Submission

to the

The Senate committee inquiry into the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters.

The YellowBird ALERT*

(*Automatic Linking to Emergency Radio Transmissions)

Submitted by

Associate Professor Stephen J Robson

Summary

The submission deals with the YellowBird ALERT (Automatic Linking to Emergency Radio Transmissions) in relation to the capacity of communication networks and emergency warning systems to deal with emergencies and natural disasters, with particular reference to:

The current **demonstrated ineffectiveness** of communication networks, telephone, Internet and other alert systems:

(i) in warning of the imminent threat of an impending emergency,

(ii) to function in a coordinated manner during an emergency, and

(iii) to assist in recovery after an emergency;

The YellowBird ALERT largely overcomes the impact of extended power blackouts on warning systems for state emergency services, including country fire brigades and landholders or home owners.

The YellowBird ALERT, if properly developed and trialed, **has the potential to be integrated into mobile telephone handsets and, indeed, all mobile communications devices (such as iPads and similar tablet devices). Such integration would allow a functional emergency warning system to function without the need for intact power, mobile telephone and computing resource networks, a similar situation to that encountered in Japan after recent disasters there**.

Importantly, trials of the system in Australia could lead to development of a low-cost, reliable and robust warning system for tsunami and other disasters across the Asia-Pacific.

Introduction

The recent series of large scale natural disasters affecting various areas on Australia - Queensland, Victoria, and Western Australia in particular - have clearly demonstrated the requirement for robust and reliable communication systems. This has been reinforced by a series of disasters across the last decade, from the Andaman-Nicobar ('Boxing Day') tsunami, and including the tsunamis affecting Samoa, the Christchurch earthquake disasters and the recent Japanese earthquake and resulting tsunami. There is a need for emergency warning in the **lead up** phase to such disasters, and also for both warnings and community information **during disasters**, and in the **recovery phase**.

Of particular relevance to Australia are weather events such as severe cyclones and storms, floods, storm surges, and bushfires. It should be noted that tsunami presents an under-appreciated risk to the Australian coastline –for example, there is clear geological evidence of a tsunami surmounting the headlands of Jervis Bay and penetrating the Shoalhaven rives several kilometers inland.[1]

The Commonwealth Government's position paper, *Adapting to Climate Change in Australia* (published in 2010), in the section entitled *Preparation for and management of natural disasters,* states that:

> "There is some evidence climate change is already impacting on the frequency and intensity of extreme events. **Action is required to ensure we have the capacity to respond to a likely increase in natural disasters**."

It is not only Australia that is likely to be affected. The United Nations' *Economic and Social Survey of Asia and the Pacific 2009*, released in March last year, reported that:

> "Studies have shown that natural disasters disproportionately affect the poor and the most vulnerable. Asia, as the most disaster-prone region in the world, experiences almost half of global natural disasters, with a disproportionate 65 per cent of the victims. Climate change threatens to further magnify the vulnerability of the poor by increasing the frequency and severity of natural disasters, and crop failures, in the region."

It is unlikely that any human strategy will affect the frequency and severity of severe weather-related disasters in the foreseeable future. However, mitigation of the effects of natural disasters through embedded resilience strategies in planning and infrastructure investments is likely to be the best way of reducing risk. An important element of risk reduction is the provision of warning. This is important for many reasons, as recent disasters have clearly shown that:

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1. Dominey-Howes D. Geological and historical record of tsunami in Australia. *Marine Geology* 2007; **239**: 99-123. Downloadable at:
www.geosci.usyd.edu.au/users/prey/Teaching/Geos-2111GIS/Tsunami/PirajnoMine04-Fortescue.pdf

- Warning saves lives.

- Having embedded reliable warning systems with which individuals and communities are familiar builds a culture of resilience.

- When individuals and communities know to trust their warning systems, it frees emergency services personnel who might be required to deliver warning messages by door-knocking and similar activities. These personnel can then concentrate their activities on other vital activities.

