DATE: March 7, 2005
TO: All ANSUL® Restaurant System Distributors
FROM: Mark Neumann – Marketing Manager, Commercial Suppression
SUBJECT: UL 300 Upgrades

We often receive questions regarding the adequacy of older restaurant fire suppression systems. However, we cannot give advice on a specific situation as an on-site inspection is necessary to determine whether any suppression system will provide protection against the particular hazards at hand. If you have any doubt as to the adequacy of a restaurant fire suppression system, you should seek the assistance of fire protection professionals who can evaluate your system and explain any changes that should be made. Any time you change features in your cooking operation that could affect the nature of the hazards (i.e., new appliances, changing appliance locations, changing cooking media, etc.), you should have the adequacy of your fire suppression system professionally re-evaluated. The following information about the evolution of ANSUL® restaurant fire suppression systems may be helpful to you.

The Beginning – Dry Chemical to Subject 300

ANSUL restaurant fire suppression systems have been in the marketplace since the nineteen sixties when the first dry chemical restaurant fire suppression system (ANSUL Model R-101) was developed. In 1982, we introduced our first wet chemical restaurant fire suppression system, the ANSUL Model R-102. Once the systems were fully developed, they were fire tested and listed by Underwriter’s Laboratories (UL) using a test guide developed by UL at the time entitled “Subject 300.” This test guide was utilized by all restaurant fire suppression system manufacturers to obtain UL Listings for their fire systems.

Pre UL-300 Systems to UL-300 Systems

In 1992, UL revised Subject 300, with a manufacturer’s effective date of November 21, 1994. This document ultimately was approved as an American National Standard (ANSI), ANSI/UL 300-1998. To maintain UL listings, all manufacturers were required to have their systems re-evaluated in accordance with the new UL test standard (UL 300). ANSUL R-102 systems manufactured between 1982 and November 21, 1994 are considered to be "Pre-UL 300," and not complying with the current UL test requirements. All systems manufactured after the November 21, 1994 date were required to meet the requirements of UL 300 in order to be sold with a UL Listing label attached to the ANSUL tanks and releasing mechanisms.

Since November of 1994, there have been many recommendations made by fire system manufacturers, local authorities having jurisdiction, and insurance companies regarding restaurant system upgrades. ANSUL General Bulletin No. 2943, dated August 2, 1995 (attached), stated: “UL 300 changes affect only product manufactured after November 20, 1994. All existing installed systems are "grandfathered" and remain listed using the UL guidelines in effect at the time of manufacture. However, this does not imply either by UL or ANSUL that it is not necessary to evaluate your current restaurant fire protection system.”

Since the release of this ANSUL General Bulletin, UL has identified that, “When the appropriate service parts or agent for recharging are no longer available for a specific model UL Listed extinguishing system unit, the Listing for that system unit cannot be maintained in accordance with the manufacturer's manual, NFPA17/17A and NFPA 96, and therefore, would not be considered UL Listed.”
ANSUL R-101 Systems Discontinued

The Ansul R-101 Dry Chemical system was obsolete in 1994 because dry chemical systems were not able to meet the test requirements of UL 300. In a General Bulletin dated March 16, 1996, it was announced that as of January 1, 1999, service parts unique to R-101 Dry Chemical Fire Suppression Systems would be no longer available. Consequently, the ANSUL R-101 dry chemical systems technically ceased to be UL Listed.

Pre UL-300 System Status

Regarding Pre-UL 300 R-102 wet chemical systems, acceptable replacement parts are still available, technically allowing listings to be maintained. Mandates for wet chemical upgrades to UL 300 have been made at the local or state jurisdiction levels, or have been required by insurance companies in order to maintain insurability. Local jurisdiction upgrade requirements range from full upgrades within a given time period to upgrading under certain conditions, such as a system discharge, a hydrostatic test requirement for the tanks and cartridges, a cooking line change, or the use of vegetable oil for frying, etc. Referring again to ANSUL General Bulletin No. 2943, the following guidelines for upgrade considerations were offered:

1) Older cooking appliances have been replaced with new high efficiency cooking appliances.  
2) Rendered animal fat cooking grease has been changed to vegetable cooking oils.  
3) A dry chemical fire suppression system is being used for fryer protection.  
4) Protected appliances include a deep fat fryer without (functioning) dual limit switches (thermostats).

ANSUL and FEMA UL 300 Position

The Fire Equipment Manufactures' Association, Inc. (FEMA) has also outlined consideration guidelines (attached) for UL 300 upgrade. In their memo, FEMA has addressed restaurant and commercial kitchen owners/operators by stating, “. . . in the interest of promoting the use of the most current fire protection technology -- to protect lives, property, and the environment from harm by fire -- FEMA strongly urges that pre-UL 300 restaurant fire protection systems be upgraded to a system that meets the UL 300 safety standard.”

Upgrading is particularly critical when:

1) The manufacturer of the existing dry chemical system no longer supports the system; or  
2) Any changes are made to the original installation of cooking appliances and the hoods/ducts within the protected area, or the addition of cooking appliances requiring protection, or a change to vegetable-based cooking oils; or  
3) The manufacturer of the restaurant cooking area fire protection system or another fire protection expert recommends upgrading the system; or  
4) The local enforcement authorities, insurance company, or other authority requires or recommends upgrading the system.”

In ANSUL General Bulletin Nos. 4240 and 4240a, procedures were outlined, dependent upon the generation of the system, for upgrading older R-102 systems in order to meet the qualifying intent of UL 300. These procedures were created to offer a higher level of protection, while minimizing the economic impact to the end user or owner of the fire suppression system.