

Department of Licensing and Regulatory Affairs

2014
MICHIGAN ELECTRICAL CODE RULES
Part 8

INCORPORATING THE **2014** EDITION OF
THE NATIONAL ELECTRICAL CODE



BUREAU OF CONSTRUCTION CODES
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Providing for Michigan's Safety in the Built Environment

INTRODUCTION

The Bureau of Construction Codes has amended the Construction Code Rules, Part 8. All units of government that administer and enforce the electrical code shall enforce the amended state electrical code effective June 18, 2015.

The rules adopt by reference the National Electrical Code, 2014 edition, and include deletions, additions, and amendments to the national code. The deletions, additions, and amendments are set forth in this publication.

How to use this publication: The state electrical code rules are published in code section order for use with the National Electrical Code, 2014 edition.

The National Electrical Code, 2014 edition, is adopted by reference in R 408.30801 (page 1). The provisions set forth in this publication are either added to the national code or amend the national code.

Each section has been provided with a title for indexing purposes. These titles may not be identical to the titles used in the promulgated rule set.

Additional copies of the Part 8 rules are available from the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes (BCC), P.O. Box 30255, Lansing, Michigan 48909 for a cost of \$10.00, or may be downloaded for free from the bureau's website at www.michigan.gov/bcc. The 2014 National Electrical Code (NEC) may be purchased from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, or from BCC, at a cost as of the time of adoption of these rules of \$82.00 each. You may also purchase the 2011 NEC with a complete copy of the Michigan Part 8 rules from BCC at a cost of \$90.00. Please make checks payable to the State of Michigan.

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701.9 Installation 18

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS

DIRECTOR'S OFFICE

CONSTRUCTION CODE

Filed with the Secretary of State on June 18, 2015

These rules take effect June 18, 2015

(By authority conferred on the director of the department of licensing and regulatory affairs by section 4 of 1972 PA 230, MCL 125.1504, and Executive Reorganization Order Nos. 2003-1, 2008-4, and 2011-4, MCL 445.2011, 445.2025, and 445.2030)

R 408.30801, R 408.30811, R 408.30813, R 408.30818, R 408.30819, R 408.30834, R 408.30838, R 408.30869, R 408.30870, R 408.30871, and R 408.30873, of the Michigan Administrative Code are amended and R 408.30865 is rescinded as follows:

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 2014 edition, except sections 110.24, 501.30B, 502.30B, 503.30B, 505.25B, 506.25B, 547.1 to 547.10, and Annex H, 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) Informational notes contained within the body of the code are not adopted as a part of the code.

(3) All references to the ANSI/ASME A17.1 2010, safety code for elevators and escalators mean the Michigan elevator code and all references to the national electrical code mean the Michigan electrical code.

(4) NFPA 110, standard for emergency and standby power systems, 2013 edition and NFPA 111, standard on stored electrical energy emergency and standby power systems, 2013 edition, are adopted by reference in these rules.

(5) The codes are available for inspection at the Okemos office of the Michigan department of licensing and regulatory affairs, bureau of construction codes.

(6) The National Electrical Code, NFPA 110, and NFPA 111 may be purchased from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, or from the Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these rules of \$82.00, \$42.00, and \$42.00 each, respectively.

R408.30801

Rule 805. Rescission. Rules 41 through 77 of the rules of the electrical administrative board, being R338.1041 to R 338.1077 of the Michigan Administrative Code, are rescinded.

R408.30805

TITLE

Rule 807. Title These rules shall be known as the Michigan electrical code, hereinafter referred to as "the code."

R 408.30807

ARTICLE 80 ADMINISTRATION AND ENFORCEMENT

80.1. Scope. The code regulates the design, installation, maintenance, alteration, and inspection of electrical systems including all wiring, fixtures, appliances, and appurtenances in connection with the utilization of electrical energy, within or on a building, structure, or properties, and including service entrance wiring as defined by the code.

Exception: 1- and 2-family dwellings and multiple single-family dwellings (townhouses) not more than 3 stories high with separate means of egress and their accessory structures shall comply with the Michigan residential code.

R 408.30808

80.1.1. Intent. The purpose of the code is to provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, installation, quality of materials, location, operation, and maintenance or use of electrical wiring and equipment.

