

CHAPTER 3801
DEPARTMENT OF LABOR AND INDUSTRY
ELECTRICAL PROCEDURES AND TRAINING

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REGULATION OF ELECTRICIANS

3801.3610 EXCLUSIVE ADMINISTRATIVE REMEDY.

The procedures prescribed by parts 3801.3660 to 3801.3690 constitute the exclusive administrative remedies for preventing connection or requiring disconnection of the supply of electrical power to a premises.

Statutory Authority: *MS s 326.241*

History: *14 SR 518*

3801.3619 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of part 3801.3620, the terms defined in this part have the meanings given them.

Subp. 2. **Labeled.** "Labeled" has the meaning given in Article 100 of the National Electrical Code.

Subp. 3. **Listed.** "Listed" has the meaning given in Article 100 of the National Electrical Code.

Subp. 4. **National Electrical Code.** "National Electrical Code" means the National Electrical Code as incorporated by reference in part 1315.0200.

Subp. 5. **Testing laboratory.** "Testing laboratory" means an electrical testing laboratory that has provided a written report to the board showing that it has the facilities listed in Section 90-6 of the National Electrical Code or that is accredited under the federal Occupational Safety and Health Administration Nationally Recognized Testing Laboratory program.

Statutory Authority: *MS s 326.241*

History: *15 SR 1842*

3801.3620 APPROVAL OF ELECTRICAL EQUIPMENT.

Subpart 1. **National standards.** Except as otherwise provided in subpart 2 or 3, as a condition for approval under Minnesota Statutes, section 326B.35, and Section 110-2 of the National Electrical Code, all electrical equipment, including material, fittings, devices, apparatus, fixtures, appliances, and utilization equipment, used as part of, or in connection with, an electrical installation shall be listed and labeled by a testing laboratory.

Subp. 2. **Alternatives to listing and labeling.** With the exception of electrical equipment of types specifically required to be listed by the National Electrical Code, the board

shall accept one of the applicable methods described in item A or B as an alternative to listing and labeling.

A. Evaluation by a testing laboratory or by a registered or licensed electrical engineer who has no financial or other interest in the manufacture or sale of the equipment, provided that any deficiencies identified by the evaluation are corrected and the equipment complies with the listed requirements. A written report of the evaluation shall be submitted directly to the board, and shall state the standards that were applied in the evaluation. Evaluation reports by an electrical engineer acting independently of a testing laboratory shall also include an item-by-item comparison of the equipment with the requirements to be listed. If the board finds that the evaluation or evaluation report is incomplete or inaccurate, it retains the right to require further evidence of compliance or to reject the equipment.

Evaluations conducted according to the procedures in this item shall be considered evidence of compliance of all identical equipment produced by that manufacturer for a period of one year from the time the evaluation was completed, or until the equipment has been listed, whichever is less, provided that the manufacturer has applied for listing of the equipment, or produces fewer than 100 such units per year. Where additional identical equipment will be produced, the manufacturer shall provide the board with a written statement giving the equipment model number and agreeing that all subsequent equipment will be identical to that which was evaluated and, where the equipment has not been submitted for listing, shall also provide a written report to the board 12 months from the date of the evaluation report which lists the serial numbers of the equipment installed in Minnesota over the preceding 12 months.

Where deficiencies are identified by the initial evaluation report, those deficiencies shall be corrected for all subsequent units, the changes shall be verified by the person who performed the initial evaluation, and an amended report shall be submitted to the board. If the manufacturer deviates from the construction established by the evaluation report, the equipment shall be reevaluated and any noncomplying equipment that was sold brought into compliance.

Where the evidence of compliance is an evaluation according to this item, the manufacturer shall affix a durable permanent label to the equipment in a readily visible location, which states: "This equipment is identical to equipment that was evaluated by (name), and found to be in compliance with the requirements to be listed. A copy of the evaluation report was filed with the Minnesota State Board of Electricity on (date)."

B. Where procedures acceptable to the testing laboratory are followed, a manufacturer of unlisted equipment shall be permitted to submit the equipment to another manufacturer of similar listed equipment for evaluation, correction of noncomplying construction, and labeling.

Subp. 3. **Equipment exempt from listing requirements.** Equipment described in items A to E is exempt from the requirements in subparts 1 and 2.

A. Industrial machinery as defined by Section 670-2 of the National Electrical Code is not required to be listed where all electrical components of the equipment, including electrical control panels and solid-state motor controls, are in compliance with item B, C, or D, or subpart 1 or 2, and all of the machine electrical wiring is in compliance with the National Electrical Code.

