

APPENDIX D

QUALIFICATION CHARACTERISTICS FOR DESIGN AND REVIEW OF PERFORMANCE-BASED DESIGNS

SECTION D101 GENERAL

D101.1 Scope. In order for anyone to assess and verify that all of the members of a design team have the knowledge and characteristics needed to execute or review a performance-based design, the following lists are provided. This technique is designed specifically for performance-based projects and does not apply to prescriptive-based designs. It is important to understand that utilizing this technique relies heavily on the personal ethics of each individual, and a more formal declaration of education, training and experience may be requested by the code official. These characteristics explain the level of expertise necessary to form a complete design team, but they are not a requirement for every member of the team.

D101.2 Principal design professional characteristics. Principal design professionals shall possess the following qualifications:

1. Registered architect or engineer by the state or jurisdiction.
2. Knowledge of all facets of the project and the underlying principles of the performance-based code and concepts.
3. Ability to perform in the role of point of contact and to coordinate activities between the design team members, owner and code official.
4. Ability to ensure that all elements of submittal to the code official are compatible, coordinated, logical, complete and comprehensive in documentation.

D101.3 Design professional characteristics. Design professionals shall possess the following qualifications:

1. Knowledge of underlying principles of performance-based code and concepts.
2. Education, training and experience in performance-based engineering design.
3. Skill in risk and hazard assessment tools as a design method.
4. Ability to utilize performance-based code objectives and to demonstrate compliance through documentation of decision making and solutions.
5. High skill level in engineering disciplines needed in performance-based designs for structural, mechanical and fire protection systems.

D101.4 Special expert characteristics. Special experts are those individuals who possess the following qualifications:

1. Individual has credentials of education and experience in an area of practice that is needed to evaluate risks and safe operations associated with design, operations and special hazards.

2. Licensing or registration is required when required by a state or jurisdiction for the function to be performed.

D101.5 Competent reviewer's characteristics. The principal reviewer or code official is responsible to acquire competent reviewers with these characteristics and to utilize registered individuals when required by a state or jurisdiction. These characteristics are applicable to the code official's staff and/or contract reviewers. See Sections 103.3.6.2 and 103.3.6.3.

1. Knowledge of underlying principles and concepts of performance-based code provisions.
2. Education in performance-based engineering principles.
3. Competence in risk and hazard assessment tools as a design method.
4. Ability to verify design documents, meet analysis and documentation requirements, and to demonstrate that objectives are met.
5. High skill level in engineering disciplines needed in performance-based designs for structural, mechanical and fire protection systems.

