INTERPRETATION IC 90.1-1989-6 OF
ASHRAE/IES STANDARD 90.1-1989
ENERGY EFFICIENT DESIGN OF NEW BUILDINGS
EXCEPT LOW-RISE RESIDENTIAL BUILDINGS

August 28, 1991

Request from: Ms. Elena Schmid, California Energy Commission, 1516 Ninth Street, Sacramento, CA 95814-5512.

Background: Table 10-9 lists standard rating conditions and minimum performance requirements for warm air furnaces and combination warm air furnace/air-conditioning units. Table 10-10 lists corresponding data for warm air duct furnaces and unit heaters. These appliance types are not defined in Standard 90.1-1989. "Warm air furnace" is defined in ASHRAE's Terminology of HVAC & R, 1986, as follows:

warm-air furnace A self-contained, indirect-fired or electrically heated furnace that supplies heated air through ducts to spaces that require it.

The AGA Laboratories Directory of Certified Appliances and Accessories, dated July 1990, defines "duct furnace" as follows:

duct furnace A furnace normally installed in distribution ducts of air conditioning systems to supply warm air for heating. This definition shall apply only to an appliance which depends for air circulation on a blower not furnished as part of the furnace. The design certification of duct furnaces covers only the duct furnace and not the blower, cooling unit or other parts and equipment used in their installation. See the Central Furnaces for Outdoor Installation section for combination heating and cooling units of certified design.

Ms. Schmid's letter opines, "The definitions are obviously overlapping."

Question: If a fan is attached to a duct furnace in the factory rather than in the field, does this make it a unit heater or a warm air furnace rather than a duct furnace?

Answer: No.

Comment: A duct furnace requires a fan to be installed at some point before it is operational. A product certified under ANSI Standards as a duct furnace is always considered a duct furnace regardless of whether fan connections are made in the factory or in the field.