B. Electrical equipment enclosed in a listed cabinet or box suitable for the environment in which it is installed, and electrically connected only to circuits supplied from listed Class 2, logic level, communications, or other circuits with maximum open circuit voltage of 30 volts rms AC, or DC, and overcurrent protection of eight amperes or less, or to any combination of such circuits, is not required to be listed, provided further that any printed wiring boards shall be of listed material and shall be permitted to be supplied from a labeled microcomputer power supply.

C. Electrical control equipment constructed according to the listed requirements and enclosed in a listed cabinet or box suitable for the environment in which it is located,

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where the enclosed equipment consists of eight or fewer listed components, other than wires, cables, cords, terminal assemblies, nonelectrical components, and those covered under item B, provided that the devices are not electrically connected to circuits on a printed wiring board other than those circuits covered under item B, is not required to be listed.

D. Custom-made electrical equipment or related installations that are designed and manufactured to a purchaser's specifications and are not marketed to the general public are exempt from listing and labeling requirements. Equipment or installations exempt under this item are subject to the following:

(1) they must be determined to be safe for their intended use by the manufacturer on the basis of test data which the purchaser keeps and makes available to the electrical inspection authority having jurisdiction, as required by Code of Federal Regulations, title 29, section 1910.399 (1991), for equipment or installations subject to national occupational safety and health laws; or

(2) they must be inspected by the electrical inspection authority having jurisdiction for compliance with the construction requirements of the applicable electrical standards used by electrical testing laboratories to evaluate the equipment, or the National Electrical Code. Schematic wiring diagrams, component layout diagrams, and component electrical rating information shall be provided to enable evaluation under this subitem.

E. Utilization equipment as defined by the National Electrical Code is not required to be listed if:

(1) the equipment includes eight or fewer electrical components which are listed or are exempt from listing by item B or C; and

(2) all wiring that is part of the equipment is in compliance with the National Electrical Code.

Statutory Authority: *MS s 326.241*

History: *14 SR 518; 15 SR 1842; 17 SR 139; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3640 [Repealed, L 2012 c 295 art 1 s 17]

3801.3650 [Repealed, L 2012 c 295 art 1 s 17]

3801.3660 [Repealed, L 2012 c 295 art 1 s 17]

3801.3670 [Repealed, L 2012 c 295 art 1 s 17]

3801.3680 [Repealed, L 2012 c 295 art 1 s 17]

3801.3690 [Repealed, L 2012 c 295 art 1 s 17]

3801.3700 [Repealed, L 2012 c 295 art 1 s 17]

3801.3710 [Repealed, L 2012 c 295 art 1 s 17]

3801.3720 [Repealed, L 2012 c 295 art 1 s 17]

3801.3730 [Repealed, L 2012 c 295 art 1 s 17]

3801.3740 [Repealed, L 2012 c 295 art 1 s 17]

3801.3760 [Repealed, L 2012 c 295 art 1 s 17]

3801.3770 ROUGH-IN INSPECTION OF WIRING TO BE CONCEALED.

Where wiring is to be concealed, the inspector must be notified sufficiently in advance to permit completion of a rough-in inspection before concealment, exclusive of Saturdays, Sundays, and holidays. In the event wiring is concealed before rough-in inspection without

adequate notice having been given to the inspector, the person responsible for having enclosed the wiring shall be responsible for all costs resulting from uncovering and replacing the cover material.

Statutory Authority: *MS s 326.241*

History: *14 SR 518*

3801.3780 REQUEST FOR INSPECTION CERTIFICATES, NOTIFICATION FOR FINAL INSPECTION, AND EXPIRATION.

Subpart 1. **Final inspection.** Installers of electrical wiring shall schedule a final inspection or otherwise notify the electrical inspector that the work associated with a specific request for inspection certificate is completed prior to the wiring being utilized by the intended user and the associated space being occupied.

Subp. 2. **Expiration.** Request for inspection certificates on installations with inspection fees of \$250 or less are void 12 months from the original filing date regardless of whether the wiring is completed. A new request for inspection certificate shall be filed on all unfinished work when the work is not completed within 12 months from the filing date of the original request for inspection certificate. An inspection fee calculated according to Minnesota Statutes, section 326B.37, for all unfinished work shall be submitted with the new request for inspection certificate. Request for inspection certificate inspection fees of \$250 or less are not refundable after 12 months from the original filing date.

