

STATE BUILDING CODE INTERPRETATION I-23-07

September 24, 2007

The following is offered in response to your September 19, 2007 facsimile transmission to me in which you seek an official interpretation of the requirements for seismic bracing of fuel gas piping in Connecticut. The applicable code section is 1621.1 of the 2003 International Building Code portion of the 2005 State Building Code. Section 1621.1 sends the code user to ASCE 7 – 2002 as amended by the provisions of 1621.

Question 1: Using the ASCE 7 standard, is gas piping assigned an I_p factor of 1.5?

Answer 1: Yes. According to section 9.6.1.5, any component with hazardous contents has an I_p of 1.5.

Question 2: Does ASCE 7 allow the designer the option of using the standards referenced in section 9.6.1.1.2 for component design as an alternative to the provisions of the balance of section 9.6?

Answer 2: Yes. The section 9.6.1.1.2 states in part that the listed acceptable standards represent acceptable procedures for design and construction. As such, those standards may be used as alternative compliance to the language of section 9.6 of ASCE 7.

Question 3: If the answer to question 2 is yes, can the designer mix provisions from more than one standard when designing the restraining system?

Answer 3: No. The intent of the code is to require compliance with the entire standard that is chosen to govern the design and construction, whether it is section 9.6 of ASCE 7 or one of the listed accepted standards found in 9.6.1.1.2.

Question 4: Must all gas piping regardless of size and location be seismically braced or are there exceptions based on hanger rod length or pipe size?

Answer 4: Each of the standards that govern seismic restraint of piping contains exceptions to the rule that all pipes must be restrained. For instance, ASCE 7, section 9.6.3.11.4, item c exempts (in relatively confusing language) “other piping” (including gas piping) supported by rod hangers 12 inches in length or less. This same exception is found in the SMACNA standard (referenced as 9.6-20 in ASCE 7) at section 3.3. In addition, exceptions for pipe size, based on the building’s Seismic Design Category and the pipe’s I_p , are found at ASCE 7 section 9.6.3.11.4, item d. Prior to determining the applicability of the pipe size exceptions, one must, however, have the engineer of record accurately determine the building’s Seismic Design Category in accordance with the State Building Code.

Question 5: Is gas pipe that is rigidly mounted to the building structure exempt from seismic bracing?

Answer 5: Yes. Given that both the ASCE 7 and the SMACNA Standards exempt gas piping supported by rod hangers less than 12 inches in length, gas piping attached to the structure would likewise be exempt.