R 408.30808

80.1.2. Severability. If a section, subsection, sentence, clause, or phrase of the code is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of the code.

R 408.30808

80.1.3. Code conformity required. A person shall not install, alter, maintain, service, or repair, or cause or permit the installation, altering, maintaining, servicing, or repairing of electrical equipment in or on any building, structure, or part thereof, or on any premises, if by the person's action the work does not conform to the provisions of the code.

R 408.30808

80.3. Purpose. The purpose of this article shall be to provide requirements for administration and enforcement of the Michigan electrical code.

R 408.30809

80.9. Applicability.

Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

R 408.30806

80.9.1 Application.

(a) New installations. The code applies to new installations. Buildings with construction permits dated after adoption of the code shall comply with its requirements.

(b) Existing installations. Electrical systems lawfully in existence at the time of the adoption of this code shall be permitted to have their use and maintenance continued if the use, maintenance, or repair is in accordance with the original design and no hazard to life, health, or property is created by this electrical system as determined by the code official.

(c) Additions, alterations, or repairs. Additions, alterations, or repairs to any building, structure, or premises shall conform to that required of a new building without requiring the existing building to comply with all the requirements of the code. Additions, alterations, installations, or repairs shall not cause an existing building to become unsafe or to adversely affect the performance of the building as approved. Electrical wiring added to an existing service, feeder, or branch circuit shall not result in an installation that violates the provisions of the code in force at the time the additions are made.

R 408.30806

80.11. Occupancy of building or structure.

(a) New construction. No newly constructed building may be occupied in whole or in part in violation of the provisions of the code.

(b) Existing buildings. Existing buildings that are occupied at the time of adoption of the code shall be permitted to remain in use provided the following conditions apply:

(1) The occupancy classification remains unchanged.

(2) There exists no condition deemed hazardous to life or property that would constitute an imminent danger.

R 408.30821

80.13. Authority. Whenever the enforcing agency finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the enforcing agency may issue a stop work order.

R 408.30810

80.13.1. Issuance. Notice shall be in accordance with the act. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition, shall be subject to the penalty provisions prescribed by the act.

R 408.30810

80.13.2. Unlawful continuance. Any person who shall continue any work after having been served with a stop work order, except the work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

R 408.30810

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.

R 408.30811

80.14.1. Department records. The enforcing agency shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, notices and orders issued. These records shall be retained in the official records for the period required for the retention of public records.

R 408.30811

80.14.2. Identification. The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

R 408.30811

80.14.3. Right of Entry. Whenever it is necessary to make an inspection to enforce the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in any building or upon any premises any conditions or violations of this code that make the building or premises unsafe, unsanitary, dangerous, or hazardous, the code official shall have the authority to enter the building or premises at all reasonable times to inspect or to perform the duties imposed upon the code official by this code. If the building or premises is occupied, the code official shall present credentials to the occupant and request entry. If the building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other person having charge or control of the building or premises and request entry. If entry is refused, the code official shall have recourse to every remedy provided by law to secure entry.

R 408.30811

80.14.4. Verification of the installation of the concrete encased electrode. The inspection of a concrete encased electrode meeting the requirements of the 2014 NEC NFPA 70 sections 250.50 and 250.52(A)(2) and (3) except for the connection of the grounding electrode conductor to the electrode shall be completed by 1 of the following:

- (1) The electrical inspector for the enforcing agency.
- (2) The building inspector for the enforcing agency if all of the following conditions are met:

(a) Both the electrical and building inspectors for the enforcing agency shall sign a written agreement which shall remain on file with the enforcing agency that designates authority to the building inspector for that agency to inspect a concrete encased electrode.

(b) Upon inspection and verification by the building inspector of a concrete encased electrode, the building inspector shall provide written documentation to the electrical inspector that the installation of the concrete encased electrode meets the requirements set forth in 250.52(A)(2) and (3) and 250.68(C)(3).

(c) Verification of approval of the concrete encased electrode shall be made at the construction site by signature of either the electrical inspector or the building inspector for the enforcing agency on the field copy of the building permit noting that the concrete encased electrode was approved along with the footing inspection or by a readily available inspection tag attached to the accessible grounding electrode reinforcing bar.

