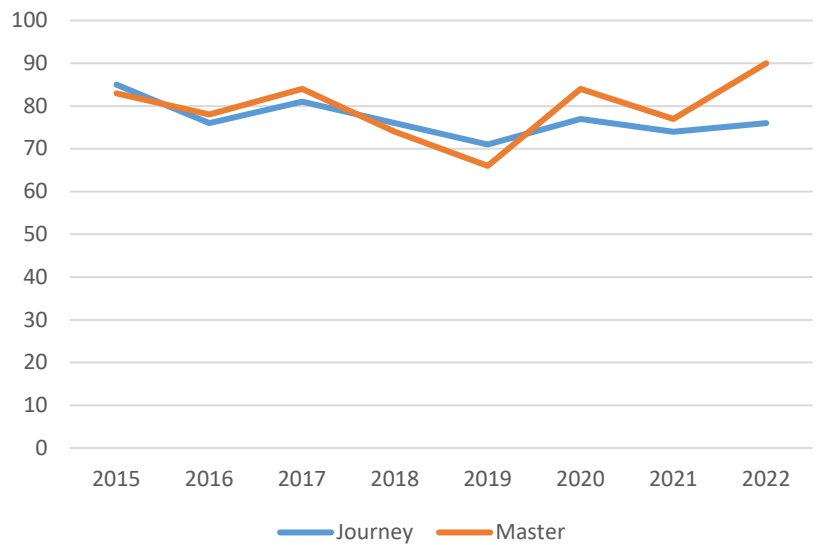
Electrical Exam Pass Rates



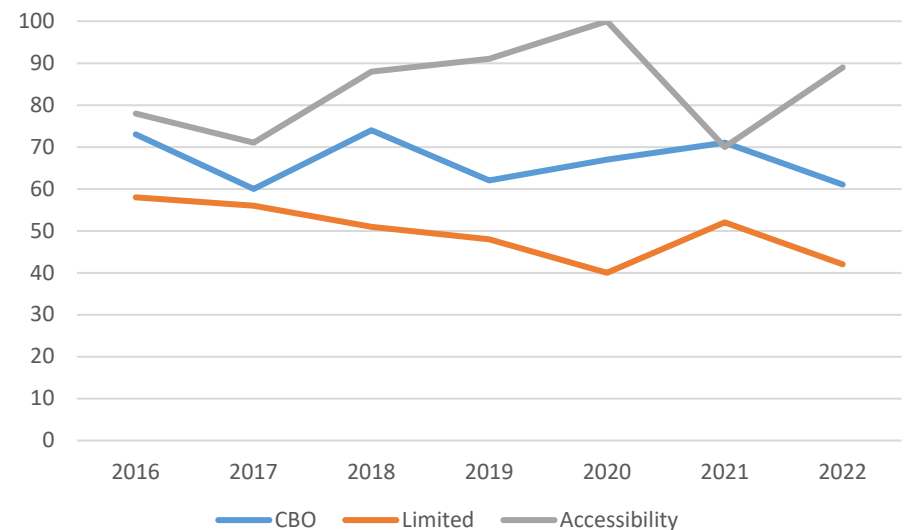
RBC Exam Pass Rates

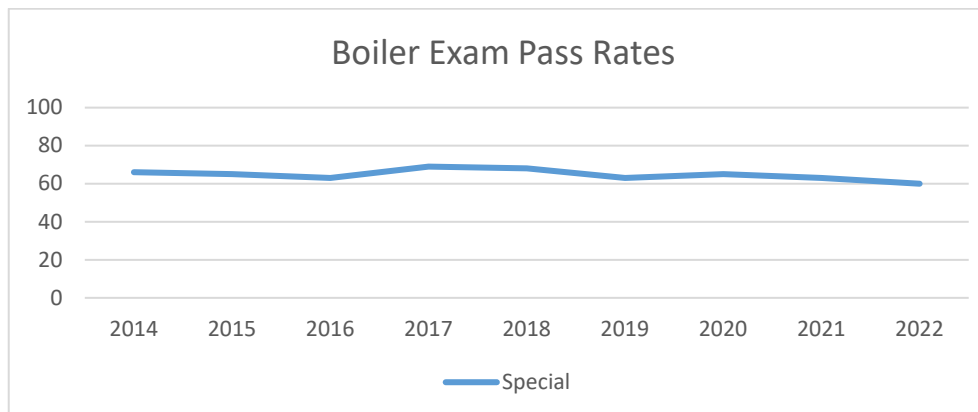
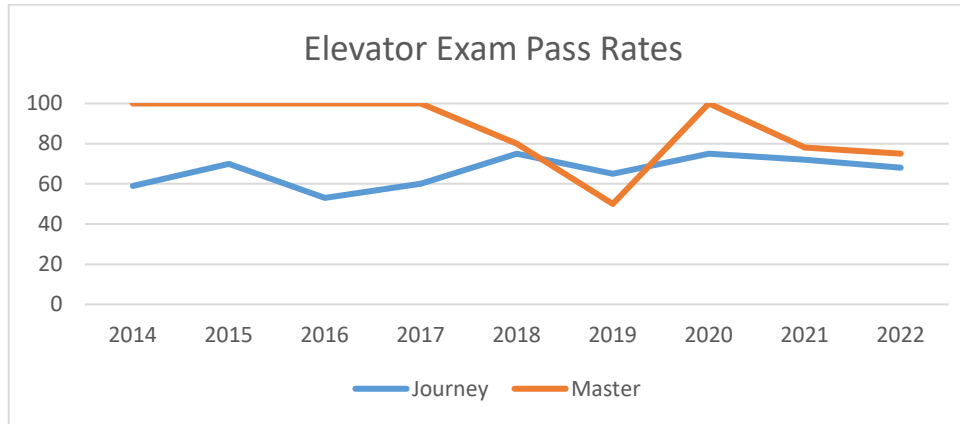
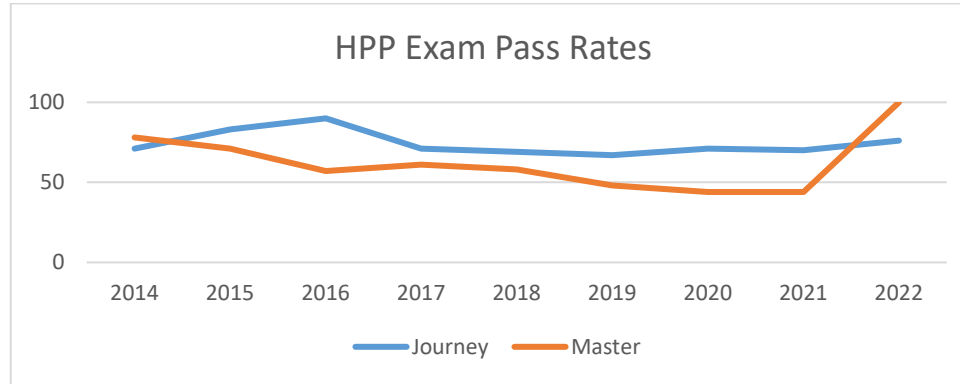


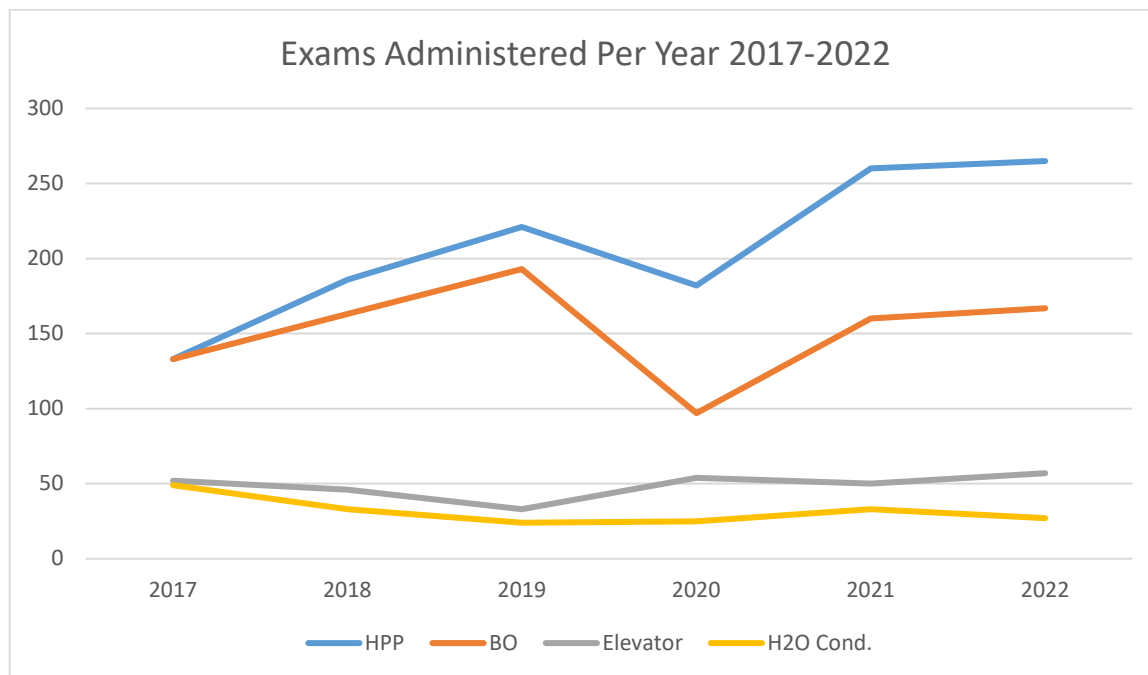
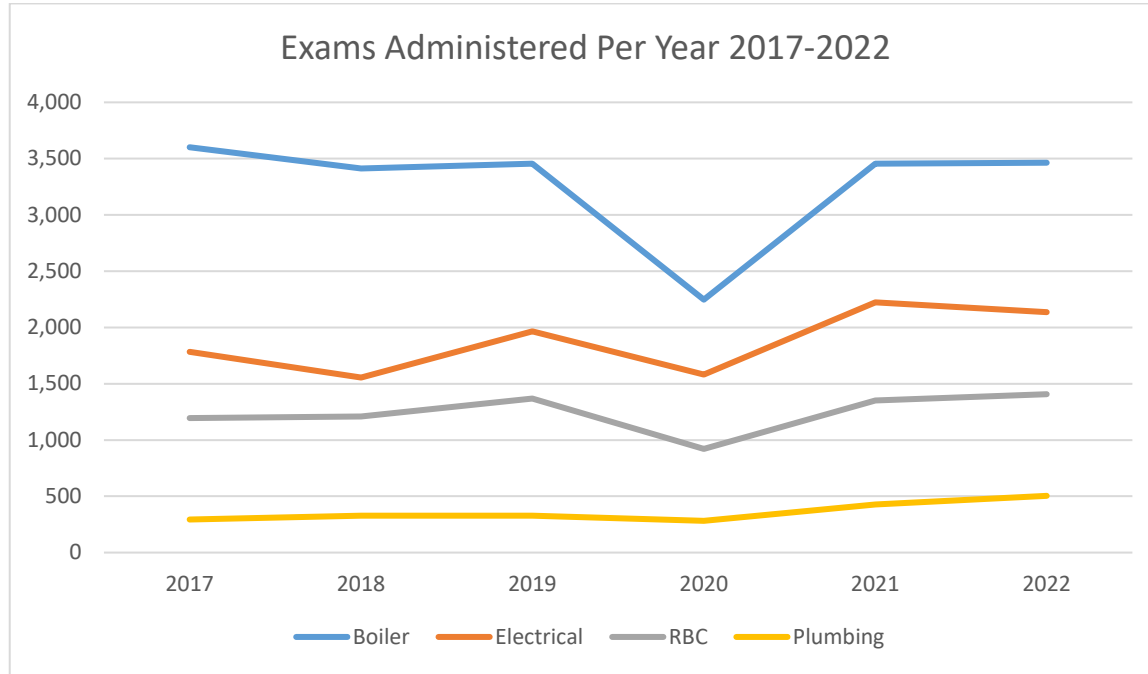
Plumbing Exam Pass Rates

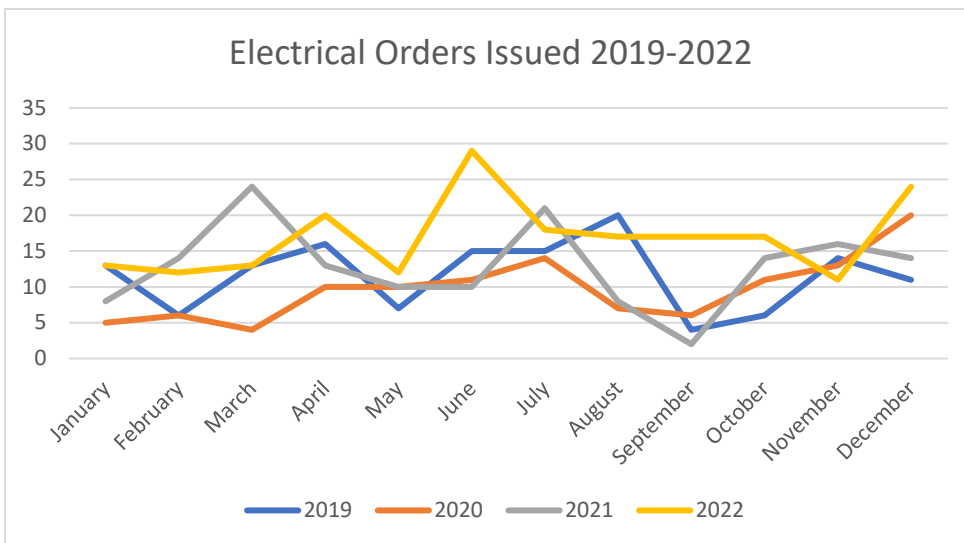
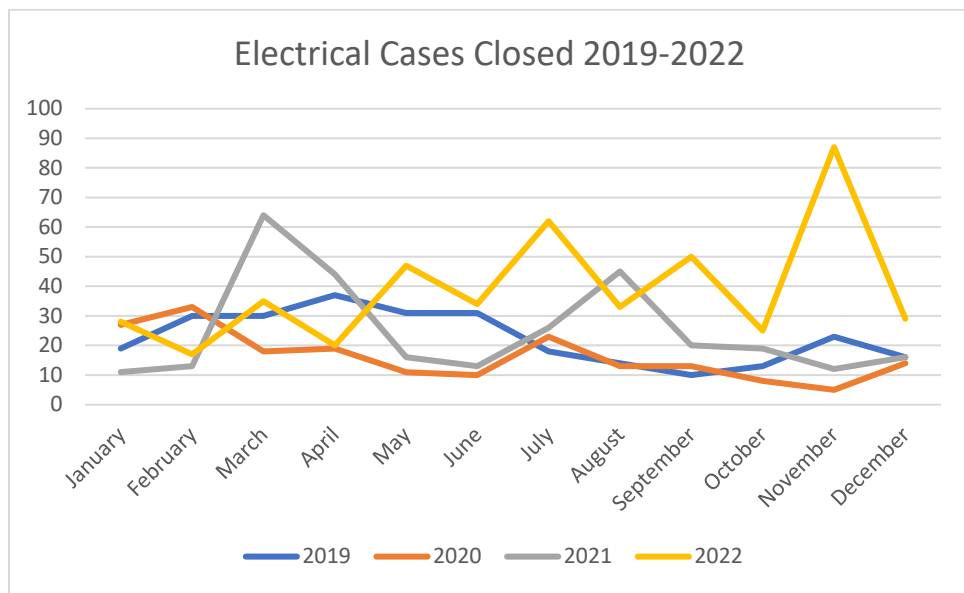
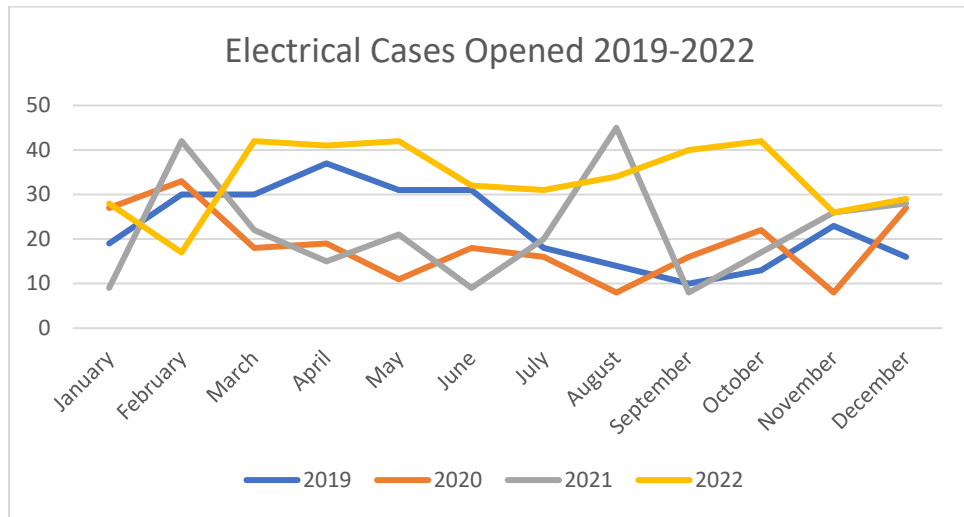


Building Official Exam Pass Rates

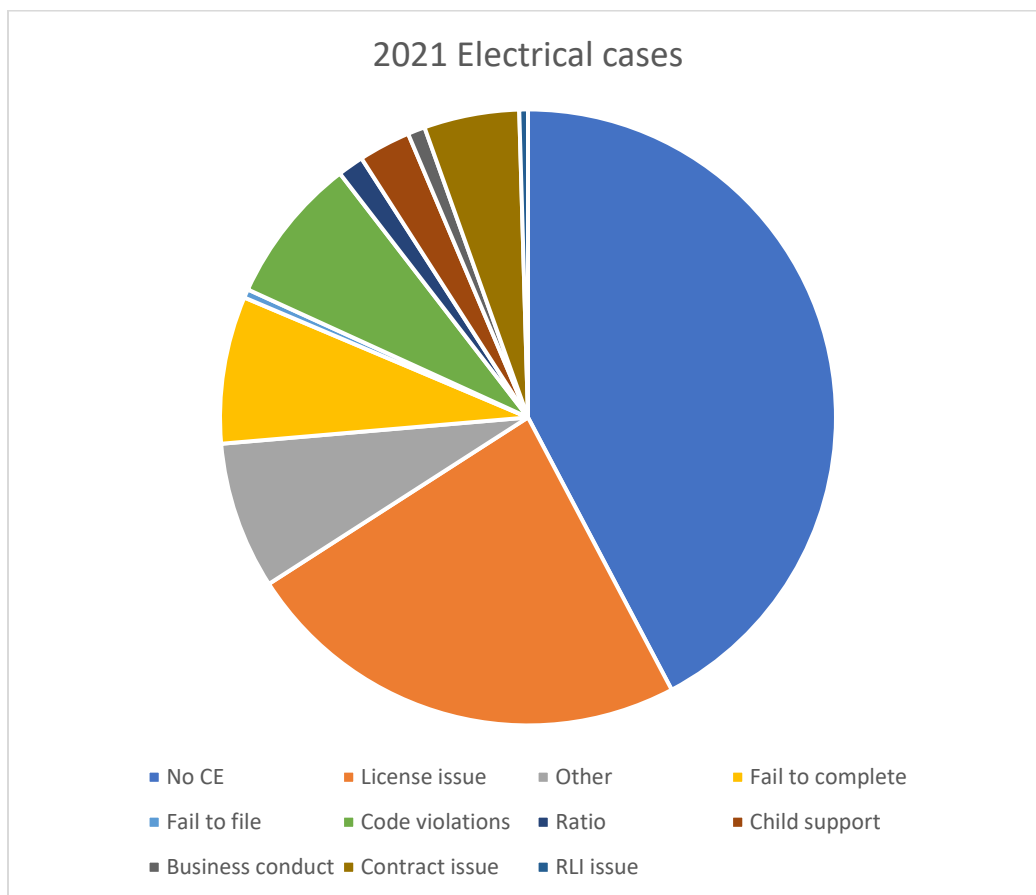
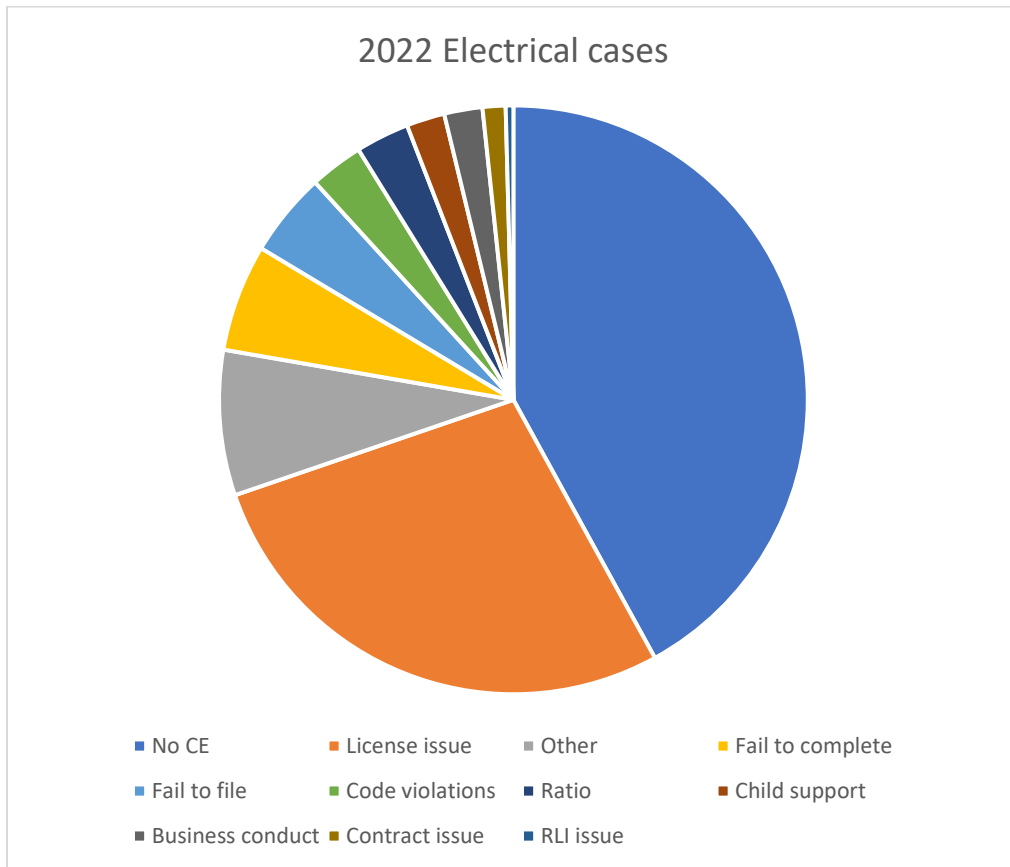


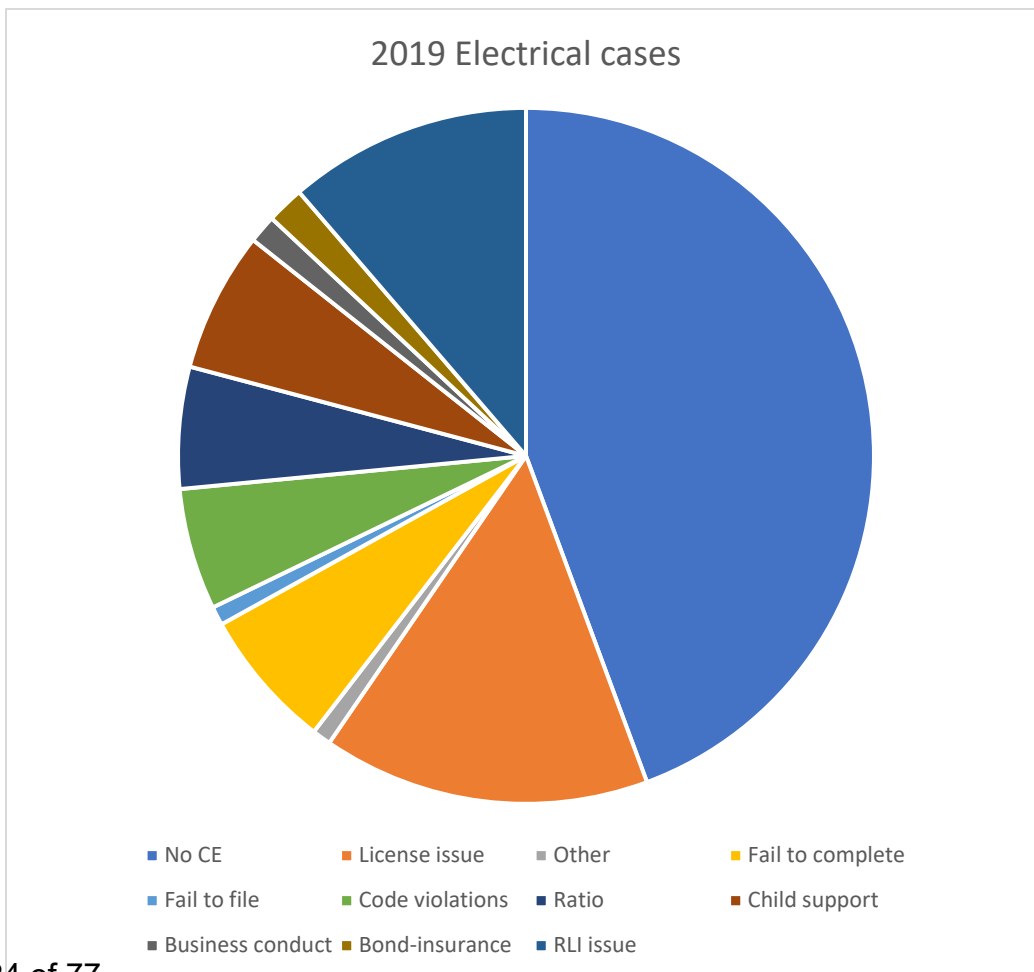
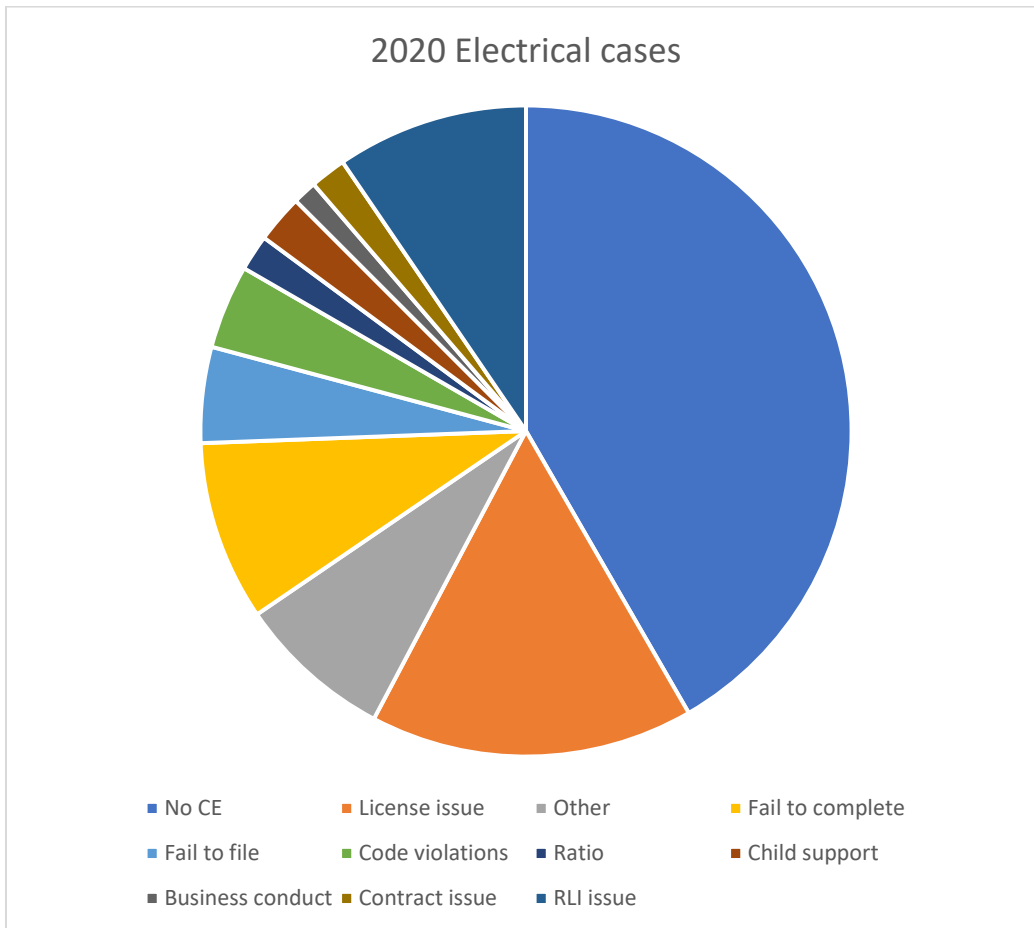






Open cases on January 11, 2023: 153





Unlicensed contractor fined \$10,000 for repeat violations

- An unlicensed contractor operating out of Marble, Minnesota, who was previously ordered to cease and desist from engaging in unlicensed plumbing activities, was found continuing to perform unlicensed plumbing work, in addition to performing electrical and mechanical work without appropriate licensure and bonding. The contractor was ordered to cease and desist from the unlicensed activities and fined \$10,000.
- An unlicensed Burnsville contractor was found to be performing residential building construction, remodeling, roofing, plumbing and electrical work. The unlicensed contractor was ordered to cease and desist from the unlicensed activities and fined \$22,500, of which \$15,000 was stayed contingent on future compliance.
- A licensed Edina residential building contractor was found to have violated a previous Order of the Commissioner by breaching contracts with multiple homeowners, failing to obtain required building permits, failing to pay a subcontractor, and failing to comply with correction orders issued by permitting authorities. The contractor's license was revoked, a \$32,500 fine was imposed, which was stayed contingent on compliance with the terms of the order, and the contractor was ordered to cooperate with its customers' efforts to seek compensation from the Contractor Recovery Fund.
- A licensed Blaine electrical contractor failed to appoint a responsible licensed master electrician, ensure its employees were appropriately registered and/or licensed, and comply with the supervision ratio. The contractor was censured and fined \$39,500, of which \$20,000 was stayed contingent on full future compliance.
- An unlicensed Rochester contractor was found to have engaged in unlicensed electrical and/or technology systems work. The contractor was ordered to cease and desist from the unlicensed activity and fined \$5,000.

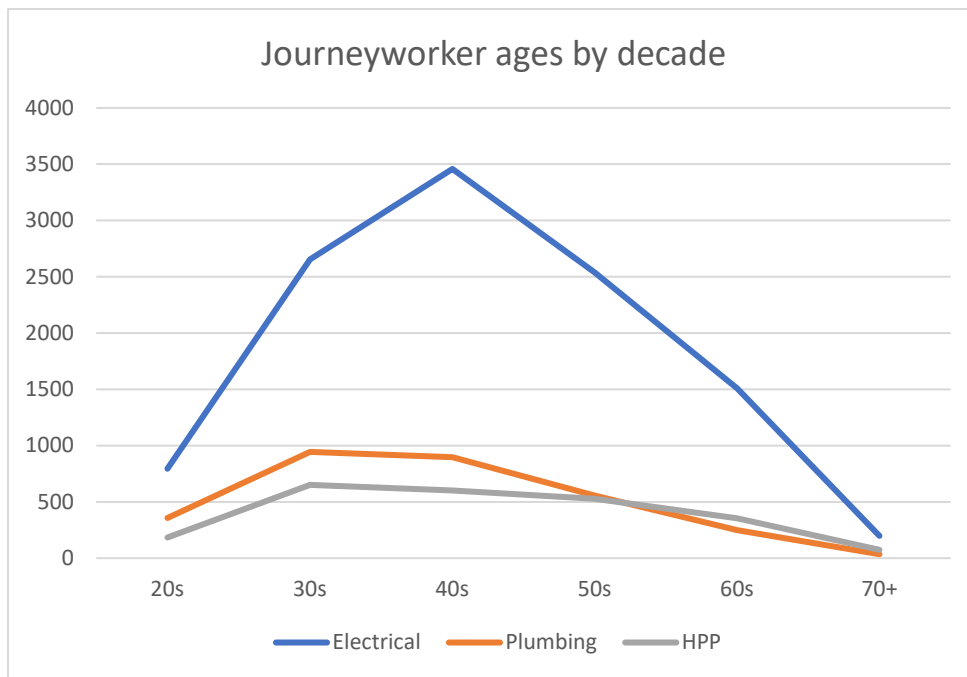


Enforcement actions
View enforcement and license actions levied against licensees.

More information

View summaries of enforcement actions at dli.mn.gov/workers/homeowners/file-complaint-and-view-enforcement-actions. Contact us at 651-284-5069 or dli.contractor@state.mn.us.

JOURNEYWORKER LICENSEE AGES – Nov. 2022



AVERAGE LICENSEE AGE

Electrical	46.1
Plumbing	42.7
HPP	46.1



Electrical Enforcement Actions

2023 Year to Date

A Consent Order is not a finding of fact or admission of guilt.

For more information about specific orders, please call 651-284-5069 or email dli.contractor@state.mn.us.

Air Mechanical, Inc. – EA692743

- Andover, MN
- Consent Order: Respondent censured; \$2,000 monetary penalty with \$1,500 stayed with conditions – 1/10/2023
- ELE2210-0027/AWT

Hobson, Nolan D. – RE700408

- Lakeville, MN
- Consent Order: Respondent censured; Respondent shall cease and desist from performing or offering to perform electrical work in Minnesota unless a W-2 employee of a licensed electrical contractor under direct supervision of a licensed electrician employed by the same electrical contractor; \$5,000 monetary penalty with \$4,500 stayed with conditions – 1/19/2023
- ELE2210-0023/CN

Hunt Electric Corporation – EA000883

- Bloomington, MN
- Consent Order: Respondent censured; stay of \$6,000 monetary penalty from May 2020 Consent Order partially lifted, with remaining \$5,000 stayed subject to the conditions of the 2020 Consent Order – 1/10/2023
- ELE2208-0001/AWT

Neebel, Roscoe W. – AJ744761

- Decorah, IA
- Consent Order: Respondent censured; license to be suspended if continuing education not completed by 3/16/23; \$2,000 monetary penalty stayed – 1/03/2023
- ELE2209-0032/SAS

NorEast Electric, LLC – EA774034

- Knife River, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$3,500 stayed with conditions – 1/11/2023
- ELE2211-0003/AWT

Ross Electric Co. Inc. and Cedric Ross, Sr. – EA005977 and AM004557

- St. Paul, MN
- Consent Order: Respondents censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 1/24/2023
- ELE2210-0005/CMW

RowCal Construction & Maintenance MN LLC – BC782044

- Edina, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 1/10/2023
- ELE2210-0018/AWT

Taillefer, Thomas – MN001022

- Coon Rapids, MN
- Licensing Order: Respondent censured; failure to complete 16 hours of approved continuing education by March 23, 2023 will result in license suspension; \$1,000 monetary penalty stayed – 1/10/2023
- ELE2211-0014/SAS

To view or print this document, please visit: <https://www.dli.mn.gov/business/electrical-contractors/electrical-enforcement-actions>



Electrical Enforcement Actions

2022 Year to Date

A Consent Order is not a finding of fact or admission of guilt.

For more information about specific orders, please call 651-284-5069 or email dli.contractor@state.mn.us.

1 Source Solar – see One Source Solar LLC

Ace Electric & Lighting LLC and Clarence R. Field – EA006407 and AM007539

- Detroit Lakes, MN
- Consent Order: Respondents censured; \$10,000 monetary penalty with \$7,000 stayed with conditions – 6/21/2022
- ELE2205-0016/CMW

Ace Electric & Lighting LLC and Clarence R. Field – EA006407 and AM007539

- Detroit Lakes, MN
- Consent Order: Respondents censured; stay of \$2,000 of the penalty from June 2022 Consent Order lifted; remaining \$5,000 monetary penalty remains stayed with conditions – 8/17/2022
- ELE2205-0016/CMW

Acuna, Arturo – AM762814

- Loveland, CO
- Consent Order: license revoked; cease and desist from performing or offering to perform electrical work in Minnesota; \$7,500 monetary penalty with \$5,000 stayed with conditions – 8/17/2022
- ELE2206-0013/CMW

Adams, Mark – see EcoPro Electric LLC

Adar, Amram – see BHT Properties Group LLC

AES Mechanical Services Group, Inc.

- Tallassee, AL
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or work in Minnesota until appropriate licensure achieved; \$5,000 monetary penalty with \$3,000 stayed – 7/14/2022
- ELE2206-0024/AWT

A. Gardner Builders LLC – see Amadi, Ogbondah M., Sr.**All Energy Solar Inc. – EA667674**

- St. Paul, MN
- Consent Order: Respondent censured; \$2,000 monetary penalty stayed with conditions – 6/13/2022
- ELE2204-0009/AWT

All IT USA LLC – see Sprinter Business Solutions LLC**Amadi, Ogbondah M., Sr. and A. Gardner Builders LLC – AM748561, AJ725111, QB751341, and BC768238**

- Blaine, MN
- Consent Order: Licensing Order vacated; Respondents censured; Amadi shall cease and desist from performing or offering to perform electrical work until monetary penalty paid and he is an owner, officer, member or W2 employee of a licensed electrical contractor or registered electrical employer; A Gardner Builders LLC shall cease and desist from performing or offering to perform electrical work until it obtains an electrical contractor license; \$3,000 monetary penalty with \$1,500 stayed with conditions – 04/04/2022

Aquarius Water Conditioning, Inc., dba Aquarius Home Services – EA711947

- St. Paul, MN
- Consent Order: Respondent censured; \$2,500 monetary penalty stayed with conditions – 9/19/2022
- ELE2209-0001/AWT

Bahr, Thomas D. – AJ000377

- Byron, MN
- Consent Order: Respondent censured; license suspended until Respondent completes 16 hours of continuing education; if continuing education not completed by 7/18/2024, license shall be revoked; \$1,000 monetary penalty stayed – 8/17/2022
- ELE2207-0019/SAS

Barbecho Robles, Ivan Eduardo, dba Coster Electrical & HVAC Services, LLC

- Columbia Heights, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota; \$7,500 monetary penalty – 5/12/2022
- ELE2111-0006/AWT

Bazo, Tony; Bazo Construction; Bazo Construction 1 – see Essential Image and Design, Inc.

Beacon Daily Electric Company Incorporated, dba Redwood Electrical Contractors; A. Gardner Builders LLC; and Amadi, Ogbondah M., Sr.– EA793749, BC768238, AM748561, AJ725111, and QB751341

- Blaine, MN
- Consent Order: Respondents censured; A Gardner Builders LLC shall cease and desist from performing or offering to perform electrical work until it obtains an electrical contractor license Amadi shall cease and desist from performing or offering to perform electrical work unless he is an owner, officer, member or W2 employee of a licensed electrical contractor or registered electrical employer; A Gardner Builders and Amadi shall immediately pay the \$1,500 monetary penalty from April 4, 2022 Consent Order; additional \$1,500 monetary penalty that was stayed in the April 4, 2022 Consent Order remains stayed with conditions – 06/06/2022
- ELE2205-0020/CMW

Beaulieu, Marvin Joe

- Blaine and Harris, MN
- Administrative Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical work in Minnesota; \$8,000 monetary penalty – 3/15/2022
- MLT2112-0003/CMW and RBC2202-0018/CMW

Becker, Mathias G. – see Central MN Irrigation LLC

Bengston, Shawn C. – see Henry Schein Inc.

BHT Properties Group LLC and Amram Adar

- Fort Lauderdale, FL
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until appropriate licensure achieved; \$7,000 monetary penalty with \$3,500 stayed – 7/08/2022
- ELE2205-0001/CMW

Blom, Adam - AM743362

- Spirit Lake, IA
- Consent Order: Respondent shall cease and desist from performing or offering to perform electrical work in Minnesota unless he is an owner, officer, or W-2 employee of a licensed electrical contractor; Respondent censured; \$5,000 monetary penalty stayed – 7/06/2022
- ELE2205-0027/AWT

Boesen, Ryan E. – PL680709

- Maple Grove, MN
- Consent Order: Respondent censured; license to be suspended if Respondent fails to complete 32 hours of continuing education by 10/31/2022; \$2,000 monetary penalty stayed – 8/11/2022
- ELE2206-0028/SAS

Boynton, Randolph P. – AM007456

- Melbourne, FL
- Consent Order: Licensing Order vacated; license revoked; cease and desist from committing violations and performing or offering to perform electrical work in Minnesota; \$5,000 monetary penalty with \$4,000 stayed – 2/03/2022
- ELE2111-0003/CMW

Boy's Electric, LLC, dba Services Today - EA004571

- South St. Paul, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty stayed with conditions – 5/11/2022
- ELE2107-0004/AWT and three others

Bradley, James Virgil, dba VZ Painting & Remodeling

- Minneapolis, MN
- Administrative Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$5,000 monetary penalty – 8/11/2022
- RBC2205-0045/CN

Busse, Aaron L. – RE768767

- Glencoe, MN
- Licensing Order: Registration revoked; cease and desist from performing or offering to perform electrical work in Minnesota; \$8,000 monetary penalty – 8/09/2022
- ELE2207-0009/CMW

Calo Electric, LLC – EA722455

- St. Cloud, MN
- Consent Order: Respondent censured; \$2,500 monetary penalty stayed with conditions – 3/10/2022
- ELE2108-0023/AWT

Canopy Holdings of Minnesota, LLC, dba Midwest Roof & Solar and Superior Windows – BC780513

- Minneapolis, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until appropriate licensure achieved; \$5,000 monetary penalty stayed – 7/11/2022
- ELE2204-0035/AWT

Cassady, Kelly D.

- Elk River, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical work in Minnesota until all required licensure, insurance, and bonding achieved; \$5,000 monetary penalty stayed – 3/22/2022
- ELE2110-0003/AWT

Central MN Irrigation LLC and Mathias G. Baker – TS793539 and RT789592

- Becker, MN
- Consent Order: TSC license granted with conditions including \$5,000 monetary penalty with \$3,500 stayed; Respondent Baker censured – 4/25/2022
- ELE2203-0041/CMW

Chalmers, Kevin – see C&L Maintenance Inc.**C&L Maintenance Inc., dba CLM Midwest, and Guy Lollino and Kevin Chalmers**

- River Grove, IL
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical, plumbing, and mechanical work in Minnesota until all required licenses and certification obtained; \$15,000 monetary penalty with \$9,000 stayed – 2/22/2022
- ELE2112-0027/CMW

CLM Midwest – see C&L Maintenance Inc.

Collova, Anthony T. – AJ014283

- St. Paul, MN
- Consent Order: Respondent censured; license suspended until 16 hours of continuing education completed; failure to complete continuing education by February 5, 2024 will result in automatic license revocation without further Order; \$1,000 monetary penalty stayed with conditions – 5/25/2022
- ELE2203-0027/SAS

Cooper, Tony Jay, dba Do-It-All Home Services

- Rochester, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota; \$5,000 monetary penalty – 6/30/2022
- ELE2112-0023/AWT

Cordani, Antonio Nicholas and Christopher Joseph Cordani, dba HGC Handyman Services

- Oak Grove, MN
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical, plumbing, and mechanical work in Minnesota until all required licenses, bonds, and registration are obtained; \$2,500 monetary penalty stayed – 3/07/2022
- MLT2201-0008/CMW

Coster Electrical & HVAC Services, LLC – see Barbecho Robles, Ivan Eduardo**Crunkilton, Bruce – see Sunshine Electric, LLC****Dan's Electric Hand – see Volney, Daniel M.****Davis, Joshua C. – PL643359**

- Richfield, MN
- Consent Order: Respondent censured; 16 hours of continuing education must be completed by March 31, 2022 or license will be suspended without further Order; \$1,000 monetary penalty with \$900 stayed with conditions – 3/04/2022
- ELE2201-0006/SAS

Dean's Professional Plumbing, Inc., dba Dean's Home Services – EA722396

- Brooklyn Center, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty stayed with conditions – 3/22/2022
- ELE2203-0016/AWT

Deibele, Justin G. – AJ014245

- Saginaw, MN
- Consent Order: Respondent censured; 16 hours of continuing education must be completed by June 29, 2022 or license will be suspended without further Order; \$1,000 monetary penalty stayed with conditions – 4/13/2022
- ELE2203-0022/SAS

Dingmann, Jeffrey Allen – see JAD Electrical Services LLC**Dinh, Bao Long H.**

- Robbinsdale and Minneapolis, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota unless a W-2 employee of a licensed electrical contractor under direct supervision of a licensed electrician employed by the same electrical contractor; \$5,000 monetary penalty – 7/26/2022
- ELE2207-0001/CMW

Do-It-All Home Services – see Cooper, Tony Jay**Dot USA Remodel LLC and Juan Francisco Col Pop**

- Burnsville, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical, plumbing, or mechanical work in Minnesota until all required licenses and bonds are obtained; \$7,000 monetary penalty with \$6,500 stayed – 3/15/2022
- MLT2201-0005/KF

Duff Properties L.L.C. and Michael Roy Duff, dba Handyman Mike

- Apple Valley, MN
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical, plumbing, or mechanical work in Minnesota until all required licenses and bonding obtained; \$15,000 monetary penalty – 4/28/2022
- PLB2201-0030/SN and three others

Dulin Construction LLC and Jeffrey James Dulin

- Lonsdale, MN
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; stay of \$5,000 monetary penalty from 2021 Consent Order against Matthew Schumi lifted; additional \$12,500 monetary penalty assessed – 4/19/2022
- RBC2201-0015/ALF

Dzbikowicz, Dominik. - see Ultimate Remodeling, LLC**Echo Electric LLC – EA769585**

- Farwell, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 9/22/2022
- ELE2207-0015/AWT

EcoPro Electric LLC, Chad Lembeck, Mark Adams, and Daniel Spatacean – EA786942

- Littleton, CO
- Consent Order: License may not be reinstated or renewed; \$15,000 monetary penalty with \$8,000 stayed – 2/11/2022
- ELE2112-0025/CMW

Ehrisman, John Walter - see Johnny Electric Incorporated**EME LLC and Chad G. Feldmann – EA777008 and AM776633**

- Scandia, MN
- Consent Order: Respondents censured; \$10,000 monetary penalty with \$6,000 stayed with conditions – 6/22/2022
- ELE2205-0014/CMW

English Electric, LLC – EA677496

- Racine, MN
- Consent Order: Respondent censured; \$4,000 monetary penalty with \$3,250 stayed with conditions – 6/21/2022
- ELE2204-0033/AWT

Essential Image and Design, Inc., dba Bazo Construction, adba Bazo Construction 1, and Tony Bazo

- Taylor and Dearborn, MI
- Administrative Order: Cease and desist from performing or offering to perform electrical and/or technology systems work in Minnesota; \$5,000 monetary penalty – 6/23/2022
- ELE2205-0038/CMW

Faith Technologies, Inc. – EA006407

- Menasha, WI
- Consent Order: Respondent censured; \$20,000 monetary penalty with \$13,000 stayed with conditions – 7/06/2022
- ELE2204-0034/CMW

Faulkner, Renzo Lamar

- Zimmerman, MN
- Administrative Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer in Minnesota until licensure achieved; cease and desist from performing or offering to perform electrical or plumbing work in Minnesota until licensure achieved; \$12,500 monetary penalty – 6/08/2022
- MLT2204-0001/DLC

Federated Service Solutions, Inc. and Ryan M. Scheske – TS714320 and PL710596

- Farmington, MI
- Consent Order: Respondents censured; \$5,000 monetary penalty with \$3,000 stayed with conditions – 5/02/2022
- ELE2201-0017/CMW

Feldmann, Chad G. - see EME LLC

Field, Clarence R. - see Ace Electric & Lighting LLC

Fife, Michael D. – AM008544

- Hawley, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty stayed with conditions – 3/14/2022
- ELE2203-0016/AWT

Fowler, Joshua Deaun, dba Handyman Home Service's Limited Liability Company

- Buffalo, MN
- Administrative Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$22,700 monetary penalty – 3/01/2022
- MLT2110-0001/DLC, RBC2110-0012/DLC, and RBC2110-0020/DLC

GE Group Inc., Triet Nguyen, and Kevin Vickers – EA796843, AM776548 and AJ015290

- Fridley, MN
- Consent Order: Respondents censured; stay of \$2,000 of the penalty from June 2022 Consent Order remains stayed; additional \$10,000 monetary penalty stayed with conditions – 9/12/2022
- ELE2208-0011/CMW

General Dynamics Information Technology, Inc. and William C. Hargis – EA772829 and AM770947

- St. Paul, MN and Winnsboro, TX
- Consent Order: Respondents censured; \$12,000 monetary penalty with \$7,000 stayed with conditions – 8/11/2022
- ELE2204-0017/AWT

Genz-Ryan Plumbing and Heating Co. – EA725090

- Burnsville, MN
- Consent Order: Respondent censured; stay of \$2,000 monetary penalty from 2021 Consent Order lifted; additional \$8,000 monetary penalty with \$5,000 stayed with conditions – 4/06/2022
- ELE2203-0019/AWT

Geroy, Kyle Stuart, dba Kyle Geroy Construction LLC

- Roseau, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer in Minnesota; cease and desist from performing or ooffering to perform electrical work; \$10,000 monetary penalty with \$7,500 stayed – 7/19/2022
- MLT2109-0002/JM

Goodmen Enterprise LLC, aka Goodmen Enterprise, Brandon Gilles L.L.C., and Brandon Jerome Gilles

- Ramsey, Minneapolis, and Champlin, MN
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical, plumbing, or mechanical work in Minnesota; \$12,500 monetary penalty – 3/01/2022
- MLT2201-0004/CMW

Golden Electric LLC, Kimberly Swanson, and Kevin D. Vickers – EA768674, AM776548, and AJ015290

- Plymouth, MN
- Consent Order: Respondents censured; stay of \$4,000 monetary penalty against Golden Electric LLC in December 31, 2020 Consent Order lifted; stay of \$2,000 of the \$4,000 stayed monetary penalty against Kevin D. Vickers lifted; and additional \$10,000 monetary penalty stayed with conditions – 6/21/2022
- ELE2103-0005/CMW and ELE2202-0005/CMW

Greenwald, Steve Alan, dba All Carpentry Services

- Golden Valley, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer; cease and desist from performing plumbing and/or electrical work in Minnesota until all appropriate licensure achieved; \$7,500 monetary penalty with \$7,000 stayed – 6/16/2022
- RBC2204-0036/KF

Greenway Solar Services, LLC, dba Greenway Solar, and Paul Joseph Krumrich – EA787224 and RE787254

- Minneapolis, MN
- Consent Order: Respondents censured; electrical contractor license reinstated with conditions, including \$7,500 monetary penalty with \$4,000 stayed – 3/15/2022
- ELE2112-0019/CMW

Guaranteed Electric Service, Inc., Clair F. Nassen, and David M. Keinz – EA006189, AM002747, and AM008184

- Mankato, MN
- Consent Order: Respondents censured; stay of \$6,500 previously stayed monetary penalty against Guaranteed Electric Service, Inc. is lifted; stay of previously stayed \$2,500 monetary penalty against Claire Nassen is lifted; additional \$10,000 monetary penalty stayed with conditions – 1/28/2022
- ELE2111-0011/CMW

Hanson, Justin Hayward – AM641841 and AJ015917

- Burnsville, MN
- Consent Order: Master license revoked; Respondent censured; cease and desist from performing or offering to perform electrical work in Minnesota unless Respondent is a W-2 employee of a licensed electrical contractor; Respondent prohibited from being an owner, officer, partner, or member of a licensed electrical contractor in Minnesota for five years, and may not take the master electrician license exam for five years; \$29,000 monetary penalty with \$19,000 stayed – 9/20/2022
- ELE2207-0026/CMW

Hargis, William C. – see General Dynamics Information Technology, Inc.**Haugen, Eric John**

- Milan, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until all required licenses and certification obtained; \$2,500 monetary penalty stayed – 3/15/2022
- ELE2201-0014/AWT

Hegarty, Joseph L. – see PCL Industrial Services, Inc.**Heissler, Kenneth – see QE Solar MN, LLC****Helmke, Justin – see JH Signs & Designs, Inc.****Henry Electric, Inc.**

- Fort Wayne, IN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until appropriate licensure achieved; \$5,000 monetary penalty stayed – 7/12/2022
- ELE2206-0023/AWT

Henry Schein, Inc.; Henry Schein One L.L.C., aka Henry Schein USA, Inc., aka Henry Schein Dental; and Shawn C. Bengston

- Eagan, MN; Melville, NY; American Fork, UT; Wilmington, DE
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota; \$3,000 monetary penalty – 2/15/2022
- ELE2201-0021/CMW

HGC Handyman Services – see Cordani, Antonio and Christopher

High Road Builders LLC and Earl Christian Rode IV, Individually and dba Rode's Remodeling & Repair L.L.C.

- Minneapolis and North St. Paul, MN
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform the services of an electrical, plumbing, or mechanical contractor; \$15,00 monetary penalty – 1/04/2022
- RBC2110-0035/CMW, MLT2112-0004/CMW, and RBC2007-0006/SAS

Hodapp, Travis – see One Source Solar LLC

Hunt, Richard J. – see Superior Electric, Inc.

JAD Electrical Services LLC and Jeffrey Allen Dingmann

- Crystal and Hutchinson, MN
- Administrative Order; cease and desist from performing or offering to perform electrical work in Minnesota; \$20,000 monetary penalty – 1/25/2022
- ELE2201-0011/CMW

JH Signs & Designs, Inc. and Justin Helmke

- Perham, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical work in Minnesota until all required licensure, insurance, and bonding achieved; stay of \$2,000 monetary penalty from 2019 Consent Order lifted and additional \$5,000 monetary penalty stayed – 4/14/2022
- ELE2203-0036/AWT

JL services and plow Inc. and Jeremy S. Truong, dba JL Services Construction

- Brooklyn Park, MN
- Administrative Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical or electrical work in Minnesota; \$14,000 monetary penalty – 4/05/2022
- MLT2202-0001/DLC

Johnny Electric Incorporated and John Walter Ehrisman – EA688149 and AJ013090

- Burnsville, MN
- Consent Order: Electrical contractor license revoked; Johnny Electric Incorporated shall cease and desist from performing or offering to perform electrical work in Minnesota; Ehrisman's journeyworker electrician license suspended until all judgments satisfied and \$10,000 monetary penalty paid; Ehrisman prohibited from taking the master electrical license exam for five years; Ehrisman prohibited from being an owner, officer, partner, or member of a licensed electrical contractor in Minnesota for five years, and may not take the master electrician license exam for five years; \$30,000 monetary penalty with \$20,000 stayed – 10/03/2022
- ELE2207-0026/CMW

Johnson, Norris Lee

- Chandler, AZ
- Consent Order: Administrative Order vacated; cease and desist from unlicensed electrical work; \$10,000 monetary penalty stayed – 1/24/2022
- ELE2107-0015/CMW

Keinz, David M. – see Guaranteed Electric Service, Inc.

Kolstad, Jason L. – AJ646044

- Hamburg, MN
- Consent Order: Respondent censured; license suspended until Respondent completes 16 hours of continuing education; if continuing education not completed by 2/17/2024, license shall be revoked; \$1,000 monetary penalty stayed – 6/23/2022
- ELE2203-0025/SAS

Kraft Electric L.L.C. and Michael L. Roney – EA747905 and AJ719753

- Minneapolis, MN
- Consent Order: Electrical contractor license revoked; Kraft Electric L.L.C. shall cease and desist from performing or offering to perform electrical work in Minnesota except that four open projects may be completed; Michael Roney censured; Roney shall cease and desist from performing or offering to perform electrical work in Minnesota unless he is a W-2 employee of a licensed electrical contractor; \$2,000 monetary penalty against Roney stayed – 7/07/2022
- ELE2206-0012/CMW

Krumrich, Paul Joseph – see Greenway Solar Services, LLC

Krusehorne Construction LLC, and Caleb Krusemark and Zachariah Horne, dba KrusHorne LLC

- Farmington, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical work until licensure achieved; \$4,500 monetary penalty stayed – 9/27/2022
- MLT2209-0003/DLC

Lawn N Order L.L.C. and Brandon Willard

- Walnut Grove, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding itself out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform plumbing or electrical work until licensure obtained; \$10,000 monetary penalty with \$9,000 stayed – 1/05/2022
- MLT2106-0002/AWT

Lattimore, Lendell O. – RT789947

- Minneapolis, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 6/06/2022
- ELE2201-0025/CMW

Lee, Cyril S. – RE650380

- Robbinsdale, MN
- Consent Order: Unlicensed individual registration may be renewed with condition including provision that Respondent may only perform electrical work if he is a W-2 employee of a licensed electrical contractor and works only under the direct supervision of a licensed electrician employed by the same contractor; \$5,000 monetary penalty stayed with conditions – 9/16/2022
- ELE2208-0018/CMW

Lein, Michael E. – AJ011070

- Alden, MN
- Consent Order: Respondent censured; Respondent shall complete 16 hours of continuing education prior to August 17, 2022 or license shall be suspended until compliance achieved; \$1,000 monetary penalty stayed – 6/08/2022
- ELE2205-0010/SAS

Lembeck, Chad – see EcoPro Electric LLC

Lesmeister, Neal F. – see Weathershield Homes Inc.

Lesnau, Trent – AJ017822

- Otsego, MN
- Consent Order: respondent dismissed from 2020 Licensing Order; January 2022 Findings of Fact, Conclusions of Law, and Order vacated; journeyworker electrician license suspended until Wright County judgment satisfied; cease and desist from unlicensed electrical contractor activity; \$20,000 monetary penalty with \$17,500 stayed with conditions – 1/20/2022
- ELE2006-0006/CMW

Lien, Jeffrey A.

- Walker, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform plumbing and electrical work in Minnesota; \$5,000 monetary penalty stayed – 5/06/2022
- MLT2203-0006/AWT

Lin R. Rogers Electrical Contractors, Inc. – EA004642

- Alpharetta, GA
- Consent Order: Respondent censured; \$6,000 monetary penalty with \$4,000 stayed with conditions – 5/03/2022
- ELE2202-0011/CMW

Live Wire Electrical Services, LLC and Troy L. Schoenrock – EA006172 and AM006583

- Isanti, MN
- Consent Order: Respondents censured; stay of \$750 of previously stayed monetary penalty is lifted; additional \$4,000 monetary penalty stayed with conditions – 1/27/2022
- ELE2201-0008/AWT

Live Wire Electrical Services, LLC and Troy L. Schoenrock – EA006172 and AM006583

- Isanti, MN
- Consent Order: Respondent censured; stay of \$500 of previously stayed monetary penalty lifted and remaining \$4,750 penalty remains stayed; additional \$2,500 monetary penalty stayed with conditions – 7/21/2022
- ELE2204-0016/AWT

Logsdon, Scott – see National Data Networks, LLC

Lollino, Guy – see C&L Maintenance Inc.

Loyola, Alcides Dumany Castillo, dba Loyola Services

- Minneapolis, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota; \$5,000 monetary penalty – 2/08/2022
- ELE2201-0020/CMW

LUCKY SIX Property Management LLC and Joseph Gordon Subby

- Red Wing, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical or plumbing work; \$14,000 monetary penalty with \$10,000 stayed – 9/16/2022
- MLT2207-0001/JM

MacGuffie, Andrew James - RE787556

- Lindstrom, MN
- Consent Order: Respondent censured; \$5,500 monetary penalty with \$3,000 stayed with conditions – 3/15/2022
- ELE2112-0019/CMW

Magnuson, Keith Lawrence, aka Leif Hanson Magnuson

- Mankato, MN
- Administrative Order: \$5,000 monetary penalty, of which \$3,000 is forgivable if corrective action taken within 30 days; cease and desist from performing or offering to perform electrical work in Minnesota – 4/12/2022
- ELE2203-0031/CMW

Martin, Sean M. – PL755495

- Hastings, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 4/07/2022
- ELE2202-0001/CMW

Meridian Energy Products, LLC and Jeffrey Julius Rutz

- Lino Lakes, MN
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical and/or technology systems work in Minnesota; \$6,000 monetary penalty with \$4,000 stayed – 9/07/2022
- ELE2204-0036/CMW

Miller, Todd – see One Source Solar LLC

MJ Electric MN, Inc. – EA004780

- Bloomington, MN
- Consent Order: Respondent censured; stay of \$2,000 monetary penalty from 2019 Consent Order partially lifted and \$750 paid at time of execution of 2022 Consent Order; remaining \$1,250 of previously stayed penalty and additional \$2,500 monetary penalty stayed with conditions – 5/03/2022
- ELE2202-0006/AWT

MKD Electric, LLC – EA793179

- Elgin, IL
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$3,000 stayed with conditions – 7/21/2022
- ELE2206-0015/AWT

Mohs Electric LLC and Michael N. Mohs – EA766930 and AM694211

- Plymouth, MN
- Consent Order: Respondents censured; \$5,000 monetary penalty with \$3,000 stayed with conditions – 1/06/2022
- ELE2108-0035/CMW

Moline, Thomas P., dba Town's Edge Maintenance and Tom Moline Construction

- Faribault, MN
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical work in Minnesota; \$5,000 monetary penalty with \$3,000 stayed – 5/25/2022
- ELE2203-0034/CMW

Monterroza, Nelson A. – see Nb Electric Inc.

Morgan, Jay Martin, II

- St. Paul and Red Lake Falls, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota until licensure achieved; \$2,500 monetary penalty – 6/16/2022
- ELE2205-0029/CMW

Moss, Kevin T. – see QE Solar MN, LLC**MSIT**

- Florence, AL
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until all required licensure, insurance, and bonding achieved; \$5,000 monetary penalty stayed – 4/26/2022
- MLT2201-0016/AWT

Nassen, Clair F. – see Guaranteed Electric Service, Inc.**National Data Networks, LLC and Scott Logsdon**

- Tulsa and Jenks, OK
- Administrative Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until all required licenses are obtained; \$6,500 monetary penalty – 3/08/2022
- ELE2201-0017/CMW

Nb Electric Inc. and Nelson A. Monterroza – EA659148 and AJ718253

- St. Paul, MN
- Consent Order: Contractor license revoked; Nb Electric Inc. shall cease and desist from performing or offering to perform electrical work in Minnesota; Monterroza censured and shall cease and desist from performing or offering to perform electrical work in Minnesota unless he is a W-2 employee of a licensed electrical contractor; Monterroza prohibited from being an owner, officer, partner, or member of a licensed electrical contractor in Minnesota and may not act as the responsible licensed individual for an electrical contractor for two years; stay of \$2,000 penalty from 2019 Consent Order lifted; \$10,000 monetary penalty against Monterroza stayed with conditions – 8/17/2022
- ELE2206-0008/CMW

Nguyen, Triet - see GE Group Inc.

Northern Dewatering, Inc.

- Rogers, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical work in Minnesota until licenses obtained; stay of \$6,500 monetary penalty from 2020 Consent Order lifted and due at execution of Consent Cease and Desist Order; additional \$6,500 monetary penalty stayed – 8/31/2022
- ELE2207-0012/AWT

Nstructions LLC and Wilbur D. Marshall

- St. Paul, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform plumbing and electrical work in Minnesota; \$4,000 monetary penalty stayed – 4/08/2022
- MLT2203-0002/CN

One Source Solar LLC, aka 1 Source Solar, and Travis Hodapp and Todd Miller

- Ankeny, IA
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota until licenses obtained; \$6,000 monetary penalty – 7/01/2022
- ELE2206-0014/CMW

Ortiz, Angel X.

- Minneapolis, MN and New York, NY
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical work in Minnesota until properly registered and employed by a licensed electrical contractor; \$5,000 monetary penalty with \$3,000 stayed – 6/15/2022
- ELE2204-0001/CMW

Osmek, Kyle D. – AJ015678

- Glencoe, MN
- Consent Order: Respondent censured; license suspended until Respondent completes 16 hours of continuing education; if continuing education not completed by 4/26/2024, license shall be revoked; \$1,000 monetary penalty stayed – 7/14/2022
- ELE2205-0022/SAS

Out West Build, Inc. and Nicholas T. Card

- St. Paul, MN and Las Vegas and Henderson, NV
- Findings of Fact, Conclusions of Law, and Order: Administrative Order affirmed: cease and desist from acting or holding self out as a residential building contractor, remodeler, roofer, plumber, or electrician in Minnesota until licensure achieved; \$20,000 monetary penalty – 8/08/2022
- MLT2106-0001/CMW

PCL Industrial Services, Inc. and Joseph L. Hegarty – EA791434 and AM005202

- Bakersfield, CA and Sioux Falls, SD
- Consent Order: Respondents censured; \$6,000 monetary penalty with \$3,500 stayed with conditions – 8/25/2022
- ELE2206-0021/CMW

Peterson, Steven M. – S.P. Electric, Inc.**Pine River Area Foundation, Inc.**

- Pine River, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical or technology systems work in Minnesota until all required licensure, insurance, and bonding achieved; \$5,000 monetary penalty stayed – 3/18/2022
- ELE2108-0023/AWT

Plattner, Nathaniel M. – 1C041324

- Cambridge, MN
- Consent Order: Respondent censured; cease and desist from performing or offering to perform electrical work and mechanical work in Minnesota until all required licenses and certification obtained; \$12,000 monetary penalty with \$9,000 stayed – 2/22/2022
- ELE2112-0027/CMW

Plumbers Mechanical Group, LLC – PC002947

- Winona, MN
- Consent Order: Respondent censured; Respondent shall ensure that it hires a Minnesota-licensed electrical contractor to perform any/all electrical work on its projects in Minnesota; \$5,000 monetary penalty stayed with conditions – 7/20/2022
- ELE2005-0004/AWT

Power Tech, LLC and Josh Kallsen, Cody Forristall, and Jared W. Loehr – AM792382

- Council Bluffs, IA and Elkhorn, NE
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical and/or technology systems work in Minnesota; \$6,000 monetary penalty with \$3,500 stayed with conditions – 6/06/2022
- ELE2204-0021/CMW

Precision Carpentry & Decks, Inc. and Matthew Schumi and Michael T. Schumi

- Cottage Grove and Woodbury, MN
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical, plumbing, and mechanical work in Minnesota; stay of \$18,000 monetary penalty from 2020 Consent Order against Matthew Schumi lifted; additional \$30,000 monetary penalty assessed against all Respondents – 4/19/2022
- RBC22032-0011/AWT and RBC2204-0002/AWT

Precision Homes, Inc., dba Precision Exteriors – BC771200

- Maple Grove, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,250 stayed with conditions – 6/09/2022
- ELE2203-0029/AWT

Precision Landscaping & Construction, Inc. and Joseph Nolan and Josh F. Fox – BC742603, TS792305, QB779282, and RT764909

- Hastings, MN
- Consent Order: Technology systems contractor license issued with conditions, including censure of Respondents and \$6,000 monetary penalty with \$4,000 stayed – 3/30/2022
- ELE2202-0002/CMW

Premise Inc. – EA709349

- Minneapolis, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$3,000 stayed with conditions – 4/06/2022
- ELE2108-0024/AWT

Prime Heat, Incorporated and Herbert Boekamp and Jason Boekamp

- El Cajon, CA
- Notice of Determination and Determination: Corrective action ordered in December 2021 Administrative Order is unsatisfactory; \$4,000 forgivable penalty now due and owing – 5/03/2021
- ELE2111-0024/CMW

QE Solar MN, LLC, Kenneth Heissler, and Kevin T. Moss – EA795625

- Cranford, NJ
- Consent Order: Electrical contractor license granted with conditions including \$12,000 monetary penalty with \$7,000 stayed; Kevin Moss censured – 6/15/2022
- ELE2204-0020/CMW

Quality Essential Painting Inc. and Jesus Morales Hernandez, dba Quality Essential Inc.

- Chaska, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform plumbing or electrical work in Minnesota; \$5,500 monetary penalty with \$4,000 stayed – 8/31/2022
- MLT2206-0001/KF

Raimis Construction LLC, Venture Capital LLC, and Shirzad Raimi, individually and dba Raimi Property Group

- Burnsville, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$22,500 monetary penalty with \$15,000 stayed – 7/19/2022
- MLT2205-0002/AWT

Randall Group Inc. and David W. Schultz

- St. Augustine, FL and Lincoln Park, MI
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform technology systems work in Minnesota; \$5,000 monetary penalty with \$3,000 stayed with conditions – 6/06/2022
- ELE2201-0025/CMW

Randall, Jason Michael

- Rochester, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical and/or technology systems work in Minnesota; \$5,000 monetary penalty – 6/14/2022
- ELE2201-0025/CMW

Remodel for Life LLC and James P. Hansel - PC724661

- Burnsville, MN
- Consent Order: Respondents censured; cease and desist from performing or offering to perform plumbing and electrical work in Minnesota; \$5,000 monetary penalty with \$4,000 stayed – 5/13/2022
- PLB2203-0028/MG

Robb's Electric, Inc. and Daniel G. Robb – EA001548 and AM003319

- Carver, MN
- Consent Order: Respondents censured; stay of \$2,000 of the penalty from June 2022 Consent Order lifted; remaining \$5,000 monetary penalty with \$3,000 stayed with conditions – 9/16/2022
- ELE2111-0023/CMW

Roney, Michael L. - see Kraft Electric, L.L.C.

Rutz, Jeffrey Julius - see Meridian Energy Products, LLC

Saabackic, Nermin – RT789932

- Rochester, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 6/06/2022
- ELE2201-0025/CMW

Sanchez-Miranda, Jaime Rolando, dba Sanchez Contractor

- Brooklyn Center, MN
- Administrative Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical work in Minnesota; \$8,000 monetary penalty – 5/12/2022
- MLT2112-0006/DLC

Scala Design & Construction Services, Inc., Jose Escalante Gomez, and Erika Carillo

- Chanhassen, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$7,500 monetary penalty with \$6,500 stayed with conditions – 2/11/2022
- RBC2109-0007/AWT

Scheske, Ryan M. - see Federated Service Solutions, Inc.

Schoenrock, Troy L. - see Live Wire Electrical Services, LLC

Schultz, David W. - see Randall Group Inc.

SF Electric L.L.C.

- Inver Grove Heights, MN
- Licensing Order: Electrical contractor license application denied; cease and desist from performing or offering to perform electrical work in Minnesota – 4/05/2022
- ELE2111-0017/CMW

Sheldon, Gregory A. – AJ007493

- Cambridge, MN
- Consent Order: Respondent censured; license suspended until Respondent completes 16 hours of continuing education; if continuing education not completed by 2/15/2024, license shall be revoked; \$1,000 monetary penalty stayed – 7/01/2022
- ELE2205-0005/SAS

Skrivseth, Benjamin W. – AM008309 and AJ016058

- St. Paul, MN
- Consent Order: Respondent censured; may not act as the responsible licensed individual for an electrical contractor for one year; \$5,000 monetary penalty with \$3,000 stayed with conditions – 9/16/2022
- ELE2208-0029/CMW

Sorenson, Lawrence C. – AJ007712

- Bloomington, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty stayed with conditions – 5/06/2022
- ELE2106-0002/AWT and ELE2108-0010/AWT

S.P. Electric, Inc. and Steven M. Peterson – EA004263 and AM007027

- Maple Lake, MN
- Consent Order: Respondents censured; \$10,000 monetary penalty with \$6,000 stayed with conditions – 9/22/2022
- ELE2206-0017/CMW

Spetacean, Daniel – see EcoPro Electric LLC

Sprinter Business Solutions LLC, aka Sprinter Business Solutions; All IT USA LLC, dba Sprinter IT; and Christopher A. Tiffany

- Wausau, WI
- Administrative Order: Cease and desist from performing or offering to perform electrical and/or technology systems work in Minnesota until licenses obtained; \$5,000 monetary penalty – 7/01/2022
- ELE2206-0016/CMW

Steuck, Jeffrey Scott, dba Dane Farms Handyman Service and Dane Farms Home Services & Furnishings

- Owatonna, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$7,500 monetary penalty stayed – 2/16/2022
- RBC2201-0001/ALF

Sullivan, Todd A. - AM008166

- Milton, WI
- Consent Order: Respondent shall not as the responsible licensed individual for a licensed electrical contractor for one year; \$3,000 monetary penalty with \$2,000 stayed with conditions – 7/06/2022
- ELE2204-0034/CMW

Sun Badger Solar LLC and Mike S. Sabo – EA777502 and AM004565

- Bloomington, MN
- Consent Order: Sun Badger Solar LLC censured; \$4,000 monetary penalty from previous Consent Order remains stayed; electrical contractor license reinstated with conditions – 1/10/2022
- ELE2112-0017/CMW

Sunshine Electric, LLC and Bruce Crunkilton – EA004921 and AM005544

- Minneapolis, MN
- Order for Summary Suspension: Licenses summarily suspended – 6/08/2022
- ELE2103-0011/CMW and ELE2107-0013/CMW

Superior Electric, Inc., Superior Electric L.L.C., aka Superior Electric LLC., and Richard J. Hunt

- Plato and Eden Prairie, MN and Mesa, AZ
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota; stay of \$10,000 monetary penalty in 2021 Consent Order lifted; additional \$10,000 monetary penalty assessed – 5/10/2022
- ELE2203-0042/CMW

Surface Pros LLC

- St. Louis Park, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform the services of an electrical contractor until appropriate licensure is obtained; \$5,000 monetary penalty stayed – 2/22/2022
- ELE2111-0002/AWT

Swanson, Kimberly – see Golden Electric LLC**T2 Custom Solutions LLC, Tyler Clemens, and Tyler Banick**

- Pine Island, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform plumbing and electrical work in Minnesota; \$5,500 monetary penalty with \$5,000 stayed – 4/25/2022
- RBC2203-0035/KF

Tanks, Yusuf M. – RE693477

- White Bear Lake, MN
- Consent Order: Respondent censured; Respondent may only perform electrical work if he is a W-2 employee or owner, officer, member, or partner of a licensed electrical contractor; Respondent prohibited from requesting and/or compelling a licensed electrical contractor to file permits on his behalf or on behalf of others; \$5,000 monetary penalty with \$3,500 stayed – 9/22/2022
- ELE2205-0037/CMW

The Stanley Group LLC, dba Stanley Custom Homes, and Raymond A. Lombardi

- St. Paul and Little Canada, MN and Wantagh, NY
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer in Minnesota; cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$20,000 monetary penalty – 7/08/2022
- RBC2206-0045/AWT

Thornburgh, Leah Jon – RT789934

- Rochester, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 6/06/2022
- ELE2201-0025/CMW

Tickapersaud, Rudranauth

- Farmington, MN
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical and technology systems work in Minnesota until licenses obtained; \$5,000 monetary penalty with \$3,000 stayed – 6/28/2022
- ELE2204-0012/CMW

Tiffany, Christopher A. – see Sprinter Business Solutions LLC**TLL LLC, Dan Lawrence, and Kenichiro Terahira – EA779428 and AM006102**

- River Falls, WI
- Consent Order: TLL LLC censured; \$10,000 monetary penalty with \$6,000 stayed with conditions – 1/14/2022
- ELE2112-0011/CMW

Tom Moline Construction – see Moline, Thomas P.**Tom Parker Electric, Inc. – EA001403**

- Red Wing, MN
- Consent Order: Respondent censured; \$2,000 monetary penalty stayed with conditions – 2/01/2022
- ELE2111-0007/AWT

Torres, Jorge

- New Brighton, MN
- Consent Order: Administrative Order vacated; cease and desist from performing or offering to perform electrical work in Minnesota until properly registered and employed by a licensed electrical contractor; \$5,000 monetary penalty with \$3,000 stayed – 6/15/2022
- ELE2204-0001/CMW

Tostenson, Joshua J. – AM778009

- Williston, ND
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,500 stayed with conditions – 4/14/2022
- ELE2203-0019/AWT

Town's Edge Maintenance – see Moline, Thomas P.

Ultimate Remodeling LLC and Dominik Dzbikowicz, dba Ultimate Remodeling Bath & Tile

- Excelsior and Rochester, MN
- Administrative Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer; cease and desist from performing or offering to perform electrical, plumbing, or mechanical work in Minnesota until all required licenses and bonding obtained; stay of \$4,000 monetary penalty from 2017 Consent Order against Dzbikowicz lifted; additional \$10,000 monetary penalty assessed – 4/28/2022
- MLT2203-0001/KF and RBC2203-0029/KF

Up North Electric Inc. – EA769712

- Emily, MN
- Consent Order: Respondent censured; \$4,000 monetary penalty with \$2,500 stayed with conditions – 1/28/2022
- ELE2012-0004/AWT

Vang, Don, dba Sunshine Electric and Vang Electric

- Robbinsdale and Minneapolis, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota until licenses obtained; \$7,000 monetary penalty – 7/05/2022
- ELE2206-0025/CMW

Vang, Jaydoo – RT789933

- Minneapolis, MN
- Consent Order: Respondent censured; \$5,000 monetary penalty with \$4,000 stayed with conditions – 6/06/2022
- ELE2201-0025/CMW

Verticom

- Dallas, TX
- Consent Cease and Desist Order: Administrative Order vacated; cease and desist from performing or offering to perform the services of an electrical contractor until appropriate licensure is obtained; \$5,000 monetary penalty stayed – 1/27/2022
- ELE2108-0036/AWT

Vetter's Electric, Inc. – EA003176

- Forest Lake, MN
- Consent Order: Respondent censured; \$2,000 monetary penalty stayed with conditions – 8/09/2022
- ELE2203-0038/AWT

Vickers, Kevin D. – see Golden Electric LLC and GE Group Inc.

Vinco, Inc. – EA003009

- Forest Lake, MN
- Consent Order: Respondent censured; monetary penalties from previous Consent Orders remain stayed;
- additional \$4,000 monetary penalty with \$3,000 stayed with conditions – 2/03/2022
- ELE2110-0006/AWT

Vinco, Inc. – EA003009

- Forest Lake, MN
- Consent Order: Respondent censured; stay of previously stayed \$9,000 monetary penalty lifted; additional \$6,000 monetary penalty stayed with conditions – 7/21/2022
- ELE2206-0031/AWT

Vision Sign Company LLC

- Isanti, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical and/or technology systems work in Minnesota until licensure achieved; \$2,000 monetary penalty stayed with conditions – 6/30/2022
- ELE2112-0012/AWT

Volney, Daniel M., dba Dan's Electric Hand

- Watertown, MN
- Administrative Order: Cease and desist from performing or offering to perform electrical work in Minnesota; \$2,500 monetary penalty – 4/19/2022
- ELE2201-0026/AWT

Wamhoff, Clinton Albert, dba Pro Handyman Services LLC

- Circle Pines, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding self out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform electrical or plumbing work in Minnesota; \$5,000 monetary penalty stayed – 7/08/2022
- RBC2111-0017/ALF

Warner Restoration LLC and Katy A. Warner – BC779738 and QB777706

- Apple Valley, MN
- Consent Cease and Desist Order: Cease and desist from performing or offering to perform electrical work in Minnesota until all required licensure, insurance, and bonding achieved; \$2,000 monetary penalty stayed – 4/14/2022
- MLT2201-0006/CMW

Weathershield Homes Inc and Neal F. Lesmeister– BC385093, QB128760, and RE728813

- Baxter, MN
- Consent Order: Weathershield Homes Inc shall cease and desist from engaging or acting as a residential building contractor, remodeler, or roofer and from performing or offering to perform electrical work until it obtains an electrical contractor license; license No. BC385093 is non-renewable; stay of the \$3,000 monetary penalty from 2017 Consent Order lifted; additional \$5,000 monetary penalty stayed with conditions – 06/15/2022
- ELE2203-0039/CMW

Wesemann, Brandon A. – RE666190

- Minneapolis, MN
- Consent Order: Licensing Order vacated; unlicensed electrician registration suspended for two years; during suspension, Respondent shall cease and desist from performing or offering to perform electrical or technology systems work in Minnesota; \$7,500 monetary penalty with \$7,000 stayed with conditions – 8/16/2022
- ELE2111-0001/CMW

Wighty's Remodeling LLC and Shawn M. Wighty

- St. Paul, MN
- Consent Cease and Desist Order: Cease and desist from acting or holding selves out as a residential building contractor, remodeler, or roofer, and cease and desist from performing or offering to perform plumbing and electrical work in Minnesota; \$4,500 monetary penalty stayed – 5/11/2022
- RBC2204-0016/CN



DEPARTMENT OF
LABOR AND INDUSTRY

Electrical Permit and Inspection History

State Inspection Areas

CALENDAR YEAR	Permit Information			Inspection Information		
	Total Permits Issued	Permits Completed	Permits Closed but Not Finaled	Final "Final" Insp.*	All other Insp.**	Total Inspections
2020	126,124	122,527	5,856	107,366	55,445	162,811
2021	130,552	120,752	6,229	117,476	60,857	178,333
2022	138,227	79,280	2,185	121,727	61,153	182,880
2023	6,403	1,070	38	6,220	3,095	9,315

The "**Permit Information**" and the "**Inspection Information**" do not necessarily represent the same permits. The "Permit Information" represents permits issued that Calendar Year. The "Inspection Information" represents the inspections performed that calendar year. The inspections may be for permits that were issued in previous calendar years.

"Total Permits Issued" means the permits Issued in the calendar year indicated. Includes permits in status (milestone) 'Abandon', 'Closed', 'Expired', 'Finaled', 'Issued', or 'Hold'. Does not include any other milestone such as "Out of state Inspected Area", "Refunded", etc.

"Permits Completed" means the "Total Permits Issued" for the calendar year, this is the number of permits placed into 'Closed', 'Expired', 'Abandon', or 'Finaled' status .

"Permits Closed but Not Finaled" means of the "Permits Completed" for the year, this is the number of those permits placed by procedural policy into 'Closed', 'Expired', or 'Abandon' status .

"Final "Final" Insp." represents the number of inspections completed that calendar year that caused the permits to be placed into "Finaled" status or milestone. The permits were not necessarily issued that year.

"All other Insp." represents the number of inspections completed that calendar year that did not result in a ""Finaled" status or milestone. The permits were not necessarily issued that year.

"Total Inspections" represents the total (Finals and Others) number of inspections completed that calendar year. The permits were not necessarily issued that year.

Total Active								
Total Active	Date Range Activity			Issued Permits	Aging of Expired Permits			
Current Count	IN Count	OUT Count	Net Change Count	< 12 Months Count	12-18 Months Count	18-36 Month Count	> 36 Months Count	> 12 Months Count
78,627	138,320	130,340	7,980	63,148	6,944	7,148	901	14,993
Percentage of Current Active Permits								
	176%	166%	10%	80%	9%	9%	1%	19%

	<u># of Inspections Performed</u>	<u>Inspection Reports</u>	<u>AFBs</u>	<u>Refunds</u>	<u>License Checks</u>	<u>Violation Reports</u>
For Date Range:	183,493	23,946	21,568	6,472	434	1
Year to Date Total:	9,338	1,135	1,204	425	26	0

“Total Active”: The total current active permits ("Issued", "Expired" or "Hold" status).

“Date Range Activity”: The permits that were Issued and permits closed out and the net change for the selected date range.

“Issued Permits”: Represents the number of permits that are currently less than 12 months old.

“Expired Permits”: Permits for installations filed with inspection fees of \$250 or less are void 12 months from the original filing date regardless of whether the wiring is completed. Permits filed with inspection fees of \$250 or less are not refundable after 12 months from the original filing date. The authority to install electrical wiring associated with a specific permit is void at the time of a final inspection or expiration, whichever occurs first. The authority to inspect wiring covered by a permit continues until the installation is approved at a final inspection.

“Aging of Expired Permits”: Represents the age of expired permits that are still active. This does not include any permits that have a value over \$250.

“For Date Range:” Represents the numbers in the respective columns during that date range. Violation reports are yet to be counted by this report.

“Year to Date Total:” Represents the numbers for the calendar year beginning January 1st.

“%”: Represents the percentage compared to "Current".

“AFBs”: Additional Fees for Billings (invoices for inspection fee shortages)

Electrical Permits Issued Summary

Issued from 1/1/2022 to 12/31/2022

ELE Permit Type	New Structure or Existing and/or Other Assoc. Items	Number of Permits Issued	% of Permit Type	% of Total
Multi-Family Dwelling	Existing Building or Other Items	1,696	88.43%	1.24%
	New Building	222	11.57%	0.16%
	Total	1,918		1.41%
Non-Dwelling	Total	28,151		20.64%
One-Family Dwelling	Existing Dwelling or Other Items	64,183	84.76%	47.06%
	New Dwelling	11,539	15.24%	8.46%
	Total	75,722		55.52%
One-Family Home (Homeowner Issued Permit)	Existing Home or Other Items	6,931	81.26%	5.08%
	New Home	1,598	18.74%	1.17%
	Total	8,529		6.25%
Technology Systems	Total	912		0.67%
Transitory (Carnival, etc.)	Total	1,340		0.98%
Two-Family Dwelling	Existing Building or Other Items	552	88.60%	0.40%
	New Building	71	11.40%	0.05%
	Total	623		0.46%
Utility Load Management Device	New Device	1,358	7.11%	1.00%
	Replacement Device	17,748	92.89%	13.01%
	Total	19,106		14.01%
Wind Tower	Total	80		0.06%
Total		136,381		

Permit Type Type of Dwelling or Non-Dwelling	Permit Variant New or Existing	Solar Systems Grouped by Size	No of permits	Percentage of Group
Multi-Family Dwelling			29	0.85% Of Total
	Existing Building or Other Items		27	93.10% of Type
		10K or <	8	29.63% of Variant
		10K to 40K	13	48.15% of Variant
		40K to 1 meg	6	22.22% of Variant
	New Building		2	6.90% of Type
		10K to 40K	1	50.00% of Variant
Unknown		1	50.00% of Variant	
Non-Dwelling			444	13.06% Of Total
	Non-Dwelling		444	100.00% of Type
		1 Meg to 5 Meg	1	0.23% of Variant
		10K or <	85	19.14% of Variant
		10K to 40K	255	57.43% of Variant
		40K to 1 meg	76	17.12% of Variant
		Unknown	27	6.08% of Variant
One-Family Dwelling			2,813	82.74% Of Total
	Existing Dwelling or Other Items		2,761	98.15% of Type
		10K or <	1,787	64.72% of Variant
		10K to 40K	842	30.50% of Variant
		40K to 1 meg	8	0.29% of Variant
		Unknown	124	4.49% of Variant
	New Dwelling		52	1.85% of Type
		10K or <	19	36.54% of Variant
		10K to 40K	25	48.08% of Variant
40K to 1 meg		1	1.92% of Variant	
One-Family Home (Permit Issued to Homeowners)			97	2.85% Of Total
	Existing Home or Other Items		80	82.47% of Type
		10K or <	35	43.75% of Variant
		10K to 40K	32	40.00% of Variant
		40K to 1 meg	1	1.25% of Variant
		Unknown	12	15.00% of Variant

Solar Systems Grouped by Size	No of permits	% of Total
1 Meg to 5 Meg	1	0.03%
10K or <	1,963	57.74%
10K to 40K	1,171	34.44%
40K to 1 meg	92	2.71%
Unknown	173	5.09%
Total	3,400.00	

Solar Systems Grouped by Size	Watts	% of Total
1 Meg to 5 Meg	5,750,000	6.44%
10K or <	11,989,619	13.44%
10K to 40K	23,031,087	25.81%
40K to 1 meg	48,454,050	54.31%
Unknown	Unknown	
Total	89,224,756	
Average	27,649	

One-Family Home (Permit Issued to Homeowners)	New Home		17	17.53% of Type
		10K or <	14	82.35% of Variant
		10K to 40K	1	5.88% of Variant
		Unknown	2	11.76% of Variant
Two-Family Dwelling			17	0.50% Of Total
	Existing Building or Other Items		17	100.00% of Type
		10K or <	15	88.24% of Variant
		10K to 40K	2	11.76% of Variant
Total			3,400	

Summary of Significant 2023 NEC® Section Changes - Attachment C

Definition and New Code Articles were not included in this summary.

