



A PO Box 1392, Bowral NSW 2576

T 1300 133 314

E admin@cee3.com.au

EWIS (Sound Systems for Emergency Purposes) vs OWS By David Isaac

There is much confusion in the fire industry today relating to 'warning systems'.

From a regulatory perspective the BCA details two types:

1. Warning systems in accordance with Specification E2.2a Clause 6 which refers to Clause 3.22(b) of AS 1670.1; and
2. Warning systems in accordance with Part E4.9 which refers to AS1670.4.

The Clause 6 Warning System need only be ***"(b) Electronic sounders, or amplified sound systems producing the evacuation signal (with or without verbal message). The evacuation signal shall operate simultaneously throughout the building. At all places where warning signals are conveyed to building occupants, the A-weighted sound pressure level during the 'on' phases of the audible emergency evacuation signal, measured with the time-weighting characteristic F (fast)"*** Quoting from Clause 3.22 (b) of AS 1670.1. Note the underlined portion. The equipment need not meet any particular performance standard other than that specified in Clause 3.22(b) of AS 1670.1.

The BCA Part E4.9 Warning Systems are a higher spec system formerly known as EWIS (Emergency Warning and Intercommunication Systems) but currently described in the regulations as 'Sound Systems for Emergency Purposes'. Such systems must be operated under "Emergency management Plans" otherwise the full flexible capacity cannot be utilised. These systems are typically only required in:

1. Buildings above 25 metres effective height
2. Certain class 3 buildings
3. Certain class 9a buildings; and
4. Certain class 9b buildings.

Note a class 6 shopping centre is not included in this requirement unless it is over 25 metres effective height. A class 6 shopping centre is only required to have an occupant warning system under Clause 6 of Specification E2.2a of the BCA, however, because of the restrictions applied to the operation of these basic occupant warning systems, large shopping centres are typically fitted with 'Sound Systems for Emergency Purposes' formally known as EWIS to allow flexibility in staged evacuation and to allow the system to perform a dual function of PA and background music.



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Regardless of warning systems installed, no delay is permitted in the warning signals following receipt of an alarm except under a Fire Engineered Solution approved by the Fire Brigade such as an 'Alarm Investigation Facility' (AIF). Under such approval specific equipment is required to meet the AIF requirements.

Where Sound Systems for Emergency Purposes' are installed, use of the 'Alert' signal and staged evacuation is permitted (NOT permitted under Clause 6 systems). No delay is permitted to the initial signal except under the circumstances described above. With Sound Systems for Emergency Purposes secondary control is allowed for the evacuation process but only via equipment approved for this purpose. Such equipment is called an SECP (Secondary Emergency Control Panel), these panels do not delay the transmission of the initial signal, but allow secondary control and management following the initial alarm event.

I am aware certain Major stores in shopping centres are interfering with the integrity of the installed warning systems by the installation of a switch specifically designed to prevent the warning signals from being transmitted in the Major store when the shopping centre warning system is in evacuation mode. By this action store management relies on a person(s) making a decision as to whether or not the switch should be operated to allow transmission of the evacuation signal to allow occupants to evacuate the store even though the shopping centre systems is in full evacuation mode. Such a practice effectively places and unapproved delay in the initial warning signal and as such does not comply with the Australian Standard for either of the two types of warning systems. Further in my opinion the Major store management would be exposed to litigious action should an occupant be injured as a result of a delay in receiving an evacuation signal where that delay contributed to the injury or death in a real emergency event.

If the Major stores require some independent control of the evacuation system after the initial alarm signal, it should be done with the correct equipment, operated in accordance with the requirements of the standard and in accordance with an appropriate emergency management plan in coordination with the Shopping Centre Emergency Management plan. If the Major stores wish to delay the initial signal they should seek and alternate engineering solution to do so and seek formal Fire Brigade approval.