

INCIDENT INFORMATION — *What are the hazards of overloading an electrical circuit?*

Overloads in an electrical system are hazardous because they can produce heat or arcing. Wires and other components in an electrical system or circuit have a maximum amount of current they can carry safely. If too many devices are plugged into a circuit, the electrical current will heat the wires to a very high temperature. If any one tool uses too much current, the wires will heat up. The temperature of the wires can be high enough to cause a fire. If their insulation melts, arcing may occur. Arcing can cause a fire in the area where the overload exists, even inside a wall.

REPORTED CAUSES — *How do you prevent overloading a circuit?*

On the Job— On the job site, power distribution is an important part of completing the job. You have to ensure that the temporary or permanent electrical supply is appropriate for the work that is being conducted. Here are some tips to protect yourself from overloading a circuit:



- Never add a power strip to an extension cord. If you add too many high power tools it can overload the circuit or extension cord causing an overheating hazard.
- If you trip a breaker do not continue to use that circuit. Tripping breakers is a sign of overloading a circuit and will eventually fail.
- If a fuse are used in a power system, never add a larger fuse to continue work without popping a fuse. If the breakers or fuses are too big for the wires they are supposed to protect, an overload in the circuit will not be detected and the current will not be shut off. Overloading leads to overheating of circuit components (including wires) and may cause a fire.

Home for the Holidays—Often there are never enough outlets for the Christmas lights around your house. According to the National Fire Protection Association, fire departments responded to an average of 170 home fires per year caused, 43 percent of which were started by electrical distribution or lighting equipment. Here are some tips to protect yourself:



- Never plug too many strands together. Check the manufacture's rating of current per strand to determine maximum amount. LED's draw much less current than conventional lights.
- Ensure power strip is rated for outdoor use. Do not string multiple power strips into each other.
- Inspect lights for damage before use. Never use staples to attach lights to exterior of house. The staples can cause damage to the wires either causing arcing internally or overload the wire causing a fire to the surrounding structure.