- In disasters such as hail- or other storms, even brief periods of warning will allow urgent protective measures, such as moving cars under cover, saving enormous sums in insurance payouts.

The experiences in Australia are completely consistent with the United Nations' report, *Global Survey of Early Warning Systems*, that notes:

> "The experiences of the Indian Ocean tsunami, the hurricanes in the Gulf of Mexico and many other recent events such as heat waves, droughts, famine, wildfires, floods and mudflows, point to significant inadequacies in existing early warning systems. Even where the capability exists to reliably generate and issue warnings … the weakest elements concern warning dissemination. Warnings may fail to reach those who must take action."

For example, it is now more than five years since the catastrophic Boxing Day tsunami. Despite massive international assistance, aid, and funding, significant unresolved issues remain in dissemination of warning to the vulnerable. During the fifth anniversary ceremonies held at the end of last year, Mr Al Panico, head of the International Federation of the Red Cross/Red Crescent Society's *Tsunami Recovery Unit*, commented on the now-functional Indian Ocean Tsunami Warning System:

> "In the alert system, messages get to Governments when a disaster is imminent. **Getting it to the people who need to act, to the people who need to protect themselves, that's where there is a gap**."

At the commission of that Indian Ocean Tsunami Warning System in June 2006, Mr Koichiro Matsuura, Director General of UNESCO, wrote:

> "A timely 100 percent accurate and precise warning will not provide any protection if people do not know how to respond. Early warning is as much an issue of communication and community-based systems, as it is of 'hard' science and technology, numerical modeling and instrumental networks. Building national preparedness is the most difficult part of establishing early warning systems. **The challenge is to ensure long-term investment in systems securing the 'downstream flow' of information, from the warning centres to populations at risk."**

How to ensure 'downstream flow' of warning for all hazards, be they tsunami, earthquake and aftershock, cyclone and typhoon, severe storm and storm surge, wildfire and other natural and man-made hazards has proven challenging. Few countries in the world have functional early warning systems (EWS) operating at a national level. The United Nations' *International Strategy for Disaster Reduction* (UN-*ISDR*) specifically notes that:

> "Developing countries often have the greatest need for early warning systems, but at the same time have the least capacity to implement them. In addition, advanced technologies are sometimes unsustainable in developing country economies. New initiatives and targeted research are needed to develop affordable tailored solutions for those in need. Capacity building in early warning systems needs to be developed as part of another national sustainable development projects."

Indeed, the **single greatest factor** leading to preventable loss of life in natural disasters is the **inability of authorities to disseminate urgent warnings about impending threat**.

Disaster Warning in Australia

A typical publication dealing with emergencies, *Emergencies and the National Capital – A Residents' Guide* (published by the ACT Government) makes the following observations:

> "Major emergencies are an unfortunate fact of life and come in many forms or types of hazard...The way we prepare for these events can make the difference between them being an emergency that is managed without unnecessary loss, or a disaster that has catastrophic effects on life..."
>
> "History shows that to minimise the occurrence and impact of emergencies, we need to remove the common elements of disasters by acknowledging:
>
> - The **inevitability** of very severe events.
> - That **prepared communities** are less likely to suffer the consequences of catastrophic disasters."

The *National Framework for Scaled Advice and Warnings to the Community*, under the banner of '*Prepare. Act. Survive*' emphasizes the value of preparedness, and the use of **multiple methods** of warning dissemination to communities.

During the lead up, emergency service agencies will specifically construct messages (using the OASIS common alerting protocol [CAP] standard) and disseminate these through radio as part of a multi-channel approach, including television and print media.

