Minnesota Board of Electricity

STATEMENT OF NEED AND REASONABLENESS

In the Matter of Proposed Revisions to Minnesota Rules Chapter 1315; R-04778

March 2023

General information:

- 1) Availability: The State Register notice, this Statement of Need and Reasonableness (SONAR), and the proposed rule will be available during the public comment period on the Agency's Public Notices website: Rulemaking docket for Minnesota Rules Chapter 1315; R-04778 | Minnesota Department of Labor and Industry (mn.gov)
- 2) View older rule records at: Revisor's Office | Minnesota Rule Status
- 3) Agency contact for information, documents, or alternative formats: Upon request, this Statement of Need and Reasonableness can be made available in an alternative format, such as large print, braille, or audio. To make a request, contact Amanda Spuckler, Department of Labor and Industry, 443 Lafayette Road North, St. Paul, MN 55155; telephone 651-284-5361; email dli.rules@state.mn.us; or use your preferred telecommunications relay service.

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Commonly Used Acronyms

ANSI American National Standards Institute
APA Administrative Procedures Act

BOE Board of Electricity

GFCI Ground Fault Circuit Interrupter

Minn. Stat. Minnesota Statutes

MMB Minnesota Management and Budget

MN Minnesota

NEC National Electrical Code (*aka* "NFPA70®")

NFPA National Fire Protection Association
OAH Office of Administrative Hearings
SONAR Statement of Need and Reasonableness

TIA Tentative Interim Amendment

Introduction and Overview

Introduction

The Minnesota Board of Electricity ("Board") presents these proposed permanent rule amendments that update the existing Minnesota Electrical Code to incorporate by reference the most recent edition of the National Electrical Code ("NEC") as published by the National Fire Protection Association ("NFPA").

Background

The Board proposes to adopt amendments to the rules governing the Minnesota Electrical Code in Minnesota Rules, chapter 1315. The Minnesota Electrical Code is the industry standard which directs and regulates all electrical work conducted in this state and is part of the Minnesota State Building Code. *See* Minnesota Rules, part 1300.0050 (J) (2016). Minnesota Statutes, Section 326B.32, subdivision 2 (a)(3) (2022), requires the Board to adopt the Minnesota Electrical Code, which must be the most current version of the National Electrical Code, and any Minnesota amendments thereto.

Minnesota Statutes, Sections 326B.31 to 326B.399, are known as the "Minnesota Electrical Act." Minnesota Statutes, Section 326B.35, of the Minnesota Electrical Act mandates that all electrical wiring, apparatus and equipment for electrical light, heat and power, technology circuits or systems comply with the rules of the Minnesota Department of Labor and Industry and the Board and be installed in conformity with accepted standards of construction for safety to life and property. The safety standards specifically identified therein are the most recently published edition of the National Electrical Code as adopted by the NFPA and approved by the American National Standards Institute ("ANSI"), and the National Electrical Safety Code as published by the Institute of Electrical and Electronics Engineers, Inc., and approved by ANSI.

The proposed amendments to Minnesota Rules, chapter 1315, incorporate by reference the most current edition of the National Electrical Code. Specifically, the Board proposes to incorporate the 2023 NEC which was developed and published by the NFPA and approved by ANSI.

The changes to the NEC are made at national code hearings conducted by the NFPA. The NEC is written by those who use the code book and utilize ANSI processes to provide maximum input from those who use and are impacted by the code. Each suggested change is reviewed by a national code committee, discussed, and voted on. The accepted revisions are published as a first draft report by the committee. That draft is open to comments from the public. When the comment period is closed, a second draft is prepared but changes can still be made or removed at the annual membership meeting. If a proposal is unsuccessful at the meeting, an appeal can be made directly to the NFPA Standards Council. Board members and Department of Labor and Industry staff were actively involved in the national code development process and are well acquainted with the revisions in the 2023 edition of the NEC.

The 2023 edition of the NEC was prepared by the National Electrical Code Committee of the NFPA and acted on by their membership at their annual meeting held June 6-9, 2022, in Boston, Massachusetts. The NFPA Standards Council subsequently reviewed the edition and issued the same on August 12, 2022, with an effective date of September 1, 2022. The official 2023 NEC code book was

¹ The 2023 NEC is also known as the "ANSI/NFPA 70®" Standard, Copyright August 2022 by the National Fire Protection Association, One Batterymarch Park, Quincy, Massachusetts 02169-7471.

made available to the public in September of 2022 and has been available online and free-of-charge at the NFPA website since its publication. The 2023 National Electrical Code is available here for free viewing. To view the code, including all NFPA70® documents and reports which contain the proposed changes made thereto in accordance with the NFPA committee rule development process, click on the link above, select "Free Access," choose the 2023 National Electrical Code in the dropdown menu, and then select "View." Users not already registered on the NFPA website will need to create a free account to view the code.

The Minnesota Electrical Code was last updated in 2020 to incorporate by reference what, at the time, was the most recent NEC standards in the industry. Since that time, the national standards have been updated through the national process identified above to incorporate the latest technology and electrical safety practices. The purpose of both the NEC and the Minnesota Electrical Code is to: (1) promote national and state-wide uniformity in the application of those standards; (2) to further technological improvement and advancements; and (3) to protect the safety of those working on, living with, and utilizing electrical systems in residential, public, and other commercial environments.

At the direction of the Board, the Department of Labor and Industry ("Department") began this rulemaking process by publishing a Request for Comments in the *State Register* on Monday, November 7, 2022 (view Request for Comments here). The Department provides all legal and administrative support to the Board, including for rulemaking.²

A technical advisory rules committee was established and used in this rulemaking at the direction of the Board Chair. Board members serving on the committee represent the public, the Department of Labor and Industry, and various industry sectors, including electrical contractors (Masters and Journeyworkers), electrical inspectors, and rural electrical suppliers. The advisory committee met publicly four times to review and discuss changes made in the 2023 edition of the NEC on September 22, 2022, October 20, 2022, November 17, 2022, and December 06, 2022.³ Public participation was encouraged. The committee had robust discussions throughout the meetings with various stakeholder groups who submitted written and oral comments and recommendations for amendments to the committee. At its final meeting on December 6, 2022, the committee voted to forward a recommendation to the full board to adopt the 2023 NEC without Minnesota amendments.

The committee provided a summary of its 2023 NEC review, cost analysis, and recommendation to adopt the 2023 NEC without amendments to the full board at its regular public meeting on January 31, 2023. The Board discussed the committee's recommendation and voted unanimously to adopt the 2023 NEC without amendments, including a designated effective date of July 01, 2023.⁴

Public Participation and Stakeholder Involvement

The Board held public board meetings and committee meetings seeking participation from stakeholder groups and the public. Notice of each board or advisory committee meeting was posted on the websites for the Board and the Technical Advisory Committee, respectively. Notice was also emailed to members of the public who had requested to receive notice of board rulemakings. All meetings were

² See Minn. Stat. § 326B.32, subd. 2(c) (2022).

³ Meeting Agendas, Meeting Minutes, and Meeting Materials for all the committee meetings can be viewed on the Committee's website at: https://www.dli.mn.gov/about-department/boards-and-councils/nec-2023-adoption-review-committee.

⁴ Meeting Agenda, Meeting Minutes, and Meeting Materials for the January 31, 2023 regular board meeting can be viewed on the Board's website at: https://www.dli.mn.gov/about-department/boards-and-councils/board-electricity.

posted and open to the public, both in person and remotely. The Board and the Technical Advisory Committee gave all stakeholders and members of the public unfettered opportunity to submit written comments or recommendations and to participate and speak freely during these meetings. All meetings were recorded and complied with Minnesota Statutes, Chapter 13D, the Minnesota Open Meeting Law.

Statutory Authority

The Board's statutory authority to adopt the NEC is set forth in Minnesota Statutes, Section 326B.32, subdivision 2 (a)(3) (2022):

Subd. 2. Powers; duties; administrative support. (a) The board shall have the power to:

- (1) elect its chair, vice-chair, and secretary;
- (2) adopt bylaws that specify the duties of its officers, the meeting dates of the board, and containing other provisions as may be useful and necessary for the efficient conduct of the business of the board:
- (3) adopt the Minnesota Electrical Code, which must be the most current edition of the National Electrical Code and any amendments thereto. The board shall adopt the most current edition of the National Electrical Code and any amendments thereto pursuant to chapter 14....

Id. (emphasis added).

This rulemaking is an amendment of an existing rule, so Minnesota Statutes, Section 14.125 (2022), does not apply. The proposed rule may affect farming operations, so a separate notice and a copy of the proposed rule were provided to the Commissioner of the Minnesota Department of Agriculture on December 16, 2022, as required by Minnesota Statutes, Section 14.111 (2022).

Under these statutes, the Board has the necessary statutory authority to adopt the proposed rule.

Rule-by-Rule Analysis⁵

1315.0200 Scope

Subpart 1a. Electrical Code.

This subpart incorporates by reference the 2023 National Electrical Code for all new electrical wiring, apparatus, and equipment for electric light, heat, power, technology circuits and systems, and alarm communications systems. All references to the 2020 NEC are replaced with references to the 2023 NEC. This change is both necessary and reasonable because Minnesota Statutes, Section 326B.32, subdivision 2(a)(3) (2022), requires that the most current edition of the NEC, and any amendments, be adopted. The NEC is updated and republished every three years.

The list of sources where the NEC is available is revised to delete the Minnesota Bookstore and its address because the bookstore has closed and no longer sells print publications, including the NEC. The 2023 NEC is available from the other sources listed.

⁵ A copy of the Rule Draft is attached as SONAR Exhibit A.

The proposed July 1, 2023, effective date was added to the rule to set a specific effective date and that date is earlier than the 270-day effective date default provided for by Minnesota Statutes, Section 326B.13, subdivision 8 (2022), which states as follows:

A rule to adopt or amend the State Building Code is effective 270 days after publication of the rule's notice of adoption in the State Register. The rule may provide for a later effective date. The rule may provide for an earlier effective date if the commissioner or board proposing the rule finds that an earlier effective date is necessary to protect public health and safety after considering, among other things, the need for time for training of individuals to comply with and enforce the rule. The commissioner must publish an electronic version of the entire adopted rule chapter on the department's Web site within ten days of receipt from the revisor of statutes. The commissioner shall clearly indicate the effective date of the rule on the department's Web site.

Id. (emphasis added). The effective date of July 1, 2023, was selected by the Board at its January 31, 2023, regular board meeting after considering the following:

- (1) The latest edition of the National Electrical Code has routinely been adopted in Minnesota and made effective July 1st of each code edition year. The electrical industry in this state strongly supports and is anticipating another July 1st effective date for the revised NEC and is already in the process of updating and implementing necessary business changes, protocol, training, and practices;
- (2) Industry and enforcement training on the 2023 NEC have already been developed and are scheduled in anticipation of a July 1, 2023, effective date. Training for the 2023 NEC began in the summer of 2022 and continues today; and
- (3) A July 1st effective date would lessen confusion in the industry, expedite installations and increase public and workplace health and safety. A July 1st effective date will also promote uniformity among and between states adopting the 2023 NEC and will result in a freer flow of commerce and employees across state lines.

Based on these considerations, the Board has determined that an effective date of July 1, 2023, or five days after the Notice of Adoption is published in the *State Register*, whichever is later, is needed and the most effective way of meeting industry expectations, providing certainty, improving technology, and protecting public health and electrical safety of electrical workers and the public.

