

# VILLAGE EMERGENCY-CALL SYSTEMS CAN YOU AFFORD TO IGNORE THE STANDARDS?

## INTRODUCTION

One would expect the IT industry to be pushing its barrow of high technology promises into the burgeoning aged care market – and this is so. However, at the other end of the scale of technology we are surprised to find continued use of systems that may have been popular some 25 years ago seriously being contemplated by today’s aged-care professionals.

In particular we refer to the continued use of, or (perish the thought) delivering CB band 27Mhz one way low powered wireless emergency-call systems into new ‘Greenfield Sites’.

## 1. AVOIDING LITIGATION – WHO IS RESPONSIBLE FOR THE DEATH OF A RESIDENT?

Professional Care Providers understand the need for the care and security of residents and staff within an aged care facility. However, to deliver fast, cost effective and litigious-free outcomes, it is also necessary to be cognizant of the Australian Standards and to carefully select the most appropriate electronic communications techniques to safely achieve those various objectives.

## 2. AUSTRALIAN STANDARD AS4607 “PERSONAL RESPONSE SYSTEMS”

Largely superseding the prior Standard AS2999 entitled “Alarm Systems for the Elderly” this more recent standard does not prohibit any particular technology. However, having listed the mandatory and recommended specification criteria it does quickly determine that only one technique can comply- that is the use of an application designed product connected to the resident’s PSTN or PABX telephone line. There is now however, some scope emerging for the use of Fibre-To-The-Home (FTTH) technology which is a further step up the scale of technology.

The Standard clearly identifies that it is applicable to “Private Dwellings” “Residential Care Facilities”, and refers to “Persons living in Group homes” (Apartments and Condos) & “Retirement Villages”. The following table identifies and interprets some pertinent clauses of Standard AS4607

Clause 3.1.1	<b>Mandatory Voice Communication Requirements (b)</b> Local unit with a means of hands-free voice communication...etc...
Clause 3.7	<b>Trigger Devices -Wireless (Para 6)</b> A selection of trigger devices should be available for people with different needs...etc
Clause 3.10.7	<b>Reassurance Facilities</b> Shall be audible and continue until the call has been accepted ...etc...
Clause 3.10.8	<b>Confirmation of Received Alarm Call</b> Confirmation shall be audible and preferably in the form of voice communication. etc..
Clause 3.10.10	<b>Local unit fault condition indication</b> Indications of fault conditions shall ...etc...
Clause 3.10.11	<b>Voice-to-Voice</b> Voice communication with a person at least one room removed from the...etc...
Clause 3.11.2	<b>Redundancy Path to alternate destination/s.</b> The emergency-call facility shall not be dependent on a central computer or similar logging and distribution process and shall seek alternate destinations in such event.
Clause 4.1.7	<b>Power Fail Reporting</b> The ILU local communication unit shall report a power fail condition the central monitoring facility at a random time to allow a spread of such reports to be received without system congestion. It shall continue to operate via battery back up thereafter.
Table 4.4.1 (B)	<b>Battery Backup</b> The local unit within the ILU shall be local mains power operated and have at least 40 hours of battery back-up and shall continue to operate as a voice to voice communication device indefinitely should the battery back-up have depleted
Other Clauses	<b>Refer to Standard for:-</b> Wireless devices, Inactivity Monitoring, Lightning Protections, Central equipment etc..
AS3811 Clause 2.2	<b>Independence from other Building Management System Buses</b> The system should be independent and without reliance on any other system such as a building management system bus.

### **3. CONCLUSIONS**

As we are addressing the subject of long distance one-way low band VHF wireless emergency-call systems in relation to compliance with Standards, Industry Guidelines and resident anticipated outcomes, the following salient points should be considered.

- The frequency band of such systems is selected because it does not attract licence fees. It therefore follows that it does attract a multitude of other services such as baby monitors, garage door remote controllers, remote control toys and similar poorly regulated devices resulting in unacceptable levels of both spasmodic and sometimes continuous radio interference.
- Such systems depend on having a series of wireless repeaters between the resident at risk and the ultimate system destination. These are also subject to the effects of interference and near lightning strikes and also require maintenance such as battery replacement etc. Experience shows that maintenance is generally provided as a result of some unfortunate life threatening incident.
- There is no confirmation return path of a hopefully dispatched alarm call. The resident seeing the call-point's LED lamp light up when he or she presses the button has no technical or practical relevance to the call having been received. One recent and unfortunate experience in Melbourne identified that a resident pressed the button 36 times between midnight and 6am and was found deceased at 10am. Who was responsible for her death?
- In such systems how does a one-way low powered wireless data transmitter communicating via repeater station/s provide the mandatory high quality and carer controlled two-way voice contact that is necessary with a person perhaps lying on the floor in an adjacent room?
- Where is the mandatory redundancy communication path in a simple single channel wireless emergency-call system?
- How does a manually operated wireless call-point identify that its battery has reached its operating threshold?
- When using the call-point's Alkaline 'snap-on' batteries, how does one meet the requirements of having constant charge on long-life rechargeable batteries.
- Who accepts responsibility for a death when aged care professionals consciously ignore the Industry Guidelines and Standards and instead, install or continue to use sub-standard emergency-call systems?.

To ensure duty of care obligations to residents and staff alike, it is important to work within the Industry guidelines (PERSA) and the Australian Standards and to avoid the Glossy brochure untenable promises of the benefits of the new (unproven) and old (obsolete) technologies.

Paul Long  
Managing Director  
Smart-Caller Pty Ltd  
[paul@smartcaller.com.au](mailto:paul@smartcaller.com.au)

Issued February 2009  
Re-Issued March 2010

#### **Note.**

#### **Qualification to comment.**

The author is a qualified radio engineer and a member of the TE16 Australian Standards Committee responsible for the above mentioned Standards. The Author also has 30 years experience in the industry and his company is a major manufacturer of wireless, hard-wired and telephone based emergency-call systems with in excess of 600 installed major sites.

He will be pleased to debate any issues raised within this White Paper article, much of which has also been published by various technical journals.