

APPENDIX D

QUALIFICATION CHARACTERISTICS FOR DESIGN AND REVIEW OF PERFORMANCE-BASED DESIGNS

This appendix is provided as a resource to anyone undertaking a performance-based design or review to assess qualifications of the participants performing the task. The goal of this appendix is for the design professionals, special experts, and competent reviewers to have technical qualifications in education and experience associated with performance-based design. These qualification characteristics define the level of knowledge or expertise necessary to perform the functions.

Design professionals who are in responsible charge of a professional design discipline (e.g., architectural, structural, electrical, mechanical, etc.) must have the experience and expertise in performance-based design to satisfy this appendix and Section 103.3.2 of the code. Individuals on the design team within a professional discipline may supplement the design professional or principal design professional's experience to meet the requirements of this appendix.

Qualification statements must be submitted to the code official as stated in Section 103.3.2 to demonstrate compliance with this appendix. The code official has the responsibility to acquire and assign competent reviewers of performance designs and to comply with the goal of this appendix. When the code official does not have competent reviewers on staff, consultant review services should be obtained.

Peer Review

Though this appendix does not specifically address peer reviewer qualifications, the following text is provided for information purposes. It is based on the peer review guidelines from Division IVR of the 1998 *California Building Code, Earthquake Evaluation and Design for Retrofit of State-Owned Buildings*, Section 1649A. (Note: 2001 *California Building Code* available. Minor changes made to Section 1649A).

1. Peer review requirements

- 1.1. Independent peer review shall be an objective technical review by a knowledgeable reviewer(s) experienced in the design, analysis, and performance issues involved. The reviewer(s) shall examine the available information on the conditions of or proposed for the building and the basic design concepts employed.
- 1.2. The independent peer reviewer(s) shall be selected by the code official prior to initiation of substantial portions of the design and/or analysis work that is to be reviewed. Peer review shall start as soon as practical after sufficient information defining the project is available.
- 1.3. The peer reviewer(s) shall be independent from the design and construction team and shall have no other involvement in the project, before, during, or after the review, except in a review capacity. The peer reviewer(s) shall be selected and paid by the owner and shall have technical expertise in buildings and performance-based designs similar to the one(s) being reviewed, as determined by the code official. The peer reviewer(s) shall serve through completion of the project and shall not be terminated except for failure to perform the duties specified herein. When a peer reviewer is terminated or resigns, a qualified replacement shall be appointed by the owner within ten working days. If the peer reviewer resigns or is terminated by the owner prior to the completion of the project, then the reviewer shall submit copies of all reports, notes, and correspondence to the code official, the owner, and the principal design professional within ten working days of such termination.
- 1.4. Peer review activities shall include, where appropriate, available construction documents, observations of the condition of the building, all inspection and testing reports, including methods of sampling, analyses prepared by the design professional(s), and the proposed design approach, methods, materials, details, quality assurance, operations, and maintenance requirements.
- 1.5. The peer reviewer(s) shall prepare a written report(s) to the owner and code official that covers all aspects of the review performed, including conclusions reached by the reviewer pursuant to this code. The peer reviewer(s) shall issue such reports after the schematic phase, during design development, and at the completion of construction documents, but prior to the issuance for permit. Such reports shall include, at a minimum, statements of the following: scope of peer review with limitations defined, the status of the project documents at each review stage, the ability of proposed materials, systems, operational and maintenance requirements to meet performance criteria, feasibility and constructability of the system, other recommendations that are appropriate to the specific project, and conclusions of the reviewer(s) identifying aspects that need further review, revision, investigation, justification, and/or clarification.

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- 1.6. The principal design professional shall review the report(s) from the peer reviewer(s) and shall develop corrective actions and other responses as appropriate. Changes observed by the principal design professional during construction that may affect the performance of the building shall be reported to the peer reviewer in writing.
- 1.7. All reports, responses, and corrective actions prepared pursuant to this section by the peer reviewer(s) and design professional(s) shall be submitted to the code official and the owner.