

9.4 FIRE INTENSITIES

Figure 9–13 shows the rates of heat release for the simulated fires on the 7th, 8th, and 12th floors. The time of 0 h corresponds roughly to noon on September 11, 2001. There was only a single observation of a (small) fire on Floors 7 through 13 from 10:28:22 a.m., when it is likely that the actual fires started, until about 2:00 p.m. Thus, it is probable that the fires were no more intense during the interval from 10:28:22 a.m. to noon than the early intensities in Figure 9–13.

The simulated fires on the 7th and 8th floors occurred in open landscaped areas, with free access to fresh air. Therefore, the shapes of the heat release curves do not reflect the additional window breakage. The jump in heat release rate for the 8th floor at 3 h is a result of a second fire having been started in the already heated northwest section of the floor.

In the computations, the fire on the 12th floor, and thus the derivative fires on the 11th and 13th floors, generated significantly more heat than the fire on the 7th or 8th floor. This was in large part due to the higher fuel load in the simulations of the 11th, 12th, and 13th floors and the larger burning area of the fires on these floors (i.e., the west and north floor areas on the 7th and 8th floors were smaller than the south and east areas of the 11th, 12th, and 13th floors).

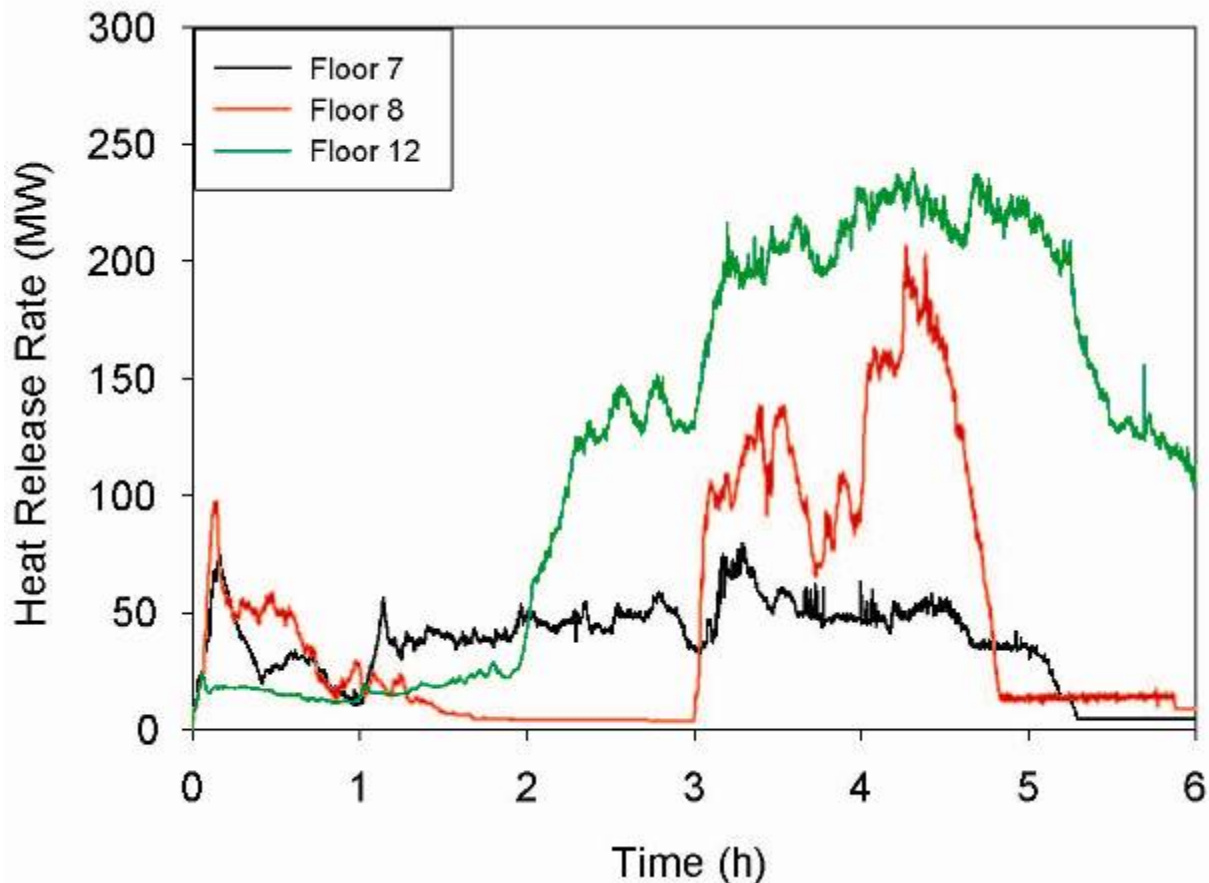


Figure 9–13. Rates of heat release of simulated fires in WTC 7.