



OFF-CAMPUS

By Tim Knisely

May 2017

The Hookah Lounge:

An early morning fire department response for a carbon monoxide alarm took some investigating, and eventually found an unusual source. The building was a mixed-use occupancy with apartments on the upper floors, and a strip of restaurants, businesses and mercantile establishments on the bottom floor. The off-campus apartment had a battery-powered alarm and has electric heat. The requirements for the carbon monoxide alarm is due to proximity to the commercial tenants on the ground floor that use fuel-fired appliances for cooking.

When the FD arrived the levels of CO were approximately 75 ppm in the apartment. A check of the apartment floors could not reveal a source. The FD then investigated the restaurant occupancies, with all having normal conditions. Further

investigation placed the crew in a hookah lounge that was still occupied. The FD's gas meter immediately sounded upon entry to the lounge, with readings in excess of 200 ppm. The patrons and staff were immediately evacuated and the FD continued investigating. This space also had electric heat. Unable to identify the exact cause, the FD ventilated the space until the air levels returned to normal throughout the building. The tenant space was then closed, and the incident was referred to the fire prevention division for follow up.



A Hookah Primer:

Later that day the fire prevention division met

with building management to take a further look at the operation of the hookah lounge. The inspectors were not familiar with the use of hookah, so asked the manager to demonstrate. What was found was disturbing:

At first, everything appeared to be operating normally, except that the make-up air required by the mechanical code was turned off because the cold air being introduced into the space was making the space uncomfortable for the customers. The make-up air unit was also found poorly maintained and not serviced recently. Next, the business owner was asked to demonstrate how the hookah was operated, or smoked. The inspectors observed four to six red-hot coals in a pan on the top of the hookah device. When the user inhales through the hose, the air is pulled over the coals



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to the shisha (tobacco) in the bowl below.



The byproduct (smoke) is then drawn through the water pipe and inhaled by the user. So, could this burning coal be the source?

The owner was asked how the charcoal was prepared. He led us to a back room where an electric hot plate with a single coil burner was set up on a make shift table. The burner is turned to high and the charcoal is placed on top to be ignited. Some charcoals are instant light (much like cooking charcoal), and others take 10 to 20 minutes to get to temperature. This

heating process generates smoke, and naturally carbon monoxide. And, continues to burn and off-gas until the charcoal is consumed - hours later.

The final item of concern observed was that the sofas and carpeting throughout the business had holes burned through, everywhere. Some of the holes were the size of the charcoal, others were from falling ash or embers.

Fire Code Regulations:

From a fire code perspective, this type of occupancy would be considered an A-2 - Assembly use similar to a restaurant or tavern. So, a fire alarm or sprinkler system would not be required if the occupant load remains below 300 or 100 respectively. Carbon monoxide detection is not required in this particular use group. Mechanical ventilation is required to

provide fresh outside air be brought in. It is critical that this system operate properly and be running any time the tenant space is open for business.

A quick Google™ search reveals a number of CO and fire incidents at these occupancies. If you have hookah lounges in your community you have the potential for a significant incident occurring involving carbon monoxide, fire or both. Work with property owners and tenants to encourage the use of both carbon monoxide and fire detection/suppression systems.

Consider this - if 10 or more hookah pipes are being utilized simultaneously you may have 40 to 60 coals burning inside an enclosed space. This would be equivalent to having two or three charcoal grills operating within a space. This would be frowned upon,



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as well as prohibited by the fire code unless proper safeguards are in place.

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In this position he manages the Existing Structures Division that administers the fire and property maintenance code in all existing commercial and residential rental properties, and coordinates the life safety education for the community including off-campus and Greek housing.

Tim has been active with The Center for Campus Fire Safety since its inception and served as treasurer from 2007 to 2010.

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