INTERPRETATION IC 62.1-2022-4 OF
ANSI/ASHRAE STANDARD 62.1-2022
VENTILATION AND ACCEPTABLE INDOOR AIR QUALITY

Approved: January 21, 2024

Request from: Pam Warkentin, Canadian Association of Radon Scientists and Technologists (CARST) / Canadian – National Radon Proficiency Program (C-NRPP), 4 Donald McClintock Bay, Winnipeg, MB R2G 3N3.

Reference: This request for interpretation refers to the requirements presented in ANSI/ASHRAE Standard 62.1-2022, Sections 2.2, 3, 5.2, 5.16.1and Tables 5-1 and 6-3, regarding radon.

Background: Radon is a naturally occurring, radioactive gas which is odourless and tasteless. A CARST/C-NRPP member was informed by a building consultant that radon is classified as Class 4 air and that ASHRAE standards apply to radon mitigation system discharge points.

Although the radon levels at the discharge pipe (i.e. exhaust point) can be above applicable US-EPA, Health Canada, Canada Labour Code, or World Health Organization permissible exposure concentrations, the radon concentrations have been demonstrated to dissipate to outdoor ambient air concentrations within 6’ (2m). Please see reference documents listed below.
Reference documents:

- Fixing Houses with High Radon – A Canadian Demonstration CMHC March 2008, Scott, A.G.; Fugler, D.
- Depressurization Residential Radon Mitigations at Kitigan Zibi Anishinabeg: Comparison of Above Ground Level (RIM JOIST) and Above Roof Line Discharge of Radon Mitigation SUB-SLAB Systems; Health Physics 2012 Brossard, M; Brascoupe, M; Brazeau, C; Falcomer, R; Ottawa, B; Scott, A; Whyte, J.
- Radon Mitigation in Cold Climates at Kitigan Zibi Anishinabeg, Brossard, M; Ottawa, C. B. Falcomer, R; Whyte, J.
- Health Canada’s Summary Report on Active Soil Depressurization (ASD) Field Study June, 2016.
- Re-Entrainment and Dispersion of Exhausts from Indoor Radon Reduction Systems: Analysis of Tracer Gas Data, Henschel, D. B.
- Measuring At-Grade Radon Mitigation Exhaust At-Grade Radon Mitigation Exhaust, Bill Broadhead.
- Reducing Radon Levels in Existing Homes: A Canadian Guide for Professional Contractors, Health Canada
- National Standard of Canada: Radon Mitigation options for existing low-rise residential buildings.

Interpretation No.1: CARST/C-NRPP's interpretation is that ASHRAE Standard 62.1-2022 does not specify air classification or distances from radon mitigation system discharges to outdoor air intakes, but it does allow for AHJ to define the design requirements for radon mitigation systems.

Question No.1: Is this interpretation correct?

Answer No.1: Yes.

Interpretation No.2: Per the description of Classes 1 through 4 in an Informative Note (not an official part of the standard) to section 5.13.1, the classification of such air would presumably depend on the radon concentration. In Canada, the appropriate clearances for radon exhausts (at any radon concentration) and the separation distance from potential re-entrainment points has been determined by authorities having jurisdiction (for example, Health Canada's *Reducing Radon Levels in Existing homes: A Canadian Guide for Professional Contractors* and the Canadian General Standards Board (CGSB) CAN_CGSB P29-149-012-2017 and CAN_CGSB P29-149-011-2019) or current published versions. The above documents are a resource for the AHJ in making their determination and do not contradict with ASHRAE Standard 62.1-2022.

Question No.2: Is this interpretation correct?

Answer No.2: Yes.

Comments No.2: In Section 5.13.1 Classification, Standard 62.1-2022 states that "Air (return, transfer, or exhaust air) leaving each space or location shall be designated at an expected air-quality classification not less than that shown in Table 6-1, 6-2, or 6-3 or as approved by the AHJ. Therefore, since Standard 62.1does not provide a classification for radon extraction/mitigation systems, the Standard allows the AHJ to make that determination.