Subp. 3. **Authority.** The authority to install electrical wiring associated with a specific request for inspection certificate is void at the time of a final inspection or expiration, whichever occurs first. The board's authority to inspect wiring covered by a request for inspection certificate continues until the installation is approved at a final inspection.

Statutory Authority: *MS s 326.241*

History: *14 SR 518; 26 SR 1756; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3790 [Repealed, L 2012 c 295 art 1 s 17]

3801.3800 [Repealed, L 2012 c 295 art 1 s 17]

ELECTRICIAN TRAINING PROGRAMS

3801.3820 PURPOSE.

Parts 3801.3820 to 3801.3870 establish requirements for approval of programs that will be used to fulfill the experience credit requirements for electrical license applicants.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3825 DEFINITIONS.

Subpart 1. **Scope.** For the purposes of parts 3801.3820 to 3801.3870, the terms defined in this part have the meanings given them.

Subp. 2. **Advanced standing.** "Advanced standing" means credit toward program completion for prior education recognized by a postsecondary program through a developed procedure including transfer of credits for courses that are at least 80 percent similar to those in an approved program, and credit by examination for up to 25 percent of program courses.

Subp. 3. **Approval period.** "Approval period" means a time frame beginning with the approval beginning date and extending until the program is discontinued or board approval is removed or not continued through the reapplication process.

Subp. 4. **Course.** "Course" means a part of a program that consists of an individual knowledge or skill area, or part of a larger knowledge or skill area.

Subp. 5. **Electrical work.** "Electrical work" means the installing, altering, repairing, planning, or laying out of electrical wiring, apparatus, or equipment for light, heat, power, or other purposes. The installing, altering, repairing, planning, or laying out of electrical

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wiring apparatus or equipment for light, heat, power, or other purposes includes, but is not limited to, the performance of any work governed by the standards referred to in Minnesota Statutes, section 326B.35.

Subp. 6. **Independent study.** "Independent study" means student learning effort within the specific program content that is outside of lecture, shop, or lab time and does not require student/instructor contact.

Subp. 7. **Survey.** "Survey" means collecting and analyzing information to assess compliance with parts 3801.3820 to 3801.3870. Information must be analyzed by multiple methods, including review of requested information and materials, on-site evaluation, or interviews and conferences with program administrators, instructors, or students.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3830 TWO-YEAR ELECTRICAL PROGRAM.

To qualify for approval, a two-year electrical program must be a postsecondary program that awards a diploma or an associate of applied science degree at completion and meets the requirements of parts 3801.3820 to 3801.3870. Satisfactory completion of an approved two-year electrical program fulfills the one year's experience credit allowance for a Class A journeyman electrician, power limited technician, or maintenance electrician license applicant according to part 3800.3520, subpart 5, items B, E, and I, and Minnesota Statutes, section 326B.33, subdivisions 2, paragraph (b), and 7, paragraph (b).

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; 29 SR 947; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3831 POWER LIMITED TECHNICIAN PROGRAM.

To qualify for approval, a power limited technician program must either be a two-year electrical program described in part 3801.3830 or other program that has at least 500 hours of student and instructor contact time meeting the program content described in part 3801.3880. Approval for experience credit for programs other than a two-year electrical program is based on increments of 100 hours, or major fraction thereof, of student and instructor contact time up to a maximum of 2,000 hours.

Statutory Authority: *MS s 326.241*

History: *29 SR 947*

3801.3840 APPLICATION FOR PROGRAM APPROVAL.

Subpart 1. **Content.** An application for approval of a program must meet each of the requirements in items A to G.

A. The application must be in a format provided by the board and contain complete, current, and accurate information.

B. The application must include a syllabus for each program course.

C. The application must include a detailed written description of how the program meets the required program content.

D. The application must identify course instructors and their qualifications.

E. The information in the application must be able to be confirmed by survey.

F. The application must identify a beginning date corresponding to an initial student enrollment date. Students enrolled after the beginning date who successfully complete an approved program within the approval period are eligible for experience credit.

G. The application must be signed by the administrator and department head or another official representative of the applicant.

Subp. 2. **Processing.** The technical program committee shall review all applications. Items A to E apply to all applications.

A. Incomplete applications must be immediately returned to the applicant.

B. Upon review of completed applications, including completion of a survey, any deficiencies must be noted and identified to the applicant.

C. If no deficiencies are noted or all identified deficiencies have been corrected, the committee shall recommend approval to the full board.

