

Table A-1. Times for major events on September 11, 2001 (Chapter 5).

Event	Time (± 3 s)
First Plane Strike – WTC 1	8:46:30 a.m.
Second Plane Strike - WTC 2	9:02:59 a.m.
Collapse of WTC 2	9:58:59 a.m.
Collapse of WTC 1	10:28:22 a.m.
Collapse of WTC 7	5:20:52 p.m.

A.2 PHYSICAL LAYOUT OF THE CON EDISON WTC 7 SUBSTATION

Figure A-1 provides an overall plan view of the WTC building complex that relates the buildings cited in the text to the geographical layout. The Con Edison substation (indicated in red in Figure A-1) was located on Barclay Street, and comprised the first two levels along the north side of WTC 7. The 47 story building was considered a "tenant alteration" (Syska & Hennessy 1984) by The Port Authority of New York and New Jersey (PANYNJ) to the original building housing the substation. Figure A-2 is a photograph of WTC 7 that shows the roof over the north portion of the substation and the Barclay Street facade, taken some time before September 11, 2001.

Construction of the two story building housing the substation, originally known as the Keystone Building, was begun in 1967. The nine transformer vaults that housed the 138/13.8 kV units were situated along the northern and western edges of the building, covering an area of about 85 m by 43 m (278 ft by 140 ft) on the 1st floor level. There was manhole access to the splicing chambers for both the incoming 138 kV and outgoing 13.8 kV cables (Syska & Hennessy 1984a). The extensive line-up of 13.8 kV switchgear was situated in two rows to the south of the transformer vaults (Syska & Hennessy 1984a). Access within the substation was provided by stairwells on the west side, in the center, and on the east side of the building. None of these stairs extended into the 47 story building above. Roll-up doors secured the two driveways on Barclay Street and Washington Street (PANYNJ 1987).