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
1	110.16(B)	Service Equipment/Feeder Supplied Equipment	Reduces labeling requirement from 1200 to 1000-Amps, adds "Feeder Supplied Equipment" and 4 previously listed items and exception deleted.	9/22/2022, 10/20/2022	X	
2	110.26	Spaces About Electrical Equipment	Concerns equipment doors and their interference with egress and access from working space.	9/22/2022, 10/20/2022	X	
3	210.8(A)(6)	Dwelling Units – Kitchens	GFCI protection has been expanded to include all receptacle outlets in the kitchen	9/22/2022, 10/20/2022	X	
4	210.8 (A) Exception 4	Dwelling Unit Bathroom(Except fan Receptacle)	Exception from GFCI for factory-installed exhaust fans receptacle.	9/22/2022, 10/20/2022	X	
5	210.8 (A) & (B) Exception 6	“Weight Supporting Ceiling Receptacle (WSCR)” and “Weight Supporting Attachment Fitting (WSAF)” Exception	Two new terms and acronyms have been introduced for WSCR and WSAF for consistency throughout the code. These two exceptions were relocated to the end of 210.8(A) and 210.8(B) as part of the reorganization of 210.8.	9/22/2022, 10/20/2022	X	
6	210.8(B)	Other Than Dwelling Locations (Location Item 4)	Addition of buffet serving areas to the list of locations requiring GFCI protection.	9/22/2022, 10/20/2022	X	
7	210.8(B)	Other Than Dwelling Locations (Location Item 7)	Has been modified to address cord-and-plug-connected fixed and stationary appliances at sinks locations as well as receptacle outlets.	9/22/2022, 10/20/2022	X	
8	210.8(B)	Other Than Dwelling Locations (Location Item 13)	Has added GFCI protection for receptacles installed within 6 ft. of aquariums, bait wells, and similar open aquatic vessels or containers.	9/22/2022, 10/20/2022	X	
9	210.8(D)	Specific Appliances	Provides a list appliances (cord-and-plug and hard-wired) requiring GFCI protection. The list was expanded to include: electric ranges, wall-mounted ovens, counter-mounted cooking units, clothes dryers, and microwave ovens.	9/22/2022, 10/20/2022	X	
10	210.8(F)	Outdoor Outlets	GFCI protection to be installed when the equipment supplied by an outlet covered under the requirements of this section is replaced. A new exception HVAC equipment from GFCI protection until September 1, 2026.	9/22/2022, 10/20/2022	X	
11	210.11(C)(4)	Dwelling Unit Garage Branch Circuits	Clarifies so that 15-ampere branch circuits are permitted to serve receptacle outlets installed in a dwelling unit garage. The receptacles required by 210.52(G) are required be a 20-amp branch circuit dedicated to garage receptacles and all other receptacles to may be served by either a 15-amp or 20-amp branch circuit.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
12	210.11(C)(4)	Dwelling Unit Garage Branch Circuits	A new exception (4) was added permitting the 20-ampere circuit supplying a single vehicle bay garage to supply other equipment in accordance with requirements in 210.23(A)(1) and (A)(2).	9/22/2022, 10/20/2022	X	
13	210.12	Arc-Fault Circuit-Interrupter Protection (AFCI)	This section was reformatted, 10-ampere branch circuit was added to the branch circuit sizes and AFCI protection for first responder living facilities was added.	9/22/2022, 10/20/2022	X	
14	210.17	Guest Rooms and Guest Suites	Assisted living facilities added to the existing list of locations requiring their branch circuits to be installed per the requirements for dwelling units if a permanent means for cooking exists.	9/22/2022, 10/20/2022	X	
15	210.23	Permissible Loads	Covers permitted and non-permitted use of a 10-ampere branch circuit. Installation requirements were necessary for the use of a 10-ampere branch circuit if the installer chose to do so	10/20/2022	X	
16	210.52(C)	Dwelling Units- Island and Peninsular	The requirement for receptacles serving the countertop or work surface of an island or peninsula has been made optional.	10/20/2022	X	
17	210.52(C)	Dwelling Units- Island and Peninsular	Receptacle assemblies must be listed for application.	10/20/2022	X	
18	210.52(C)	Dwelling Units- Island and Peninsular	Receptacle outlets must be installed on above the countertop. Receptacles outlet will no longer be allowed below the countertop.	10/20/2022	X	
19	210.52(C)	Dwelling Units- Island and Peninsular	If a receptacle outlet is not provided, provisions must be made to allow for a future installation.	10/20/2022	X	
20	210.52 (G)	Basements, Garages, and Accessory Buildings	The receptacle that provides the premises security systems does not meet the receptacle requirements of 210.52(G).	10/20/2022	X	
21	210.70	Lighting Outlets Required	Laundry areas has been added to the existing list of locations in 210.70(1).	10/20/2022	X	
22	210.70	Lighting Outlets Required	Prohibits the switch or wall-mounted control device to rely solely on a batteries unless provided with a means to energize lighting outlets upon failure	10/20/2022	X	
23	215.15	Barriers (Feeders)	When feeder taps or transformer secondary conductors supply panelboards, switchboards, switchgear, or motor control centers, there must be barriers installed.	10/20/2022	X	
24	215.18	Surge Protection (Feeders)	This new language requires Type 1 or 2 SPDs when a feeder supplies a dwelling unit, dormitory unit, guest rooms of hotels and motels, and sleeping rooms/areas of nursing homes and limited-care facilities.	10/20/2022	X	
25	220.5 (C)	Floor Areas	Areas such as garages, or unused or unfinished space(s) are no longer excluded from the calculated floor area of the building, dwelling unit or other area.	10/20/2022	X	
26	220.57	Electric Vehicle Supply Equipment (EVSE) Load	Section 220.57 has been added to specify load calculations for Electric Vehicle Supply Equipment (EVSE). Section 220.57 has been added to specify load calculations for Electric Vehicle Supply Equipment (EVSE).	10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
27	220.70	Energy Management Systems (EMSs)	A new section has been added to specify load calculations for Energy Management Systems (EMSs). Seeks to build upon specific allowances providing a new option for any load connected to a feeder or service conductor where these loads are controlled to a maximum limit that effectively restricts the total loads operated at one time. This will help property owners to pursue the use of EMS equipment without requiring extensive electrical system upgrades	10/20/2022	X	
28	220.120	Receptacle Loads	Marinas, Boatyards, Floating Buildings, and Commercial and Noncommercial Docking Facilities Requirements at Section 555.6 have been relocated to Part VII 220.120.	10/20/2022	X	
29	225.5 and 225.7	225.5, Size of Conductors 1000 Volts, Nominal, or Less, and 225.7, Lighting Equipment Installed Outdoors	Deleted sections	10/20/2022	X	
30	225.41	Emergency Disconnects	Requires an emergency disconnect at a readily accessible outdoor location for one-and two-family dwelling units that are served by feeders.	9/22/2022, 10/20/2022	X	
31	230.62(C)	Barriers	Installed in such a way that no uninsulated, ungrounded busbars or terminals are exposed to inadvertent contact while load terminations are being serviced when the service disconnect is in the open position.	9/22/2022, 10/20/2022	X	
32	230.67	Surge-Protective Devices	Additional occupancies have now been added that include: dormitory units, guest rooms and guest suites of hotels and motels, and areas of nursing homes and limited-care facilities used exclusively as patient sleeping rooms.	9/22/2022, 10/20/2022	X	
33	230.67	Surge-Protective Devices	SPDs shall have a nominal discharge current rating (In) of not less than 10kA	9/22/2022, 10/20/2022	X	
34	230.71(B)	Two to Six Service Disconnecting Means	Transfer switches were added to clarify that they must be listed for and used as service equipment. Each service disconnect is to be provided in a separate compartment	9/22/2022, 10/20/2022	X	
35	230.71(B) Ex.	Two to Six Service Disconnecting Means	An exception was added to clarify that existing service equipment is not required to comply with the provisions of 230.71(B) when existing equipment was installed in compliance with previous editions of the NEC allowing for up to six service disconnects in a single enclosure or compartment.	9/22/2022, 10/20/2022	X	
36	230.85	Emergency Disconnects	Section 230.85 was reorganized into sub-sections with titles to better align with the formatting requirements. listed disconnects used as the emergency disconnect cannot be marked as "suitable ONLY for use as service equipment."	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
37	240.4(B)	Overcurrent Devices Rated 800 Amperes or Less	Adjustable trip overcurrent protective devices are permitted to have an ampacity value set that does not exceed the next higher standard overcurrent protection device ampacity value [per Table 240.6(A)] above the ampacity of the conductors being protected.	9/22/2022, 10/20/2022	X	
38	240.4(D)(3)	14 AWG Copper-Clad Aluminum	14 AWG copper-clad aluminum was added to the list of permitted small conductors. Has been added to align with other small conductors permitted per 240.4(D). Overcurrent protection device rating for the conductors cannot exceed 10 amperes, and the maximum continuous load on the circuit cannot exceed 8 amperes.	9/22/2022, 10/20/2022	X	
39	Table 240.6(A)	Standard Ampere Ratings	10 ampere was added to the list of standard ratings of overcurrent protection devices. 10 ampere rated fuses and circuit breakers are available and being used in the field.	9/22/2022, 10/20/2022	X	
40	240.6(D)	Remotely Accessible Adjustable-Trip Circuit Breakers	Allows for remote access to adjustable-trip circuit breakers through a direct local nonnetworked interface or a networked interface connection. Due to SMART devices, provisions were needed to address cybersecurity.	9/22/2022, 10/20/2022	X	
41	240.11	Selective Coordination	Clarifies that whenever the NEC requires a feeder overcurrent protective device to be selectively coordinated with a service overcurrent protective device, then ALL feeder overcurrent devices connected to such service must be selectively coordinated with the service overcurrent device. Closes any loopholes or gaps in the code.	9/22/2022, 10/20/2022	X	
42	250.130	Equipment Grounding Conductor Connections	Snap switches were added to the item (receptacle) that are allowed to use Section 250.130(C) for their equipment grounding conductor (EGC) connection.	9/22/2022, 10/20/2022	X	
43	250.140	Frames of Ranges and Clothes Dryers	Cases exist where an existing load center was the service equipment but is now being supplied by a feeder. In these situations, the grounded conductor was not permitted to be used as part of the effective ground-fault current pathway. In the 2023 NEC the grounded connector is to be insulated or field covered within the supply enclosure with a listed insulating material to prevent contact of an uninsulated conductor with any normally non-current carrying metal part of the equipment.	9/22/2022, 10/20/2022	X	
44	300.4(E)	Raceways/Metal-Corrugated Decking	A new Exception No. 2 has been added which recognizes poured concrete on top of the metal roof decking as a means of physical protection for wiring methods installed in or under metal-corrugated roof decking.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
45	Table 300.5	Minimum Cover Requirements	Electrical Metallic Tubing (EMT) has been added to Column 3 of the table to clearly indicate that it can be installed in an underground location.	9/22/2022, 10/20/2022	X	
46	300.25	Exit Enclosures (Stair Towers)	An exception was added addressing egress lighting on outside exterior doorways.	9/22/2022, 10/20/2022	X	
47	312.10	Screws and Other Fasteners	New section added to address field installed screws or other fasteners entering a cabinet, cutout box, or meter socket.	9/22/2022, 10/20/2022	X	
48	314.16(B)(6)	Terminal Block Fill	A new subsection was added to address volume allowance concerns when terminal blocks are installed in boxes.	9/22/2022, 10/20/2022	X	
49	314.24	Dimensions of Boxes	The existing language was modified by broadening the reach of this section to address side entries for outlet and device boxes.	9/22/2022, 10/20/2022	X	
50	352.44(B)	Earth Movement (Expansion Fittings)	Requirements were added for an expansion fitting to be installed for underground runs of direct buried PVC conduit that emerge from the ground.	9/22/2022, 10/20/2022	X	
51	404.1	Scope (Switches)	Article 404 does not cover equipment such as wireless control switches that do not connect to electrical branch circuit conductors. Informational note directs the user of the Code to Section 210.70, Lighting Outlets Required, for additional details.	9/22/2022, 10/20/2022	X	
52	406.4(D)(8)	Ground-Fault Protection of Equipment	Requires ground-fault protection of equipment (GFPE) to be provided for replacement receptacles that require GFPE protection by requirements found elsewhere in the NEC.	9/22/2022, 10/20/2022	X	
53	406.4(G)	Floor Receptacles Protection	Floor receptacles must permit floor-cleaning equipment to be operated without damage to the receptacles and in food courts and waiting spaces of passenger transportation facilities where food or drinks are allowed must be GFCI protected.	9/22/2022, 10/20/2022	X	
54	406.9(C)	Bathtub and Shower Space	This clarifies receptacle restrictions in and around bathtubs and showers.	9/22/2022, 10/20/2022	X	
55	406.12	Tamper-Resistant Receptacles	Additional areas and occupancies were added where tamper-resistant receptacles will now be required to help protect children.	9/22/2022, 10/20/2022	X	
56	408.4	Descriptions Required	Requirements for circuit directories and descriptions were placed into a list format for clarity. There was confusion with the previous text as written in paragraph form.	9/22/2022, 10/20/2022	X	
57	408.9	Replacement Panelboards	Clarifies the replacement requirements for panelboards.	9/22/2022, 10/20/2022	X	
58	408.38	Enclosure (Panelboards)	The panelboard and enclosure combination shall be evaluated for the application when a panelboard is installed in a cabinet, cutout box, or identified enclosure and having an available fault current greater than 10,000 amperes.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
59	408.43	Panelboard Orientation	Panelboards cannot be installed in the face-down position. Added due to working space concerns. Even with acceptable working space, it would be very difficult for a qualified worker to safely work due to the installer lying, kneeling, or standing on a floor surface looking up.	9/22/2022, 10/20/2022	X	
60	409.70	Surge Protection	New section has been added requiring surge protection for industrial control panels.	9/22/2022, 10/20/2022	X	
61	410.10(F)	Luminaires Installed in or Under Roof Decking	Requires a minimum of 38 mm (1 ½ in.) to luminaires under any roof system where physical damage can occur to the luminaire	9/22/2022, 10/20/2022	X	
62	410.71	Disconnecting Means for Fluorescent or LED Luminaires	Relocated the requirement for disconnects for luminaires to this location because LED drivers were added to this section.	9/22/2022, 10/20/2022	X	
63	Article 410 Part XVII	Germicidal Irradiation	Part XVII of Article 410 has been added to address the increasing use of germicidal luminaires for disinfecting purposes.	9/22/2022, 10/20/2022	X	
64	422.16(B)(2)	Built-in Dishwashers and Trash Compactors	Provisions were added for supply cords to trash compactors and dishwashers that pass through a wood cabinet to be provided with protection that incorporates “smoothed edges.”	9/22/2022, 10/20/2022	X	
65	424.48	Installation of Cables in Walls	New section will allow heating cable to be installed in walls with specific protection and limitations. Concerns existed for heating cable installed in walls, and the need for installation with proper protection was evident. Provision includes a January 1, 2026, future effective date.	9/22/2022, 10/20/2022	X	
66	440.8	Single Machine and Location	New language has been added indicating that mini-split unit heating and cooling systems are not to be installed in a tub or shower zone.	9/22/2022, 10/20/2022	X	
67	440.11	General	Added additional language requiring disconnects with covers exposing live parts to be locked. Requires air-conditioning and refrigerating equipment disconnects that have hinged covers, and when open, have exposed live parts, be locked to prevent children and unqualified people from accidental contact.	9/22/2022, 10/20/2022	X	
68	440.14	Location	Adds a reference to 110.26(A), which makes it clear that working space clearances are required for air-conditioning and refrigerating equipment.	9/22/2022, 10/20/2022	X	
69	445.18(A)	Disconnecting Means	New guidance has been added permitting the disconnecting means to be located within the generator behind a hinged cover, door, or enclosure panel. When the generator disconnecting means is located in the generator enclosure, a field-applied label to be provided indicating the location of the disconnecting means.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
70	445.19	Emergency Shutdown of Prime Mover	A new Section 445.19 will separate the generator emergency shutdown requirements from the generator disconnect requirements. New language at (C) clarifies that the emergency shutdown device located at one- and two-family dwelling units installed on the exterior of the generator enclosure meets the requirements of this section. Makes it clear that the emergency disconnect for one-and two-family dwellings is to shut down the prime mover and not allow it to restart. At other than one- and two-family dwelling, generators with greater than 15 kW rating, units are to be equipped with a remote emergency stop switch that will shut down the prime move.	9/22/2022, 10/20/2022	X	
71	Article 517	Health Care Facilities	This edition of the NEC has completed the phased approach of changing the references from critical, general, basic, and support spaces to Category 1, 2, 3, and 4 Spaces. This “phased approach” of aligning with NFPA 99 (Health Care Facilities Code) was completed this cycle and the parenthetical references were deleted, leaving only the Category space references.	9/22/2022, 10/20/2022	X	
72	518.2	General Classification- (A)Examples	Casinos and gaming facilities are now included in the list of assembly occupancy examples.	9/22/2022, 10/20/2022	X	
73	547.26	Physical Protection (Agricultural Buildings)	Nonmetallic cables will be prohibited from being concealed within walls and above ceilings of buildings that are contiguous with or physically adjoin livestock confinement areas.	9/22/2022, 10/20/2022	X	
74	547.44	Equipotential Planes and Bonding of Equipotential Planes	Clarifies the indoor and outdoor locations requiring equipotential planes and specifies the bonding locations for these planes at agricultural buildings.	9/22/2022, 10/20/2022	X	
75	550.32(A)	Service Equipment	The electrical service disconnect can now be located “within sight from” the mobile home as opposed to the previously required 30 feet. Service equipment cannot be installed in or on mobile home.	9/22/2022, 10/20/2022	X	
76	551.3	Electrical Datum Plane Distances	Substantiation was submitted for the need to address recreational vehicle sites located next to natural bodies of water. This change was necessary to clarify some of the inconsistencies related to all electrical equipment installations around bodies of water.	9/22/2022, 10/20/2022	X	
77	551.40(D)	Loss of Ground Device	Substantiation was submitted to eliminate the need for a “reverse polarity device” in a recreational vehicle and in its place a “loss of ground device.”	9/22/2022, 10/20/2022	X	
78	555.4	Location of Service Equipment	Modified to state that services for a marina or docking facility must be located on land and no closer than 1.5 m (5 ft) horizontally from the structure served and elevated to a distance of 12 in. above the electrical datum plane.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
79	555.14	Equipotential Planes and Bonding	Substantiations was submitted that enhanced safety could result from requiring an equipotential plane to equalize or eliminate step and touch voltages for electrical equipment located at or on docks.	9/22/2022, 10/20/2022	X	
80	555.15	Replacement of Equipment	The “replacement” of electrical equipment at docking facilities is to be installed to the current edition of the NEC. The new language will allow the authority having jurisdiction (AHJ) to inspect the existing electrical equipment for any damage. The damage found for existing equipment needs only to be repaired to the NEC edition for which it was originally installed.	9/22/2022, 10/20/2022	X	
81	555.35 E	Leakage Current Measurement Device	Language was added recognizing that the leakage current device is required to be listed by January 1, 2026. The required leakage current testing device had no specific standard in place to build, test, or construct this metering equipment specific for a marina environment.	9/22/2022, 10/20/2022	X	
82	555.36(C)	Emergency Electrical Disconnect	Language has been added at a new subsection 555.36(C) to mandate that an emergency disconnect be located within sight of a marina power outlet or enclosure that provides shore power to boats.	9/22/2022, 10/20/2022	X	
83	555.38	Luminaires	This new section should help both installers and AHJs address electrically safe installations of luminaires at docking facilities to help reduce the incidents of ESD.	9/22/2022, 10/20/2022	X	
84	620.22(A)	Car Light Receptacles, Auxiliary Lighting and Ventilation	Revised the requirements to specify permissible loads on the car light circuit.	9/22/2022, 10/20/2022	X	
85	620.36	Different Systems in One Raceway or Traveling Cable	Specifies which cable types may be installed in elevator raceway or traveling cable. The following cables are now specifically permitted are shielded pair, coaxial and other communication circuits.	9/22/2022, 10/20/2022	X	
86	620.51(A) Type Ex. No. 2	Stairway Chair Lift	Clarification for situations where cord-and-plug connection of a stairway chair lift utilizing batteries is permitted. This is in lieu of the previous requirement for a fused motor switch/lockable circuit breaker.	9/22/2022, 10/20/2022	X	
87	625.6	Listed (Electric Vehicle Power Transfer)	Clarifies equipment for electric vehicle power transfer (charging, power export, or bi-directional current flow) that is required to be listed.	9/22/2022, 10/20/2022	X	
88	625.49	Island Mode (Electric Vehicles)	Creates a new section stating that electric vehicle power export equipment (EVPE) and bidirectional electric vehicle supply equipment (EVSE) are permitted to be a part of interconnected power systems operating in an island mode condition.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
89	630.8	GFCI Protection for Personnel (Electric Welders)	Creates a new section requiring ground-fault circuit-interrupter (GFCI) protection for personnel involved with electric welder applications. This change is not for the welder receptacle but rather for other receptacles within the area where the welder is being used, and other tools might be connected – these other receptacles are the 125-volt, 15- and 20-ampere receptacles supplied by single-phase branch circuits rated 150 volts or less to ground.	9/22/2022, 10/20/2022	X	
90	646.19	Entrance to and Egress from Working Space	Specifies requirements for egress doors in modular data centers. The Code did not clearly specify egress door opening requirements when the door was not of a “swing-type” – now will include requirements for situations where the egress opening may be a sliding or “barn-door” style.	9/22/2022, 10/20/2022	X	
91	680.5	GFCI and SPGFCI Protection	Text has been revised and subdivided to address ground-fault circuit-interrupter (GFCI) protection and introduce Special Purpose Ground-Fault Circuit-Interrupter (SPGFCI) protection in swimming pool locations. SPGFCI protection is a relatively new GFCI protection requirement for circuits above 150 volts to ground, but not more than 480 volts phase to phase, single or three phase.	9/22/2022, 10/20/2022	X	
92	680.9(A)	Power (Swimming Pools)	Clarifies that overhead wiring in raceways are not subject to the clearance requirements in Table 680.9(A) and Figure 680.9(A).	9/22/2022, 10/20/2022	X	
93	680.1	Electric Pool Water Heaters	Text has been revised by and subdivided to include provisions for pool water temperature conditioning equipment that incorporates technology other than resistance heating. Recently, installation of heat pump and chiller equipment has been used to heat or cool water temperature. Recognizes that this type of installation and provides requirements to size circuits and protective devices.	9/22/2022, 10/20/2022	X	
94	680.12	Equipment Rooms, Vaults, and Pits	Revised and subdivided to require equipment rooms, vaults, or pits with equipment to have drainage or be suitable for submersion and a receptacle for maintenance.	9/22/2022, 10/20/2022	X	
95	680.21(D)	Pool Pump Motor Replacement	Expands the requirement to provide GFCI protection for replaced pool pump motors and now includes those that are repaired. GFCI protection enhances safety for pool users and workers maintaining pool equipment.	9/22/2022, 10/20/2022	X	
96	680.54(C)	Equipotential Bonding of Splash Pads	Substantiation was submitted for the creation of 680.54(C) to address bonding requirements for splash pads.	9/22/2022, 10/20/2022	X	

