DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION CODE

(By authority conferred on the director of the department of licensing and regulatory affairs by section 4 of the Stille-DeRossett-Hale single state construction code act 1972 PA 230, MCL 125.1504, and Executive Reorganization Order Nos. 1996-2, 2003-1, 2008-4, 2011-4, and 2017-1, MCL 445.2001, 445.2011, 445.2025, 445.2030, and 339.3102)

PART 8. ELECTRICAL CODE

R 408.30801 National electrical code; adoptions by reference; inspection; purchase.

Rule 801. (1) The standards contained in the national electrical code 2023 second printing edition, including TIA 70-23-1 to 70-23-13, Errata 70-23-1 to 70-23-6, and Annex H, except sections 80.2, 80.5, 80.15, 80.23, 80.27, 80.29, 80.31, 80.33, 80.35, and 90.6, as published by the national fire protection association (NFPA), shall govern the installation, replacement, alteration, relocation, and use of electrical systems or material. With the exceptions noted, the national electrical code is adopted in these rules by reference.

(2) All references to the ANSI/ASME A17.1 2016, safety code for elevators and escalators mean the Michigan elevator code and all references to the national electrical code mean the Michigan electrical code.

(3) NFPA 110, standard for emergency and standby power systems, 2019 edition and NFPA 111, standard on stored electrical energy emergency and standby power systems, 2019 edition, are adopted by reference in these rules.

(4) The codes are available for inspection at the Lansing office of the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 611 West Ottawa Street, First Floor Ottawa Building, Lansing, Michigan 48933.

(5) The National Electrical Code, NFPA 110 and NFPA 111 may be purchased from the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02169, or through the bureau's website at www.michigan.gov/bcc, at a cost as of the time of adoption of these rules of $153.00 for the National Electrical Code, $149.00 for the NFPA 110, and $149.00 for the NFPA 111 each, respectively.

History: 1979 AC; 1980 AACS; 1981 AACS; 1985 AACS; 1986 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 AACS; 2023 AACS.

R 408.30805 Rescinded.

History: 1979 AC; 2019 AACS.

R 408.30806 Rescinded.

History: 1979 AC; 1981 AACS; 2007 AACS; 2013 AACS; 2019 AACS.

R 408.30807 Title.

Rule 807. Section 80.7 is amended to the code to read as follows:

80.7. Title. These rules shall be known as the Michigan electrical code, hereinafter referred to as "the code."

History: 1979 AC; 2004 AACS; 2019 AACS.

R 408.30808 Scope.

Rule 808. Section 80.1 is amended to read as follows:

80.1 Scope. The following are covered:

(1) The inspection of electrical installations as covered by 90.2.

(2) The review of construction plans, drawings, and specifications for electrical systems.

(3) The design, alteration, modification, construction, maintenance, and testing of electrical systems and equipment.

(4) The regulation and control of electrical installations at special events, including, but not limited to, exhibits, trade shows, amusement parks, and other similar special occupancies.

History: 2004 AACS; 2007 AACS; 2013 AACS; 2019 AACS; 2023 AACS.

R 408.30809 Rescinded.

History: 2004 AACS; 2007 AACS.

R 408.30810 Authority.

Rule 810. Section 80.13 is added to the code to read as follows:

80.13. Authority. Where used in this article, the term authority having jurisdiction shall include the electrical inspector or other individuals designated by the governing body. This code shall be administered and enforced by the authority having jurisdiction designated by the governing authority as follows:

(1) Disconnection. When the use of electrical equipment or its installations is found to be dangerous to human life or property, the authority having jurisdiction may have the premises disconnected from its source of electric supply. When this equipment or installation has been condemned or disconnected, a notice shall be placed on the equipment or installation listing the causes for the condemnation, the disconnection, or both, and the penalty for the unlawful use of the equipment or installation. Written notice of this condemnation or disconnection and the causes of it shall be given within 24 hours to the owners, the occupant, or both, of the building, structure, or premises. It is unlawful for an

individual to remove this notice, to reconnect the electrical equipment to its source of electric supply, or to use or permit to be used electric power in electrical equipment until the causes for the condemnation or disconnection have been remedied to the satisfaction of the inspection authorities.

