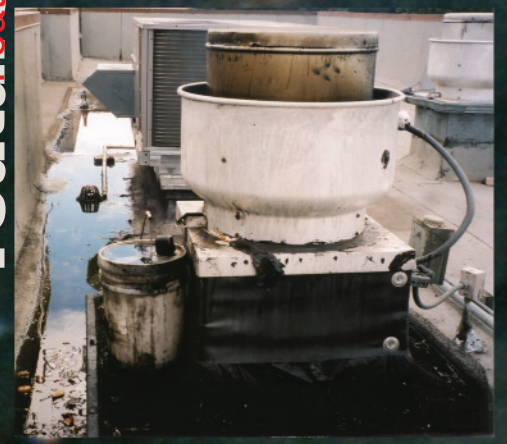

Rooftop spills and grease contamination generated from exhaust ducts and ventilators cost food service operators thousands of dollars each year.

Rooftop grease spilling onto a roof and into a storm water drain.

Roof damage caused by not maintaining or installing proper grease containment.

A rooftop storm water drain contaminated with grease.

This collection box full of grease is about to overflow onto a roof.

This GAP-1398 side-mounted drip pan is a cost-effective solution for rooftop grease spills. It is equipped with a disposable grease diaper and a water drainage system that allows clean rainwater to flow without spilling grease onto a roof, and works well with or without a lid cover.

Rooftop Grease Contamination:

What the restaurant industry needs to know to help control the problem

By Joseph **Baribeau**

If you are in the quick-serve restaurant business and have not heard the terms "Best Management Practices" (BMPs), "Fats Oil and Grease" (FOG), "Storm Water Pollution Prevention Plans" (SWPPP), and "Rooftop Grease Contamination" (RGC), it's about time you did. The lexicon of grease management is spilling quickly into the world of food service, as regulatory agencies increasingly hold restaurants accountable for grease-blocked sewer spills.

For a recent case history, look no further than Los Angeles. This past summer, restaurants in the city were spared the requirement of installing costly underground interceptors for the disposal of fats, oil and grease. Thanks to efforts by California Restaurant Association government affairs staff, the city changed its proposal to require that all restaurants follow BMPs in the disposal of fats, oil, and grease (FOG).

Nationwide, the restaurant industry has the same common problem of rooftop grease disposal. All industries that generate and discharge FOG and other potential pollutant sources are faced with the Environmental Protection Agency's (EPA) Storm Water Pollution Prevention Plans and Best Management Practices.

The National Urban Runoff Program (NURP) and Clean Water Act (CWA) report submitted to Congress in the 1980s identified contaminated storm water as harmful to water quality. Congress amended the CWA in 1987 to require the EPA to address storm water runoff. Federal regulations were promulgated in 1990, with the first general permits issued in 1992.

A Storm Water Pollution Prevention Plan (SWPPP) is a program, as required by a state general permit, of identifying potential pollutant sources and describing the design, placement and implementation of BMPs to effectively prevent non-storm water discharges and reduce pollutants in storm water discharges during activities covered by the General Permit. Storm water permits require that all potential sources for storm water runoff (such as rooftops) be identified in a SWPPP and that BMPs must be used to control the pollution that results from this runoff.

BMPs should include source reduction efforts and good housekeeping practices that reduce water pollution sources. This means businesses are responsible for controlling the runoff of fats, oil and grease that spill onto roofs and into storm water drain systems. BMPs include relatively simple tasks, such as identifying, collecting, trapping, and properly disposing of all FOG generated in a restaurant, including FOG that is released by rooftop grease exhaust ventilators.

One of the most overlooked areas of such a plan is grease that spills from rooftop exhaust equipment. "This is one problem that the restaurant and food service industry needs to look at very closely," notes David R. Hawn, president of Dedicated Roof and Hydro-Solutions and a registered roof consultant. He says, "Rooftop spills and grease contamination generated from exhaust ducts and ventilators continue to cost food service operators thousands of dollars each year. When grease comes in contact with a roofing system, it causes most roofs to soften, delaminate, blister, or crack, depending upon the specific material." This, he says, "can lead to leaks, premature failure, and environmental hazards."

The leading cause of rooftop grease spills and contamination is a poorly designed collection device. It is required that all rooftop ventilators have a grease containment product in place that meets industry standards. However, many restaurant operators seem to overlook this requirement. In most cases rooftop ventilators have some type of collection device in place typically found under the drain spout of the ventilator. Some are located on the lower base section of an exhaust duct. These devices are supposedly designed to catch grease spills.

