

**MINN. RULES PT. 3800.3620**  
**STATEMENT OF NEED AND REASONABLENESS**

Many electrical products available to consumers today have no engineering design and are not built to any known or accepted safety standards. Virtually all foreign-manufactured equipment is not built to any American safety standard and has been found to have many violations of the minimum safety requirements provided for by statute. Minn. Stat. § 326.243 (1988).

The Board of Electricity ("Board") has found examples of all types of electrical equipment, material and fittings that are being sold in the State of Minnesota that do not meet the minimum safety standards provided for by statute. Many fires of electrical origin and many electrical accidents resulting in personal injury or death are caused by this defective electrical equipment.

The Board does not investigate electrical accidents, and has no authority to do so. But it learns of many such incidents through its area electrical representatives, contract electrical inspectors, licensed electrical contractors and various publications.

Electrical equipment constructed in compliance with nationally recognized standards, such as those promulgated by the American National Standards Institute, National Fire Protection Association, Underwriters Laboratories, Factory Mutual Research, and where not in conflict with the National Electrical Code, the Canadian Standards Association, will assure end users that the

electrical equipment is free from safety hazards, thus minimizing the safety risk posed by hazardous electrical equipment.

Combined with the Board's inspection of new installations of electrical wiring, third-party certification of electrical equipment further reduces the risk to life and property of electrical accidents.

The Board believes that effective enforcement of electrical safety codes substantially reduces the incidence of electrical accidents. Accident statistics show that equipment failures and design flaws account for a substantial percentage of all electrical accidents. Safe design and construction of electrical equipment is therefore vital to electrical safety. One means of assuring equipment safety is evaluation, listing, and labeling of electrical equipment by a competent testing laboratory. Although some unlisted equipment complies with established safety standards, the Board's experience is that most of it does not. There is also ample evidence that such unlisted equipment is substantially more likely to fail than listed equipment.

The Board and municipal electrical inspection departments do not have the ability or the equipment to determine if unlisted electrical equipment and apparatus has been constructed to the appropriate safety standard. An electrical inspector can determine the compliance of a wiring system connected to manufactured equipment in the field, but it is impractical, and in many cases, impossible, for him or her to perform the tests and examination necessary to evaluate the manufactured equipment.

The Board thus concludes that listing of electrical equipment is necessary to assure its safety.

The Board has verified that most other states, including Iowa, North Dakota, South Dakota and Wisconsin, and many municipalities require third-party certification. In addition, the following organizations also support third-party certification: the State Fire Marshal, many electrical cooperatives, the National Electrical Contractors Association and the Minnesota Electrical Association, which represent many electrical contractors within the state, and the Minnesota Reinsurance Association.

The Board has addressed the complaints of the cost of third-party certification within its new rule by providing for alternate means of compliance under those circumstances where third-party certification is not feasible. Further, the Board has clearly indicated that third-party certification is not necessary under certain circumstances.

#### **THE NEED FOR THE RULE IN THE AGRICULTURAL INDUSTRY**

The cost of third-party certification has been of special concern to the agricultural industry. Because the Board has found numerous examples of unsafe electrical equipment in agricultural buildings which are not third-party certified, it is especially important that there be no exception to this rule for such buildings.

The article, "No Farm Safe to Insure," in the April, 1990 issue of SUCCESSFUL FARMING, is a fairly accurate report of the types of problems encountered on farms. The condition of farm

wiring in Minnesota is somewhat better than that depicted in the SUCCESSFUL FARMING article because of Minnesota's licensing and inspection laws and rules. It is, nonetheless, of serious concern to the Board. Electrical installations in older buildings often becomes unsafe through deterioration and alteration by unlicensed and unskilled persons. Further, a substantial amount of wiring is improperly installed by property owners or unlicensed and unskilled persons unfamiliar with the National Electrical Code and is not submitted for inspection, as required by law.

The Minnesota Reinsurance Association became so concerned with farm electrical safety in the 1970's that it was instrumental in the adoption of Article 547 - "Agricultural Buildings" - in the 1978 National Electrical Code ("Code").

In addition, the manager of a large rural electric cooperative recently called a meeting of persons from the United Power Association, the Minnesota Rural Electric Association, the Rural Electric Administration and the Board to explore means to eliminate the many hazardous conditions they are finding on their customers' electrical wiring systems. The cooperative's safety director stated that most of the farms they serve have some electrical wiring that they consider hazardous. These are obvious conditions that are seen when their personnel are on the premises on routine utility matters, and not the result of any formal inspection by the cooperative. Since the cooperative's employees generally do not see much of the interior wiring of buildings, there is reason to believe that they are only seeing a

small portion of the unsafe wiring. The Board has received correspondence from other power suppliers concerning the same problem.

