

- Diesel fuel fires did not play a role in the collapse of WTC 7. The worst-case scenarios associated with fires being fed by the ruptured fuel lines (a) could not have been sustained long enough, or could not have generated sufficient heat, to raise the temperature of a critical column (i.e., Column 79) to the point of significant loss of strength or stiffness, or (b) would have produced large amounts of visible smoke that would have emanated from the exhaust louvers. No such smoke discharge was observed.
- Blast events did not play a role in the collapse of WTC 7. Based on visual and audio evidence and the use of specialized computer modeling to simulate hypothetical blast events, NIST concluded that blast events did not occur, and found no evidence whose explanation required invocation of a blast event. Blast from the smallest charge capable of failing a critical column (i.e., Column 79) would have resulted in a sound level of 130 dB to 140 dB at a distance of at least half a mile if unobstructed by surrounding buildings (such as along Greenwich Street or West Broadway). This sound level is consistent with standing next to a jet plane engine and more than 10 times louder than being in front of the speakers at a rock concert. There were no witness reports of such a loud noise, nor was such a noise heard on the audio tracks of video recordings of the WTC 7 collapse.

Objective 2: Determine why the injuries and fatalities were so high or low depending on location, including all technical aspects of fire protection, occupant behavior, evacuation, and emergency response.

- There were no serious injuries or fatalities because the estimated 4,000 occupants of WTC 7 reacted to the airplane impacts on the two WTC towers and began evacuating before there was significant damage to WTC 7. Evacuation of the building took just over an hour.
- The occupants were able to use both the elevators and the stairs, which were as yet not damaged, obstructed, or smoke-filled.
- Building management personnel held the occupants in the building lobby until they identified an exit path that was safe from the debris falling from WTC 1 across the street.
- The decision not to continue evaluating and fighting the fires was made hours before the building collapsed, so no emergency responders were in or near the building when the collapse occurred.

Objective 3: Determine what procedures and practices were used in the design, construction, operation, and maintenance of WTC 7.

- The design of WTC 7 was generally consistent¹ with the NYCBC.
- Consistent with the NYCBC, there was no redundancy in the source of water supply for the sprinkler system in the lower 20 floors of WTC 7. Since there was no gravity-fed overhead

¹ NIST did not conduct an exhaustive review of the plans and specifications for WTC 7 to determine compliance with the NYCBC, for the reasons stated in Disclaimer No. 4 (see page ii).