
FIRE PREVENTION AND BUILDING SAFETY COMMISSION
Department of Homeland Security

Written Interpretation of the State Building Commissioner

Interpretation #: CEB-2022-45-2020 IRC-M1505.2

Building or Fire Safety Law Interpreted

[675 IAC 14-4.4](#) 2020 Indiana Residential Code Section 1505.2 Recirculation of air. Exhaust air from bathrooms and toilet rooms shall not be recirculated within a residence or circulated to another dwelling unit and shall be exhausted directly to the outdoors. Exhaust air from bathrooms, toilet rooms, and kitchens shall not discharge into an attic, crawl space, or other areas inside the building. This section shall not prohibit the installation of ductless range hoods in accordance with the exception to M1503.3.

Issue

Whether Section M1505.2 of the *2020 Indiana Residential Code* (IRC) prohibits bathroom and toilet room exhaust ducts from being connected to other exhaust ducts prior to discharge outdoors.

Interpretation of the State Building Commissioner

No, Section M1505.2 of the *2020 IRC* does not prohibit bathroom and toilet room exhaust ducts from being connected to other exhaust ducts prior to discharge outdoors, provided the system is contained within a single dwelling unit and it is designed to prevent backdrafts.

Rationale

The dispute in this instance is over the intended meaning of the phrase "directly to the outdoors", and whether it prohibits a design which collects branch exhaust ducts from multiple rooms for connection to a common trunk duct before reaching a single-point discharge to the atmosphere.

The text of the section provides three distinct prohibitions on the discharge of bath and toilet exhaust air: it cannot be recirculated within a residence; it cannot be introduced into another dwelling unit; and it cannot be discharged into an attic, crawl space, or other areas within the building. Many older homes had bathroom exhaust that terminated in the attic or crawl space and depended on pressure differential to migrate contaminated air to the outdoors through passive vents, a system that was problematic. These designs are no longer allowed. The intent of the phrase in question becomes clear if it is considered as it is written: "shall be exhausted directly to the outdoors". It describes the point of discharge, not the layout of the duct(s).

Further, nothing in the section specifically addresses multiple-fan, common-duct exhaust systems. Because of the prohibition on recirculating contaminated air within the residence, such systems must be designed to prevent unintentional travel of contaminated air into one of the other rooms that share the system, something typically done through the deployment of backdraft dampers. Although it is commonly understood that such backdraft prevention devices are often less than totally effective, ICC commentary confirms that it is not the intent of the section to prohibit such systems within single dwelling units (see *2018 International Residential Code and Commentary*, Section M1505.2).

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