Criteria for Mechanical Anchors in Concrete Elements and AC308, *Acceptance Criteria for Post-installed Adhesive Anchors in Concrete Elements*. For post-installed anchors in masonry, seismic prequalification procedures are contained in ICC-ES acceptance criteria AC01, *Acceptance Criteria for Expansion Anchors in Masonry Elements* AC58, *Acceptance Criteria for Adhesive Anchors in Masonry Elements* and AC106, *Acceptance Criteria for Predrilled Fasteners (Screw Anchors) in Masonry Element.*

C15.6.5 Secondary Containment Systems

This section differs from the requirements in NEHRP (2003). In preparing the 2002 edition, the ASCE 7 committee felt that the NEHRP (2000) requirements for designing all impoundment dikes for the maximum considered earthquake ground motion when full and to size all impoundment dikes for the sloshing wave was too conservative. Designing the impoundment dike full for the maximum considered earthquake assumes the failure of the primary containment and the occurrence of a significant aftershock. Significant (same magnitude as the maximum considered earthquake ground motion) aftershocks are rare and do not occur in all locations.

While designing for aftershocks has never been part of the design loading philosophy found in ASCE 7, secondary containment must be designed full for an aftershock to protect the general public. The use of two-thirds of the maximum considered ground motion as the magnitude of the design aftershock is supported by Bath's Law, according to which, the maximum expected aftershock magnitude may be estimated as 1.2 scale units below that of the main shock magnitude.

The risk assessment and risk management plan as described in Section 1.5.2 should be used to determine when the secondary containment is to be designed for the full maximum considered earthquake seismic when full. The decision to design secondary containment for this more severe condition should be based on the likelihood of a significant aftershock occurring at the particular site and the risk posed to the general public by the release of the hazardous material from the secondary containment.

Secondary containment systems must be designed to contain the sloshing wave where the release of liquid would place the general public at risk by exposing them to hazardous materials, scouring of foundations of adjacent structures, or causing other damage to the adjacent structures.

C15.6.6 Telecommunication Towers

This section as presented in ASCE 7 differs from the requirements in NEHRP (2000). Telecommunication towers are contained in the Appendix to NEHRP (2000). Although limited in what is presented, the ASCE 7 committee felt that it benefited the design professional and building officials to leave these requirements in the standard.

C15.7 TANKS AND VESSELS

This section contains specific requirements for tanks and vessels. Most (if not all) industry standards covering the design of tanks and vessels contain seismic design requirements based on earlier (lower force level) seismic codes. Many of the provisions of the standard show how to modify existing industry standards to get to the same force levels as required by ASCE 7-05 and NEHRP (2003). As the organizations responsible for maintaining these industry standards adopt seismic provisions based on NEHRP, the specific requirements in ASCE 7 can be deleted and direct reference made to the industry standards.

C15.7.2 Design Basis

The effective increase in liquid density specified in Section 15.7.2.c(1) is not to be applied to the liquid density used in Eq. 15-9 for the calculation of the hydrodynamic hoop forces defined in Section 15.7.1.c(2). The effective liquid density increase specified in Section 15.7.2.c(1) is automatically accomplished by adding N_h (Eq. 15-9) to the static liquid hoop force per unit height.

C15.7.6 Ground-Supported Storage Tanks for Liquids

In this section, the same force reduction factor R is applied to the impulsive and the convective base shears. The convective response is generally so flexible (period between 2*s* and 10*s*) that any increased flexibility on account of nonlinearity has negligible influence on the period and damping of the convective response. It is, therefore, not justified to apply the ductility reduction to the convective response—however, the overstrength reduction can still be applied. The overstrength factor, Ω_o, unfortunately represents an upper-bound value of overstrength. Therefore, the Seismic Task Committee decided to use an approximation of the lower bound of overstrength equal to 1.5.

Additionally, the formulation provided for the convective load underestimates the load when