

Appendix 11A

QUALITY ASSURANCE PROVISIONS

11A.1 QUALITY ASSURANCE

This section provides minimum requirements for quality assurance for seismic force-resisting systems and other designated seismic systems. These requirements are not directly related to computation of earthquake loads, but they are deemed essential for satisfactory performance in an earthquake where designing with the loads determined in accordance with this standard, due to the substantial cyclic inelastic strain capacity assumed to exist by the load procedures in this standard. The requirements contained in this Appendix supplement the testing and inspection requirements contained in the reference documents given in Chapters 13 and 14 and form an integral part of Chapters 11 through 23.

11A.1.1 Scope

As a minimum, the quality assurance provisions apply to the following:

1. The seismic force-resisting systems in structures assigned to Seismic Design Categories C, D, E, or F.

EXCEPTION: Requirements for the seismic force-resisting system are permitted to be excluded for steel systems in structures assigned to Seismic Design Category C that are not specifically detailed for seismic resistance, with a response modification coefficient, R , of 3. Cantilever column systems are not included in this exception.

2. Mechanical and electrical components as specified in Section 11A.1.3.10.
3. Designated seismic systems in structures assigned to Seismic Design Categories D, E, or F.

EXCEPTIONS: Structures that comply with the following criteria are exempt from the preparation of a quality assurance plan, but those structures are not exempt from special inspection(s) or testing requirements:

- i. The structure is of light-frame construction, S_{DS} does not exceed 0.50, the height of the structure does not exceed 35 ft (10.7 m) above grade, and the structure meets the requirements in items iii and iv in the following text.

- ii. The structure is constructed using a reinforced masonry structural system or reinforced concrete structural system, S_{DS} does not exceed 0.50, the height of the structure does not exceed 25 ft above grade, and the structure meets the requirements in items iii and iv in the following text.
- iii. The structure is classified as Occupancy Category I or II.
- iv. The structure does not have any of the following irregularities as defined in Table 12.3-1 or 12.3-2:
 - (1) Torsional irregularity
 - (2) Extreme torsional irregularity
 - (3) Nonparallel systems irregularity
 - (4) Stiffness—soft story irregularity
 - (5) Stiffness—extreme soft story irregularity
 - (6) Discontinuity in lateral strength—weak story irregularity
 - (7) Discontinuity in lateral strength—extreme weak story

11A.1.2 Quality Assurance Plan

A quality assurance plan shall be submitted to the authority having jurisdiction.

11A.1.2.1 Details of Quality Assurance Plan

The quality assurance plan shall specify the designated seismic systems or seismic force-resisting system in accordance with Section 11A.1.1 that are subject to quality assurance. The registered design professional in responsible charge of the design of a seismic force-resisting system and a designated seismic system shall be responsible for the portion of the quality assurance plan applicable to that system. The special inspections and special tests needed to establish that the construction is in conformance with this standard shall be included in the portion of the quality assurance plan applicable to the designated seismic system. The quality assurance plan shall include

- a. The seismic force-resisting systems and designated seismic systems in accordance with this chapter that are subject to quality assurance.
- b. The special inspections and testing to be provided as required by this standard and the reference documents in Chapter 23.