

# Catching FIRE

*“Restaurant Closed Due To Fire” — Is your location next?*

In the restaurant business, the main focus is serving the customer. Create an enjoyable atmosphere, serve quality food and provide expected service so that the customer returns. Many items are checked and monitored to ensure this happens, such as confirming inventories and food temperatures, and monitoring wait times. However, what do you do during your daily prep that ensures a fire will not close your business? Understanding how fires occur in restaurants can help keep your doors open.

From 2006 until 2010, an estimated 7,640 fires in eating and drinking establishments occurred per year, with associated annual losses per year of \$246 million in property damage, 115 civilian injuries and two deaths.<sup>1</sup>

The top causes of these fires as reported by NFPA were:

- Cooking equipment (57%)
- Heating equipment (10%)
- Electrical and lighting equipment (7%)
- Smoking materials (7%)
- Intentional / Arson (5%)

Let's look at each of these major causes and understand what you can do to limit your chances for a fire.

## COOKING EQUIPMENT

In the restaurant industry, it is not surprising that cooking equipment is the top cause of all reported fires. There are many sources of heat, open flames, and usually combustible materials in the vicinity. The key to preventing and controlling fires in cooking equipment is fairly simple:

*1. Maintain cooking equipment in good working order.* Repair any noted deficiencies and inspect / maintain the cooking equipment per manufacturer's directions. A broken fryer that overheats the oil is much more likely to cause a fire than a fryer with proper working controls.

*2. Keep unnecessary combustible storage away from cooking equip-*

*ment.* Combustible storage near cooking equipment increases the potential for a small fire to grow rapidly and spread. A minimum of 2 feet is recommended. Common sources of ignition include: equipment malfunction, radiant heat from operating equipment, and a spark, flame or ember from operating equipment.



*3. Provide an automatic fire suppression system for cooking equipment.* An automatic suppression system will actuate to control the fire, and shut down the fuel supply (electric or gas) to the cooking equipment. These systems provide immediate fire suppression to the area of the fire and allow for quick recovery in hours, rather than days or weeks.

*4. Provide portable fire extinguishers.* A Class K fire extinguisher should be provided in the kitchen to serve as backup after the hood suppression system activates. Typical type ABC extinguishers should be provided throughout the remainder of the restaurant.

*5. Regularly clean and inspect cooking and ventilation equipment.*

Within the NFPA study, 21% of the reported fires cited a failure to clean as a factor in the fire. Inspection of the exhaust system for grease buildup is required by NFPA 96 on a quarterly basis for high volume operations and semi-annual in moderate volume operations. Solid fuel cooking operations require a monthly inspection. When buildup is found, the system must be cleaned. Regular cleaning of the hood systems is integral to preventing fires and limiting fire spread.

*6. Inspect and maintain fire suppression equipment.* NFPA requires that all fire protection equipment be regularly inspected. This includes monthly inspections of the fire extinguishers, quarterly inspections of sprinkler systems, and semiannual inspections of the hood systems and fire alarm systems. Inspection of the provided systems is critical to ensure they will work if needed. NFPA has identified leading causes of a system operating incorrectly. Fifty one percent of the time it's because they're turned off; 15% of the time there was a manual intervention, such as someone intentionally tampering with the device.

## HEATING / ELECTRICAL / LIGHTING EQUIPMENT

Electrical / mechanical malfunction or failure can cause a fire in your restaurant. The following actions are recommended to limit the potential risk:

*1. Implement preventative maintenance programs for mechanical*



*1. electrical equipment.* Properly maintained building systems will not only provide a better environment for your customers, but also reduce the potential for malfunction and resulting fire. Promptly correct any noted deficiencies to ensure proper operation.

*2. Maintain adequate clear areas around electrical / mechanical equipment.* If a building system does malfunction and either overheats or causes sparking, the proximity of combustibles to the equipment can mean the difference between repairing the panel and replacing the restaurant. Adequate clearance should always be provided around this equipment.

