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5 WTC 7

5.1 Introduction

WTC 7 collapsed on September 11, 2001, at 5:20 p.m. There were no known casualties due to this collapse. The performance of WTC 7 is of significant interest because it appears the collapse was due primarily to fire, rather than any impact damage from the collapsing towers. Prior to September 11, 2001, there was little, if any, record of fire-induced collapse of large fire-protected steel buildings.

The structural design and construction features of this building, potential fuel loads, fire damage, and the observed sequence of collapse are presented to provide a better understanding of what may have happened. However, confirmation will require additional study and analysis. Information about the structural design and construction features and the observed sequence of events is based upon a review of structural drawings, photographs, videos, eyewitness reports, and a 1986 article about the construction features of WTC 7 (Salvarinas 1986). In addition, the following information and data were obtained from the indicated sources:

- Annotated floor plans and riser diagrams of the emergency generators and related diesel oil tanks and distribution systems (Silverstein Properties 2002)
- Engineering explanation of the emergency generators and related diesel oil tanks and distribution systems (Flack and Kurtz, Inc. 2002)
- Information on the continuity of power to WTC 7 (Davidowitz 2002)
- Summary of diesel oil recovery and spillage (Rommel 2002)
- Information on WTC 7 fireproofing (Lombardi 2002)
- Information on the New York City Office of Emergency Management (OEM) tanks at WTC 7 (Odermatt 2002)

The 47-story office building had 1,868,000 square feet of office space. The top 40 stories of the building (floors 8 to 47) were office type occupancies. Table 5.1 lists the larger tenants of WTC 7. WTC 7 was completed in 1987 by a development team composed of the following parties:

- Owner/Developer: Seven World Trade Company, Silverstein Development Corporation, General Partner
- Construction Manager: Tishman Construction Corporation of New York
- Design Architect: Emery Roth & Sons, P.C.
- Structural Consultant: The Office of Irwin G. Cantor, P.C.
- Mechanical/Electrical Consultant: Syska & Hennessy, P.C.
- Structural Consultant (Con Ed Substation): Leslie E. Robertson Associates