Unfortunately, many of these contraptions are not designed to collect and trap the volume of liquid grease that most commercial kitchens generate. They are also difficult to clean and maintain. They overflow and can leak, trapping hazardous FOG between the collection device and the roof surface; this can cause permanent roof damage. When these devices fill with grease and rainwater, they overflow onto roofs and into rooftop storm drains, causing storm water pollution.

The EPA requires businesses that are discharging pollutants into storm water drains to develop SWPPPs. These plans fall under EPA's National Pollutant Discharge Elimination System (NPDES). This is the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits; and imposing and enforcing pretreat-

ment requirements. The plans generally should contain descriptions of BMPs.

In addition to the EPA's SWPPPs and BMPs, the restaurant and food service industry is also faced with the National Fire Protection Association's (NFPA) Code 96 section 7.8.2.1. found in the 2001 edition. The section, titled "Ventilation control and fire protection of commercial cooking operations," says "Rooftop termination shall be arranged with or provided with the following: The ability to drain grease out of any traps or low points formed in the fan or duct near the termination of the system into a collection container that is noncombustible, closed, rainproof, structurally sound for the service to which it is applied, and will not sustain combustion. A grease collection device that is applied to exhaust systems shall not inhibit the performance of any fan."

Rooftop grease spills are a major health hazard. Rooftop grease attracts all types of pests and rodents. Rooftop grease spills also pose a safety hazard. Every time a contractor or employee is on a roof that has a grease problem, they run the risk of coming in contact with grease.

We all know what happens when someone gets grease on the bottom of their shoes. Work related slip and fall accidents cost thousands of dollars in workers compensation claims and personal injury claims each year. It is the responsibility of the restaurant operator to provide a safe working environment for employees and outside contractors. Unfortunately, an operator's not knowing of a hazard or problem does not stand up as a defense in a court of law or at a workers compensation hearing.

It is important for restaurant operators to get involved in identifying hidden hazards in the workplace such as rooftop grease. To correct this commonly overlooked problem, restaurant operators and managers need to start inspecting their roofs more frequently. It is also good practice to make sure proper grease containment products are in place to stop grease from spilling onto a roof. Restaurant owners need to be vigilant when it comes to enforcing and maintaining these requirements.

It is important to remove any traditional collection or obsolete devices such as sheet metal collection boxes, plastic buckets, sandboxes, and any other type of contraption that do not have a disposable grease diaper or replacement filter in place.

A properly designed grease containment system will allow rainwater to drain out of the equipment or system without spilling the grease onto a clean roof. Replacement grease diapers or filters that are provided with a containment system should be waterproof. Rainwater or FOG should not be able to pass through the collection material. If water passes through, the purpose of having a grease containment system in place would be defeated.

Any containment product that is found sitting directly on the roof around the base or duct curbing of an exhaust fan should be replaced with a proper grease containment system. These devices could trap the FOG between the system and the roof's surface, causing roof damage.

Another thing to remember when considering the purchase of grease containment products is to make sure the system chosen provides a disposable grease diaper or filter that can easily be replaced as needed. Caution: Some grease containment products are very expensive to purchase and have installed. Replacement filters are very costly to replace and maintain as well. A good rooftop grease containment system doesn't necessarily need to be an expensive piece of equipment to work properly. It is not an industry standard or required that rooftop grease containment equipment be UL listed.

This standard can be verified in the National Fire Protection Association's (NFPA) Code 96 section 7.8.2.1. 2001 edition and section 1.5 Equivalency, which reads, "Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this standard." Some grease containment manufacturers and distributors provide free consultation for the best solution available.

When choosing a grease containment product, it is important that the equipment or the drip pan that holds the grease diaper or filter in place can easily be attached to any grease ventilator. For best results, this equipment should be installed directly under the ventilator's drain spout or point of spillage. If grease is leaking from other areas of an exhaust ventilator, there are products on the market that can be installed for maximum protection.

Be careful when choosing, as most four-sided grease containment systems are very expensive and most are more than is needed to solve the problem. The grease containment product you choose should always meet the requirements of local, state and federal agencies. NFPA code 96 section 7.8.2.1 could be used as a guideline.

When considering a grease containment product, make sure it works and is simple to install and maintain. Also, it is always a good idea to ask for customer product testimonials. Chances are that if a large quick-serve restaurant chain is happy with a product it is safe to purchase.

As you can see, there is much to know about rooftop grease contamination and regulations. This is why choosing the proper rooftop grease containment product is so important. Remember that the cost of corrective action is minimal compared to the cost of ignoring the problem.

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