Regulatory Analysis

Minnesota Statutes, Section 14.131, sets out eight factors for a regulatory analysis that must be included in the SONAR. Paragraphs (1) through (8) below quote these factors and then give the Board's response.

"(1) a description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule"

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Those who will be affected by the proposed rule, those who will bear the costs of the proposed rule, and those who will benefit from the proposed rule include: Residential and commercial building owners; equipment manufacturers and suppliers; architects and interior designers; electrical contractors; code enforcement authorities, and the public. Although provisions in the NEC have greater impact on electrical contractors, they also impact technology system contractors and general contractors.

"(2) the probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues"

Because the Board only adopts the NEC and does not administer it, the Board will not incur any costs associated with the adoption of the 2023 NEC. The Department of Labor and Industry provides administrative support to the Board and administers and enforces rules adopted by the Board.

Costs to the Department include the costs of purchasing code books for state employees who address electrical code issues, as well as the cost of revising state license examinations to reflect the updated code. Adoption of an updated version of the NEC will not affect state revenues because the Department enforces the Minnesota Electrical Code using electrical licensing and permit fees set by statute that go into a dedicated fund to cover administrative and enforcement costs. ⁶

"(3) a determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule"

The purpose of both the NEC and the Minnesota Electrical Code is to: (1) promote national and state-wide uniformity in the application of those standards; (2) to further technological improvement and advancements; and (3) to protect the safety of those working on, living with, and utilizing electrical systems in residential, public, and other commercial environments.

The Board has determined that there are no less costly or less intrusive methods for achieving the purpose of the proposed rule. The NEC is recognized throughout the United States and many other countries as the prevailing model electrical code. Incorporating the 2023 NEC by reference is the least costly method for adopting a national model code and is in accordance with Minnesota Statutes, Section 326B.32, subdivision 2 (a)(3) (2022), which specifically directs that adoption.

Amendments to delete some sections of the 2023 NEC were offered by Housing First Minnesota and the Central Minnesota Builder's Association in an effort to reduce costs associated with those provisions. These recommendations were reviewed by the Board and its Technical Advisory Committee and rejected for various reasons, including an unwillingness to reduce electrical safety efforts and disagreements over the cost benefits of doing so.⁷ After review of the significant changes in the 2023 NEC and stakeholder recommendations, the Board of Electricity is proposing adoption of the 2023 NEC without amendment in this rulemaking.

"(4) a description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule"

⁶ See Minn. Stat. § 326B.04, et. seq. (2022).

⁷ Board discussion concerning offered amendments and other recommendations were discussed at both the Board's January 31, 2023 regular board meeting (<u>view minutes of the full Board here</u>) and at the October 20, 2022, and November 17, 2022 special meetings of the Technical Advisory Committee (<u>view minutes of the Rulemaking Technical Advisory Committee here</u>)

No other methods were considered for achieving the purpose of the proposed rule. The National Electrical Code is the only electrical code that is accepted and in use throughout the United States. Unlike other model building codes that may need to be amended at the local level due to specific conditions such as earthquakes, snow loads, wind loads, prevalence of hurricanes, extreme temperatures and so on, the NEC is universally applicable in all jurisdictions. Most importantly, the Board is required by the Legislature to adopt "the most current edition of the National Electrical Code and any amendments thereto..." pursuant to Minnesota Statutes, Section 326B.32, subdivision 2 (a)(3) (2022). Accordingly, no other alternative model codes or prescriptive standards were considered.

"(5) the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals"

The probable costs of complying with the proposed rule are generally anticipated to be minimal because there is already a current electrical code in place in Minnesota that has adopted the 2020 version of the NEC. The cost differences between the 2020 NEC and the 2023 NEC are not anticipated to result in a significant change in costs for any electrical stakeholders. Any change in costs for any given project will vary from project to project because the type of work being done, the size of the project, and the condition of any existing electrical work may affect any cost differential between complying with the existing electrical code and the 2023 NEC. Moreover, there are many revisions, updates and clarifications reflected in the 2023 NEC that can result in lower costs in some instances or higher costs in others. Of course, costs for any particular project may also remain the same under either the 2020 NEC or the 2023 NEC. Any possible cost increases or cost savings are expected to be passed down to and borne by home and building owners.

Nevertheless, the Board has identified eight notable changes in the 2023 NEC related to dwellings which may result in increased costs for some new building projects:

- 1. 2023 NEC, Section 210.8(A)(6)- In addition to the Ground Fault Circuit Interrupter ("GFCI") protection for kitchen receptacles serving countertop surfaces, GFCI protection is now required for all kitchen receptacles;⁸
- 2. 2023 NEC, Section 210.8(A)(7)- GFCI protection is now required for receptacles located in all dwelling areas that contain sinks and permanent provisions for food or beverage preparation. Previous code language only required GFCI protection for those areas within 6' of a sink;
- 3. 2023 NEC, Section 210.8(D)- GFCI protection is required for listed appliances that are either hardwired or have a cord and plug connection, such as electric ranges, dishwashers, and clothes dryers. Previous code language only required GFCI protection for those receptacles located within 6' of a sink;
- 4. 2023 NEC, Section 210.8(F)- GFCI protection has been expanded to outdoor outlets at garages, dwelling accessory structures, and boathouses;
- 5. 2023 NEC, Section 210.52(C)(2)- Peninsular or island countertop receptacles are no longer required, but provisions are required for potential future installation of a countertop receptacle

Minnesota Electrical Code

⁸ Ground Fault Circuit Interrupters ("GFCI's") are electrical safety devices which are designed to protect equipment and people from electric shock damage and electrocution. Typically installed where electrical circuits may accidentally come into contact with moisture or water (e.g., kitchens, bathrooms, laundry rooms, basements, garages and the outdoors), these devices quickly terminate power to the receptacle or appliance before equipment may be damaged or before a person may be killed or injured by electrocution.

