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INCIDENT INVESTIGATION

§ 102–80.65 What are Federal agencies' responsibilities concerning the investigation of incidents, such as fires, accidents, injuries, and environmental incidents?

Federal agencies have the following responsibilities concerning the investigation of incidents, such as fires, accidents, injuries, and environmental incidents in buildings they operate:

(a) Investigate all incidents regardless of severity.

(b) Form Boards of Investigation for incidents resulting in serious injury, death, or significant property losses.

RESPONSIBILITY FOR INFORMING TENANTS

§ 102–80.70 Are Federal agencies responsible for informing their tenants of the condition and management of their facility safety and environment?

Yes, Federal agencies must inform their tenants of the condition and management of their facility safety and environment. Agencies operating GSA buildings must report any significant facility safety or environmental concerns to GSA.

ASSESSMENT OF ENVIRONMENTAL ISSUES

§ 102–80.75 Who assesses environmental issues in Federal construction and lease construction projects?

Federal agencies must assess required environmental issues throughout planning and project development so that the environmental impacts of a project are considered during the decision making process.

Subpart C—Accident and Fire Prevention

§ 102–80.80 With what general accident and fire prevention policy must Federal agencies comply?

Federal agencies must—

(a) Comply with the occupational safety and health standards established in the Occupational Safety and Health Act of 1970 (Pub. L. 91–596); Executive Order 12196; 29 CFR part 1960; and applicable safety and environmental management criteria identified in this part;

(b) Not expose occupants and visitors to unnecessary risks;

(c) Provide safeguards that minimize personal harm, property damage, and impairment of Governmental operations, and that allow emergency forces to accomplish their missions effectively;

(d) Follow accepted fire prevention practices in operating and managing buildings;

(e) To the maximum extent feasible, comply with one of the nationally recognized model building codes and with other nationally-recognized codes in their construction or alteration of each building in accordance with 40 U.S.C. 3312; and

(f) Use the applicable national codes and standards as a guide for their building operations.

STATE AND LOCAL CODES

§ 102–80.85 Are Federally owned and leased buildings exempt from State and local code requirements in fire protection?

Federally owned buildings are generally exempt from State and local code requirements in fire protection; however, in accordance with 40 U.S.C. 3312, each building constructed or altered by a Federal agency must be constructed or altered, to the maximum extent feasible, in compliance with one of the nationally recognized model building codes and with other nationally recognized codes. Leased buildings are subject to local code requirements and inspection.

FIRE ADMINISTRATION AUTHORIZATION ACT OF 1992

§ 102–80.90 Is the Fire Administration Authorization Act of 1992 (Public Law 102–522) relevant to fire protection engineering?

Yes, the Fire Administration Authorization Act of 1992 (Pub. L. 102–522) requires sprinklers or an equivalent level of safety in certain types of Federal employee office buildings, Federal employee housing units, and Federally assisted housing units (15 U.S.C. 2227).

§ 102–80.95 Is the Fire Administration Authorization Act of 1992 applicable to all Federal agencies?

Yes, the Fire Administration Authorization Act applies to all Federal agencies and all Federally owned and leased buildings in the United States.

AUTOMATIC SPRINKLER SYSTEMS

§ 102–80.100 What performance objective should an automatic sprinkler system be capable of meeting?

The performance objective of the automatic sprinkler system is that it must be capable of protecting human lives. Sprinklers should be capable of controlling the spread of fire and its effects beyond the room of origin. A functioning sprinkler system should activate prior to the onset of flashover.

EQUIVALENT LEVEL OF SAFETY ANALYSIS

§ 102–80.105 What information must be included in an equivalent level of safety analysis?

The equivalent level of life safety evaluation is to be performed by a qualified fire protection engineer. The analysis should include a narrative discussion of the features of the building structure, function, operational support systems and occupant activities that impact fire protection and life safety. Each analysis should describe potential reasonable worst case fire scenarios and their impact on the building occupants and structure. Specific issues that must be addressed include rate of fire growth, type and location of fuel items, space layout, building construction, openings and ventilation, suppression capability, detection time, occupant notification, occupant reaction time, occupant mobility, and means of egress.

