source, fuel items, and a building location likely to produce a fire which 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.

(d) *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 m^2 (2000 ft^2) 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 m^2 (2000 ft^2) limitation.

§ 101–6.604 Requirements.

(a) 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 which 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 which 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.

(b) 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 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. Three options are provided for establishing that an *equivalent level of safety* exists.

(1) 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 egressd 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*.

(2) 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*.

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

(c) Analytical and empirical tools, including fire models and grading schedules such as the Fire Safety Evaluation System (Alternative Approaches to Life Safety, NEPA 101M) 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).

§101–6.605 Responsibility.

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 prefire plans.

Subparts 101–6.7—101–6.9 [Reserved]

Subpart 101–6.10—Federal Advisory Committee Management

AUTHORITY: Sec. 205(c), 63 Stat. 390; 40 U.S.C. 486(c); sec. 7, 5 U.S.C. app.; and E.O. 12024, 3 CFR 1977 Comp., p. 158.

SOURCE: 52 FR 45929, Dec. 2, 1987, unless otherwise noted.

§101–6.1001 Scope.

(a) This subpart defines the policies, establishes minimum requirements, and provides guidance to agency management for the establishment, operation, administration, and duration of advisory committees subject to the Federal Advisory Committee Act, as amended. Reporting requirements which keep the Congress and the public informed of the number, purpose, membership activities, and cost of these advisory committees are also included.

(b) The Act and this subpart do not apply to advisory meetings or groups listed in §101–6.1004.

[52 FR 45929, Dec. 2, 1987, as amended at 54 FR 41215, Oct. 5, 1989]

§101–6.1002 Policy.

The policy to be followed by Federal departments, agencies, and commissions, consistent with the Federal Advisory Committee Act, as amended, is as follows:

(a) An advisory committee shall be established only when it is essential to the conduct of agency business. Decision criteria include whether committee deliberations will result in the creation or elimination of, or change in regulations, guidelines, or rules affecting agency business; whether the information to be obtained is already available through another advisory committee or source within the Federal Government; whether the committee will make recommendations resulting in significant improvements in service or reductions in cost; or whether the committee's recommendations will provide an important additional perspective or viewpoint impacting agency operations;