- at the peninsular or island;
- 6. 2023 NEC, Section 210.52(C)(3)- Receptacles installed at peninsular or island countertops are no longer permitted below the countertop or work surface for safety reasons. Receptacles must now be mounted in the surface of the countertop or work surface and must be listed for that use;
- 7. 2023 NEC, Section 220.5(C)- Added garage and unfinished areas which could be used for habitable space when calculating service or feeder loads for a dwelling unit; and
- 8. 2023 NEC, Section 230.67(E)- Surge protection devices are now required to have a minimum discharge current rating.

The Board's cost analysis review estimates that the cost difference from the 2020 NEC for these same requirements versus the 2023 NEC would be approximately \$115 and an additional \$128 per *optional* pop-up kitchen countertop or work surface receptacle that complies with 2023 NEC, section 210.52(C)(2). Again, it must be emphasized that cost estimates will vary greatly depending on several factors such as the type of work being done, the size of the project, the condition of any existing electrical work, and other factors. For example, a new home may be built with all gas appliances. In that situation, the estimated costs for materials and labor would be substantially less.

The Board also identified in its cost analysis a significant cost savings from a new exception added in 2023 NEC, Section 210.8(F). The new exception eliminates the need for GFCI protection for Heating, Ventilation, and Air Conditioning ("HVAC") Equipment which was required under the 2020 edition of the NEC and is estimated to save approximately \$125 per installation.

Two stakeholder groups also submitted 2023 NEC cost estimations to the Board for consideration. Both Housing First Minnesota and the Central Minnesota Builders Association ("CMBA") estimate that the cost difference between the 2020 NEC as adopted and the 2023 NEC without amendments will be approximately \$185 plus an additional \$250 per *optional* pop-up kitchen countertop or work surface receptacle. ¹⁰

Finally, affected parties include contractors, inspection departments and designers who will need to purchase copies of the 2023 NEC. Training curriculum will also need to be updated to incorporate any new or changed provisions in the code. However, it should be noted that continuing education is a requirement for all licensed electricians in Minnesota, so training is necessary regardless of which code version is adopted. Finally, training providers will incur minimal expenses including purchasing of the 2023 NEC code book and updating their existing training materials.

"(6) the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals"

If the new edition of the NEC is not adopted, the state of Minnesota would continue to rely on the

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⁹ A copy of the Board's Cost Analysis in spreadsheet format is attached as SONAR Exhibit B. Additional information concerning the probable costs of adopting the 2023 NEC was discussed at both the Board's January 31, 2023 regular board meeting (view January 31, 2022, meeting minutes and attachments here) and at the November 17 and December 06, 2022 special meetings of the Technical Advisory Committee (view November 17, 2022 Technical Advisory Committee minutes and attachments here) (view December 06, 2022 Technical Advisory Committee meeting minutes and attachments here).

¹⁰ A copy of Housing First Minnesota and the Central Minnesota Builders Associations' cost estimates were provided to the Board at its November 17, 2022 committee meeting (view Housing First Minnesota documents on pages 61 and 62 here) (view CMBA documents on page 63 here).

2020 NEC. This would cause the industry in Minnesota to use an electrical code that does not incorporate all the latest methods and technologies, which is one main purpose of updating and adopting the national model codes. Minnesota would therefore fall behind in electrical standards to the detriment of all stakeholders. Failure to adopt the proposed rule may also have a negative effect on electrical licensing reciprocity with other states that are currently in the process of adopting the 2023 NEC, including Massachusetts, Michigan, North Carolina, Oregon, Texas, Wyoming, and North Dakota. Finally, failure to adopt the proposed rule would be considered a statutory violation since Minnesota Statutes, Section 326B.32, subdivision 2(a)(3), requires the incorporation of the most recently published edition of the NEC into Minnesota's electrical code.

"(7) an assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference"

There are no applicable federal regulations that address electrical code issues in the construction of non-federally owned buildings.

"(8) an assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule"

There are no applicable federal regulations that address electrical code issues in the construction of non-federally owned buildings, so there is no federal impact or cumulative effect. There are no other state regulations related to the specific purpose of this rule.

Notice Plan

Minnesota Statutes, Section 14.131, requires that an agency include in its SONAR a description of its efforts to provide additional notification to persons or classes of persons who may be affected by the proposed rule or must explain why these efforts were not made.

Notice

This Additional Notice Plan was reviewed by the Office of Administrative Hearings ("OAH") and approved in a March 14, 2023 order by Administrative Law Judge Suzanne Todnem.

This Notice Plan includes giving notice required by statute. The Board will mail or email the Notice of Intent to Adopt to everyone who has registered to be on the Department's and Board's rulemaking mailing or emailing lists under Minnesota Statutes, Section 14.14, subdivision 1a. The Board will also give notice to the Legislature as required by Minnesota Statutes, Section 14.116.

In addition to the rulemaking lists required by statute, the Board will be mailing or emailing the Notice of Intent to Adopt and proposed rule to organizations and trade associations anticipated to be substantially affected by the proposed rules. Those organizations and associations are as follows.

