

# UL 300: New National, State, and Local Legislation is Encouraging, but Further Education is Needed

By Joe Beranek, president of Fire Equipment Manufacturers' Association

More than 14 years have passed since the introduction of UL 300 "Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas" as the fire extinguishing system testing protocol. FEMA—along with other organizations and associations—has remained vocal, leading efforts to pass new national code requirements, state laws, and local statutes that uphold and mandate UL 300 as the requirement for compliance. At this 14-year milestone, we celebrate the many successes in the adoption of UL 300 as law throughout much of North America but also acknowledge that outdated cooking fire extinguishing systems still exist in some restaurant facilities. FEMA continues to educate distributors and fire professionals, encouraging them to enforce and mandate compliance with national, state, and local laws mandating restaurant cooking fire extinguishing systems be UL 300 tested and listed—ultimately saving lives and property.

## Why UL 300?

The revised and stricter testing guidelines in the UL 300 testing protocol were necessary because real-world trends in commercial cooking were creating significant new fire hazards for restaurant owners. Prior to 1994, fire extinguishing systems that protected the cooking fire hazards present at that time were installed. Since then, pre-UL 300 restaurant cooking appliance lines have been altered with the introduction of higher-efficiency appliances and non-fatty or trans-fat-free cooking oils, like vegetable and olive oils. Modern, energy-efficient

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technologies allow appliances to heat-up rapidly but also to maintain their heat for longer periods of time, creating longer flashpoint periods and greater concern for fire potential, while less-fat cooking oils present more severe burning characteristics. Systems tested and listed under the old (pre 1984) Subject 300 testing protocol did not take these significant changes and other factors into account.

In response, UL called for an Industry Advisory Council (IAC), which included members of FEMA as well as experts and leaders in the fire system manufacturing industry, to examine real world conditions and suggest new test criteria that would represent and address the new hazard. Initial tests found that, on average, five times more wet chemical agent was needed to extinguish cooking line fires. Further, it observed that dry chemical systems, installed under the old test criteria, did not adequately extinguish fires. Reflash due to excessive heat was common.

The new UL 300 fire testing protocol that replaced the old UL Subject 300 test-

ing protocol mandated that testing be conducted while simulating real-world conditions. The use of actual appliances that heat up and cool down at specific rates was required along with the use of vegetable-based cooking oils instead of renderings or fats. The new testing guidelines ensured that all manufacturers' systems would perform to the same benchmarks, in the same manner, before their products were allowed to bear the UL Listed Mark.

## State Adoption of UL 300

As of November 21, 1994, manufacturers could not use the UL Listed Mark on newly manufactured systems unless the system had passed the new UL 300 testing protocol. FEMA member companies were among the first to manufacture products that passed and were listed to the new UL 300 testing protocol. FEMA has been advocating replacement of pre-UL 300 systems since the beginning, and states are taking note. Many legislators and community leaders have reviewed the facts, understand the potential hazards and life safety dangers of maintaining pre-UL 300 extinguishing systems installations, and are taking action at their state and local levels.

All states now mandate that newly-built restaurants contain a fire extinguishing system that is UL 300 listed, while many states further require that presently installed, pre-UL 300 restaurant systems be upgraded or retrofitted (see map for details). NFPA 96, 2008 edition, states in section 10.2.3.1: "In existing systems, when changes in the cooking media, positioning, or replacement of

## STATE BY STATE UL 300 COMPLIANCE

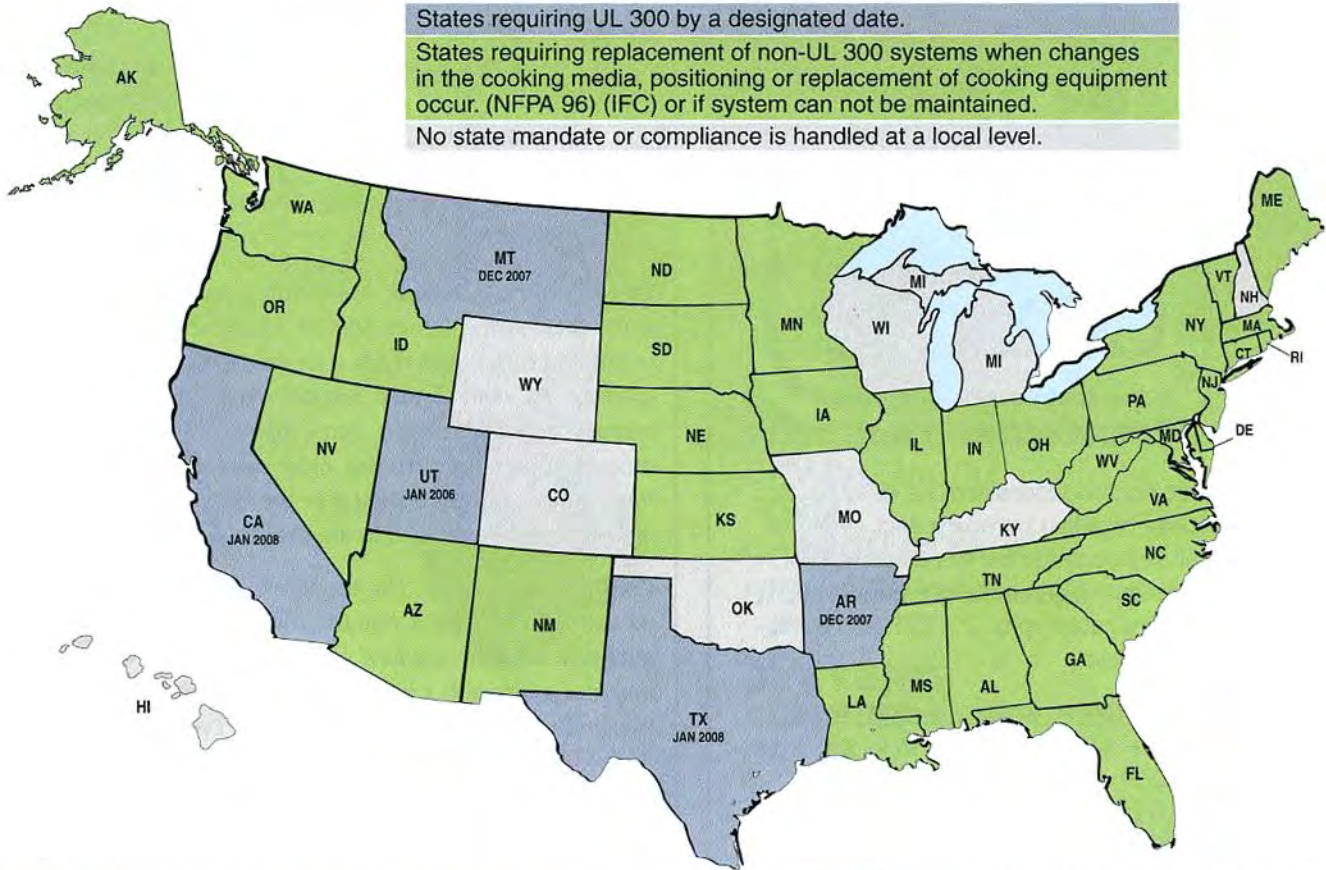
Information is based on the latest obtained as of May 2007.

