

**INTERPRETATION IC 62-2001-03 OF
ANSI/ASHRAE STANDARD 62-2001
VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY**

Transfer Approved: January 12, 2002

Originally issued as interpretation of Standard 62-1999 (IC 62-1999-1) on February 5, 2000, but transferred to Standard 62-2001. Since no changes were made to the relevant sections of Standard 62-2001, no revisions were made to the interpretation as part of this transfer.

Request from: Dennis Velleca, P.E. , Sverdrup Facilities, Inc., 400 South Fourth Street, St. Louis, 1\40 63102-1826, (email: vellecdp@sverdrup.com).

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62-2001, Table 2.2, Outdoor Air Ventilation Requirements - Institutional Facilities..

Background: In the design of correctional facilities, there are typically two types of cells: dry, meaning those without toilet facilities; and wet, indicating a cell with a toilet fixture and/or shower. The outdoor air requirement in Table 2.2 for Correctional Facilities - Cells is 20 cfm/person but does not indicate whether the cell contains a toilet fixture. The basic design premise utilized in most instances is as follows. Where cells are wet (i.e., include toilet facilities or showers), the space should be treated similarly to a toilet space, i.e., minimum of 50 cfm per fixture, typically supplied by transfer air and using local mechanical exhaust to the outdoors with no recirculation recommended. In cases where the cell is dry, 20 cfm/person of outdoor air is adequate.

Sverdrup's Interpretation No. 1: Mr. Velleca's letter opines that the "Cells" entry in Table 2.2 refers to a "dry" cell without a toilet fixture or shower.

Question No. 1: Is Sverdrup's Interpretation No. 1 correct?

Answer: Yes

Sverdrup's Interpretation No. 2: Mr. Velleca's letter opines that a "wet" cell with a toilet fixture and/or shower should be treated similarly to a restroom.

Question No. 2: Is Sverdrup's Interpretation No. 2 correct?

Answer: No

Comment: The "wet" cell is both a dry cell and a toilet space. Hence:

1. The cell needs 50 cfm of exhaust to the outdoors per toilet fixture (see "Public Restrooms" in Table 2.1) or 35 cfm of exhaust if the cell contains a shower but no toilets (see "Baths" in Table 2.1).
2. It also needs 20 cfm/person of outdoor air to dilute bioeffluents from cell occupants and other contaminants generated in the cell (see "Cells" in Table 2.2).

This can be done a number of ways, as indicated in the following examples in which it is assumed that the cell has only one toilet fixture. These examples are not presented as a comprehensive list of allowable options, but rather as approaches that have been applied successfully.

- The cell may be exhausted to the outdoors at a rate of at least 50 cfm with make-up provided entirely by transfer air from an adjacent space, such as a common area or corridor but generally not an adjacent cell. The adjacent space must be supplied with sufficient outdoor air to meet its own ventilation requirements, plus 20 cfm/person of outdoor air required for the cell.

- The cell may be exhausted to the outdoors at a rate of at least 50 cfm per fixture with the make-up air consisting of at least 20 cfm/person of outdoor air supplied directly to the cell and any additional make-up air supplied by transfer air from an adjacent space. In this case, the adjacent space need not have excess outdoor air to meet the outdoor air requirements of the cell.
- The cell may be exhausted to the outdoors at a rate of at least 50 cfm with make-up provided by an HVAC system directly supplying the cell. The supply air to the cell must contain sufficient outdoor air to meet the 20 cfm/person outdoor air requirement of the cell.