(d) The grounding electrode conductor connection to the concrete encased electrode shall be inspected by the electrical inspector for the enforcing agency.

R 408.30811

80.15. Means of appeal. An interested person may appeal the decision of the enforcing agency to the board of appeals in accordance with the act. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The decision of a local board of appeals may be appealed to the construction code commission in accordance with the act and timeframes.

R 408.30812

80.15.1. Limitation of authority. The board of appeals shall have no authority relative to interpretation of the administration of the code nor shall such board be empowered to waive requirements of the code.

R 408.30812

80.15.2. Qualifications. The board of appeals shall consist of members who are qualified in accordance with the act.

R 408.30812

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

R 408.30815

80.18.1. Disconnection of dangerous electrical equipment. If the use of any electrical equipment is found imminently dangerous to human life or property, the enforcing agency may condemn the equipment or disconnect it from its source of electric supply, except that the enforcing agency shall not disconnect the service entrance equipment or utility service drop wires unless the entrance equipment or utility wires in themselves constitute a hazard to life or property. If the enforcing agency condemns or disconnects dangerous equipment, then the agency shall place a notice on the equipment listing the causes for the condemnation or disconnection

and the penalty under the act for the unlawful use of the equipment. The agency shall give written notice of the condemnation or disconnection and the causes for condemning or disconnecting the equipment to the owner or the occupant of the building, structure, or premises. A person shall not remove the notice or reconnect the electrical equipment to its source of electric supply, or use or permit the use of electrical current in the electrical equipment, until the causes for the condemnation or disconnection are remedied and a permit for the electrical repairs of the equipment is obtained from the enforcing agency.

R 408.30817

80.19. Permits and certificates. A person shall not equip a building with electrical conductors or equipment or make an alteration of, change in, or addition to, electrical conductors or equipment without receiving a written permit to do the work described. If the electrical installation or alterations of, changes in, or addition to, electrical conductors or equipment are found to be in compliance with the provision of the code and if the work has passed the inspection of the enforcing agency, then the enforcing agency shall, upon the request of the permit holder to whom the permit was issued, issue a certificate of final electrical inspection. The certificate certifies that the provisions of the code have been complied with. This section does not apply to installations that are referred to in section 7(3)(a), (b), (c), (d), (e), (f), (h), (k), (l), (m), or (o) of the electrical administrative act, MCL 338.887.

R 408.30818

80.19.1. To whom permits are issued.

(1) A permit for any type of electrical installation may be secured by 1 of the following:

(a) A holder of an electrical contractor license or the qualifying master for the electrical contractor when authorized by the electrical contractor to secure a permit.

(b) A homeowner who occupies or will occupy a single-family dwelling and other accessory structures located on the same lot intended for use by the homeowner for which the permit is obtained and who will install the electrical equipment as certified by the homeowner on the permit application pursuant to the act.

(2) A permit for a fire alarm system may be secured by the holder of a fire alarm specialty contractor license or the qualifying fire alarm specialty technician qualifying the fire alarm specialty contractor when authorized by the fire alarm specialty contractor to secure a permit.

(3) A permit for an electrical sign or outline lighting, as defined in section 1b(1) and (2) of 1956 PA 217 the electrical administrative act, MCL 338.881b(1) and (2), may be secured by the holder of a sign specialty contractor license or the sign specialty technician qualifying the sign specialty contractor when authorized by the sign specialty contractor to secure a permit.

(4) A permit for electrical wiring associated with the installation, removal, alteration, or repair of a water well pump on a single-family dwelling to the first point of attachment in the house from the well, may be secured by a registered pump installer under part 127 of the public health code, 1978 PA 368, MCL 333.12701 to 333.12771.

(5) A permit for wiring associated with existing mechanical and plumbing systems referenced in section 7(3)(i) of the electrical administrative act, 1956 PA 217, MCL 338.887(3)(i), may be secured by the following:

(a) A holder of a mechanical contractor license issued pursuant to section 6(3)(a), (b), (d), (e), and (f) of the Forbes mechanical contractors act, 1984 PA 192, MCL 338.976(3)(a), (b), (d), and (f).