D. If the applicant fails to correct identified deficiencies, the technical program committee shall recommend disapproval to the full board.

E. An applicant may request a hearing before the full board to appeal disapproval of a program.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3845 REPORTING AND REAPPLICATION FOR APPROVAL.

A. By July 1 of each year, the administrator of a program approved for experience credit shall provide an annual report to the board. The annual report must include a copy of course syllabi for approved programs, a detailed description of new courses or courses modified over ten percent, and identification and qualification of instructors, including instructor development. The annual report must be signed by the administrator and department head or another official representative of the program provider.

B. An approved program must be resubmitted for approval by July 1 of the fifth year from the last approval date. At its discretion, the board may modify the initial time period for resubmission to achieve review of approximately 20 percent of approved programs each year.

C. The administrator of an approved program shall provide information as part of a survey upon request of the board.

D. The administrator of an approved program shall notify the board when an approved program is discontinued.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3850 REMOVAL OF APPROVAL.

A. The board shall remove approval of a program based on a determination by survey that the program does not meet the requirements for approval.

B. The board may remove approval of a program if the administrator of an approved program fails to provide the annual report according to part 3801.3845.

C. The board may remove approval of a program if the administrator of an approved program fails to resubmit the program for reapplication by July 1 of the fifth year from the last approval date or the year assigned by the board as allowed by part 3801.3845, item B.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3855 VERIFICATION OF COMPLETION.

Upon inquiry by the board, the provider of an approved program shall provide verification that an applicant has completed an approved program.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

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3801.3860 TWO-YEAR ELECTRICAL PROGRAM CONTENT.

Subpart 1. **Contact hours.** A two-year electrical program shall consist of 2,000 or more hours of student/instructor contact time and is subject to the following:

- A. up to 200 hours of independent study may be substituted for student/instructor contact time;
- B. a minimum of 1,600 hours of contact time must be technical electrical instruction;
- C. at least 30 percent but not more than 40 percent of the technical electrical contact hours must be lecture and the balance shop or lab hours;
- D. intern programs, whether internal or external, must not be used to comply with the contact hours requirement;
- E. a student may receive advanced standing credit for up to one-third of the courses of an approved program.

Subp. 2. **Attendance policy.** A two-year electrical program must include an attendance policy that requires students to attend a minimum of 95 percent of each required program course. The program must include a provision for students to retake courses or make-up portions of courses when the student does not attend 95 percent or more of each required program course. Attendance records must be kept at the course level.

Subp. 3. **Technical content.** A two-year electrical program must include courses that cover the following knowledge and skill areas:

- A. electrical theory;
- B. electronic theory;
- C. lighting systems;
- D. heating and cooling systems;
- E. motors;
- F. generators;
- G. transformers;
- H. panelboards and switchboards;
- I. overcurrent devices;
- J. grounding;
- K. motor controls;
- L. electronic controls;
- M. electrical code;
- N. electrical test equipment and troubleshooting;
- O. specification and blueprint reading;
- P. installation and application of electrical materials and equipment;
- Q. wiring methods;
- R. conductors and cables;
- S. tools, materials, and handling;
- T. fire alarm systems;
- U. communication systems;
- V. alarm systems;
- W. data systems;
- X. electrical and jobsite safety;
- Y. related mathematics; and

Z. related general education.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3865 QUALIFICATIONS OF INSTRUCTORS FOR TWO-YEAR PROGRAMS.

Subpart 1. **Generally.** An instructor for a two-year electrical program shall meet the requirements in subparts 2 and 3.

Subp. 2. **Licensing, experience, and education.** An instructor shall:

A. hold a current license issued by the Minnesota Board of Electricity as a Class A master electrician or a Class A journeyman electrician;

B. hold a current license issued by an electrical licensing authority in the state where the school is located if the state has a reciprocal agreement with the Minnesota Board of Electricity for either master or journeyman licenses;

C. have a bachelor of science degree in electrical engineering and have 4,000 hours of experience performing electrical work;

D. have an associate of applied science degree in electrical construction or maintenance, or both, and have 6,000 hours of experience performing electrical work;

E. have a two-year diploma for completing a two-year electrical construction program or maintenance program, or both, and have 6,000 hours of experience performing electrical work; or

F. for courses limited to specific technical or general education areas, other than general wiring methods or the application of electrical codes, be a technical expert based on special training or certification or accreditation in the specific knowledge or skill area.