(2) Delegate authority. The authority having jurisdiction may delegate to other qualified individuals the powers as necessary for the proper administration and enforcement of this code.

History: 1979 AC; 1980 AACS; 1981 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 AACS; 2023 AACS.

R 408.30811 Duties and powers of code official.

Rule 811. Section 80.14 is added to the code to read as follows:

80.14. Duties and powers of the code official. The code official is authorized and directed to enforce the provisions of this code. The code official may render interpretations of this code and adopt policies and procedures in order to clarify the application of its provisions. These interpretations, policies, and procedures shall be in compliance with the intent and purpose of this code. These policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

History: 2004 AACS; 2013 AACS; 2015 AACS; 2019 AACS.

R 408.30812 Rescinded.

History: 1979 AC; 1981 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 AACS.

R 408.30813 Rescinded.

History: 2004 AACS; 2009 AACS; 2015 AACS; 2019 AACS.

R 408.30814 Rescinded.

History: 2004 AACS; 2019 AACS.

R 408.30815 Maintenance of existing wiring and equipment.

Rule 815. Section 80.18 of the code is added to read as follows:

80.18. Maintenance of existing wiring and equipment. Every building, structure, or part thereof shall be kept in good electrical repair by the owner.

History: 1979 AC; 1981 AACS; 2004 AACS; 2013 AACS.

R 408.30816 Rescinded.

History: 1979 AC; 1981 AACS; 2004 AACS.

R 408.30817 Rescinded.

History: 1979 AC; 1981 AACS; 1998-2000 AACS; 2004 AACS; 2013 AACS; 2019 AACS.

R 408.30818 Permits.

Rule 818. Section 80.19 is added to the code to read as follows:

80.19. Permits and approvals. Permits and approvals shall conform to subdivisions (a) to (g), as follows:

(a) Transfer of permits. Permits shall not be transferable.

(b) Posting of permits. A copy of the permit shall be posted or otherwise readily accessible at each work site.

(c) Permit not required. A permit is not required for all of the following:

(1) Lamps and cord connections. Installation or replacement of equipment such as lamps and of electric utilization equipment approved for connection to suitable permanently installed receptacles.

(2) Minor repair work. Replacement of flush or snap switches, fuses, lamp sockets, and receptacles, and other minor maintenance and repair work, such as replacing worn cords and tightening connections on a wiring device and minor repair work, as that term is defined in section 703 of the skilled trades regulation act, 2016 PA 407, MCL 339.5703.

(3) Electrical manufacturing. The process of manufacturing, testing, servicing, or repairing electrical equipment or apparatus.

(4) Statute exemptions. Installations that are referred to in section 737(3)(a), (b), (c), (d), (f), (h), (l), and (m) of the skilled trades regulations act, 2016 PA 407, MCL 339.5737.

(d) Expiration. Permits shall expire 180 days after issuance and are extended 180 days from the last inspection date.

(e) Annual permits. In lieu of an individual permit for each installation or alteration, an annual permit shall, on application, be issued to an individual, firm, or corporation regularly employing 1 or more employees for the installation, alteration, and maintenance of electrical equipment in or on buildings or premises owned or occupied by the applicant for the permit. On application, an electrical contractor as an agent for the owner or tenant shall be issued an annual permit. The applicant shall keep records of all work done, and the records shall be transmitted periodically to the electrical inspector.

(f) Inspection and approvals.

(1) Inspection notification. On the completion of an installation of electrical equipment that has been made under a permit, the individual, firm, or corporation making the installation shall notify the electrical inspector having jurisdiction.

