

**INTERPRETATION IC 90.1-2004-32 OF  
ANSI/ASHRAE/IESNA STANDARD 90.1-2004  
Energy Standard for Buildings Except Low-Rise Residential Buildings**

**Date Approved: April 7, 2011**

**Request from:** Joseph C Nader ([joe.nader@kzf.com](mailto:joe.nader@kzf.com)), KZF DESIGN, INC., 655 Eden Park Drive, Cincinnati, Ohio 45202.

**Reference:** This request for interpretation refers to the requirements presented in ANSI/ASHRAE/IESNA Standard 90.1-2004, Section 3.2, regarding the definitions for conditioned and semiheated spaces as they relate to an existing “big box” shell warehouse.

**Background:** There is an existing "big box" shell warehouse located in the Cincinnati, Ohio area. It is minimally heated only to prevent sprinkler freeze concerns. The envelope was designed to conform to the requirements in 90.1-2004 for zone 4, semiheated buildings. As tenants move into the building the tenant area will be upgraded to meet the zone 4 envelope requirements and the local energy code requirements. The conflict is whether the complete building can be considered a semiheated space.

The space heating system does provide output heating capacity greater than 3.4 Btu/h·ft<sup>2</sup> but it is not a conditioned space because the space does not meet the heated space definition criteria stated in Table 3.1 for zone 4. Our heating system has output greater than 3.4 Btu/h·ft<sup>2</sup> but less than the 15 Btu/h·ft<sup>2</sup> stated in Table 3.1. See also Example 5-B of the 90.1-2004 User’s Manual.

**Interpretation:** My interpretation is that the building can be considered a semiheated space as long as it meets the requirements of 90.1-2004 Section 3.2 definitions.

**Question:** Is this interpretation correct?

**Answer:** No, because buildings themselves in accordance with Section 5.1.2 of the standard, are not categorized as *semi-heated* or *conditioned, spaces* are.

**Comments:** In regards to the new spaces created as any part of any work to the building, according to Table 3.1 of ASHRAE 90.1-2004, the Heated Space criteria for Climate Zones 4 & 5 start at 15 Btu/h·ft<sup>2</sup> and the envelope components would have to meet the envelope requirements for that space. A *space* heated with equipment with a capacity greater than 3.4 Btu/h·ft<sup>2</sup> but less than 15 Btu/h·ft<sup>2</sup> would qualify as a *semi-heated space* only with *building official* approval (per Section 5.1.2.3) and the envelope components of that space would have to meet the envelope requirements of the *semi-heated space* category.

Further, all alterations must comply with the current version of the standard as adopted by the jurisdiction, in accordance with Section 4.1.1.1.