CALIFORNIA ENERGY CODES & STANDARDS
A STATEWIDE UTILITY PROGRAM

EDITORIAL PRESCRIPTIVE TRANSFER AIR MODIFICATIONS

July 17, 2026

California Energy Commission

Docket No. 25-BSTD-03

The California Statewide Codes and Standards Enhancement (CASE) initiative presents recommendations to support the California Energy Commission's (CEC's) efforts to update California's Energy Code (Title 24, Part 6), including revisions to simplify and clarify existing code requirements. Three California Investor-Owned Utilities (IOUs) — Pacific Gas & Electric Company, San Diego Gas & Electric, and Southern California Edison sponsored this effort as a group.

This letter recommends adjustments to the code language for Exhaust System Transfer Air to improve compliance rates, particularly for toilet rooms which should generally be able to and should utilize transfer air in non-residential applications. This measure is already required by code but is not explicitly spelled out. As a result, many designers have neglected to include transfer air for toilet rooms in their designs.

This letter offers support for the proposed Energy Code change and was developed in collaboration with fellow stakeholders to share research results. The suggested adjustments are editorial or provide information that may address a proposal made by another stakeholder in the public process. This letter does not recommend changes that will increase the stringency of existing requirements or recommend that existing requirements be applied more broadly. As such, a cost-effectiveness analysis or use of the full codes and standards enhancement report template is not required.

1. Measure Description and Justification

As part of the 2019 code cycle, the Statewide CASE Team developed a CASE Report that included prescriptive transfer air for exhaust air makeup based on a measure

added to ASHRAE 90.1-2013.[1] The benefit to using transfer air in appropriate scenarios (i.e., spaces with exhaust rates that exceed the typical heating and cooling rate) is that the amount of conditioning done on outdoor air can be reduced while preserving comfort and ventilation requirements in the building. Toilet rooms are a quintessential use case for transfer air and were the primary situation analyzed in the 2019 CASE Report. However, the code language that was added to Title 24 Part 6 did not explicitly call out toilet rooms.

The markups proposed in this comment letter would add language to the prescriptive transfer air section to make it clearer that toilet rooms need to use transfer air instead of ducting fresh air into those spaces when appropriate conditions are met. As noted above, this requirement is technically present in the Energy Code in Section 401.3.16 [140.4(o)] but is written in a way that it is not clear to some designers that the requirements apply to toilet rooms. By adding a toilet rooms subsection, the Statewide CASE Team hopes that compliance and enforcement with this measure can be improved. The change would be in the prescriptive new construction section (401.3) but would apply in additions and alterations when triggered (as is the case today, but again, this requirement is not currently clear in the text). In the newly added text, the requirement specifies “between 0 to 0.15 cfm/ft2” of supply air. This range implies that at the lower end, the toilet room is relying entirely on transfer air (which would be conditioned air) to satisfy conditioning and ventilation balance needs. At the upper end, the toilet room may require some supply air depending on the location within the building and rely on transfer air for any added conditioning and for balance of ventilation needs.

1.1 Benefits of Proposed Change

The benefit of using transfer air in toilet rooms instead of supply air is that fan energy is saved by avoiding additional pressure drop on the duct system when ducting supply air to toilet rooms. The toilet rooms still include exhaust air grilles which results in negative pressure in the space. This draws in transfer air from the corridor outside of the toilet room, ensuring that no odors would leave the toilet room. Improved clarity in the code would improve compliance.

[1] https://title24stakeholders.com/wp-content/uploads/2017/09/2019-T24-CASE-Report-_Proposals-Based-on-ASHRAE-90.1_Final_September-2017.pdf. See section 6 of this report for additional background on the Transfer Air measure from the 2019 code cycle.

1.2 Background Information

As described in a 2014 ASHRAE Journal article,[2] many toilet rooms use wasteful constant volume reheat designs that use excessive fan energy and force the hot water system to run even in hot weather. Toilet room loads are very low, and transfer air is sufficient to keep toilet rooms comfortable.

2. Proposed Code Language

2.1 Guide to Markup Language

The proposed changes to the standards, Reference Appendices, and the ACM Reference Manuals are provided below. Changes to the 2025 documents should be marked with dark blue underlining (new language) and ~~strikethroughs~~ (deletions).

2.1.1 Energy Code (Title 24, Part 6)

401.3.16 *[Section 140.4(o)]* **Exhaust system transfer air.**

Supply air to spaces shall meet the requirements of 401.3.16.1 and 401.3.16.2

401.3.16.1. All Spaces. *Supply air* delivered to any space with mechanical exhaust, including spaces listed in Table 401.2-B, shall not exceed the greater of:

1. The *supply air* required to meet the space heating or cooling load; or
2. The ventilation rate required by the authority having jurisdiction, the facility Environmental Health and Safety Department, or by Section 401.2.1.1.3 *[Section 120.1(c)3]*; or
3. The mechanical exhaust flow minus the *available transfer air*. *Available transfer air* shall be from another *conditioned space* or return air plenums on the same floor and same smoke or fire compartment, and that at their closest point are within 15 feet of each other.

Exception 1 to Section 401.3.16.1: Biosafety level classified laboratories 3 or higher.

Exception 2 to Section 401.3.16.1: Vivarium spaces.

[2] https://tayloreng.egnyte.com/dl/ZEzxyxBnqW/ASHRAE_Journal_-_Restroom_Exhaust_Design.pdf .

Exception 3 to Section 401.3.16.1: Spaces that are required by applicable codes and standards to be maintained at a positive pressure differential relative to adjacent spaces.

Exception 4 to Section 401.3.16.1: Spaces where the highest amount of *transfer air* that could be used for exhaust makeup may exceed the available transfer airflow rate and where the spaces have a required negative pressure relationship.

Exception 5 to Section 401.3.16.1: *Healthcare facilities*.

401.3.16.2. Toilet Rooms. *Supply air* delivered to toilet rooms shall be between 0 and 0.15 cfm/ft2 to meet the space heating or cooling load. The remaining balance of air required for toilet room exhaust makeup shall be *transfer air* from other *conditioned spaces* or return air plenums.