(2) Approvals. Where the inspector finds the installation to be in conformity with the code, state statutes, rules, and, if applicable, local ordinances, the inspector shall issue to the individual, firm, or corporation making the installation a final approval, or certificate of approval provided payment has been made, which authorizes the connection into the supply of electricity.

(3) Concealment. When a portion of the electrical installation within the jurisdiction of an electrical inspector is to be hidden from view by the permanent placement of parts of the building, the individual, firm, or corporation installing the equipment shall notify the electrical inspector, and the equipment shall not be concealed until it has been approved by the electrical inspector. The code official and the jurisdiction shall not be liable for expense entailed in the removal or replacement of material required to allow inspection.

(g) Applications and extensions. The authority having jurisdiction may grant one 180-day extension of the original permit time period of 180 days, upon presentation of the permittee of a satisfactory reason for failure to start or complete the work or activity authorized by the permit.

History: 1979 AC; 1981 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 AACS; 2023 AACS.

R 408.30819 Plans and specifications.

Rule 819. Sections 80.21, 80.21.1, and 80.21.2 are added to the code to read as follows:

80.21. Plans required. An applicant shall submit a detailed set of plans and specifications with the application for an electrical permit for wiring or alteration to an electrical system if the system requires installation of electrical equipment that has an ampacity of more than 400 amperes, at 1,000 volts or less, for the service or feeder and if the calculated floor area in a building is more than 3,500 square feet. The enforcing agency may request plans for projects that include an unusual design. Plans and specifications shall conform to the following:

(a) Lighting layout.
(b) Circuiting.
(c) Switching.
(d) Conductor and raceway sizes.
(e) Wattage schedule.
(f) Service location and riser diagram.
(g) Load calculations and available fault current calculations.
(h) A proposed method of construction that is drawn with symbols of a standard form.

All conductors are assumed to be copper unless otherwise stated in the plan. Specifications, when provided, shall also include the information listed in this rule. The selection of suitable disconnect and overcurrent devices to provide proper coordination and interrupting capacity for a wiring system is the responsibility of the designer. The enforcing agency, when approving electrical plans, does not assume responsibility for the design or for deviations from electrical drawings. The permit holder shall ensure that the plans and specifications approved by the enforcing agency, or a certified copy of the plans and specifications, where required, are available on the jobsite for the use of the enforcing agency.

80.21.1. Plan revisions. Work shall be installed pursuant to the code and approved construction documents, and changes made during construction that are not in compliance with the approved construction documents shall be resubmitted for approval as an amended set of construction documents.

80.21.2. Information on construction documents. Construction documents shall be dimensioned and drawn on suitable material. Electronic media documents may be

submitted when approved by the enforcing agency. Construction documents shall be of sufficient clarity to indicate the location, nature, and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules, and regulations as determined by the enforcing agency.

History: 1979 AC; 1981 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2015 AACS; 2019 AACS; 2023 AACS.

R 408.30820 Representative on jobsite.

Rule 820. Section 80.20 is added to the code to read as follows:

80.20. Representative on jobsite. The enforcing agency reserves the right to require a representative of the permit holder to be on the job when an inspection is made.

History: 1979 AC; 1981 AACS; 1988 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2019 AACS.

R 408.30821 Rescinded.

History: 1979 AC; 1981 AACS; 1995 AACS; 2007 AACS; 2019 AACS.

R 408.30822 Rescinded.

History: 1979 AC; 1981 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2013 AACS; 2019 AACS.

R 408.30823 Connection to electricity supply.

Rule 823. Section 80.25 is amended to the code to read as follows:

80.25. Connection to electricity supply. Connections to the electric supply shall conform to subdivisions (a) and (b).

(a) Supply electricity. Except where work is done under an annual permit and except as otherwise provided in section 80.25, it is unlawful for an individual, firm, or corporation to make connection to a supply of electricity or to supply electricity to electrical equipment installation for which a permit is required or that has been disconnected or ordered to be disconnected.