Additional Notice Plan

The Board intends to send an electronic notice with a hyperlink to electronic copies of the Notice of Intent to Adopt, SONAR, and the proposed rule amendments to:

a. Associated Builders and Contractors

- b. Associated General Contractors of Minnesota
- c. Association of Minnesota Counties
- d. Builders Association of Minnesota ("BAM")
- e. Building Owners and Managers Association ("BOMA") Minnesota chapters (St. Paul, Duluth, and Greater Minneapolis)
- f. Central Minnesota Builders Association ("CMBA")
- g. Contract Electrical Inspector Association of Minnesota ("CEIAMN")
- h. Electrical Association
- i. Housing First Minnesota
- j. IBEW Minnesota State Council
- k. League of Minnesota Cities
- 1. Local chapters of the Association of Minnesota Building Officials ("AMBO") (Arrowhead, Southeast, 10,000 Lakes, Southwest, and Northwest)
- m. Local chapters of the International Brotherhood of Electrical Workers ("IBEW" Locals 23, 110, 160, 242, 292, 294, 343, 731, 949, and 1999)
- n. Manufactured & Modular Home Association of Minnesota ("MMHA")
- o. Minnesota chapter of the International Association of Electrical Inspectors ("IAEI")
- p. Minnesota Electronic Security and Technology Association
- q. Minnesota Farm Bureau
- r. Minnesota Farmers Union
- s. Minnesota Mechanical Contractors Association
- t. Minnesota Municipal Utilities Association
- u. Minnesota Nursery & Landscape Association
- v. Minnesota Rural Electric Association ("MREA")
- w. Minnesota Solar Energy Industries Association ("MnSEIA")
- x. Minnesota State Fire Chiefs Association
- y. Minnesota Utility Contractors Association
- z. National Electrical Contractors Association ("NECA") Minnesota Chapters (St. Paul, Minneapolis, and Twin Ports)
- aa. Sustainable Farming Association of Minnesota

Additionally, the Board will publish the Notice of Intent to Adopt, the SONAR, and the proposed rules on the Board's rulemaking docket on the Board's website. The Board will also give notice to the Legislature in accordance with Minnesota Statutes, Section 14.116. Because the proposed rules may affect farming operations, the Board did notify the Commissioner of Agriculture in

accordance with Minnesota Statutes, Section 14.111.¹¹ Finally, the proposed rules will be published in the Minnesota *State Register*.

Performance-Based Rules

Minnesota Statutes, Section 14.002, requires state agencies and boards, whenever feasible, to develop rules that are not overly prescriptive and inflexible, and rules that emphasize achievement of the agency or board's regulatory objectives while allowing maximum flexibility to regulated parties and to the agency and board in meeting those objectives.

The proposed rules are based on national model standards. The proposed rules are performance-based in that they balance the method with the end result of the electrical work within a framework of standards. The proposed rules are performance-based standards to the extent practicable while maintaining clear, predictable, and enforceable rules.

Consult with MMB on Local Government Impact

As required by Minnesota Statutes, Section 14.131, the Board consulted with Minnesota Management and Budget ("MMB"). The Board did this by sending MMB copies of the documents that were sent to the Governor's Office for review and approval, including the Governor's Office Proposed Rule and SONAR Form, the proposed rules, and the near-final SONAR. MMB Executive Budget Officer Casey Mock responded, in part, as follows in a memo dated February 24, 2023: "The adoption of the 2023 version of the National Electrical Code is not anticipated to have a substantial cost to local units of government. Local governments may incur costs associated with purchasing new code books (\$145 per person) and any educational expenses (\$200 per person) necessary for the training of enforcement officials. The Department's findings regarding the fiscal impact of this proposal to local governments are sound and agreed to." ¹²

Impact on Local Government Ordinances and Rules

Minnesota Statutes, Section 14.128, subdivision 1, requires an agency or board to determine whether a proposed rule will require a local government to adopt or amend any ordinances or other regulation to comply with the rule. The Minnesota Electrical Code is part of the Minnesota State Building Code. *See* Minnesota Rules, part 1300.0050 (J) (2016). The State Building Code is the standard that applies statewide. Minnesota Statutes, Section 326B.121, subdivision 1, mandates compliance with the State Building Code whether or not a local government adopts or amends an ordinance. As a result, an ordinance or other regulation is not required for compliance. If a city wishes that its ordinances accurately reflect legal requirements in a situation in which the Code has superseded the ordinances, then the city may want to amend or update its ordinances. Therefore, the Board has determined that the proposed amendments will not have any effect on local ordinances or regulations. Local governments that currently enforce the Minnesota Electrical Code will continue to enforce the Electrical Code, including these amendments, in their jurisdiction.

Costs of Complying for Small Business or City

Minnesota Statutes, Section 14.127, subdivisions 1 and 2, require a board or agency to determine if the cost of complying with a proposed rule in the first year after the rule takes effect will exceed

¹¹ A copy of the Section 14.127 Notice to the Commissioner of Agriculture is attached as SONAR Exhibit C.

¹² A copy of MMB's Section 14.128 analysis and response to the Board's fiscal inquiry is attached as SONAR Exhibit D.

\$25,000 for any one business that has less than 50 full-time employees, or any one statutory or home rule charter city that has less than ten full-time employees.

The Board has considered whether the cost of complying with the proposed rule in the first year after the rule takes effect will exceed \$25,000 for any small business or small city. A small business is defined as a business, either for profit or nonprofit, with less than 50 full-time employees and a small city is defined as a city with less than ten full-time employees. The Board has determined that the cost of complying with the proposed rule in the first year after the rule takes effect will not exceed \$25,000 for any small business or small city. The Board has made this determination based on the probable costs of complying with the proposed rule as described in the preceding Regulatory Analysis Section of this SONAR.

Witnesses and SONAR Exhibits

List of Potential Witnesses

If these rules go to a public hearing, the Board anticipates having the following witnesses testify in support of the need for and reasonableness of the rules:

- 1. Mr. Duane Hendricks, Chair of the Minnesota Board of Electricity, will testify about the Board's interest and actions taken to adopt the 2023 National Electrical Code for use in the State of Minnesota, if necessary;
- 2. Mr. Dean Hunter, Board Member of the Minnesota Board of Electricity, 2023 NFPA 70® Committee Panel Member, and Supervisor of the Minnesota Department of Labor and Industry's Electrical Inspections Unit, will testify about the Board's and Department's interests and actions taken to adopt the 2023 National Electrical Code for use in the State of Minnesota, the impact of the 2023 NEC on the state electrical inspection program, and provide any technical explanations and assistance, if necessary; and
- 3. Mr. Jeffrey F. Lebowski, Board Counsel for the Minnesota Board of Electricity, will represent and advise the Board, introduce the required jurisdictional documents into the record, and provide answers to APA procedural questions, if necessary.