Line No.	NEC Code Section	Change Title	Change Summary	Date reviewed by NEC 2023 Committee	Committee Response	
					Accept	Amend
97	Article 690	Solar Photovoltaic (PV) Systems	The use of the term PV Output has been removed throughout Article 690. Circuits and conductors will be considered PV Source whether individual or combined. The definitions of PV circuits also changed to properly align with these changes. "PV Source Circuit" and "PV String Circuit" are both subsets of "PV System DC Circuit."	9/22/2022, 10/20/2022	X	
98	690.12 Exc. No.2	Exception No.2 and Informational Note	New language to eliminate rapid shutdown requirements for structures where firefighters will not need to access the roof.	9/22/2022, 10/20/2022	X	
99	690.15	Disconnecting Means for Isolating PV Equipment	A requirement for an equipment disconnecting means to be within 10 feet of the equipment and also be within sight was modified. 690.15(A) now refers to 690.15(C) for an equipment disconnect – requires the disconnecting means to be within sight and within 10 feet of the equipment or capable of being lockable in accordance with 110.25.	9/22/2022, 10/20/2022	X	
100	700.3(F)	Temporary Source of Power- List Item (4)	The revised subsection (4) to require listing. The switching device should be listed, and the interlock should be listed for use with the specific switching device.	9/22/2022, 10/20/2022	X	
101	700.3(F)	Temporary Source of Power- List Item (6)	List item (6) is new and directs that the permanent connection point must be accessible at an exterior location for the temporary power source. Cables cannot be routed through exterior windows, doors, or similar openings.	9/22/2022, 10/20/2022	X	



November 10, 2022

Board of Electricity 2023 NEC Adoption Committee
443 Lafayette Road
St. Paul, MN 55155

Re: 2023 National Electric Code Feedback

Via Electronic Delivery

Members of the 2023 NEC Adoption Committee,

On behalf of the Central Minnesota Builders Association (CMBA) and our more than 300 member builders, contractors and associates, we appreciate the opportunity to provide feedback for your consideration regarding the 2023 NEC and Minnesota's Residential Electrical Code.

In Minnesota, we have a serious crisis in housing availability and affordability. Labor and materials costs and shortages, skyrocketing interest rates and limited housing stock are all contributing to this crisis. Adding to the difficulties by adopting Residential Electrical Code changes that add costs while doing little to improve safety and efficiency is reprehensible to us and our members.

In collaboration with our colleagues at Housing First Minnesota, we have analyzed the projected major cost impacts of what is being proposed in adopting the 2023 NEC.

210.8(A)(6): Dwelling Units – Kitchens	+ \$175
210.52(C): Dwelling Units- Island and Peninsular	
• Option1: Future wire and cap off	+ \$75 / Each future wire/cap
• Option 2: Pop-Up Countertop Receptacles	+ \$250 / Each receptacle
210.7: Lighting Outlets Required	+ \$60
TIA Re 210.8(F)	- \$125

Notes: These costs do not include builder overhead or interconnected work done by other trade partners related to these changes (cutting of countertops). The change of 210.7 will be largely impact multifamily construction, single-family attached and villa-style single-family detached.

By comparison, the 2020 NEC included a cost increase of \$1,300.

While CMBA appreciates some of the process improvements, we oppose adding these costs to what is a crisis in housing access and affordability. Please contact me with any questions or concerns. Thank you!

Sincerely,

A handwritten signature in cursive script that reads "Wanda Schroeder".

Wanda Schroeder
Executive Director

2848 2nd Street South Suite 145, St. Cloud MN 56301
Office: 320.251.4382 / info@cmbaonline.org



November 10, 2022

Board of Electricity 2023 NEC Adoption Committee
443 Lafayette Road
St. Paul, MN 55155

Re: 2023 National Electric Code Cost Analysis

Via Electronic Delivery

Members of the 2023 NEC Adoption Committee,

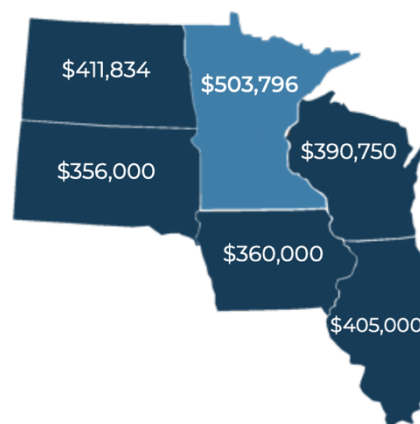
Thank you for the opportunity to address the Committee at its previous meeting. As noted, Housing First Minnesota was in the final stages of assembling its cost analysis on the new electrical code. We've completed that analysis and shared the top-line results below.

As we've stated throughout this process, our organization's mission is to increase housing affordability and access for all Minnesotans. Any changes in housing policies must account for the fact that our state's housing market is entering a challenging time as interest rates reach a 20-year high and significant affordability and access challenges remain a challenge for Minnesotans.

MINNESOTA'S HOUSING RECORD

As the Board of Electricity nears adoption of the 2023 NEC, Housing First Minnesota presents a refreshed view of the state of Minnesota's housing market.

- Minnesota is home to the [highest median new home price in the Midwest](#) (right).¹
- The Twin Cities is home to [the lowest housing inventory in the nation](#).²
- The Twin Cities is home to the [widest homeownership equity gap in the nation](#).³
- Our state is [60,000 housing units short](#), a figure that is increasing at an alarming rate. This is an increase of approximately 20% since the 2018 Minnesota Task Force on Housing called for a surge in new home production.⁴
- By nearly every measure, [it costs more to build a new home in Minnesota](#) than in nearby Midwest states.⁵



¹ Market data from Zonda (October 2022). Graphic from Minnesota Housing Dashboard, Housing First Minnesota (October 2022).

² Minnesota Population Center Review of United States Census Bureau Data (2021).

³ Urban Institute Review of United States Census Bureau American Community Survey (2021).

⁴ Minnesota Housing Dashboard, Housing First Minnesota (August 2022).

⁵ Priced Out: The True Cost of Minnesota's Broken Housing Market, Housing Affordability Institute (2019).

- At 6.95%, **interest rates have more than doubled** since the adoption of the 2020 National Electric Code, underscoring the need for balancing safety durability and affordability. ⁶

2023 NEC COST ANALYSIS

Housing First Minnesota respectfully submits the follow cost analysis of major changes impacting residential construction in the 2023 NEC.

210.8(A)(6): Dwelling Units – Kitchens	+ \$175
210.52(C): Dwelling Units- Island and Peninsular	
• Option1: Future wire and cap off	+ \$75 / Each future wire/cap
• Option 2: Pop-Up Countertop Receptacles	+ \$250 / Each receptacle
210.7: Lighting Outlets Required	+ \$60
TIA Re 210.8(F)	- \$125

Notes: These costs do not include builder overhead or interconnected work done by other trade partners related to these changes (cutting of countertops). The change of 210.7 will be largely impact multifamily construction, single-family attached and villa-style single-family detached.

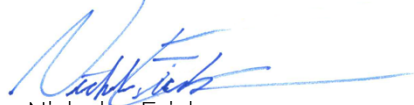
By comparison, the 2020 NEC included a cost increase of **\$1,300**.

CONCLUSION

Housing First Minnesota recognizes and applauds the Board of Electricity for overseeing a more transparent and rigorous technical review. As stated throughout this process by Housing First Minnesota, this is the time to lower housing costs, not raise them.

Please contact me with any questions at nick@housingfirstmn.org or (651) 697-7586.

Sincerely,



Nicholas Erickson
Senior Director of Housing Policy
Housing First Minnesota

⁶ 30-Year Fixed Rate Mortgage Average In The United States” Freddie Mac via Federal Reserve Bank of St. Louis (Nov. 3, 2022).