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**Fire Engineering** October 1, 2008 @1300 EST  
**"The Rule of Air Management (ROAM)"**  
Presented By: Captain Mike Gagliano, Lieutenant Steve Bernocco  
Training Webcast Sponsored By: **Warrior™ SCBA** and **SPERIAN FIRE**

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### FIRE ENGINEERING BLOG



Our advisory board discusses hot topics in the fire service. Your comments welcome!

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### QUICK VOTE

How do you operate at an attached garage fire?

- Line in the front door
- Direct attack
- Dual lines

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### FORUM HIGHLIGHT

"My question is if your department uses [building construction placards] and if so what is the design of your placard and policy for its use?"

## Heavy Fire in Lightweight Construction

BY SYDNEY HENRY JR.

At 4:36 a.m., the Elmsford (NY) Fire Department was dispatched for a possible house fire at 20 North Mortimer Avenue. Elmsford Chief Michael Eannazzo arrived on the scene at 4:39 a.m. and confirmed a fully involved structure fire at the Mortimer Avenue address with a resident trapped on the front porch roof and heavy extension into the attic of 18 North Mortimer Avenue (exposure D). He established command according to the incident command system (ICS) and transmitted a mutual-aid second alarm.

Ladder 55 was first due and was raising its aerial when the trapped resident jumped onto the roof of a police car, which was parked in the driveway. The fire department ambulance subsequently transported him to Westchester Medical Center for treatment of minor injuries. All other residents self-evacuated (photo 1).



(1) Photos by John Falcone. [Click here to enlarge image](#)

Engine 237 arrived second due and placed its deck gun in operation in front of exposure D, knocking down the fire in the attic and protecting it from additional damage from the original fire.

Engine 137, which arrived third due, placed its deck gun in operation in front of 22 North Mortimer Avenue (exposure B), effectively protecting it from radiant heat and fire.

Ladder 55 then placed its ladder pipe in operation in front of 20 North Mortimer Avenue (the original fire building). In addition, a number of 2½-inch handlines were deployed there (photo 2).

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#### CORBETT'S TRIVIA

##### Corbett's Trivia

Who invented the first steam-powered fire engine?

[More Corbett's Trivia](#)



#### FIREFIGHTER FATALITIES

##### Notice of Firefighter Fatality: Gretna, LA

Ralph Arabie of the David Crockett Steam Fire Co. No. 1 in Gretna, LA has died as the result of an on-duty incident that occurred on 2008-09-29.

[More Firefighter Fatalities](#)



(2)

The mutual-aid second alarm brought in the following units: Rescue 9 (FAST unit), Engine 175, and Tower Ladder 12 to the scene and Engine 170 and Ladder 36 to relocate to our station, to replace the first-alarm units and for staging for possible response to the scene. A mutual-aid ambulance and the Battalion 14 deputy coordinator were also assigned on the second alarm.

Because of the number of mutual-aid units responding, the Westchester County deputy commissioner of emergency services also responded to the scene.

Before the incident, the fire department was aware that the houses at 18, 20, and 22 North Mortimer Avenue, built in May 2005, all were of wood-frame lightweight construction. Because of the lightweight construction of exposure D and the heavy fire conditions in the attic, no interior operations were initiated. "Lightweight construction: exterior operations only" was announced over the fireground radio.

Engine 175 stretched a 2½-inch handline from North Goodwin Avenue (which paralleled Mortimer) on the exposure C side of the involved structures and began operating on the D side of exposure D.

Shortly after these operations had begun, the entire roof of exposure D collapsed catastrophically (photo 3).



(3)

[Click here to enlarge image](#)

Tower Ladder 12 raised its bucket to the D side of exposure D, darkening the fire in the roof and taking out all second-floor windows, facilitating access to the fire by the exterior handline streams (photo 4).



(4)

[Click here to enlarge image](#)

All of these operations strained the water main on North Mortimer Avenue, at which time Engine 170 was redirected into the scene to pump into a four-inch supply line that had been hand-stretched from Engine 237 to a hydrant on North Hillside Avenue, one block beyond the exposure A side of the involved structures.

Mutual-aid Engine 164 was called to stretch a four-inch supply line from a hydrant on a larger water main on Route 119, along North Mortimer Avenue, to supplement the units on the scene.



Mutual-aid Engine 80 was relocated to our station to replace the redirected Engine 170.

The Westchester County Cause and Origin Team determined the fire to be accidental, apparently starting in an enclosed exterior porch on the D side of the original fire building; however, the exact cause could not be determined.

All units then operated at the scene for an extended time, until the fire was finally placed under control at 6:00 a.m. Extensive overhauling was begun using Class A foam at 0.5 percent concentration, which effectively decreased the time and effort normally needed for this type of operation. All units were finally released from the scene shortly after 11:00 a.m.

In July 2007, the Elmsford Fire Department converted all of its onboard foam systems from Class B to Class A and issued a department order stipulating that Class A foam lines be the initial lines stretched at most fires.

The conversion was done for the following reasons:

- All of our onboard foam systems were previously equipped with Class B foam, which were almost never used and regularly caused system maintenance problems because of its thicker consistency. The thinner consistency of the Class A foam has virtually eliminated maintenance problems.
- A neighboring department reported remarkable success with Class A foam on vehicle, dumpster, and structure fires.
- The added expense was not an issue, because of the very low concentration (0.5 to 1.0 percent) needed to be effective.
- Our department did extensive research, testing, and training to validate its implementation.

## LESSONS LEARNED

- Implementing the ICS on arrival made this fire a safe and efficient operation.
- Immediate and effective use of master streams (two deck guns and one ladder pipe) contained the fire to the area of involvement.
- Immediate request for mutual aid quickly enhanced fireground operations and supplemental water supplies.
- Lightweight construction featuring wood truss/gusset plates and particleboard burns very hot and very fast and collapses early in the operations. Early recognition of this construction and implementing defensive operations are essential for firefighter safety.
- The use of Class A foam at 0.5 percent substantially reduced the time spent in overhaul and virtually eliminated the possibility of reignition.
- Although not employed at this fire, Class A foam at 0.5 percent concentration could have been used for suppression and at 1.0 percent concentration for exposure protection.
- Effective communications (the county trunk radio system and the county fireground portable radio system) facilitated the entire operation involving numerous agencies that do not normally use common frequencies.
- Continuous and regularly scheduled quality training made all of the above points possible.

**SYDNEY HENRY JR.** is chief of the Elmsford (NY) Fire Department and a 43-year veteran of the volunteer fire service. He previously served with the Tarrytown (NY) Fire Department and was an engine company lieutenant and captain with both departments prior to becoming an assistant chief in May 2004 and chief of department in May 2008. He is also an EMT-B.

August 1, 2008

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