SONAR Exhibits

- 1. Exhibit A- Proposed Rule Draft
- 2. Exhibit B- Cost Analysis Spreadsheet and Summary
- 3. Exhibit C- Section 14.127 Notification to the Commissioner of Agriculture
- 4. Exhibit D- Section 14.128 MMB Response to Board's Fiscal Inquiry Concerning Local Government Fiscal Impact

Conclusion

The Board has established the need for and the reasonableness of amending Minnesota Rules, chapter 1315, to adopt the 2023 National Electrical Code, without amendment. The Board has provided the necessary notice and, in this SONAR, documented its compliance with all applicable

administrative rulemaking requirements of Minnesota statute and rules.

Based on the foregoing, the proposed amendments are both needed and reasonable.

March 14, 2023

Duane Hendricks, Chair Minnesota Board of Electricity

This SONAR was made available for public view, pursuant to Minn. Rules, part 1400.2070, subpart 1, item E (2013), as of March 20, 2023.

SONAR Exhibits

A.	Proposed Rule Draft
B.	Cost Analysis Spreadsheet and Summary
C.	Section 14.127 Notification to the Commissioner of Agriculture
D.	Section 14.128 MMB Response to Board's Fiscal Inquiry Concerning Local Government Fiscal Impact

Office of the Revisor of Statutes Administrative Rules



TITLE: Proposed Permanent Rules Adopting the 2023 National Electric Code

AGENCY: Department of Labor and Industry

REVISOR ID: R-4778

MINNESOTA RULES: Chapter 1315

INCORPORATIONS BY REFERENCE:

Part 1315.0200, subpart 1a: The 2023 edition of the National Electrical Code, developed and published by the National Fire Protection Association, Inc., is incorporated by reference and made part of the Minnesota State Building Code. The National Electrical Code is not subject to frequent change and is available in the office of the commissioner of labor and industry, through public libraries, from major bookstores and other retail sources, or from National Fire Protection Association, Inc., One Batterymarch Park, Quincy, MA 02169-7471.

The attached rules are approved for publication in the State Register

Sheree Speer Chief Deputy Revisor

2020 National Electrical Code Cost Comparison of the 2017 NEC and the 2020 NEC

Sort	Topic	Change	Effect	2020 NEC Section	2020 Cost	2023 NEC Section	2023 Cost	Mandatory Items Cost Difference	Optional Items Cost Difference	Added Labor Cost	Notes
1	GFCI protection for all kichen receptacles.	Revision	In addition to the GFCI protection for the countertop receptacles, GFCI protection is required for all kitchen receptacles.	210.8(A)6)	\$55	210.8(A)(6)	\$61		Difference	Nominal	Cost comparison based on a Square D Homeline circuit breaker.
	GFCI protection for areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking.	New	Additional GFCI protectionis required in areas with a sink and food preparation that is located outside of the 6' measurement.	N/A	\$55	210.8(A)(7)	\$61	\$6		Nominal	Cost comparison based on a Square D Homeline circuit breaker.
	GFCI protection is required for appliances (outlets) such as the microwave, counter-mounted cooking units and range.	Revision	GFCI protection is required for appliances that are either hardwired or have a cord and plug connection. Previous code language only required the protection for receptacles within 6' of the sink.	210.8(D)	\$15	210.8(D)	\$119	\$104		Nominal	Cost comparison based on a Square D Homeline circuit breaker.
4	Expanded GFCI protection to additional outdoor locations at dwellings.	Revision	GFCI protection has been expanded to outdoor outlets at: garages, dwelling accessory structures and boathouses.	210.8(F)	N/A	210.8(F)	N/A	\$0		Nominal	
5	Kitchen island and peninsular countertop and work surface receptacles	Revision	The receptacles are no longer required, however, provisions are needed for a future installation to add a receptacle at the peninsular or island.	210.52(C)(2)	\$70	210.52(C)(2)	\$69	-\$1		Nominal	
6	Kitchen island and peninsular countertop work surface receptacles	Revision	Receptacles installed on the peninsular or island countertop must be listed and mounted in the surface of the countertop or work surface.	210.52(C)(3)	N/A	210.52(C)(3)	\$128	\$0	\$128	Nominal	
	Additional areas added for determining the calculated branch circuit load at a dwelling unit	Revision	Added garage and unfinished basement areas which could be used for habitable space when calculating service or feeder loads for a dwelling unit.	220.11	N/A	220.5(C)	N/A	\$0		Nominal	No price change due to minimal impact (see cost analysis sheet)
	Surge Protection rating must have a discharge current rating of 10 kA.	New	Prior surge protection devices were not required to have a minimum discharge current rating.	230.67(A)	\$76	230.67(E)	\$76	\$0		Nominal	
	Totals				\$271		\$514	\$115	\$128		

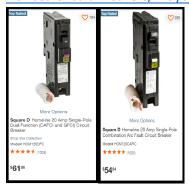
The cost estimates will vary greatly depending on factors such as the type of work being done, the size of the project, the condition of any existing electrical work, and other factors.

For example, a new home may be built with all gas appliances. In that situation, the estimated costs for materials and labor would be substantially less.

