



# FIRE MARSHAL BULLETIN

Bulletin No. 4  
Rev. 3/98  
Page 1

## Potential Dangers of Thawing Water Pipes

DEPARTMENT OF STATE POLICE, Fire Marshal Division, 7150 Harris Drive, Lansing, MI 48913

---

### Hazard Of Fire And Electrical Damage Or Shock

Numerous incidents of fire and electrical service damage have resulted from the use of electrical welders to thaw frozen water services.

The improper use of these devices has resulted in several fires ranging from minor to total loss of the structure, destruction of electrical appliances, and damage to the electrical service. Additionally, consequences of the electrical service damage may not appear until some future time and may occur in buildings other than the building with the frozen water service.

To prevent the electrical current from flowing into the electrical grounding systems or the gas system, it is necessary to isolate the water service when this method is used. The following procedures are recommended:

**Procedures:** (It is recommended that a qualified electrician be consulted.)

1. Turn off all branch circuits and the main electrical switch.
2. Disconnect all electrical grounding connections on the water system.
3. Disconnect the piping at the water meter inside the building.
4. Connect one electrode to the water service on the street side of the water meter. Connect the other electrode to the water service lateral or nearby water hydrant.
5. Each building should be handled separately. Every effort should be made to isolate and safeguard each residence between electrode connections.

### Precautions:

1. Use an ammeter to verify that current is flowing only in the frozen pipe. If not, "STOP" the operation.
2. Observe and monitor for signs of overheating, smoking, odors, or flickering lights in adjacent buildings.
3. Check clamps for heating.

Bulletin No. 4

Rev. 3/98

Page 2

**Reconnecting:**

1. Reconnect all electrical grounding connections to the water system before re-energizing the electrical service.

If you have any questions regarding this bulletin, please contact the Fire Marshal Division at (517) 322-1924.

Please be advised that recipients of any Fire Marshal Bulletin may treat the contents as a news release. Feel free to insert your department, association, or individual name where appropriate when contact is made with local news media or other sources of dissemination.

**Detail "A"**

In order to prevent damage to outside gas and electric facilities (overhead or underground), to eliminate shock hazard to your employees or occupants in the building and, to prevent damage to the contents of the building, be sure to follow the steps listed below in the exact order.

1. Open main electric switch or fuses.
2. Disconnect metallic grounds from water pipe.
3. Provide an air gap in the water line inside the building (i.e., remove the water meter or separate the piping).
4. Connect welder to water service.

Note: After water pipe is thawed out and water meter is reconnected, be sure ground lead is reconnected to the water pipe before the main switch or breaker is closed or fuses are replaced.