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TORNADO AND STRAIGHT-LINE WIND EFFECTS ON ELECTRICAL WIRING

Electrical wiring, both within structures and outdoors, may be significantly affected by tornados and straight-line winds. Outdoor overhead wiring is highly susceptible to damage from flying debris and falling trees. Wiring in or on structures may be damaged when these structures are twisted, racked, or otherwise experience movement when subjected to high winds. Significant damage to the integrity of electrical systems may have been sustained and it may not be immediately apparent or visible.

The following recommendations and requirements are identified to ensure the integrity of affected electrical systems.

Overhead cable must be checked to ensure that necessary insulation has not been damaged. All supports and connections of overhead wiring must be checked to ensure that damage has not occurred. Additionally, support failure may have resulted in damage to conductors and equipment located on or in structures with connections to overhead wiring.

Wiring in or on structures will sustain damage where structural elements are either partially or totally separated from the main structure. The integrity of wiring passing through connection points between separate structural elements, such as where walls, roofs, ceilings, floors, and foundations adjoin each other, is of particular concern. Raceways, cables and conductors that become separated must be repaired or replaced. Conductor insulation, terminations and splices must be thoroughly checked where there is any evidence that wiring methods have been subjected to tension caused by movement of structural elements.

All repairs and alterations must comply with the most recent edition of the National Electrical Code (NEC). Where interior finish is removed, lighting and receptacle outlet requirements of the NEC must be complied with. Existing open wiring or concealed knob-and-tube wiring must not be located in insulated spaces or have insulation placed around it in accordance with NEC Article 394. Receptacle outlets that are required by the current NEC to be provided with ground-fault circuit-interrupter protection (GFCI) must be provided with that protection upon replacement. Other rules may also be applicable.

All electrical wiring or repairs covered by this bulletin are required to be inspected, with the exception for minor repair work. Minor repair work is defined in Minnesota Rules 3800.3500, Subp. 10 as "... the adjustment or repair or replacement of worn or defective parts of electrical equipment and replacement of defective receptacle outlets and manual switches for lighting control." Minor repair work is a very narrow scope of work and essentially only pertains to "parts" of equipment, not the replacement of the equipment itself.

All electrical work covered by this bulletin is required to be performed by registered or licensed employees of licensed electrical contractors, with the following exceptions; (1) homeowners are exempt from licensing while performing electrical work on the one-family home they own and occupy, along with any detached accessory structures; or (2) registered or licensed employees of registered employers may perform electrical work on the registered employer's premises where the employees are under the lawful supervision by the registered employer's master electrician.