Subp. 3. **Recent initial experience.** Except for instructors of courses in subpart 2, item F, a minimum of 2,000 hours of the required instructor experience must have been in the five years prior to the application for program approval or the instructor's employment date, whichever is later, and consist of either:

A. a minimum of 2,000 hours of experience performing electrical work; or

B. (1) up to 1,500 hours of experience credit for instruction based on a formula in which one hour of instruction equals two hours of experience credit; plus (2) a sufficient number of hours of experience performing electrical work to total 2,000 hours.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3870 EFFECTIVE DATE.

Programs that were approved for experience credit prior to February 11, 2002, must be submitted for approval no later than August 11, 2002.

Statutory Authority: *MS s 326.241; 326.242; 326B.33*

History: *26 SR 1017; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3880 POWER LIMITED TECHNICIAN PROGRAM CONTENT.

Subpart 1. **Contact hours.** A power limited technician program shall consist of a minimum of 500 hours of student and instructor contact time and is subject to the following:

A. up to ten percent of the approved hours may be independent study;

B. a minimum of 80 percent of the approved hours must be technical electrical instruction; and

C. intern programs, whether internal or external, must not be used to comply with the contact hour requirement.

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Subp. 2. **Attendance policy.** A power limited technician program must include an attendance policy that requires students to attend a minimum of 95 percent of each required program course. The policy must include a provision for students to retake courses or make up portions of courses when the student does not attend 95 percent or more of each required program course. Attendance records must be kept at the course level.

Subp. 3. **Technical content.** A power limited technician program must include courses that cover the following knowledge and skill areas:

- A. electrical theory;
- B. electronic theory;
- C. Class 2 and Class 3 power supplies;
- D. Class 2 and Class 3 circuits;
- E. grounding;
- F. electrical code;
- G. electrical test equipment and troubleshooting;
- H. specification and blueprint reading;
- I. wiring methods;
- J. conductors and cables;
- K. tools, materials, and handling;
- L. electrical and job site safety;
- M. related mathematics;
- N. related general education; and
- O. technology circuits or systems.

A minimum of 30 percent, but not more than 50 percent, of the total student and instructor contact time must be on technology circuits or systems as defined in Minnesota Statutes, section 326B.31, subdivision 29.

Statutory Authority: *MS s 326.241*

History: *29 SR 947; L 2007 c 140 art 5 s 32; art 13 s 4*

3801.3885 QUALIFICATIONS OF INSTRUCTORS FOR POWER LIMITED TECHNICIAN PROGRAMS.

Subpart 1. **Generally.** An instructor for a power limited technician program shall meet the requirements of subparts 2 and 3.

Subp. 2. **Licensing, experience, and education.** An instructor shall:

- A. hold a license as issued by the Board of Electricity as a Class A master electrician, Class A journeyman electrician, or power limited technician;
- B. hold a current license issued by an electrical licensing authority in the state where the school is located if the state has a reciprocal agreement with the Board of Electricity for either master, journeyman, or power limited technician, or equivalent licenses;
- C. have a bachelor of science degree in electrical or electronic engineering and have 3,000 hours of experience in engineering, planning, laying out, supervising, or installing technology system wiring;
- D. have an associate of applied science degree in electrical construction or maintenance, or both, and have 4,000 hours of experience performing electrical work;
- E. have a two-year diploma for completing a two-year electrical construction or maintenance program, or both, and have 4,000 hours of experience performing electrical work;
- F. have an associate of applied science degree in technology systems, and have 4,000 hours of experience performing technology system work;

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G. have a two-year diploma for completing a two-year technology systems program, and have 4,000 hours of experience performing technology system work;

H. be a certified instructor for a nationally recognized training program; or

I. for courses limited to specific technical or general education areas, other than general wiring methods or the application of electrical codes, be a technical expert based on special training or certification or accreditation in the specific knowledge or skill area.

Subp. 3. **Recent initial experience.** Except for instructors of courses in subpart 2, item I, a minimum of 2,000 hours of the required instructor experience must have been in the five years prior to the application for program approval or the instructor's employment date, whichever is later, and consist of either:

A. a minimum of 2,000 hours of experience performing electrical work, including technology system work; or

B. (1) up to 1,500 hours of experience credit for instruction based on a formula in which one hour of instruction equals two hours of experience credit; plus (2) a sufficient number of hours of experience performing electrical work to total 2,000 hours.

Statutory Authority: *MS s 326.241*

History: *29 SR 947*