



U.S. Department
of Veterans Affairs

Office of Construction &
Facilities Management

Office of Facilities Planning
Facilities Standards Service

STANDARDS ALERT

APRIL 1, 2023
003C2B-SA-020

Energy Efficient Design Criteria Update

PURPOSE: In accordance with 10 CFR 433 and 10 CFR 435, the U.S. Department of Veterans Affairs (VA) is updating the following criteria for the energy efficient design of new buildings built for use by VA.

NEW STANDARDS:

- 1) Definitions:
 - a) *Commercial and multifamily high-rise residential building.* All buildings other than low-rise residential buildings.
 - b) *Entering design.* A VA project is considered to be entering design on the date the design contract starts.
 - c) *Low-rise residential building.* Any building three stories or less in height above grade that includes sleeping accommodations where the occupants are primarily permanent in nature (30 days or more).
 - d) *New federal building.* Any new building (including a complete replacement of an existing building from the foundation up) to be constructed by, or for the use of, any federal agency. Such term shall include buildings built for the purpose of being leased by a federal agency.
- 2) The following requirements apply to the design of all new federal buildings built for use by VA:
 - a) For all new federal buildings that are commercial or multi-family high-rise residential buildings entering design on or after April 7, 2023:
 - i) Design to meet all minimum requirements of ASHRAE 90.1-2019.
 - ii) If lifecycle cost-effective, design to reduce energy use by 30 percent compared to the baseline building performance rating per ASHRAE 90.1-2019. If a lifecycle cost-effective design cannot be achieved that meets the 30% reduction requirement, select the most efficient design that is lifecycle cost-effective and meets all minimum requirements of ASHRAE 90.1-2019. Lifecycle cost analyses must follow the requirements shown in the VA Sustainable Design Manual.



- iii) To determine compliance with paragraph 2a(ii), above, determine energy consumption levels for both the ASHRAE Baseline Building 2019 and proposed building by using the Performance Rating Method found in Appendix G of ASHRAE 90.1-2019. The formula for determining the percentage improvement shall be as follows:

Percentage Improvement = $100 \times (1 - \text{PCI}/\text{PCIt})$, where

PCI = Performance Cost Index calculated in accordance with Section G1.2 of ASHRAE Standard 90.1-2019, and

PCIt = Performance Cost Index Target calculated by formula in Section 4.2.1.1 of ASHRAE Standard 90.1-2019

- iv) Energy consumption, for the purposes of calculating the 30 percent savings requirement, shall include the building envelope and energy consuming systems normally specified as part of the building design by ASHRAE Standard 90.1 such as space heating, space cooling, ventilation, service water heating, and lighting, and all process and receptacle loads, except for energy-intensive process loads that are driven by mission and operational requirements, not necessarily buildings, and not influenced by conventional building energy conservation measures.
- b) For all new federal low-rise residential buildings entering design on or after April 5, 2023:
 - i) Design to meet all minimum requirements of the 2021 version of the International Energy Conservation Code (IECC 2021).
 - ii) If lifecycle cost-effective, design to reduce energy use by 30 percent compared to the IECC 2021 baseline building. Energy consumption for the purposes of calculating the 30 percent savings must include space heating, space cooling, and domestic water heating.
 - iii) To determine compliance with paragraph 2b(ii), above, determine energy consumption levels for both the IECC Baseline Building 2021 and proposed building by using the Simulated Performance Alternative found in section R405 of the IECC 2021.

CONTACT: James Symanski, P.E.; Director, [CFM Sustainability Program Office](#);
(202) 714-8602; james.symanski@va.gov

