Cool Room / Freezer Room Legislative Requirements - Light Switch vs Light Sensor

The light controlled by a sensor rather than a switch

For the **installation requirements,** the regulatory code is the *National Construction Code (NCC, old BCA)* and this specifically stipulates a light switch, see G1.2 (a) (ii) and (iii) below.

Part G1 Minor structures and components

Deemed-to-Satisfy Provisions

G1.2 Refrigerated chambers, strong-rooms and vaults

(a) A refrigerated or cooling chamber, strongroom or vault which is of sufficient size for a person to enter must have—

(i) a door which is capable of being opened by hand from inside without a key; and

(ii) internal lighting controlled only by a switch which is located adjacent to the entrance doorway inside the chamber, strongroom or vault; and

(iii) an indicator lamp positioned outside the chamber, strongroom or vault which is illuminated when the interior lights *required* by (a)(ii) are switched on; and

(iv) an alarm that is—

(A) located outside but controllable only from within the chamber, strongroom or vault; and

(B) able to achieve a sound pressure level outside the chamber, strongroom or vault of 90 dB(A) when measured 3 m from the sounding device.

(b) A door *required* by (a)(i) in a refrigerated or cooling chamber must have a doorway with a clear width of not less than 600 mm and a clear height not less than 1.5 m.

For the **maintenance requirements** the *Ministerial Building Standard MBS 002 - Maintaining the performance of essential safety provisions (*as part of the *Building Rules* under the *Planning, Development and Infrastructure Act)* references the NCC G1.2 and schedules:

- *For Emergency Lighting* (this may or may not be required inside the specific Cool room – refer to the Checklist for triggers and Best Practice inclusions): *Check power availability and light functionality monthly,* **adding to this**:
- *For Cool rooms and strongrooms, also check that the associated indicator lamp and the alarm positioned outside the chamber are functioning.*

Recommendation:

It is recommended that **sensors are not** used as alternatives to a light switch for the following reasons:

Factors specific to a light switch:

- Safety is a key consideration and a simple light switch is far more robust that a sensor which can malfunction thus adding another potential point of failure. The sensor would also need to be connected to the external Indicator Lamp (indicating presence of someone inside).
- Another consideration is the selection of the time duration setting for the sensor. A person in a Cool Room may spend some time in there e.g. checking data, test samples etc. and there could be potential safety implications with the light going off - even temporarily - when there's no movement.
- Another concern with setting the time duration for a reasonable time and thus having the Indicator Lamp on for a while is the ambiguous message given to other staff - someone may or may not be inside the Cool Room.
- Another maintenance check would be required whereas with a light switch an operation and condition check is very quick and simple. There is also another TDS for automatic light sensors E18 - Link to E18 TDS - Automatic Light Sensor Electrical
- With respect to energy savings, modern LED lights use minimal power and this shouldn't be a factor when safety is a real concern. There are similar issues of lights being left on in meeting rooms, stores etc. With Cool rooms, staff should be instructed to turn off the light when egressing the room - it needs to be a WH&S imperative and reminder signage should be placed on the door.
- The NCC specifically calls up a light switch rather than a "Light Controller Device". The NCC is very exacting about its terminology, and the elimination of ambiguity and clear language was one of the major, stated aims of the 2019 edition.

External view of cool room showing compliant internal light switch and duress button.

Recently retro-fitted "Trapped Personnel" alarm that flashes is located externally above the cool room door.

Other hazards:

- Another hazard with these chambers include potential slips, trips and falls.
  There is a heightened risk that an occupant who has slipped, tripped or fallen may not be able to move and the sensor may go out, leaving them in the dark and potentially at risk.

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