

Controls to Prevent Heaters Being Submerged

The following are best practices recommended by our industry partners and members

1. Need to look at the engineering controls to prevent this situation from happening.
 - a. Different ways to dig the sump pit.
 - i. Drill rig when drilling foundation piles.
 - ii. Excavator when digging basement.
 - b. Different ways to dig or enter the sewer and water lines that come in from under the front foundation wall.
 - i. Excavate from outside.
 - ii. Install a sleeve under concrete wall at the time of piles or footings.
2. Develop, follow and enforce procedures and rules.
 - a. Heaters are to be suspended 4' above ground with twine.
 - b. Ensure other trades are not taking the heaters down and placing them on the ground.

Supporting Documents:

- Ref A: Manitoba Hydro Memorandum
- Ref B: City of Winnipeg Flooded Buildings
- Ref C: Southside Electric Heater Install Procedure

D1910

MANITOBA HYDRO
INTEROFFICE MEMORANDUM

DATE 2011 01 25

FILE

SUBJECT PROCEDURES FOR ELECTRICAL INSPECTION OF FLOODED BUILDINGS

When flooding occurs in various locations in Manitoba, electrical services may have to be disconnected where it is likely the water could reach the service equipment.

If the service has been disconnected due to water entering a building, an electrical inspection will be required, prior to re-energizing the service. Customers within the City of Winnipeg should contact the City of Winnipeg Electrical Inspection Department at 986-5300 (residential) or 986-5190 (commercial).

Prior to re-energizing electrical service equipment which has been submerged in water, the following procedures shall be followed:

1. Service enclosures and panel boards must be cleaned, dried and tested to ensure integrity of insulation (meggar test).
2. Circuit breakers that have been submerged must be replaced.

NOTE: Circuit breakers removed after being submerged must be destroyed as they may not operate safely.

Before re-energizing circuits feeding appliances, motors, receptacles and light fixtures that have been submerged the following precautions should be taken:

1. Outlet boxes and light fixtures should be cleaned and dried;
2. Receptacles and switches should be replaced;
3. Wiring should be tested to ensure integrity of insulation;
4. Appliances such as washers, driers, freezers, etc. should be cleaned, dried and inspected prior to use, and may need to be replaced;
5. Heating systems, pressure systems, sewage systems, etc. should be cleaned, dried and inspected prior to use, and may need to be replaced.

There can also be flooded buildings which have not been disconnected and which may contain energized wiring. Customers and workers should be cautioned not to enter flooded areas which may contain energized wiring.

Please ensure all customer contact staff, including the Call Centre, are also made aware of these procedures.

Work Sites: Various Locations

1. Only heaters in good working condition shall be installed
 - Tag out any heaters that are not working 100% and return to shop
2. When connecting heaters to the stove or dryer box, an extension ring and blank cover must be used
3. When connecting two heaters to the stove box a 2 pole 50 amp breaker is required
4. Basement heaters are to be connected directly to the panel, preferably using the bottom knock outs.
5. Each basement heater is to be connected to a separate 2 pole 30 amp breaker
6. Basement heaters and cords shall be installed up off the ground using wire/twine to keep them out of the water and mud
 - Tie rope around beams and have heater hanging. Do NOT place running heaters on the ground.
7. Heater cords are not to be run through vent holes
8. Heater cords are to be connected using L-16 or L-17 connectors only. 40 40 connectors are not acceptable
9. After heaters are installed, make sure that the panel cover has been reinstalled and all the heaters are on and running
10. Field repairs are only allowed if the proper tools and material are available. If not the heater is to be changed out with a different one, tagged out, brought back to the shop for repair.

Note* Do not attempt to install, remove or repair heaters unless you are a Journeyman Electrician, or supervised by same.

ANYONE TAMPERING WITH AND/OR MOVING THE ELECTRIC HEATERS CAN CAUSE SEVERE DAMAGE OR INJURY IF YOU HAVE NOT BEEN PROPERLY TRAINED TO DO SO. CALL THE ELECTRICIANS SHOULD HEATERS NEED TO BE REMOVED OR REPAIRED.