§ 102–80.110 What must an equivalent level of safety analysis indicate?

To be acceptable, the analysis must indicate that the existing and/or proposed safety systems in the building provide a period of time equal to or greater than the amount of time available for escape in a similar building complying with the Fire Administration Authorization Act. In conducting these analyses, the capability, adequacy, and reliability of all building systems impacting fire growth, occupant knowledge of the fire, and time required to reach a safety area will have to be examined. In particular, the impact of sprinklers on the development of hazardous conditions in the area of interest will have to be assessed.

§ 102–80.115 Is there more than one option for establishing that an equivalent level of safety exists?

Yes, the following are three options for establishing that an equivalent level of safety exists:

(a) In the first option, the margin of safety provided by various alternatives is compared to that obtained for a code complying building with complete sprinkler protection. The margin of safety is the difference between the available safe egress time and the required safe egress time. Available safe egress time is the time available for evacuation of occupants to an area of safety prior to the onset of untenable conditions in occupied areas or the egress pathways. The required safe egress time is the time required by occupants to move from their positions at the start of the fire to areas of safety. Available safe egress times would be developed based on analysis of a number of assumed reasonable worst case fire scenarios including assessment of a code complying fully sprinklered building. Additional analysis would be used to determine the expected required safe egress times for the various scenarios. If the margin of safety plus an appropriate safety factor is greater for an alternative than for the fully sprinklered building, then the alternative should provide an equivalent level of safety.

(b) A second alternative is applicable for typical office and residential scenarios. In these situations, complete sprinkler protection can be expected to prevent flashover in the room of fire origin, limit fire size to no more than 1 megawatt (950 Btu/sec), and prevent flames from leaving the room of origin. The times required for each of these conditions to occur in the area of interest must be determined. The shortest of these three times would become the

time available for escape. The difference between the minimum time available for escape and the time required for evacuation of building occupants would be the target margin of safety. Various alternative protection strategies would have to be evaluated to determine their impact on the times at which hazardous conditions developed in the spaces of interest and the times required for egress. If a combination of fire protection systems provides a margin of safety equal to or greater than the target margin of safety, then the combination could be judged to provide an equivalent level of safety.

(c) As a third option, other technical analysis procedures, as approved by the responsible agency head, can be used to show equivalency.

§ 102–80.120 What analytical and empirical tools should be used to support the life safety equivalency evaluation?

Analytical and empirical tools, including fire models and grading schedules such as the Fire Safety Evaluation System (Alternative Approaches to Life Safety, NEPA 101A) should be used to support the life safety equivalency evaluation. If fire modeling is used as part of an analysis, an assessment of the predictive capabilities of the fire models must be included. This assessment should be conducted in accordance with the American Society for Testing and Materials Standard Guide for Evaluating the Predictive Capability of Fire Models (ASTM E 1355).

§ 102–80.125 Who has the responsibility for determining the acceptability of each equivalent level of safety analysis?

The head of the agency responsible for physical improvements in the facility or providing Federal assistance or a designated representative will determine the acceptability of each equivalent level of safety analysis. The determination of acceptability must include a review of the fire protection engineer's qualifications, the appropriateness of the fire scenarios for the facility, and the reasonableness of the assumed maximum probable loss. Agencies should maintain a record of each accepted equivalent level of safety analysis and provide copies to fire departments or other local authorities for use in developing pre-fire plans.

§ 102–80.130 Who must perform the equivalent level of safety analysis?

A qualified fire protection engineer must perform the equivalent level of safety analysis.

§ 102–80.135 Who is a qualified fire protection engineer?