(b) A holder of a plumbing contractor license issued pursuant to the state plumbing act, 2002 PA 733, MCL 338.3511 to 338.3569.

R 408.30818

80.19.2. Application for permit. Each application for a permit, with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The permit application shall contain all applicable information pursuant to with the act and shall include the signature of the applicant in compliance with section 80.19.1 of the code.

R 408.30818

80.19.3. Permit expiration. Each permit issued by the code official under the provisions of the code shall expire by limitation and become null and void if the work authorized by the permit is not begun within 180 days from the date of the permit or if not inspected after the work is begun for a period of 180 days. Before the work may be restarted, the permit shall be reinstated if the code has not changed. If the code has changed and the work was not started, a new permit is required based on the current requirements.

R 408.30818

80.19.3.1. Posting of permit. The permit or a copy shall be kept on site of the work until the project is completed.

R 408.30818

80.19.4. Uncompleted installation notification. If a person to whom a permit is issued for the installation and inspection of electrical conductors and electrical equipment quits the installation for any reason, then the person shall notify the enforcing agency.

R 408.30818

80.19.5. Inspection and refunds for partial installation. If an installation is partially completed, then a permit holder, upon quitting the installation, shall notify the enforcing agency and shall request an inspection. The inspector shall record the acceptance of, or violations against, the work installed on the permit record according to the findings of the inspector. The enforcing agency shall not grant a refund to the permit holder of the permit fee covering electrical equipment installed and inspected.

R 408.30818

80.19.6. Owner notification to enforcing agency. If a permit holder quits an installation after the electrical equipment is installed and fails to notify the enforcing agency, then the building owner or his or her agent may notify the enforcing agency

and request inspection. Upon inspection, the enforcing agency shall send the permit holder a notice of a violation. The owner may then secure another licensed contractor to proceed with the work if the new contractor is properly covered by a permit.

R 408.30818

80.19.7. Transfer of permit. An electrical permit is not transferable.

R 408.30818

80.19.8. Fraudulent application for permit. A permit that is issued in violation of the laws of this state or as a result of false or fraudulent information or misinterpretation of conditions is subject to revocation at the direction of the enforcing agency. The enforcing agency shall notify the person holding the permit to appear and show cause why the permit should not be revoked. Failure to appear is sufficient grounds for revocation of the permit.

R 408.30818

80.19.9. Suspension or revocation of permit. The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error or on the basis of incorrect, inaccurate, or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

R 408.30818

80.19.10. Annual permit. In place of an individual permit for each alteration to an already approved electrical installation, the enforcing agency may issue an annual permit upon application to any person, firm, or corporation. The applicant shall be licensed pursuant to the electrical administrative act, 1956 PA 217, MCL 338.881 to 338.892.

R 408.30818

80.19.11. Annual permit records. The person, firm, and corporation to whom an annual permit is issued shall keep a detailed record of alterations made under an annual permit. Access to the records shall be provided at all times and the records shall be filed with the enforcing agency.

R 408.30818

80.19.12. Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless the application has been pursued in good faith or a permit has been issued; except that the code official may grant 1 or more extensions of time for additional periods not exceeding 90 days each. The extension shall be requested in writing and justifiable cause shall be demonstrated.

R 408.30818

80.19.13. Validity of permit. The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or any other ordinance of the jurisdiction. No

permit presuming to give authority to violate or cancel the provisions of this code shall be valid.

The issuance of a permit based upon construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in the construction documents and other data, or from preventing building operations being carried on thereunder, when in violation of this code or other ordinances of this jurisdiction.

R 408.30818

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.

R 408.30820

80.20.1. Licensed supervision required. A person who is licensed under 1956 PA 217, MCL 338.881 et seq., and who is employed by and represents the permit holder who is responsible for the electrical installation shall be present at all times when electrical construction is in progress.

R 408.30820

80.21. Plans and specifications. An applicant shall submit a detailed set of plans and specifications with the application for an electrical permit for any wiring or alteration to an electrical system if the system requires installation of electrical equipment that has an ampacity of more than 400 amperes 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. The electrical drawings shall include all of the following details:

- (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 any deviations from any 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.

