

**INTERPRETATION IC 90.1-1989-15 OF  
ASHRAE/IES STANDARD 90.1-1989  
ENERGY EFFICIENT DESIGN OF NEW BUILDINGS  
EXCEPT LOW-RISE RESIDENTIAL BUILDINGS**

May 15, 1993

**Request From:** Mr. Edward L. Scott, Manager, Research, Codes & Specifications, Design Services Branch  
Management Board Secretariat, Province of Ontario, 11th Floor Ferguson Block, 77 Wellesley Street West, Toronto, Ontario,  
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**References:** This request refers to Subsection 12.4.2, Central Monitoring and Control Systems, of ASHRAE/IES 90.1-1989, and particularly to 12.4.2.2 which reads as follows:

"12.4.2.2 The minimum energy management capabilities for such a system should:

- (a) provide readings and retain daily totals for all electric power and demand, and for external energy and fossil use
- (b) record, summarize, and retain the appropriate weekly totals of all values
- (c) provide capability to turn HVAC and service water heating system equipment ON or OFF based on time schedules
- (d) provide capability to reset local loop control systems for HVAC equipment
- (e) monitor and verify operations of heating, cooling, and energy delivery systems
- (f) provide capability to turn lighting systems ON or OFF based on time schedules
- (g) provide readily accessible override controls so that time based HVAC and lighting controls may be temporarily overridden during off hours
- (h) provide optimum start/stop for HVAC systems."

**Background:** Mr. Scott's letter notes that some, but not all, of the items listed in 12.4.2.2 include the phrase "provide capability . . ." and opines that this phrase can be interpreted in two ways:

1. The product (hardware and software) is fully equipped to perform the stated capability without any modifications or additions to it, or
2. The product can be modified by addition of components at a later stage to perform the stated capability but is not equipped when delivered.

Mr. Scott interprets that No. 1 above expresses the intent of the standard.

**Question:** Is Mr. Scott's interpretation correct?

**Answer:** Yes

**Comments:** The committee agrees with Mr. Scott's interpretation that the phrase "provide capability" means that the installed product is fully equipped, with both hardware and software, to perform the stated capability without any modifications or additions to it. The committee also notes that the referenced section includes the word "should," which indicates a recommendation rather than a requirement.