

EC101–09/10

202 (New), 403.1.1, Table 403.1.1 (New); IRC R202 (New), N1103.1.1, Table N1103.1.1 (New)

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THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE IECC COMMITTEE. PART II WILL BE HEARD BY THE IRC BUILDING/ENERGY COMMITTEE. SEE THE TENTATIVE HEARING ORDERS FOR THESE COMMITTEES.

PART I – IECC

1. Add new definition as follows:

HEAT PUMP RECOVERY. A feature of a programmable thermostat that allows the heat pump to recover gradually from an energy-saving set point temperature to a comfort set point temperature. The heat pump recovery feature is designed to minimize the use of auxiliary heat while also minimizing the on-time of the system. This feature must prevent auxiliary or supplementary heat pump operation when the heat pump can meet the heating load.

2. Revise as follows:

403.1.1 Programmable thermostat. Where the primary heating system is a forced air furnace or forced air split system heat pump, packaged unit heat pump, water boiler, or steam boiler, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule to maintain different temperature set points at different times of the day. This thermostat shall include the capability to set back or temporarily operate the system to maintain zone temperatures down to 55°F (13°C) or up to 85°F (29°C). The thermostat shall initially be programmed with a default heating and cooling temperature set points as detailed in Table 403.1.1 no higher than 70°F (21°C) and a cooling temperature set point no lower than 78°F (26°C). Programmable thermostat models installed for heat pump systems shall be equipped with a heat pump recovery system.

3. Add new table as follows:

TABLE 403.1.1
PROGRAMMABLE THERMOSTAT SET POINT TIMES & TEMPERATURES

<u>SETTING TIME</u>	<u>SET POINT TEMPERATURE (HEAT)</u>	<u>SET POINT TEMPERATURE (COOL)</u>
<u>Wake: 6:00 a.m.</u>	<u>≤ 70° F</u>	<u>≥ 78° F</u>
<u>Day: 8:00 a.m.</u>	<u>Setback at least 8° F</u>	<u>Setup at least 7° F</u>
<u>Evening: 6:00 p.m.</u>	<u>≤ 70° F</u>	<u>≥ 78° F</u>
<u>Sleep: 10:00 p.m.</u>	<u>Setback at least 8° F</u>	<u>Setup at least 4° F</u>

PART II – IRC BUILDING/ENERGY

1. Add new definition as follows:

HEAT PUMP RECOVERY. A feature of a programmable thermostat that allows the heat pump to recover gradually from an energy-saving set point temperature to a comfort set point temperature. The heat pump recovery feature is

designed to minimize the use of auxiliary heat while also minimizing the on-time of the system. This feature must prevent auxiliary or supplementary heat pump operation when the heat pump can meet the heating load.

2. Revise as follows:

N1103.1.1 Programmable thermostat. Where the primary heating system is a forced air furnace or forced air split system heat pump, packaged unit heat pump, water boiler, or steam boiler, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule to maintain different temperature set points at different times of the day. This thermostat shall include the capability to set back or temporarily operate the system to maintain zone temperatures down to 55°F (13°C) or up to 85°F (29°C). The thermostat shall initially be programmed with a default heating and cooling temperature set points as detailed in Table N1103.1.1 no higher than 70°F (21°C) and a cooling temperature set point no lower than 78°F (26°C). Programmable thermostat models installed for heat pump systems shall be equipped with a heat pump recovery system.

3. Add new table as follows:

**TABLE N1103.1.1
PROGRAMMABLE THERMOSTAT SET POINT TIMES & TEMPERATURES**

<u>SETTING TIME</u>	<u>SET POINT TEMPERATURE (HEAT)</u>	<u>SET POINT TEMPERATURE (COOL)</u>
<u>Wake: 6:00 a.m.</u>	<u>≤ 70° F</u>	<u>≥ 78° F</u>
<u>Day: 8:00 a.m.</u>	<u>Setback at least 8° F</u>	<u>Setup at least 7° F</u>
<u>Evening: 6:00 p.m.</u>	<u>≤ 70° F</u>	<u>≥ 78° F</u>
<u>Sleep: 10:00 p.m.</u>	<u>Setback at least 8° F</u>	<u>Setup at least 4° F</u>

Reason: During the 2009 code cycle, the requirement for a programmable thermostat in homes with forced air furnaces was approved. This code proposal attempts to bring all equipment types that can utilize programmable thermostats into the same requirement for increased internal consistency in the code.

The language for Heat Pump Recovery is based on ENERGY STAR definition at the following website:
http://www.energystar.gov/ia/partners/product_specs/eligibility/thermostats_elig.pdf and on the provisions of section IECC 503.2.4.1.1.

As noted in the ENERGY STAR document, heat pump recovery is a feature of a programmable thermostat that allows the heat pump to recover gradually from an energy-saving setpoint temperature to a comfort set-point temperature. The heat pump recovery feature is designed to minimize the use of auxiliary heat while also minimizing the on-time of the system.

The proposed change to the default heating temperature setpoints, set out in the new table is to encourage users to use the HVAC equipment at a lower setting to save energy. These default temperature setpoints, originally from the ENERGY STAR thermostat program, are consistent with commercially available product default settings today.
 ENERGY STAR source: http://www.energystar.gov/index.cfm?c=thermostats.pr_thermostats

Cost Impact: The code change proposal will increase the cost of construction.

PART I – IECC

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

PART II – IRC BUILDING/ENERGY

Public Hearing: Committee: AS AM D
 Assembly: ASF AMF DF

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