

**BULLETIN 2001-010-BU/EL**

*Revised September 2, 2015*

## **ELECTRICAL SUPERVISION & ISOLATION OF AUDIBLE SIGNAL DEVICES INSTALLED IN DWELLING UNITS**

This bulletin is intended to clarify the requirements of the Vancouver Building By-law with respect to the installation of audible signal devices installed within dwelling units.

Sentence 3.2.4.19.(8) of Division B of the Vancouver Building By-law states that audible signal devices within a dwelling unit or a suite of residential or care occupancy shall be connected to the fire alarm system:

- a) in a manner such that a single open circuit or short circuit at one device will not impair the operation of other audible signal devices on that same circuit that serve the other dwelling units or suites of residential or care occupancy, or
- b) on separate signal circuits that are not connected to the devices in any other dwelling unit, public corridor or suite of residential or care occupancy. (See Appendix A).

Impairment or damage to an audible signal device may occur as a result of tampering with the device or with the wiring that provides power supply to the device located in a dwelling unit. When damage to a device or associated wiring results in an open circuit, the criteria of Sentence 3.2.4.19.(8) “not impair operation of other audible signal devices” may be achieved by utilizing Class A wiring.

However, when damage to a device or associated wiring results in a short circuit, in order to meet the requirement of Sentence 3.2.4.19.(8) of the VBBL “not to impair the operation of other audible signal devices on that same circuit”, a Class B wiring and installation of a suite fault isolator are necessary for audible signal devices within a dwelling unit.

Sentence 3.2.4.19.(9) of Division B of the VBBL has been deleted to avoid any confusion in respect to the suite fault isolators required in Vancouver for audible signal devices installed within dwelling units. As each such suite fault isolator is a device used for wire to wire short circuit protection for the wiring to an audible signal device located within a dwelling unit, every audible signal device installed in the dwelling unit and connected to the suite fault isolator is deemed to be in conformance with Clause 3.2.4.19.(8)(a) of the VBBL. However, conditions of Sentence 3.2.4.19.(11) which permits omission of means for manual silencing of an audible signal device within a dwelling unit are considered to be met if audible signal devices within dwelling units are wired on signal circuits separate from signal circuits for those audible signal devices that are not located within dwelling units.

**Note:**

- 1) Some suite fault isolators for audible signal devices within a dwelling unit may not allow a fire alarm signal to sound if the alarm is activated subsequent to the short or open circuit (trouble signal) on the isolator. This condition is not acceptable as it conflicts with the intent of the Building By-law and CAN/ULC-S524. Article 3.3.1.5. of CAN/ULC-S524 specifically states that any open circuits or ground faults in the system shall not interfere with the operation of other circuits on the system.

Thus, for instance, a suite that contains a short circuit must be isolated from the rest of the wiring in each possible mode [trouble (supervisory) mode and/or alarm mode]. If there is only a trouble

mode in the system (a short circuit in the wiring to a suite audible device), the suite fault isolator must allow the amplifier to be turned on and to provide a required alarm or alert signal to sound when a fire alarm initiating device is actuated subsequent to the trouble signal. If the short circuit on the wiring to the audible device in the suite has occurred during an alarm condition, the suite fault isolator must provide a trouble indication on the annunciator and to allow an alarm or alert signal to sound on other audible devices of the circuit. When the trouble signal is reset (short circuit condition is cleared) the suite fault isolator should be operational.

- 2) It is not intended by this requirement to provide a suite fault isolator for audible signal devices located within a sleeping room of a hotel or motel suite that does not have a kitchen. A standard industry practice of utilizing Class B wiring without fault isolators for the audible signal devices located in hotel/motel suites without kitchens is deemed to be sufficient for the purpose of this bulletin.
- 3) Sentence 3.2.4.19.(7) of Division B of the Vancouver Building By-law states that except as permitted by Sentence (11), audible signal devices located within a dwelling unit shall include a means for them to be manually silenced for a period of not more than 10 min, after which time the devices shall restore themselves to normal operation. The foregoing requirements are not intended for an audible signal device located within a sleeping room of a hotel or motel.
- 4) The audible signal devices (Speakers, Mini-Horn, Buzzers) in dwelling units and the suite fault isolators must be installed in conformance with CAN/ULC-S524 that:
  - a) Where the silencing means are separately installed or incorporated in the audible signal device, the silencing means shall be clearly identified and installed 1050 mm to 1150 mm above the finished floor level measured from the centre of the silencing means.
  - b) The silencing means shall be installed so as to be visible and accessible.
  - c) The suite fault isolators shall be installed outside of the dwelling units protected by the suite fault isolators.
  - d) The suite fault isolators shall be installed so as to be visible and accessible at all times.
  - e) The suite fault isolators shall have an identifying label on the cover plate identifying the dwelling unit served. The identifier shall be visible after installation.

(Original signed by)

---

W. White  
MANAGER, TRADES INSPECTION  
DEPUTY CITY ELECTRICIAN

(Original signed by)

---

P. Ryan, M.Sc., P.Eng.  
CHIEF BUILDING OFFICIAL  
DIRECTOR, BUILDING CODE & POLICY