

U.S. Fire Administration / National Fire Academy

*Coffee Break Training***Topic: Electrical Room Fire Sprinklers**

Learning Objective: The student shall be able to identify requirements allowing sprinklers to be omitted from electrical equipment rooms.

If you look closely at today's picture, you will see a black iron sprinkler branch line running from the upper left of the photograph through this main electrical equipment room.

Many people are wary of the risk of accidental sprinkler discharge onto live electrical equipment. Since it is electrically conductive, water in an energized electrical room would create a potentially serious safety hazard as well as cause serious damage to expensive electrical equipment.

Recognizing this concern, NFPA 13, *Standard for the Installation of Sprinkler Systems* allows sprinklers to be omitted from electrical equipment rooms when the following conditions are met:



Photo courtesy of Clyde Pfisterer, Indianapolis, IN.

- The room is dedicated to electrical equipment only.
- Only dry-type electrical equipment is used. Coolant oil-filled transformers and similar equipment are prohibited.
- Equipment is installed in a 2-hour fire-rated enclosure, including protection for penetrations. This requires sealing all penetrations with firestopping materials, and providing a minimum 90-minute fire-resistance-rated assembly on doors into the room.
- No combustible storage is permitted in the room.

The final item likely will be the inspector's biggest challenge: keeping the room free from combustible storage.

If the room is sprinklered, hoods or shields installed to protect important electrical equipment from sprinkler discharge must be noncombustible.

For additional information, refer to NFPA 13, Chapter 8.