ADDENDA

ANSI/ASHRAE/IES Addendum u to
ANSI/ASHRAE/IES Standard 90.1-2013

Energy Standard for Buildings Except Low-Rise Residential Buildings

Approved by the ASHRAE Standards Committee on June 25, 2016; by the ASHRAE Board of Directors on June 29, 2016; by the IES Board of Directors on June 27, 2016; and by the American National Standards Institute on July 26, 2016.

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FOREWORD

Addendum u extends the kitchen hood transfer air requirement to other types of exhaust systems, including lab exhaust and toilet exhaust. This will eliminate the wasteful practice of providing 100% outdoor air or 100% supply air to spaces with high exhaust rates and at the same time relieving air from other spaces in the same building, when the relieved air could have been transferred to the high exhaust space to reduce the total heating/cooling load. It is common, for example, to serve a toilet room with a VAV box sized to match the toilet exhaust requirement when the volume required to meet the toilet room heating/cooling load or ventilation requirement is much smaller than the exhaust requirement. A more efficient design is to only provide enough supply air to the toilet room to meet the cooling/ventilation loads and use transfer air to make up the difference of the required makeup air. In lab buildings it is common to transfer air from offices, corridors, and storage rooms to lab spaces with fume hoods in order to reduce the overall outdoor air load on the building. If transfer air from adjacent spaces/plenum is available and is allowed to be used by Standard 62.1 and other applicable codes and standards then this addendum would require it to be used. This is a prescriptive requirement that is not mandatory.

This addendum makes proposed changes to the current standard. These changes are indicated in the text by <u>underlining</u> (for additions) and ~~strikethrough~~ (for deletions) except where the reviewer instructions specifically describe some other means of showing the changes. Additional material is provided for context only and is not open for comment except as it relates to the proposed changes.

Addendum u to 90.1-2013

Modify the standard as follows (I-P and SI).

6.5.7 Exhaust Systems

<u>6.5.7.1 Transfer Air.</u> <u>Conditioned supply air delivered to any space with mechanical exhaust shall not exceed the greater of</u>

<u>a. the supply flow required to meet the space heating or cooling load;</u>

<u>b. the ventilation rate required by the authority having jurisdiction, the facility Environmental Health and Safety department, or ASHRAE Standard 62.1; or</u>

<u>c. the mechanical exhaust flow minus the available transfer air from conditioned spaces or return air plenums on the same floor, not in different smoke or fire compartments, and that at their closest point are within 15 feet of each other. Available transfer air is that portion of outdoor ventilation air that</u>

<u>1. is not required to satisfy other exhaust needs,</u>

<u>2. is not required to maintain pressurization of other spaces, and</u>

<u>3. is transferrable according to applicable codes and standards and to the Class of Air Recirculation Limitations in ASHRAE Standard 62.1.</u>

<u>Exceptions:</u>

<u>1. Biosafety level classified laboratories 3 or higher.</u>

<u>2. Vivarium spaces.</u>

<u>3. Spaces that are required by applicable codes and standards to be maintained at positive pressure relative to adjacent spaces. For spaces taking this exception, any transferrable air that is not directly transferred shall be made available to the associated air-handling unit and shall be used whenever economizer or other options do not save more energy.</u>

<u>4. Spaces where the demand for transfer air may exceed the available transfer airflow rate and where the spaces have a required negative pressure relationship. For spaces taking this exception, any transferrable air</u>

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that is not directly transferred shall be made available to the associated air-handling unit and shall be used whenever economizer or other options do not save more energy.

6.5.7.~~1~~2 Kitchen Exhaust Systems

6.5.7.~~1~~2.1 Replacement air introduced directly into the hood cavity of kitchen exhaust hoods shall not exceed 10% of the hood exhaust airflow rate.

~~**6.5.7.1.2** Conditioned supply air delivered to any space with a kitchen hood shall not exceed the greater of~~
~~a. the supply flow required to meet the space heating or cooling load or~~
~~b. the hood exhaust flow minus the available transfer air from adjacent spaces. Available transfer air is that portion of outdoor ventilation air not required to satisfy other exhaust needs, such as restrooms, and not required to maintain pressurization of adjacent spaces~~

6.5.7.~~1~~2.2~~3~~ If a kitchen/dining facility has a total kitchen hood exhaust airflow rate greater than 5000 cfm then …

Renumber the rest of Section 6.5.7 and associated references and tables accordingly.

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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