R 408.30819

80.21.1. Preparation of plans. An architect or engineer shall prepare, or supervise the preparation of, all plans and specifications for new construction work or repair, expansion, addition, or modification work. The architect or engineer shall be licensed under the occupational code, 1980 PA 299, MCL 339.101 to 339.2919. The plans and specifications shall be sealed and signed pursuant to the occupational code, 1980 PA 299, MCL 339.101 to 339.2919.

Note: For exceptions, see the occupational code, 1980 PA 299, MCL 339.101 to 339.2919.

R 408.30819

80.21.2. Application and permits. The code official shall receive applications, review construction documents, and issue permits for the installation and alteration of electrical systems, inspect the premises for which the permits have been issued, and enforce compliance with the code.

The code official may issue a permit for the construction of and part of an electrical system before the entire construction documents for the whole system have been submitted or approved, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holders of the permit shall proceed at their own risk without assurance that the permit for the entire electrical system will be granted.

Work shall be installed pursuant to the code and approved construction documents, and any 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.

R 408.30819

80.21.3. Previous approvals. This code shall not require changes in the construction documents, construction or designated occupancy of a structure for which a lawful permit has been previously issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

R 408.30819

80.21.4 . Retention of construction documents. The code official shall retain 1 set of approved construction documents for a period of not less than 180 days from the date of final inspection of the permitted work.

R 408.30819

80.21.5. Information on construction documents. Construction documents shall be dimensioned and drawn upon 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.

R 408.30819

80.22. Inspection requests. The holder of the permit or his or her duly authorized agent shall notify the code official when work is ready for inspection. The permit holder shall provide access to and means for inspections of work that is required by this code. An enforcing agency shall perform the inspection within a reasonable period of time after the request for inspection is made

R 408.30822

80.22.1. Notices and orders. The code official shall issue all necessary notices or orders to ensure compliance with this code.

R 408.30822

80.22.2. Concealing electrical installation. The code official may conduct inspections deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and the construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

R 408.30822

80.23. Violations. If it is found that any electrical equipment does not conform to the provisions of the code, then the enforcing agency shall notify, in writing, the person who installs, or who is responsible for installing, the electrical equipment, in accordance with the act, of the defect, misuse, or violation. Violation penalties shall be as specified in the act and with the electrical administrative act, 1956 PA 217, MCL 338.881 to 338.892. Any portions that do not comply shall be corrected and this portion shall not be covered or concealed until authorized by the enforcing agency.

R 408.30826

80.24. Fees. The fees prescribed by section 22 of 1972 PA 230, MCL 125.1522, shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee is paid.

R 408.30824

80.25. Connection to electricity supply. Except where work is performed under an annual permit or except as otherwise provided in the code, a person, firm, or corporation shall not make connection to a supply of electricity or to supply electricity to any electric equipment installation for which a permit is required or that has been disconnected or ordered to be disconnected until authorized by the enforcing agency.

R 408.30823

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

R 408.30827

80.26.1 Emergency service repairs. The governing utility shall be permitted to reconnect the electrical service, prior to approval by the enforcing agency, following emergency repairs performed by an electrical contractor licensed pursuant to the electrical administrative act, 1956 PA 217, MCL 338.881 to 338.892. The electrical contractor shall secure a permit within 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.

R 408.30827

ARTICLE 90 INTRODUCTION

90.3. Code arrangement. The code includes an administration section. Additionally, the code is divided into the introduction and 9 chapters. Chapters 1, 2, 3, and 4 apply generally; chapters 5, 6, and 7 apply to special occupancies, special equipment, or other special conditions. Chapters 5, 6, and 7 supplement or modify the general rules. Chapters 1 to 4 apply except as amended by chapters 5, 6, and 7 for the particular conditions. Chapter 8 covers communications systems and is not subject to the requirements of chapters 1 to 7 except where the requirements are specifically referenced in chapter 8. Chapter 9 consists of tables that are applicable as referenced. Informative annexes are not part of the requirements of the code but are included for informational purposes only.

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90.4. Enforcement. The code is intended to be suitable for mandatory application by governmental bodies that exercise legal jurisdiction over electrical installations, including signaling and communications systems. The enforcing agency shall interpret the rules, decide on the approval of equipment and materials, and grant special permission set forth in the rules.

