



NY Fire Safety Institute

Presents the FDNY Certificate of Fitness

F-89

Fire & Life Safety Director

Component 2 Non-Fire

Established 1995

Preparing the future High Rise Building Fire Safety Directors

NY Fire Safety Institute

The New Yorker, A Wyndham Hotel

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PART III. NON-FIRE EMERGENCY SAFETY TRAINING

13. APPLICABLE LESSONS FROM 911 WORLD TRADE CENTER ATTACKS

(This section was cited from NIST NCSTAR 1, 2005, Federal building and fire safety investigation of the world trade center disaster report. “Final Report on the Collapse of the World Trade Center Towers. http://ws680.nist.gov/publication/get_pdf.cfm?pub_id=909017)

The September 11 attacks were a series of terrorist attacks on September 11, 2001. Four passenger airliners were hijacked by al-Qaeda terrorists. Two of the planes were crashed into the North and South towers, respectively, of the World Trade Center complex in New York City. Both buildings collapsed within 2 hours with debris and the resulting fires causing partial or complete collapse of all other buildings in the World Trade Center complex. The attacks took the lives of nearly 3,000 people and injured over 6,000 others.

In 2005, the National Institute of Standards and Technology (NIST) released a final report on the collapsed of the World Trade Center Towers. Some recommendations from the NIST report regarding to fire alarm panel, communication system, and building evacuation issues are listed below:

- **Fire alarm panel and communication system:**

The NIST recommends that fire alarm and communication systems in buildings be developed to provide continuous, reliable, and accurate information on the status of life safety conditions at a level of detail sufficient to manage the evacuation process in building fire emergencies; all communication and control paths in buildings need to be designed and installed to have same resistance to failure and increased survivability above that specified in present standards.

The NIST also recommends the inspection and testing of emergency communication system, radio communications and associated operating protocol to ensure that the systems and protocols: (1) are effective for large-scale emergencies in buildings with challenging radio frequency propagation environments; and (2) can be used to identify, locate, and track first responders within indoor building environments and in the field.

- **Building evacuation**

The building owner and staff should develop and carry out training education to improve building occupants' preparedness for evacuation in case of building emergencies. For example they should be familiar with the egress route. The egress systems should be provided with consistent layouts and standard signage and guidance so that systems become intuitive and obvious to building occupants during evacuations. The laws should not discourage building occupants from familiarizing themselves with the detailed layout of egress routes.