A qualified fire protection engineer is defined as an individual with a thorough knowledge and understanding of the principles of physics and chemistry governing fire growth, spread, and suppression, meeting one of the following criteria:

(a) An engineer having an undergraduate or graduate degree from a college or university offering a course of study in fire protection or fire safety engineering, plus a minimum of 4 years work experience in fire protection engineering.

(b) A professional engineer (P.E. or similar designation) registered in Fire Protection Engineering.

(c) A professional engineer (P.E. or similar designation) registered in a related engineering discipline and holding Member grade status in the International Society of Fire Protection Engineers.

ROOM OF ORIGIN

§ 102–80.140 What is meant by "room of origin"?

Room of origin means an area of a building where a fire can be expected to start. Typically, the size of the area will be determined by the walls, floor, and ceiling surrounding the space. However, this could lead to unacceptably large areas in the case of open plan office space or similar arrangements. Therefore, the maximum allowable fire area should be limited to 200 m2 (2000 ft2), including intervening spaces. In the case of residential units, an entire apartment occupied by one tenant could be considered as the room of origin to the extent it did not exceed the 200 m2 (2000 ft2) limitation.

FLASHOVER

§ 102–80.145 What is meant by "flashover"?

Flashover means fire conditions in a confined area where the upper gas layer temperature reaches 600 °C (1100 °F) and the heat flux at floor level exceeds 20 kW/m2 (1.8 Btu/ft2/sec).

REASONABLE WORST CASE FIRE SCENARIO

§ 102–80.150 What is meant by "reasonable worst case fire scenario"?

Reasonable worst case fire scenario means a combination of an ignition source, fuel items, and a building location likely to produce a fire that would have a significant adverse impact on the building and its occupants. The development of reasonable worst case scenarios must include consideration of types and forms of fuels present (e.g., furniture, trash, paper, chemicals), potential fire ignition locations (e.g., bedroom, office, closet, corridor), occupant capabilities (e.g., awake, intoxicated, mentally or physically impaired), numbers of occupants, detection and suppression system adequacy and reliability, and fire department capabilities. A quantitative analysis of the probability of occurrence of each scenario and combination of events will be necessary.

PART 102–81—SECURITY

Subpart A—General Provisions

Sec.

102–81.5 What is the scope of this part?
102–81.10 What basic security policy governs Federal agencies?

Subpart B—Security

102–81.15 Who is responsible for upgrading and maintaining security standards in each existing Federally owned and leased facility?
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102–81.30 What information must job applicants at child care centers reveal?

AUTHORITY: 40 U.S.C. 121(c), 581–593, and 1315.

SOURCE: 70 FR 67856, Nov. 8, 2005, unless otherwise noted.

Subpart A—General Provisions

§ 102–81.5 What is the scope of this part?

The real property policies contained in this part apply to Federal agencies, including GSA's Public Buildings Service (PBS), operating under, or subject to, the authorities of the Administrator of General Services.

§ 102–81.10 What basic security policy governs Federal agencies?

Federal agencies on Federal property under the charge and control of the Administrator and having a security delegation of authority from the Secretary of the Department of Homeland Security must provide for the security and protection of the real estate they occupy, including the protection of persons within the property.

Subpart B—Security

§ 102–81.15 Who is responsible for upgrading and maintaining security standards in each existing Federally owned and leased facility?

In a June 28, 1995, Presidential Policy Memorandum for Executive Departments and Agencies, entitled ''Upgrading Security at Federal Facilities'' (see the Weekly Compilation of Presidential Documents, vol. 31, p. 1148), the President directed that Executive agencies must, where feasible, upgrade and maintain security in facilities they own or lease under their own authority to the minimum standards specified in the Department of Justice's June 28, 1995, study entitled ''Vulnerability Assessment of Federal Facilities.'' The study may be obtained by writing to the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250–7954.

§ 102–81.20 Are the security standards for new Federally owned and leased facilities the same as the standards for existing Federally owned and leased facilities?

No, the minimum standards specified in the Department of Justice's June 28,