By special permission, the enforcing agency may permit alternative methods where equivalent objectives may be achieved by establishing and maintaining effective safety.

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90.6. Formal interpretations. Formal interpretations shall be issued in accordance with 1972 PA 230, MCL 125.1501 et seq.

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ARTICLE 100 DEFINITIONS

100. Definitions.

The definitions of authority having jurisdiction, dwelling unit, dwelling, 1-family, dwelling, 2-family, and dwelling, multifamily in article 100 of the code are amended and the definitions of act, chief electrical inspector, code official, electrical inspector, and enforcing agency are added to article 100 of the code to read as follows:

"Act" means 1972 PA 230, MCL 125.1501 to 125.1531 and known as the Stille-DeRossett-Hale single state construction code act.

"Authority having jurisdiction" where used in the code means the enforcing agency.

"Dwelling unit" means a single unit providing complete independent living facilities for 1 or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.

"Dwelling, 1-family" means a building that consists solely of 1 dwelling unit complying with the provisions of the Michigan residential code.

"Dwelling, 2-family" means a building that consists solely of 2 dwelling units complying with the provisions of the Michigan residential code.

"Dwelling, multifamily" means a building that contains 3 or more dwelling units. Residential occupancies containing more than 2 dwelling units where the occupants are primarily permanent in nature, including all of the following:

1. Apartment houses.
2. Boarding housing, not transient.
3. Convents.
4. Dormitories.
5. Fraternities and sororities.
6. Monasteries.

"Chief electrical inspector" where used in the code means the code official.

"Code official" means a person who is appointed and employed by a governmental subdivision who is charged with the administration and enforcement of the state code or codes, and who is registered in accordance with 1986 PA 54, MCL 338.2301 to 338.2313.

"Electrical inspector" where used in the code means the code official.

"Enforcing agency" means the enforcing agency, in accordance with the act, which is responsible for administration and enforcement of the code within a governmental subdivision, except for the purposes of the act.

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**ARTICLE 110
REQUIREMENTS FOR ELECTRICAL INSTALLATIONS**

110.2. Approval. Materials, equipment, and devices shall be constructed and installed in accordance with approvals granted under section 21 of 1972 PA 230, MCL 125.1521, or by the code official.

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**ARTICLE 230
SERVICES**

230.40. Number of Service-Entrance Conductor Sets. Each service drop, set of overhead service conductors, set of underground conductors, or service lateral shall supply 1 set of service-entrance conductors.

Exception 1: A building with more than 1 occupancy shall be permitted to have 1 set of service-entrance conductors for each service, as defined in section 230.2 of the code, run to each occupancy or group of occupancies. If the number of service disconnect locations for any given classification of service does not exceed 6, the requirements of 230.2(E) shall apply at each location. If the number of service disconnect locations exceeds 6 for any given supply classification, all service disconnect locations for all supply characteristics, together with any branch circuit or feeder supply sources, if applicable, shall be clearly described using suitable graphics or text, or both, on 1 or more plaques located in an approved, readily accessible location(s) on the building or structure served and as near as practicable to the point(s) of attachment or entry(ies) for each service drop or service lateral, and for each set of overhead or underground service conductors.

Exception 2: Where 2 to 6 service disconnecting means in separate enclosures are grouped at 1 location and supply separate loads from 1 service drop, set of overhead service conductors, set of underground service conductors, or service lateral, 1 set of service-entrance conductors may supply each or several such service equipment enclosures.

Exception 3: A 2-family dwelling or a multifamily dwelling may have 1 set of service-entrance conductors installed to supply the circuits covered in section 210.25 of the code.

Exception 4: One set of service-entrance conductors connected to the supply side of the normal service disconnecting means may supply each or several systems covered by section 230.82(4) or section 230.82(5) of the code.

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230.71(A). General. The service disconnecting means for each service permitted by section 230.2 of the code, or for each set of service-entrance conductors permitted by section 230.40, exception nos. 1, 3, or 4, of the code, shall consist of not more than 6 switches or sets of circuit breakers, or a combination of not more than 6 switches and sets of circuit breakers, mounted in a single enclosure, in a group of separate

enclosures, or in or on a switchboard, or in switchgear. There shall be not more than 6 sets of disconnects per service grouped in any 1 location.