(b) Utility emergency connections. The governing utility may reconnect the electrical service, before approval by the enforcing agency, following emergency repairs performed by an electrical contractor licensed pursuant to article 7 of the skilled trades regulation act, 2016 PA 407, MCL 339.5701 to 339.5739. The electrical contractor shall secure a permit by the next business day after the work is completed. This requirement is not applicable to new service connections, upgrades, structural fires, or other planned modifications.

History: 1979 AC; 1981 AACS; 1991 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 AACS; 2023 AACS.

R 408.30824 Rescinded.

History: 1979 AC; 1981 AACS; 2004 AACS; 2019 AACS.

R 408.30825 Rescinded.

History: 1979 AC; 1981 AACS; 1991 AACS; 1995 AACS; 1998-2000 AACS.

R 408.30826 Rescinded.

History: 1979 AC; 1981 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2013 AACS; 2019 AACS; 2023 AACS.

R 408.30827 Service equipment.

Rule 827. Section 80.26 is added to the code to read as follows:

80.26. Service equipment. The enforcing agency shall approve service equipment installed, altered, or repaired before the load side of the meter is energized.

History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2004 AACS; 2013 AACS; 2019 AACS.

R 408.30828 Rescinded.

History: 2004 AACS; 2007 AACS; 2019 AACS; 2023 AACS.

R 408.30829 Rescinded.

History: 2004 AACS; 2019 AACS.

R 408.30830 Rescinded.

History: 1979 AC; 1998-2000 AACS.

R 408.30831 Rescinded.

History: 1981 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30832 Rescinded.

History: 1981 AACS; 1985 AACS; 1995 AACS; 1997 AACS.

R 408.30834 Rescinded.

History: 2007 AACS; 2009 AACS; 2015 AACS; 2019 AACS.

R 408.30835 Rescinded.

History: 1985 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2019 AACS.

R 408.30837 Rescinded.

History: 1985 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30838 NFPA code; adoption by reference.

Rule 838. Sections 700.9 and 701.9 of the code are amended to read as follows:

700.9. Installation. Emergency systems shall be installed pursuant to NFPA 110 and NFPA 111, 2019 editions, which are adopted by reference in R 408.30801.

701.9. Installation. Legally required standby systems shall be installed pursuant to NFPA 110 and NFPA 111, 2019 editions, which are adopted by reference in R 408.30801.

History: 1986 AACS; 1988 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2023 AACS.

R 408.30839 Rescinded.

History: 1985 AACS; 1988 AACS; 1997 AACS; 1998-2000 AACS.

R 408.30843 Rescinded.

History: 1985 AACS; 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30865 Rescinded.

History: 1979 AC; 1980 AACS; 1988 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 AACS.

R 408.30866 Rescinded.

History: 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS.

R 408.30867 Rescinded.

History: 1988 AACS; 1998-2000 AACS; 2007 AACS; 2019 AACS.

R 408.30868 Rescinded.

History: 1988 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS.; 2019 AACS.

R 408.30869 Rescinded.

History: 1988 AACS; 1991 AACS; 1998-2000 AACS; 2004 AACS; 2007 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 AACS.

R 408.30870 NFPA code; adoption by reference.

Rule 870 Section 230.85 is added to the code to read as follows:

230.85 Emergency disconnects. For 1- and 2-family dwelling units, an emergency disconnecting means shall be installed.

(A) General.

(1) Location. The disconnecting means shall be installed in a readily accessible outdoor location on or within sight of the dwelling unit.

Exception: Where the requirements of section 225.41 are met, this section shall not apply.

(2) Rating. The disconnecting means shall have a short-circuit current rating equal to or greater than the available fault current.

(3) Grouping. If more than 1 disconnecting means are provided, they shall be grouped.

(B) Disconnects. Each disconnect shall be a service disconnect.

(C) Replacement. Where service equipment is replaced, all of the requirements of this section shall apply.

Exception: Where only meter sockets, service entrance conductors, or related raceways and fittings are replaced, the requirements of this section shall not apply.

(D) Identification of other isolation disconnects. Where equipment for isolation of other energy source systems is not located adjacent to the emergency disconnect required by this section, a plaque or directory identifying the location of all equipment for isolation of other energy sources shall be located adjacent to the disconnecting means required by this section.

(E) Marking.

(1) Marking text. The service disconnecting means shall be marked as follows:

"EMERGENCY DISCONNECT, SERVICE DISCONNECT".

History: 1988 AACS; 1991 AACS; 1997 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 AACS; 2023 AACS.

R 408.30871 Bonding other metal piping.

Rule 871. Section 250.104(B) of the code is amended to read as follows:

250.104(B). Bonding other metal piping. (1) Other metal piping. If installed in or attached to a building or structure, a metal piping system, including gas piping, capable of becoming energized shall be bonded to any of the following:

(a) Equipment grounding conductor for the circuit that is likely to energize the piping system.

(b) Service equipment enclosure.

(c) Grounded conductor at the service.

(d) Grounding electrode conductor, if of sufficient size.

(e) One or more grounding electrodes used, if the grounding electrode conductor or bonding jumper to the grounding electrode is of sufficient size.

The bonding conductor or conductors, or the jumper or jumpers shall be sized in accordance with table 250.122, and equipment grounding conductors shall be sized in accordance with table 250.122 using the rating of the circuit that is likely to energize the piping system or systems. The points of attachment of the bonding jumper or jumpers shall be accessible.

(2) Corrugated stainless steel tubing (CSST). Listed corrugated stainless steel tubing gas piping systems shall be bonded to the electrical service grounding electrode system. The bonding jumper shall connect to a metallic pipe or fitting between the point of delivery and the first downstream CSST fitting. The bonding jumper shall be not smaller than 6 AWG copper wire or equivalent. A gas piping system that is bonded pursuant to this section shall be considered effectively bonded regardless of the amount of CSST in the system.

Exception: Listed CSST piping systems approved for installation without additional bonding by the manufacturer.

History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2009 AACS; 2013 AACS; 2015 AACS; 2019 AACS.

R 408.30872 Rescinded.

History: 1991 AACS; 1995 AACS; 1997 AACS; 2009 AACS; 2013 AACS.

R 408.30873 Uses permitted.

Rule 873. Sections 334.10 and 334.12(A) of the code are amended to read as follows:

334.10. Uses Permitted. Type NM and type NMC cables may be used in the following, except as prohibited in section 334.12:

(1) One- and 2-family dwellings and their attached or detached garages and storage buildings.

(2) Multifamily dwellings and their detached garages.

(3) In other structures exceeding 1 floor above grade, cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has not less than a 15-minute finish rating as identified in listings of fire rated assemblies pursuant to the Michigan building code.

(4) Cable trays in structures permitted to be types III, IV, or V where the cables are identified for the use.

334.12(A). Uses not permitted. Types NM and NMC cable shall not be permitted as follows:

(1) In a dwelling or structure not specifically permitted in section 334.10(1), (2) and (3).

(2) Exposed in dropped or suspended ceilings in other than 1- and 2-family and multifamily dwellings.

(3) As service-entrance cable.

(4) In commercial garages having hazardous or classified locations as defined in section 511.3.

(5) In theaters and similar locations, except where permitted in section 518.4(B).

(6) In motion picture studios.

(7) In storage battery rooms.

(8) In hoistways or on elevators or escalators.

(9) Embedded in poured cement, concrete, or aggregate.

(10) In hazardous or classified locations, except where specifically permitted by other articles in this code.

History: 1991 AACS; 1995 AACS; 1998-2000 AACS; 2007 AACS; 2013 AACS; 2015 AACS; 2023 AACS.

R 408.30880 Rescinded.

History: 1979 AC; 1980 AACS; 1997 AACS; 2009 AACS; 2013 AACS.