EXHIBIT B

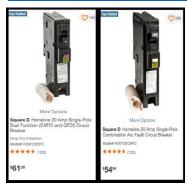
1. The cost increase is based on the existing breaker already being required to be AFCI protected, and the circuit breaker would now be required to be a dual function to provide both AFCI and GFCI protection.

https://www.homedepot.com/b/Electrical-Power-Distribution-Electrical-Panels-Protective-Devices-Circuit-Breakers/N-5yc1vZbm16



2. The cost increase is based on the existing breaker already being required to be AFCI protected, and the circuit breaker would now be required to be a dual function to provide both AFCI and GFCI protection.

https://www.homedepot.com/b/Electrical-Power-Distribution-Electrical-Panels-Protective-Devices-Circuit-Breakers/N-5yc1vZbm16



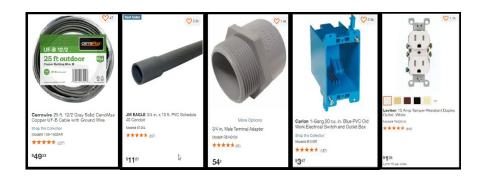
3. The cost increase is based on the assumption that the range receptacle is located more than 6' from a sink. If you recall, if the device was a receptacle (versus an outlet) within 6' of the edge of a sink GFCI protection was already required in the 2020 NEC. If this connection was hardwired in the 2020 NEC, it was not required to be GFCI protected.

https://www.homedepot.com/b/Electrical-Power-Distribution-Electrical-Panels-Protective-Devices-Circuit-Breakers/N-5yc1vZbm16



- 4. The increased cost would be based on the expanded requirement for GFCI protection to additional outdoor locations at dwellings. With the new exception eliminating the GFCI protection on outdoor HVAC equipment, we are not aware of other "outlets" that might be a concern that are not already covered by the NEC.
- 5. The 2020 NEC cost takes into account a 25' of 12/2 UF cable, installed in 15' of ¾" PVC conduit sleeve and the cable is extended to a single gang box in a cabinet with a receptacle and plate. The 2023 cost is based on the removal of the device. https://www.homedepot.com

25' of 12/2 UF = \$49, 15' of $\frac{3}{4}$ " PVC = \$16, PVC Fittings = \$1, Cut-in box = \$3 and Receptacle = \$1 Total cost of materials = \$70



6. If an installer or owner **elects to install** a receptacle on the peninsular or island countertop surface, it must be listed for the application. The allowance to have the receptacle within 12" below the countertop or worksurface is not permitted in the 2023 NEC.

https://www.amazon.com/Bryant-Electric-RCT200NI-Countertop-Receptacle/dp/B07FKFS71Z/ref=sr_1_omk_4?gclid=EAlaIQobChMIz5fZmKfb-glVlgbnCh0nwgBxEAAYAiAAEgJai_D_BwE&hvadid=381073138965&hvdev=c&hvlocphy=9019539&hvnetw=g&hvqmt=e&hvrand=952213702805721960&hvtargid=kwd-814885163222&hydadcr=13109_9718132&keywords=counter%2Btop%2Bpop%2Bup%2Boutlet s&qid=1665598972&qu=eyJxc2MiOiI0LjI4IiwicXNhljoiMy4xNiIsInFzcCl6IjIuNTIifQ%3D%3D&sr=8-4&th=1



7. 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.

1. 1,500 square foot single-family dwelling with a full unfinished basement and a 24' x 24' two car attached garage.

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2023 NEC:
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1,500 \times 2 (main floor and basement) = 3,000 + 576 (garage) = 3,576 \times 3 \times 4 = 10,728 \times 4 =
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2020 NEC:

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1,500 x 3 VA = 4,500 VA
4,500 - 3,000 = 1,500 VA x 35% = 525 VA
3,000 @100% + 525 = 3,525 - total VA load calculation
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5,705 VA (2023 NEC) – 3,525 VA (2020 NEC) = 2,180 VA/240 volts = 9 amps load added

2. 2,500 square foot single-family dwelling with a full finished basement and 24' x 40' three car attached garage.

2023 NEC:

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2,500 x 2 (main floor and basement) = 5000 + 960 (garage) = 5,960 X 3 VA = 17,880 VA
17,880 VA - 3,000 VA = 14,880 VA x 35% = 5,208 VA
3,000 @100% + 5,208 = 8,208 - total VA load calculation
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2020 NEC:

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2,500 x 2= 5,000 x 3 VA = 15,000 VA
15,000 - 3,000 = 12,000 VA x 35% = 4,200 VA
3,000 @100% + 4,200 = 7,200 - total VA load calculation
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8,208 VA (2023 NEC) - 7,200 VA (2020 NEC) = 1,008 VA/240 volts = 4.2 amps load added

3. 4,500 square foot single-family dwelling with an unfinished full basement and 24' x 40' three car attached garage.

2023 NEC:

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4,500 x 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
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2020 NEC:

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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
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8. Surge Protection rating must have a discharge current rating of 10 kA.

https://www.amazon.com/Intermatic-AG3000-Surge-protector/dp/B008VM6MXI?source=ps-sl-shoppingads-lpcontext&ref =fplfs&psc=1&smid=A1KILHQU7780Z0





Minnesota Board of Electricity c/o Minnesota Department of Labor and Industry 443 Lafayette Road North St Paul, MN 55155-4344

dli.ccldboards@state.mn.us

December 16, 2023

Commissioner Thom Petersen Minnesota Department of Agriculture 625 Robert Street North Saint Paul, MN 55155-2538

Re: Minn. Stat. §14.111 Rulemaking Notice/Adoption of the 2023 National Electrical Code

Dear Commissioner Petersen:

Pursuant to Minn. Stat. §14.111 (2022), please accept this correspondence as official notice of the fact that the Minnesota Board of Electricity ("Board") is in the process of adopting the 2023 National Electrical Code ("NEC") for use in this state as part of Minnesota Rules, Chapter 1315, the Minnesota Electrical Code. You are being provided this notice because the Board has determined that adoption of the 2023 NEC as incorporated by the Minnesota Electrical Code may affect farming operations in the State of Minnesota.