For the purpose of this section, disconnecting means installed as part of listed equipment and used solely for the following, shall not be considered a service disconnecting means:

- (1) Power monitoring equipment.
- (2) Surge-protective device or devices.
- (3) Control circuit of the ground-fault protection system.
- (4) Power-operable service disconnecting means.

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ARTICLE 250 GROUNDING

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.

Either the bonding conductor or conductors, or the jumper or jumpers shall be sized pursuant to section 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.

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250.118. Types of equipment grounding conductors. The equipment grounding conductor run with or enclosing the circuit conductors shall be 1 or more or a combination of the following:

- (1) A copper, aluminum, or copper-clad aluminum conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and, in the form of a wire or a busbar of any shape.
- (2) Rigid metal conduit.
- (3) Intermediate metal conduit.
- (4) Electrical metallic tubing.

- (5) Flexible metallic tubing where the tubing is terminated in listed fittings and meeting both of the following conditions:
- (a) The circuit conductors contained in the tubing are protected by overcurrent devices rated at 20 amperes or less.
 - (b) The length of flexible metallic tubing in the ground return path does not exceed 1.8m (6 feet).
- (6) Armor of type AC cable as provided in section 320.108 of the code.
- (7) The copper sheath of mineral-insulated, metal-sheathed cable type MI.
- (8) Type MC cable that provides an effective ground-fault current path pursuant to 1 or more of the following:
- (a) It contains an insulated or uninsulated equipment grounding conductor in compliance with 250.118(1).
 - (b) The combined metallic sheath and uninsulated equipment grounding or bonding conductor of interlocked metal tape-type MC cable that is listed and identified as an equipment grounding conductor.
 - (c) The metallic sheath or the combined metallic sheath and equipment grounding conductors of the smooth or corrugated tube-type MC cable that is listed and identified as an equipment grounding conductor.
- (9) Cable trays as permitted by sections 392.10 and 392.60 of the code.
- (10) Cablebus framework as permitted by section 370.60(1) of the code.
- (11) Other listed electrically continuous metal raceways and listed auxiliary gutters.
- (12) Surface metal raceways listed for grounding.

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ARTICLE 334 USES PERMITTED

334.10. Uses Permitted. Type NM, type NMC, and type NMS 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 their storage buildings.
- (2) Multifamily dwellings.
- (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 at least 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, NMC, and NMS cable shall not be permitted as follows:

- (1) In any 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.

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

(1) In any 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.

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ARTICLE 348

FLEXIBLE METAL CONDUIT

348.60. An equipment grounding conductor or equipment bonding jumpers shall be installed. Equipment grounding conductors shall be installed in accordance with section 250.134(B) of the code. Equipment bonding jumpers shall be installed in accordance with section 250.102 of the code.

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ARTICLE 350

LIQUIDTIGHT FLEXIBLE METAL CONDUIT

350.60. An equipment grounding conductor or equipment bonding jumpers shall be installed. Equipment grounding conductors shall be installed in accordance with section 250.134(B) of the code. Equipment bonding jumpers shall be installed in accordance with section 250.102 of the code.

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**ARTICLE 625
ELECTRIC VEHICLE CHARGING SYSTEM**

625.40 Overcurrent protection. Overcurrent protection for feeders supplying electric vehicle supply equipment shall be sized for continuous duty and shall have a rating of not less than 125% of the maximum load of the electric vehicle supply equipment. When noncontinuous loads are supplied from the same feeder, the overcurrent device shall have a rating of not less than the sum of the noncontinuous loads plus 125% of the continuous loads. The branch circuit supplying the electric vehicle equipment shall be an individual branch circuit sized for continuous duty and shall have a rating of not less than 125% of the maximum load of the electric vehicle supply equipment.
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**ARTICLE 700
EMERGENCY SYSTEMS**

700.9. Installation. Emergency systems shall be installed pursuant to NFPA 110 and NFPA 111, 2013 editions, which are adopted by reference in these rules.
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701.9. Installation. Legally required standby systems shall be installed pursuant to NFPA 110 and NFPA 111, 2013 editions, which are adopted by reference in these rules.
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