

ANS Answers Inquiry on ANSI/ANS-2.26-2006 (R2010)

Categorization of Nuclear Facility Structures, Systems and Components for Seismic Design (Nuclear News, September 2012)

Inquiry:

Since seismic design requirements are provided in building codes for building egress, fire stations, hospitals, emergency response structures, and structures, systems, or components containing non-radiological but toxic or extremely toxic materials, should references to such building code components which are examples of Limit State application should be ignored? Specifically: Should example (1) under Limit State A be ignored? Under Limit State B, should example (1) be ignored? Under Limit State C, should the words "or hazardous" be ignored from examples (1), (2), and (3)? Under Limit State D, should the words "or hazardous" be ignored from example (1)?

Response:

The proposal that example (1) under Limit State A and example (1) under Limit State B should be ignored is not appropriate. The building code examples are included to illustrate and explain the limit state concept to the user as to the intended limit state application. Thus, example (1) for Limit State A illustrates that if, during and after an earthquake, a building structure is required to function such that the building occupants can escape to safety, it must be designed to Limit State A or higher. In this example, there is no reference to the International Building Code (IBC) or any building design code. The intent is that, with this information, the user would find a design code that would ensure such functional goal, which can be IBC or equivalent. A similar logic applies to examples (1) for Limit State B, also, but for a more stringent functional goal.

The words "or hazardous" in examples (1), (2), and (3) of Limit States C and example (1) of Limit State D, are used to mean "toxicological," and so should not be ignored, as is evident from the categorization criteria given in Table 1 that includes radiological and toxicological exposure criteria (see also Table A.3 of ANSI/ANS-2.26-2004 (R2010)).