*3. Repair damaged electrical equipment.* Damaged electrical wiring, outlet boxes or missing covers provide a source of ignition. Make the necessary repairs to eliminate a possible fire hazard.

*4. Eliminate extension cord use.* The use of extension cords for permanent use is not allowed by the National Electric Code. If permanent power is needed, arrange for an electrician to add outlets where needed. Overloaded or damaged extension cords can lead to the ignition of a fire.

*5. Inspect electrical / heating / mechanical equipment.* Periodically, visually examine the electrical and mechanical systems in your restaurant for obvious damage. Ensure all appropriate covers are closed, panel boards are secured and no combustible storage is nearby.

## SMOKING MATERIALS

Restaurants have to manage numerous restrictions and controls on smoking and smoking materials, such as cigarettes and cigars. Unfortunately, smoking materials are still the fourth highest cause of fires in restaurants. To help limit the potential for a fire, the following should be considered:

1. *Provide proper receptacles for smoking materials.* This includes not only interior ash trays (where interior smoking is still allowed), but also outside the facility. Appropriate receptacles for disposing of smoking materials limit the potential for a fire to ignite from a disposed item.

2. *Manage smoking areas.* Provide designated smoking areas where smoking occurs outside the restaurant. These areas should have limited combustible materials, and have appropriate receptacles. Consideration should be given to the surrounding areas and construction. For example, a designated smoking area where cigarette butts are being tossed into wood mulch landscaping directly adjacent to a wood-sided restaurant is an invitation for a fire. When reviewing the smoking areas, consider where the material is being disposed, and if there is a potential path to combustible materials and a fire.

3. *Provide portable fire extinguishers in smoking areas.* In addition to the required compliment of fire extinguishers throughout the facility, ensure that a fire extinguisher is readily available near any designated smoking areas.

4. *Manage disposal / emptying of butt receptacles.* Associates should never empty butt receptacles into a trash receptacle before they have confirmed they are extinguished. A lit cigarette can smolder and ignite the trash.

### ARSON

Arson fires are tough to control, as the person has the direct intent to set a fire. However, you can impact the ability of the person to start a fire.

1. *Maintain good customer service.* Arsonists don't want to be noticed. If your staff has an excellent cus-

tomers service attitude, they will naturally engage the person. This will typically deter the arsonist as they believe they will be recognized.

2. *Maintain premise control.* If you don't allow public access to unattended areas, the potential to start a fire in such a place is limited. Conduct periodic walk-throughs of all areas during the normal course of the day. For select areas with high probability (i.e. restrooms), consider installing additional devices to speed detection.

3. *Limit exterior storage.* Storage of boxes, cardboard, shipping crates and similar items against the exterior wall of a restaurant creates the opportunity for a fire to be started that would spread to the main building.

In addition to addressing the major causes of fires in restaurants, there are other steps you can take to minimize the potential for significant damage to your facility. Train-

ing for your staff and emergency pre-planning are recommended as part of your associate management programs. The training and pre-planning should include the following:

### BASIC FIRE SAFETY TRAINING

1. Use and operation of portable fire extinguishers.
2. Special hazards of grease / oil fires. (For example, don't throw water on grease fire.)
3. Housekeeping / orderly storage.
4. Maintenance of access to exits.
5. Storage near electrical / mechanical equipment.
6. Manual actuation of kitchen suppression system.

### EMERGENCY PRE-PLANNING

1. How to notify the fire department.
2. Evacuation plan for facility.
3. How to turn off utilities to restaurant (gas / electric etc.).
4. Recovery plan, including vendor contacts to respond.

The training should be provided for all new associates, as well as refreshed for existing associates on a routine basis.

Fires are a real and often costly occurrence in restaurants. With careful planning and minimal effort, you can help ensure that your employees and customers remain safe and your restaurant does not become part of the statistics. ♦

<sup>1</sup> *Evarts, B. (November 2012). Structure Fires in Eating and Drinking Establishments. Quincy: National Fire Protection Association (NFPA).*

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