

2024 IECC

NBI has submitted proposals into the ICC process to advance the 2024 IECC. The proposed amendments cover a wide range of measures and improve the code by adding additional efficiency, clarifying requirements, and creating greater flexibility for code users and local jurisdictions. Learn more at newbuildings.org/code_policy/2024-iecc-national-model-energy-code-base-codes.

Code Change Title: Grid Integrated Solar and Energy Storage Inverters **CEPI-142-21**
Summary: Requires solar and energy storage systems be equipped with smart inverters for grid-integrated controls.

Add new text as follows:

C405.13 Inverters. Direct-current-to-alternating-current inverters serving on-site renewable energy systems or electrical energy storage systems shall be compliant with IEEE 1547-2018a and UL 1741.

Add new reference standard as follows:

IEEE

Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, 17th Floor
New York, NY 10016-5997

Standard reference number	Title	Referenced in code section number
<u>1547-2018a</u>	<u>IEEE Standard for Interconnection and Interoperability of Distributed Energy Resources with Associated Electric Power Systems Interfaces.</u>	<u>..... C405.13</u>

Add new reference standard as follows:

UL

UL, LLC.
1285 Walt Whitman Road
Melville, NY 11747-3081

Standard reference number	Title	Referenced in code section number
<u>1741</u>	<u>UL Standard for Inverters, Converters, Controllers and Interconnection System Equipment for Use With Distributed Energy Resources.</u>	<u>..... C405.13</u>

IEEE 1547-2018a governs requirements for the interconnection of distributed energy resources that operate in parallel to the electric grid. This standard (and its implementation at the device level through (UL 1741) ensure that these resources can support and potentially enhance grid stability, thereby improving reliability, reducing curtailments, stabilizing voltage, and maintaining power quality. The National Association of Regulatory Utilities Commissioners (NARUC) has already recommended that state utility commissions require implementation of IEEE1547-2018a as a part of their interconnection requirements. While the primary purpose of smart inverter functionality is grid stability, there are several additional benefits to the grid and its stakeholders. When operating in volt-VAR mode supporting reactive power, these inverters can actually provide energy savings, particularly when operating within distribution networks already operating conservation voltage reduction schemes. Additionally, smart inverters can help to increase DER hosting capacity of distribution networks, enabling greater access to renewable energy systems while maintaining safety and reliability.