It is a state by state look at UL300 requirements, local codes could vary. Always contact your local authority to verify requirements.

States requiring UL 300 by a designated date.

States requiring replacement of non-UL 300 systems when changes in the cooking media, positioning or replacement of cooking equipment occur. (NFPA 96) (IFC) or if system can not be maintained.

No state mandate or compliance is handled at a local level.



**NOTE: Every state mandates that all new Restaurant Fire Suppression System installations must be UL 300 listed.**

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cooking equipment occur, the fire extinguishing system shall be made to comply with 10.2.3 [UL 300]." Most noteworthy, five states—including two of the largest, California and Texas—require that all fire extinguishing systems within the state (regardless of installation date) be UL 300 listed. Some states have also mandated replacement of the fire extinguishing system if the manufacturer no longer supports the system or has gone out of business.

Dry chemical systems were unable to pass the new UL 300 testing protocol and

are no longer being manufactured for protection of cooking hazards or supported by their manufacturers. Therefore, these systems often violate present code depending on the state and local authority having jurisdiction. FEMA recommends these systems be removed and replaced at the earliest convenience.

### Create an Action Plan

While new national, state, and local laws remain a positive step toward fire safety, more education and enforcement is need-

ed. Restaurant owners and operators, understanding the life safety risk, need to pro-actively install, retrofit, or upgrade (if necessary) their fire extinguishing system, thereby complying with regulations mandating UL 300 installations.

**Assess your risks.** Distributors assume a great deal of liability by servicing systems that are not UL 300 listed or are no longer supported by their manufacturer. Anytime a commercial cooking line is altered, fire hazard conditions also change, requiring re-evaluation of the extinguishing system.

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NFPA 96, 2008 edition, states in section 10.2.7.4: "Changes or modifications to the hazard after installation of the fire-extinguishing systems shall result in re-evaluation of the system design by a properly trained, qualified, and certified person(s)." Insurance companies may seek liability from the distributor if the extinguishing system was serviced, but not properly re-evaluated after a cooking line alteration.

As a precautionary measure, note the date and take pictures of the cooking line, hood arrangement, nozzle placement, and condition of all equipment during each service call. This information could serve to be of value should you ever be engaged in a legal issue concerning code compliance or lack of performance of said system.

**Talk to industry leaders.** Meet with clients' local fire marshals or authorities having jurisdiction to understand the proper requirements and codes. Also check with each extinguishing system manufacturer to verify if they support older systems or if they have instructions for retrofitting. Some manufacturers no longer provide support or system parts for older systems and will not accept responsibility for dry chemical or pre-UL 300 systems that remain in place or are reinstalled in another location.

**Continue to educate.** The economic and life safety risks associated with maintaining a non-UL 300 fire extinguishing system far outweigh the cost of a new system. Existing dry chemical systems may not extinguish the fire, place all employees and patrons at risk, and create a false sense of security. Even if a small fire erupts, the end result may be a total loss of the restaurant or, even worse, loss of life. The risk is just too high. Economically, the clean up and business interruption costs from a dry chemical system discharge alone could justify the cost of upgrading to a UL 300 compliant system.

Instruct owners and operators to check their insurance policies. Many companies now include a requirement that extinguishing systems be UL 300 listed for the policy to be in effect while other companies offer financial incentives to upgrade.

Fourteen years ago, the industry addressed the changes to commercial cooking operations by creating a more stringent testing protocol and requiring product compliance. Codes and standards have followed suit with mandatory requirements for compliance. States and local jurisdictions have adopted language supporting UL 300 installations. The time has come for *all* commercial cooking operations to be a part of the life safety solution and come into compliance. ♦

For additional UL 300 education materials and decision flow chart, visit FEMA's website at [www.femalifesafety.com](http://www.femalifesafety.com).