

## *Test Your Knowledge*

### **PROMOTIONAL SCENARIOS FOR THE COMPANY OFFICERS**

#### Oil Burner emergencies—White Ghost

Responding to and operating at an oil burner incident is a common, everyday occurrence for many in the fire service. During the colder weather months, firefighters will respond to numerous emergencies that involve oil-fired heating systems. Fire departments will often experience challenges from oil fire heating systems; therefore, fire officers need to be prepared to deal with the common ‘delayed ignition’ and the not so common ‘white ghost’. This training exercise is not designed to turn you into a heating system technician. It is designed to provide the firefighter and fire officer with a few operational tips with oil burner incidents.

**White Ghost:** A white ghost is a situation that describes a lethal combination of vaporized oil, heat, and air, all in a confined space. The right combination of the three can produce an explosion and accompanying fireball that can relocate the structure’s walls. Although these occurrences are few and far between, they are the type of incident that you will never forget.

A white ghost is a white cloud of super heated vaporized oil that is released from the combustion chamber of a heating unit. As we mentioned above, when a heating unit fails to ignite the vaporized oil in the fire box, a delayed ignition or puff back can occur dislodging the units flue pipe or forcing opening the combustion chamber’s door. These openings will allow the highly heated oil cloud to escape into the basement/cellar of the structure. As the vapor escapes from the openings, it will expand as it is heated by the chamber walls and flue pipe. This release of oil vapor creates an explosive atmosphere that is seeking the right combination of air and heat to ignite. If it finds one, the results can be devastating. The most common indication of a white ghost is a strong smell of oil accompanied by what appears to be a white cloud from the basement is indicating a white ghost.

Read the test question below and provide your answers in the workspace. The answer key can be found on page two.

**Test Question:**

As the first due Company/Chief Officer, you respond to a report of smoke in the basement of a private dwelling. With the cold weather settling in, you give early considerations to the possibility of an oil burner emergency. Your initial investigation leads you to believe you are dealing with a white ghost. With this thought in mind, what steps/actions will you take at the incident?



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## White Ghost; Answer Key/Operational Guide

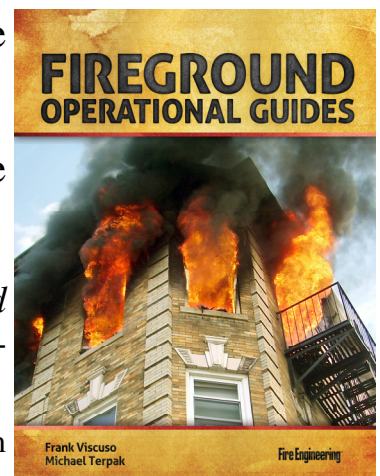
- Upon arrival, ensure that all members are in full PPE/SCBA – These can be devastating incidents causing severe damage and death.
- Evacuate all members from the area/building – This should include the basement area as a minimum.
- Evacuation may include the entire building – If conditions indicate the need to evacuate the structure, treat the incident as a defensive operation until sufficient ventilation and cooling can take affect.
- Ensure that protective hoselines are stretched and charged.
- When possible, attempt to shut down the heating unit at the remote switch.
- Attempt to eliminate all ignition sources.
- All mitigation steps must be done under the protection a stretched and charged hoseline(s).
- Ventilate the area.
- Operate a fog stream to cool the vapor cloud and space.
- Be prepared to deal with an explosion, extending fire, and a possible structural collapse.

Incidents that involve super heated, vaporized oil are extremely dangerous and should never be taken lightly.

Firefighters and fire officers should train often and educate themselves for these types of incidents.

For 70 additional operational guides, refer to the book “*Fireground Operational Guides*” by DC Frank Viscuso Kearny, NJ, and DC Michael Terpak, Jersey City (Fire Engineering Books).

Available at [FireOpsOnline.com](http://FireOpsOnline.com)



Michael Terpak is a 35 year veteran of the fire service and a Deputy Chief with the Jersey City Fire Department. Terpak travels extensively around the country lecturing on fire related topics. He is the founder of Promotional Prep, a NJ based consulting firm designed to prepare firefighters and officers for promotional exams. He is the author of three bestselling books including *Fireground Operational Guides* (with DC Frank Viscuso, PennWell 2011). The book features a universal tactical worksheet for structure fires and operational guides for over 70 incidents that range from water, gas and electrical emergencies to multiple-alarm structure fires. (available at [FireOpsOnline.com](http://FireOpsOnline.com))