The comparison of agricultural building insurance rates discussed below further demonstrates the increased risks where there is no or insufficient enforcement of safety standards.

**THE RULE IS REASONABLE WHEN APPLIED TO THE AGRICULTURAL INDUSTRY**

Representatives of the agricultural industry have cited the Board's enforcement of the predecessor of this rule as a reason for higher costs of agricultural buildings built in Minnesota as compared to those built in Iowa. It is true that the electrical work in an agricultural building in Minnesota, which must meet minimum safety standards, may cost more. But the cost difference is much less than has been implied to the Board.

A Minnesota electrical contractor who wires agricultural buildings has told the Board that the typical total cost of wiring such a building in Minnesota is between \$9,000.00 and \$9,500.00, not including the cost of the underground wire to the building. This contractor has told the Board that an Iowa electrical contractor offered to do similar buildings for \$6,000.00 and that he had observed one of this contractor's jobs. It was wired with type NM cable and ordinary wiring devices intended for use in homes, not for the more severe environment found in agricultural barns. The cable was draped over the building's rafters and hung in mid-air without proper support or physical protection.

The savings due to the use of hazardous materials and shoddy installation methods, added to the lower labor rates which are possible because electrical work in Iowa can be done by unlicensed and unskilled persons who are not required to be employees of a licensed, bonded and insured electrical contractor, may make a substantial difference in up-front cost, but will, without doubt, result in an inferior electrical installation resulting in safety hazards and in higher costs at a later date.

One indicator of the relative safety of these buildings is a comparison of insurance premiums in Iowa, where there is no electrical code enforcement, and in Minnesota, where there is. Officials of Farm Mutual Insurance Company of Sibley, Iowa and Wilmont Mutual Insurance were questioned by the Board about their rates. These companies were selected because Farm Mutual insures Campbell Soup Company agricultural barns in Iowa and Wilmont Mutual insures them in Minnesota. Farm Mutual's premium rate for Iowa agricultural barns is \$6.60 per \$1,000.00 of insured valuation. Farm Mutual does not write insurance on livestock, but if it did, the rate for named perils would be \$9.43 per \$1,000.00. In contrast, Wilmont Mutual's rate for Minnesota agricultural barns is \$5.10 per \$1,000.00 and it will insure the livestock for named perils for \$2.90 per \$1,000.00. Based on this sample, the Iowa rate on buildings is about 130 percent of the Minnesota rate and the Iowa rate on livestock, if coverage was even available, would be 330 percent of the Minnesota rate.

Although the differences in construction costs and insurance rates do not directly support the conclusion that there is a payback on code-complying agricultural buildings, if the insurability of livestock and prospective loss of income are also considered, it appears that the advantage may be with the complying structures. There is also a factor for which everyone involved should have the gravest concern, but on which it is difficult to place a value: that of the risk of death or injury to the farmer, the farm family, farm workers, equipment servicers, fire fighters, other persons and livestock.

The cost of having equipment listed is not insignificant, but the Board believes that it is not prohibitive. The costs some manufacturers have reported to the Board for testing of control panels are not typical and may be related to substantial safety problems with the equipment for which the listing is being sought.

A representative of Underwriter's Laboratories, Inc. ("UL") has informed the Board that if certain types equipment commonly used in agricultural barns were properly submitted to UL, the cost of listing would typically be in the range of \$2,800.00 to \$3,100.00. If the manufacturer produced only 60 units, the cost would be approximately \$47.00 to \$51.00 additional per unit. From this, it would appear that the total cost of listing all products in a typical agricultural building would be, at the most, several hundred dollars, and most likely a great deal less.

Aside from the compelling safety factors, third-party certification is evidence of safe design that could be invaluable

to the manufacturer in the event of a fire of electrical origin or electrical accident. Whether a manufacturer's equipment has failed or not, when there is a loss, the manufacturer will often be named in lawsuits involving subrogation of insurance claims. Further, laboratory evaluation will frequently reveal design flaws which would adversely affect reliability, thus avoiding warranty service costs and possible liability. Finally, a testing agency label is an assurance of safety that helps to sell products.

