

floor in an east-west direction. At the east end of the 5th floor and to the south of the wall was a 1- to 2-story mechanical equipment room. Transfer Trusses 1 and 2 were located in this room. The east end of Truss 1 was supported by a truss element that ran perpendicular (i.e., north-south) to the main east-west portions of the truss. There was a set of double doors opening from the mechanical room to the area containing the four generator sets previously mentioned. The fuel oil distribution pipe ran above this door several feet to the north of the masonry wall. The type, quality, and hardware on the door set are unknown. The position of the door (i.e., open or closed) at the time of the incident is also unknown. Also, no information was available in regard to the size of the undercut on the door.

The fuel oil pumps were powered from the generator sets. Fuel oil would have been pumped from the tanks when the emergency power system sensed a power interruption. The pump then operated in response to the pressure difference between the supply and return, and the pump would circulate oil as long as such a difference existed. Upon sensing a power interruption, the system would automatically switch to emergency mode. This would have been done with a transfer switch that monitored the building power supply and transferred to the emergency power system if the power from the Con Ed source was interrupted. It was also possible for the transfer to be made manually. Relative to continuity of power to the building, Con Ed reported that “the feeders supplying power to WTC 7 were de-energized at 9:59 a.m.” It is believed that the emergency generators came on line immediately. It is also believed that some of them may have stopped operating because of the contamination of the intake air flowing into the carburetors and radiators. Except for the SSB system, where it is understood that a UPS system provided backup power to the 75-gpm pump, the flow of oil would stop and, as soon as the day tanks were empty, the involved generator set would stop running.

The SSB generators did not use day tanks. Instead there was a pressurized loop system that served all nine generators. As long as the 75-gpm pump continued to operate, a break in the line could, under some conditions, have a full or partial break that would not cause the system to shut down and could discharge up to the 75-gpm capacity of this positive displacement pump. It is understood that the SSB pump was supplied power from both the SSB generators and from the UPS.

Engineers from the New York State Department of Environmental Conservation investigated oil contamination in the debris of WTC 7. Their principal interest was directed to the various oils involved in the Con Ed equipment. However, they reported the following findings on fuel oil: “In addition to Con Ed’s oil, there was a maximum loss of 12,000 gallons of diesel from two underground storage tanks registered as 7WTC.” To date, the NY State Environmental Protection Agency (EPA) and DEC have recovered approximately 20,000 gallons from the other two intact 11,600-gallon underground fuel oil storage tanks at WTC 7.

Based on the listings in Table 5.2, it is probable that the 20,000 gallons that were recovered were from the Silverstein Properties’ emergency power system. The data obtained from Silverstein indicate that the pumping rate from their tanks was 4.4 gpm. If the Silverstein pump had started pumping at 10 a.m., when Con Ed shut down power to the building immediately following the collapse of WTC 2, and continued pumping until the collapse of WTC 7 at 5:20 p.m., less than 2,000 gallons would have been used. The residual 20,000 gallons found in the two 12,000-gallon tanks, therefore, can not be used as an indicator of whether or not the Silverstein generator sets were on line and running.

Similarly, the SSB pump, which had a pumping rate of 75 gpm, would have drained the two 6,000-gallon tanks serving that system in less than 3 hours. This could have accounted for the lost 12,000 gallons reported by EPA or the tanks could have been ruptured and the oil spilled into the debris pile. Again, this is not a valid indicator of whether or not the SSB generator sets came on line. The NY State EPA indicates that the SSB tanks will be pulled from the debris in the near future. This may or may