



**BSR/ASHRAE/IES Addendum bl  
to ANSI/ASHRAE/IES Standard 90.1-2022**

**Public Review Draft**

# **Proposed Addendum bl to Standard 90.1-2022, Energy Standard for Sites and Buildings Except Low- Rise Residential Buildings**

**First Public Review (November 2024)  
(Draft Shows Proposed Changes to Current Standard)**

This draft has been recommended for public review by the responsible project committee. To submit a comment on this proposed standard, go to the ASHRAE website at [www.ashrae.org/standards-research--technology/public-review-drafts](http://www.ashrae.org/standards-research--technology/public-review-drafts) and access the online comment database. The draft is subject to modification until it is approved for publication by the Board of Directors and ANSI. Until this time, the current edition of the standard (as modified by any published addenda on the ASHRAE website) remains in effect. The current edition of any standard may be purchased from the ASHRAE Online Store at [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore) or by calling 404-636-8400 or 1-800-727-4723 (for orders in the U.S. or Canada).

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**(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)**

## FOREWORD

Definition changes - Although the aquatics industry breaks down the types of pools and spas further than what is being proposed, this proposal attempts to only make changes to what is necessary, as follows:

- Removes whirlpool as this is a type of bathtub and not a pool or spa.
- Adds in therapy as an activity that can be done in a pool, to ensure therapy pools are covered.
- Clarifies that a portable electric spa (PES) is not a pool, providing a separate definition for PES that follows the US Department of Energy definition, adding into the definition that to qualify as a PES they must also be tested the ANSI/APSP/ICC-14 Standard or Appendix GG to 10 CFR Part 430.

Additional background for the PES changes: The US Department of Energy has established a test procedure for portable electric spas (PES) and is expected to issue a notice of proposed rulemaking for a corresponding energy conservation standard any day now. Therefore, the definition of pool notes that PES are not included. It then defines a PES, which follows how the US Department of Energy has defined this factory-built appliance and follows what the aquatics industry considers a PES.

The ANSI/APSP/ICC-14 Standard, 2019 edition, is the Energy Efficiency Standard for PES that has been adopted in California Title 20 and in the International Swimming Pool & Spa Code and International Energy & Conservation Code.

Pool Cover Requirements – the 90.1 standard currently has the same energy pool/spa requirements that the International Swimming Pool & Spa Code (ISPSA), and International Energy & Conservation Code (IECC), but for the pool cover section. The proposal attempts to align those requirements by:

- Clarifying we are talking about outdoor pools.
- Striking the R-12 cover requirement.
- Increasing the stringency that one must meet to fall under the exception from having a vapor-retardant pool cover, if the pool is heated.

Additional background for the removal of an R-12 cover: for those types of artificial bodies of water defined under *pool*, R values are not an industry norm when manufacturing pool covers and are rarely discussed. Further, but for a rare case of a custom built cover, there are no R-12 covers to provide those who would attempt to meet the current 90.1 requirement. The critical aspect is that a *pool* that is heated is covered with any type of vapor retardant cover. The US DOE provides information on how using a pool cover can significantly reduce swimming pool heating costs, but by far the largest source of energy loss is water evaporation, which pool covers also minimize.

DOE says on their website that [“Covering a pool when it is not in use is the single most effective means of reducing pool heating costs. Savings of 50%–70% are possible.”](#) They do not say cover a pool with an R-12 cover, in fact, R-12 covers, if required, would encourage consumers to not use the cover as they would be too unwieldy and heavy to take on and off. It can be difficult to encourage compliance with any type of cover; by eliminating the R-12 cover requirement, the focus can be on providing a vapor retardant cover on a heated *pool* that will provide the benefits as cited by the DOE. This could be a thermal, solar bubble cover, or an automatic pool cover, which also provides the additional benefit of complying with safety barrier requirements for water safety purposes.

*[Note to Reviewers: This addendum makes proposed changes to the current standard. These changes are indicated in the text by underlining (for additions) and ~~striketrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Only these changes to the current standard are open for review and comment at this time. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.]*

## Addendum bl to 90.1-2022

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*Modify a definition and Add another to Section 3.2 (SI and I-P):*

***pool:*** any *structure*, basin, or tank containing an artificial body of water for swimming, diving, therapy, or recreational bathing. The term includes (but is not limited to) swimming *pool*, ~~whirlpools~~, and spas, and hot tubs that are not portable electric spas.

***portable electric spa:*** a factory-built electric spa or hot tub, supplied with equipment for heating and circulating water at the time of sale or sold separately for subsequent attachment, and tested to APSP 14 or Appendix GG to 10 CFR Part 430.

*Modify Section 7.4.5.1 as follows:*

**7.4.5.2 Pool Covers.** Outdoor ~~H~~heated *pools* shall be equipped with a vapor retardant *pool* cover on or at the water surface. ~~*Pools* heated to more than 90°F shall have a *pool* cover with a minimum insulation value of R-12.~~

**Exception to 7.4.5.2:** *Pools* deriving over ~~60~~75% of the energy for heating, computed over an operating season of not fewer than 3 calendar months, from *site-recovered energy* or *on-site renewable energy*.