

EAST GRAND FIRE'S KITCHEN HOOD REPLACEMENT PROGRAM A SUCCESS!

Over the last decade, our local restaurants were faced with the financial burden of updating their kitchen fire suppression systems to meet changing fire safety standards. East Grand Fire wanted to help lessen this costly expense for our local restaurants so thus created the **Commercial Kitchen Safety Incentive Program**. This provided up to a \$500.00 grant to help the with required replacement of antiquated kitchen hood fire suppression systems in the East Grand Fire Protection District.

We are pleased to say that, to date, East Grand Fire was able to help 11 establishments with the required upgrade to their hood systems. The project is now being completed and East Grand Fire is very happy to have been able to be a part of this important life safety and property preservation enhancing project for our community.

Why Was This Upgrade So Important For Our Community?

When it comes to fire, commercial kitchens operate in an extremely high-risk environment. Equipped with any number and combination of highly insulated ranges, broilers, fryers, and ovens operating at very high temperatures in close contact with fats, cooking oils, and other combustibles, commercial kitchens provide an ideal environment for fire. According to the most recent data (2019), there are approximately 8,160 structure fires at eating and drinking establishments each year. More than 50% of these fires were caused by cooking equipment with over 500 injuries to kitchen staff and well over \$1 million dollars in direct loss, causing many businesses to have to close their doors permanently. The risk to firefighting personnel is also great.

In the past, dry chemical systems were used to extinguish kitchen fires. Dry chemical systems worked well by eliminating the oxygen needed for combustion by creating a "soapy" foam layer (saponification) which resulted from the reaction between the dry chemical agent and the burning surface. Dry systems also solved the danger of dumping water onto an oil or grease fire. In the late 1980s, reports started to come in telling of restaurant fires not responding to the dry-chemical systems. They were not able to keep the fire from reigniting even when working properly. The insurance companies approached Underwriters Laboratory (UL) to find out why existing systems were now failing to protect.

UL found that due to the increase of health awareness happening in the 1980's, vegetable oils and other synthetic oils started to replace animal and other fatty oils being used in commercial cooking. They also found the once poorly insulated deep fryers being replaced with highly insulated versions. Dry chemical systems could remove the oxygen source but reignition was unavoidable because the dry chemicals alone could not bring down the heat of the fire due to the much higher temperatures of these new oils and oftentimes, the continued heat source of the cooking appliances. UL also learned of reports of dangerous dust explosions from the release of the dry chemicals onto the extremely hot oils. Although first developed in the early 1960's, wet chemical systems gained widespread acceptance in the early 1980s when they were found to successfully extinguish fires and keep reignition from happening even with these now hotter burning fires. The wet chemical system uses a fine spray of a potassium carbonate-based solution to not only instantly cool the fire by vaporization, but to also suffocate the flames by saponification. The fine spray protects against the splashing and spreading of the oils as well.

As a result of this testing, UL developed the UL300 Standard, and published the Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment in 1992. From 1992-1994 systems were re-tested under the UL300 specifications and in 1994 compliance with UL300 was required on all new installations. Dry chemical systems did not meet the requirements of the UL300.

After 1994, *all* pre-engineered extinguishing systems in commercial kitchens installed were required to be UL300 compliant. As these antiquated systems were phased out, East Grand Fire stepped into help with the required upgrades by offering this important incentive program.

Thank you to everyone for participating and keeping our community safe!