Article 547 (Agricultural Buildings) of the 2023 NEC was revised by the National Fire Protection Association ("NFPA") to make it consistent with other NEC articles by restructuring its general layout and renumbering several sections. Article 547 is now organized into three parts: General, Installation, and Distribution.

While the restructuring of Article 547 has no direct impact on its substantive content, three notable changes were made to the article which the Board wishes to bring to your attention. First, section 547.2 (Definitions Specific to Agricultural Buildings) was relocated to Article 100 (General Definitions) for organizational uniformity within that publication. Second, section 547.26 (Physical Protection) was revised to prohibit the installation of nonmetallic sheathed cable concealed within walls or above ceilings in areas conjoined to livestock areas due to the potential safety and fire hazard of rodents chewing on cable jackets. And third, section 547.44(B) (Bonding of Equipotential Planes) was revised to clarify that the connection from the equipotential plane that is made to the grounding system may be done at either the grounding terminal in the associated electrical panel or at any grounding electrode at the grounding electrode system.

For your reference to these changes, Article 547 of the 2023 NEC may be viewed at: https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70.

Thank you for your attention to this matter. If you have any questions or concerns relative to the changes in the 2023 NEC described above, please feel free to contact me directly at (651) 284-5172 or ieffrey.f.lebowki@state.mn.us.

Sincerely,

Jeffrey F. Lebowski General Counsel

Minnesota Board of Electricity/

Minnesota Department of Labor and Industry

cc: Duane Hendricks, Chair

Minnesota Board of Electricity

Attachment: Proposed Rule Draft Chapter 1315

1315.0200 SCOPE.

Subpart 1. Title. This chapter shall be known and cited as the "Minnesota Electrical Code."

Subp. 1a. **Electrical code.** All new electrical wiring, apparatus, and equipment for electric light, heat, power, technology circuits and systems, and alarm and communication systems must comply with the regulations contained in the 2020 2023 edition of the National Electrical Code (NEC) as approved by the American National Standards Institute (ANSI/NFPA 70-2020 70-2023), Minnesota Statutes, section 326B.35, and the Minnesota State Building Code as adopted by the commissioner of labor and industry. The 2020 2023 edition of the National Electrical Code, developed and published by the National Fire Protection Association, Inc., is incorporated by reference and made part of the Minnesota State Building Code. The National Electrical Code is not subject to frequent change and is available in the office of the commissioner of labor and industry, from the Minnesota Bookstore, 660 Olive Street, Saint Paul, MN 55155, through public libraries, from major bookstores and other retail sources, or from National Fire Protection Association, Inc., One Batterymarch Park, Quincy, MA 02169-7471.

Re: Minn. Stat. § 14.111 Rulemaking Notice/Adoption of the 2023 National Electrical Code

AFFIDAVIT OF SERVIC

STATE OF MINNESOTA)
) ss
COUNTY OF RAMSEY)

Margaret Charpentier, being first duly sworn on oath, hereby deposes and says:

That at the City of St. Paul, County of Ramsey and State of Minnesota on the 16th day of December, 2022, your affiant served the attached Notice of Adoption of the 2023 National Electrical Code by depositing in the United States mail, a true and accurate copy of it, properly enveloped, with postage prepaid, and addressed to:

Commissioner Thom Petersen Minnesota Department of Agriculture 625 Robert Street North Saint Paul, MN 55155-2358

I am signing this Affidavit in Ramsey County, Minnesota on the 16th day of December, 2022. Pursuant to Minn. Stat. § 358.116, I declare under penalty of perjury that everything I have stated in this document is true and correct.

Margaret Charpentier
Margaret Charpentier



Office Memorandum

Date: February 24, 2022

To: Jeffrey F. Lebowski, General Counsel, Department of Labor and Industry

From: Casey Mock, Director of Budget Policy and

Analysis, Minnesota Management and

Budget

Subject: M.S. 14.131 – Review of Proposed Amendment to the Minnesota Electrical Code, Minnesota Rules,

Chapter 1315, Revisor's ID Number RD-4778

Background

The Department of Labor and Industry (DLI) is proposing amendments to the rules relating to the Minnesota Electrical Code, in Minnesota Rules, Chapter 1315. Pursuant to M.S. 14.131, the Commissioner of Minnesota Management and Budget has been asked to help evaluate the fiscal impacts and benefits these changes may have on local units of government.

As identified in the Statement of Need and Reasonableness (SONAR), pursuant to M.S. 326B.106, the Minnesota Electrical Code is the industry standard which directs and regulates all electrical work conducted in this state and is part of the Minnesota State Building Code. See Minnesota Rules, part 1300.0050 (J) (2016). Minnesota Statutes, Section 326B.32, subdivision 2 (a)(3) (2022), requires the Board to adopt the Minnesota Electrical Code, which must be the most current version of the National Electrical Code, and any Minnesota amendments thereto. The proposed amendments to Minnesota Rules, chapter 1315, incorporate by reference the most current edition of the National Electrical Code. Specifically, the Board proposes to incorporate the 2023 National Electrical Code which was developed and published by the National Fire Protection Association and approved by American National Standards Institute, without any Minnesota specific amendments.

Evaluation

On behalf of the Commissioner of Minnesota Management and Budget, I have reviewed the proposed changes and the draft of the SONAR to explore the potential fiscal impact these changes may have on local governments.

The adoption of the 2023 version of the National Electrical Code is not anticipated to have a substantial cost to local units of government. Local governments may incur costs associated with purchasing new code books (\$145 per person) and any educational expenses (\$200 per person) necessary for the training of enforcement officials.

The Department's findings regarding the fiscal impact of this proposal to local governments are sound and agreed to.

cc: Ahna Minge, Executive Budget Coordinator, Minnesota Management and Budget