β_{eff} = effective damping of the isolation system, as prescribed by Eq. 17.8-2

Δ^+ = maximum positive displacement of an isolator unit during each cycle of prototype testing

Δ^- = minimum negative displacement of an isolator unit during each cycle of prototype testing

ΣE_D = total energy dissipated, in kips-in. (kN-mm), in the isolation system during a full cycle of response at the design displacement, D_D

ΣE_M = total energy dissipated, in kips-in. (kN-mm), in the isolation system during a full cycle of response at the maximum displacement, D_M

$\Sigma |F_D^+|_{max}$ = sum, for all isolator units, of the maximum absolute value of force, in kips (kN), at a positive displacement equal to D_D

$\Sigma |F_D^+|_{min}$ = sum, for all isolator units, of the minimum absolute value of force, in kips (kN), at a positive displacement equal to D_D

$\Sigma |F_D^-|_{max}$ = sum, for all isolator units, of the maximum absolute value of force, in kips (kN), at a negative displacement equal to D_D

$\Sigma |F_D^-|_{min}$ = sum, for all isolator units, of the minimum absolute value of force, in kips (kN), at a negative displacement equal to D_D

$\Sigma |F_M^+|_{max}$ = sum, for all isolator units, of the maximum absolute value of force, in kips (kN), at a positive displacement equal to D_M

$\Sigma |F_M^+|_{min}$ = sum, for all isolator units, of the minimum absolute value of force, in kips (kN), at a positive displacement equal to D_M

$\Sigma |F_M^-|_{max}$ = sum, for all isolator units, of the maximum absolute value of force, in kips (kN), at a negative displacement equal to D_M

$\Sigma |F_M^-|_{min}$ = sum, for all isolator units, of the minimum absolute value of force, in kips (kN), at a negative displacement equal to D_M

17.2 GENERAL DESIGN REQUIREMENTS

17.2.1 Importance Factor

All portions of the structure, including the structure above the isolation system, shall be assigned a risk category in accordance with Table 1.5-1. The importance factor, I_e, shall be taken as 1.0 for a seismically isolated structure, regardless of its risk category assignment.

17.2.2 MCE$_R$ Spectral Response Acceleration Parameters, S_{MS} and S_{M1}

The MCE$_R$ spectral response acceleration parameters S_{MS} and S_{M1} shall be determined in accordance with Section 11.4.3.

17.2.3 Configuration

Each structure shall be designated as having a structural irregularity based on the structural configuration above the isolation system.

17.2.4 Isolation System

17.2.4.1 Environmental Conditions

In addition to the requirements for vertical and lateral loads induced by wind and earthquake, the isolation system shall provide for other environmental conditions including aging effects, creep, fatigue, operating temperature, and exposure to moisture or damaging substances.

17.2.4.2 Wind Forces

Isolated structures shall resist design wind loads at all levels above the isolation interface. At the isolation interface, a wind-restraint system shall be provided to limit lateral displacement in the isolation system to a value equal to that required between floors of the structure above the isolation interface in accordance with Section 17.5.6.

17.2.4.3 Fire Resistance

Fire resistance for the isolation system shall meet that required for the columns, walls, or other such gravity-bearing elements in the same region of the structure.

17.2.4.4 Lateral Restoring Force

The isolation system shall be configured to produce a restoring force such that the lateral force at the total design displacement is at least $0.025W$ greater than the lateral force at 50 percent of the total design displacement.

17.2.4.5 Displacement Restraint

The isolation system shall not be configured to include a displacement restraint that limits lateral displacement due to the maximum considered earthquake to less than the total maximum displacement unless the seismically isolated structure is designed in accordance with the following criteria where more stringent than the requirements of Section 17.2: