

- superimposed dead load consisting of the estimated weights of ceilings, mechanical and electrical equipment, thermal insulation, and floor finishes; and
- service live load, taken as 25 percent of the design live load.

The gravity loads from the portion of the building above Floor 16 were applied as concentrated forces to each column at Floor 16. Wind loads on September 11, 2001, were not structurally significant and, therefore, not considered.

LOADING SCHEDULE									
LOAD AREA (PSF)	CONCRETE SLAB	FILL, FINISH, ROOFING	CEILING DUCTWORK	PARTITIONS	FLOORING	BEAMS, ENCASEMENT, FIREPROOFING	TOTAL DEAD LOAD	LIVE LOAD	TOTAL LOAD
MAIN ROOF, BULKHEAD ROOF	50	10	8			7	75	30	105
8 TH -20 TH FL. 24 TH -46 TH FL.	50		5	12		8	75	50	125
21 ST -23 RD FL.	50		5	12	15	8	90	75	165
7 TH FLOOR NORTH SIDE	80		5	12		93	190	50	240
7 TH FLOOR SOUTH SIDE	80	38	8	12		27	165	50	215
6 TH FLOOR OFFICE SPACE	56		5	12		7	80	50	130
6 TH FLOOR SWITCHBOARD ROOM	62	38				55	155	100	255
5 TH FLOOR OFFICE SPACE	150	38	5			17	210	50	260
5 TH FLOOR MECHANICAL SPACE	150	38	5			17	210	150	360
4 TH FLOOR	56	75	5			10	146	100	246
3 RD FLOOR NEW CONSTRUCTION	56	75	5			10	146	100	246
3 RD FLOOR OVER EXISTING SUBSTATION							240	100	340
2 ND FLOOR NEW CONSTRUCTION	56	60	5			10	131	150	281
2 ND FLOOR EXISTING SUBSTATION							240	150	390
1 ST FLOOR LOBBY	175	90				50	315	100	415
1 ST FLOOR EXISTING SUBSTATION							300	225	525

Source: Reproduced with permission of The Port Authority of New York and New Jersey. Figure 5-4 in NIST NCSTAR 1-1

Figure 11-17. Design load criteria for WTC 7.

Thermal Loads

Three thermal cases (A, B, and C) were developed in the thermal analyses (Section 10.3.1) that were within the range of realistic and reasonable fires in WTC 7 on September 11, 2001. Case A was based on the temperature data obtained from the FDS simulations. Cases B and C increased and decreased,