#### CONCLUSION

The Board therefore believes that the cost of using third-party certified electrical equipment is reasonable, that safety considerations mandate the necessity of such certification, and that the relatively small actual cost of certification will be offset by safety and reliability considerations.

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## SMALL BUSINESS CONSIDERATIONS IN RULEMAKING

Most of the businesses regulated by the Board of Electricity are small businesses. The Board estimates that 80 percent of all licensed electrical contractors are small businesses as defined by Minn. Stat. § 14.115 (1986). The Board has framed all of these regulations considering the needs of small businesses by making the regulations easy to understand and comply with.

- a) The Board has established less stringent compliance by creating alternative methods to listing and labeling by a recognized testing laboratory.
- b) The Board has established a procedure for manufacturers of electrical equipment producing fewer than 100 units per year and has exempted some electrical equipment under certain conditions.
- c) The Board has simplified the compliance for reporting by manufacturers, by requiring an annual report.
- d) Separate standards for small businesses, comprising 80 percent of the Board's licensees, would compromise safety standards.
- e) It is not possible to exempt small business from this rule since it would compromise safety standards if 80 percent of the Board's licensees were exempt from the rules.

Board of Electricity

Proposed Permanent Rules Relating to Approval of Electrical  
Equipment

Notice of Intent to Adopt Rules Without a Public Hearing

Notice is hereby given that the State Board of Electricity ("board") proposes to adopt the above-entitled rule without a public hearing. The Board has determined that the proposed adoption of this rule will be noncontroversial in nature and has elected to follow the procedures set forth in Minnesota Statutes § 14.22 to 14.28. Authority for the adopting of this rule is contained in Minnesota Statutes § 326.241, subd. 6. Additionally, a statement of need and reasonableness that describes the need for and identifies the data and information relied upon to support the proposed rule, has been prepared and is available from Mr. Quinn upon request.

All persons have 30 days in which to submit comment in support of or in opposition to the proposed rule or any part or subpart of the rule. Comment is encouraged. Each comment should identify the portion of the proposed rule addressed, the reason for the comment, and any change proposed.

Any person may make a written request for a public hearing on the rule within the 30-day comment period. If 25 or more persons submit a written request for a public hearing within the 30-day comment period, a public hearing will be held unless a sufficient number withdraw their requests in writing. Any person requesting a public hearing should state his or her name and address, and is encouraged to identify the portion of the proposed rule addressed, the reason for the request, and any change proposed. If a public hearing is required, the agency will proceed pursuant to Minnesota Statutes, section 14.13 to 14.20. If no hearing is requested, the agency will adopt the proposed rule effective five working days after final publication in the State Register.

Persons who wish to submit comments or a written request for a public hearing should submit such comments or request to:

Mr. John Quinn  
Executive Secretary  
State Board of Electricity  
S-173 University Avenue  
St. Paul, Minnesota 55104  
Telephone: 612/642-0800

The proposed rule may be modified if the modifications are supported by data and views submitted to the agency and do not result in a substantial change in the proposed rule noticed.

A copy of the proposed rule is attached to this notice. Additional copies may be obtained by contacting Mr. Quinn.

You are hereby advised, pursuant to Minnesota Statutes § 14.115 (1986), "Small business considerations in rulemaking," that the proposed rule amendments will have no adverse effect on small businesses.

Minnesota Statutes, Chapter 10A, requires each lobbyist to register with the Ethical Practices Board within five days after he or she commences lobbying. A lobbyist is defined in Minnesota Statutes, section 10A.10, Subdivision 11, as an individual:

(a) Engaged for pay or other consideration, or authorized by another individual or association to spend money, who spends more than five hours in any month or more than \$250.00, not including travel expenses and membership dues, in any year, for the purpose of attempting to influence legislation or administrative action by communicating or urging others to communicate with public officials; or,

(b) Who spends more than \$250.00, not including travel expenses and membership dues, in any year, for the purpose of attempting to influence legislative or administrative action by communicating or urging others to communicate with public officials.

The statute provides certain exceptions. Questions should be directed to the Ethical Practices Board, 625 North Robert Street, St. Paul, Minnesota 55101, (612) 296-5148.

If no hearing is required, upon adoption of the rule, the rule and the required supporting documents will be submitted to the Attorney General's Office for review as to legality and form to the extent the form relates to legality. Any person may request notification of the date of submission of this material to the Attorney General, or who wish to receive a copy of the adopted rule, must submit a written request to the State Board of Electricity.

John Quinn, Executive Secretary  
State Board of Electricity