



## Electrical Bulletin:

### Property owners in Minnesota whose properties have been damaged by floodwaters

It is important that property owners recognize circumstances where the integrity of electrical materials and equipment is affected. In many instances deterioration that affects insulation, current carrying capability and mechanical operation may not develop immediately. Many electrical devices, such as fuses, circuit breakers, relays, controllers, thermostats and limit switches are sensing devices whose function is to interrupt power to a circuit upon abnormal operation or circumstance. These devices generally operate in an unattended or unmonitored state. The operational failure of these devices exposes occupants and property to electrical shock and fire hazard.

**Electrical wiring and equipment that has been exposed to water as a result of flooding or other circumstance can present a significant safety hazard if not replaced.** In most instances the integrity of electrical equipment is severely impaired by corrosive contaminants and sediments found in or left behind by floodwaters. It is essential to the protection of life and property that flood damaged electrical wiring and equipment be replaced, or in very limited circumstances, be reconditioned.

The following information and recommendations are provided to create awareness on the part of property owners and to ensure the integrity of affected electrical systems.

All panelboard interiors, circuit breakers, fuse blocks, disconnect switches, controllers and similar devices that have been submerged must be replaced.

All lighting switches and receptacle outlets that have been submerged must be replaced. Receptacle outlets that are required by the current National Electrical Code (NEC) to be provided with ground-fault circuit-interrupter (GFCI) protection must be provided with that protection upon replacement in accordance with Article 210 in the NEC.

All electrical equipment or components that have been submerged must be replaced. This includes lighting fixtures, furnaces, boilers, electric baseboard heaters, space heaters, water heaters, pumps, pump controls, washing machines, clothes dryers, ovens, ranges, cooktops, dishwashers and other appliances and equipment or associated electrical components. Electrical equipment that is suitable for submersion, such as a submersible sump pump or a submersible well pump, may not have been damaged by floodwater.

All electrical circuit wiring, including service conductors, feeder cables or conductors and branch circuit cables or conductors must be replaced if they have been either partially or completely submerged. Cables that are suitable for direct burial or wet locations may not have been damaged where the terminations of the cable have not been submerged or have not been exposed to contaminated floodwater.

Electrical equipment, especially switchboards and panelboards with uninsulated busses, may be subject to corrosion and contamination caused by condensation from floodwater. This may necessitate reconditioning or replacement of the equipment.

Visit DLI's electrical emergency management notices page at [www.dli.mn.gov/CCLD/ElectricalNotices.asp](http://www.dli.mn.gov/CCLD/ElectricalNotices.asp) for more information.