

the building.⁴⁸ Means should be developed for offsite storage and maintenance of the documents. In addition, NIST recommends that relevant building information be made available in suitably designed hard copy or electronic format for use by emergency responders. Such information should be easily accessible by responders during emergencies. *Model Building Codes:* Model building codes should incorporate this recommendation. State and local jurisdictions should adopt and enforce these requirements.

Recommendation 28. NIST recommends that the role of the “Design Professional in Responsible Charge”⁴⁹ be clarified to ensure that: (1) all appropriate design professionals (including, e.g., the fire protection engineer) are part of the design team providing the standard of care when designing buildings employing innovative or unusual fire safety systems,⁵⁰ and (2) all appropriate design professionals (including, e.g., the structural engineer and the fire protection engineer) are part of the design team providing the standard of care when designing the structure to resist fires, in buildings that employ innovative or unusual structural and fire safety systems. *Affected Standards:* AIA Practice Guidelines. *Model Building Codes:* The IBC, which already defines the “Design Professional in Responsible Charge,” be clarified to address this recommendation. The NFPA 5000 should incorporate the “Design Professional in Responsible Charge” concept and address this recommendation.

9.2.8 Group 8. Education and Training

The professional skills of building and fire safety professionals should be upgraded through a national education and training effort for fire protection engineers, structural engineers, and architects. The skills of the building regulatory and fire service personnel should also be upgraded to provide sufficient understanding and the necessary skills to conduct the review, inspection, and approval tasks for which they are responsible.

Recommendation 29. NIST recommends that continuing education curricula be developed and programs be implemented for (1) training fire protection engineers and architects in structural engineering principles and design, and (2) training structural engineers, architects, fire protection engineers, and code enforcement officials in modern fire protection principles and technologies, including fire-resistance design of structures, and (3) training building regulatory and fire service personnel to upgrade their understanding and skills to conduct the review, inspection, and approval tasks for which they are responsible. The outcome would further the integration of the disciplines in effective fire-safe design of buildings. *Affected Organizations:* AIA, SFPE, ASCE, ASME, AISC, ACI, and state licensing boards. *Model Building Codes:* Detailed criteria and requirements should be incorporated into the model building codes under the topic “Design Professional in Responsible Charge.”

⁴⁸ The availability of inexpensive electronic storage media and tools for creating large searchable databases make this feasible.

⁴⁹ In projects involving a design team, the “Design Professional in Responsible Charge”—usually the lead architect—ensures that the team members use consistent design data and assumptions, coordinates overlapping specifications, and serves as the liaison to the enforcement and reviewing officials and to the owner. The term is defined in the International Building Code and in the ICC Performance Code for Buildings and Facilities (where it is the Principal Design Professional).

⁵⁰ If the fire safety concepts in tall buildings had been sufficiently mature in the 1960s, it is possible that the risks associated with jet-fuel ignited multi-floor fires might have been recognized and taken into account when the impact of a Boeing 707 aircraft was considered by the structural engineer during the design of the WTC towers.