In reality, maintenance of lines of communication **during and after a disaster** present tremendous problems with current emergency warning arrangements. For example, the Recovery Task Force for *Cyclone Larry* encountered massive yet predictable problems with communications. In *The final report of the Operational Recovery Task Force: Severe Tropical Cyclone Larry*. (Cosgrove P, *et al*. State of Queensland [Department of the Premier and Cabinet], Brisbane, 2007), the following observations were made:

> "Disruption of the normal communications channels and sources of information for people is one of the first impacts in most natural disasters ...
>
> "The immediate (and it might be said in many disasters, inevitable) loss of mains power means that the instant, pervasive reach of the mass media falls away sharply – not even the ubiquitous World Wide Web will work.
>
> "In this regard, contingency plans for post-disaster communications have to focus even more clearly on redundant means of transmitting and receiving vital information. This is important from several points of view – the safety of life and limb, directing relief efforts by broadcast, and helping maintain and restore public confidence in the disaster area and preventing panic.
>
> "In the case of Larry, not enough people had heeded the advice to have battery-operated radios on hand. Televisions, phones and the Internet were down because of the lack of power and many people observed to the Task Force that, in among all their wants and needs, **this lack of broadcast information was the most disconcerting**."

Subsequent recommendations contained in the Cosgrove Report include the following:

> **Recommendation 4**
>
> **That consideration be given to additional ways and means to improve broadcast capability into disaster-affected regions, particularly for the early aftermath of any disaster when a loss of power characterises the event.**
>
> "... while radio networks, especially the ABC provided great public service by their emergency information broadcasts, experience shows that this information may need to be broadcast exclusively and repetitively for days and even weeks. In this regard, it would be useful to consider emulation a system used in other countries, namely the availability of specific, 'emergency-only' radio broadcast frequencies in disaster-prone areas, to be activated and operated where necessary as an adjunct to normal broadcasting."

Recommendation 6

An early and high priority task in recovery from a natural disaster should be the development of a co-ordinated, succinct, practical and flexible public communications plan.

Perhaps in response to the Cosgrove Report, Guides to disaster preparedness, such as that issued by the ACT Emergency Services Authority, invariably give the following advice:

> "**A battery-operated radio is the most reliable way to receive information if the power fails**."

All mainland states and territories except Western Australia have contracted to use the NEWS (National Emergency Warning System) alert. Western Australia uses the locally-developed State Alert system. These employ text messages and telephone calls *via* mobile and fixed line.

There are a number of important disadvantages of the NEWS Alert system that have severely compromised its value in rapidly-evolving large scale disasters, such as those that have affected Queensland.

1. **It relies entirely upon intact infrastructure, in particular power and mobile phone towers.**

2. **It is extremely reliant on complex computing resources.**

3. As the disasters in Queensland, and indeed the Christchurch earthquake disasters have demonstrated, **the mobile phone network is usually the first to fail. Even when there is partial service, the system is overloaded and fails quickly. Thus, initial warnings may be issued the follow-up warnings after the initial disaster often cannot be issued.** As media coverage of the Christchurch disaster revealed:

    a. "Civil Defence officials have asked residents not to flush their toilets, to use water sparingly, **not to use their telephones**, check on their neighbours, and to stay away from damaged areas while authorities work to restore services and assess buildings."

    b. "...the message spread that **batteries in cell towers were running low and mobile phone use should be minimised. National Radio should be commended for providing an excellent service, if only most people had a radio with batteries still!"**

4. **In the current iteration, messaging to mobile phones depends upon the billing address of the subscriber**. A $40 million roll-out of location-aware systems has been approved.

5. The NEWS Alert system usually instructs warning recipients to turn on and monitor their radios.

6. There are large ongoing costs of maintaining the system and issuing warnings.

7. Mobile phone handsets may be switched off, or the intended recipients simply ignore the text messages or don't hear them.

The YellowBird ALERT

The YellowBird ALERT (Automatic Linking to Emergency Radio Transmissions) has been developed work as part of a **national systems approach to community warning** and to build **community resilience**.

The YellowBird ALERT system can be summarised as follows:

- It is a simple and reliable method of using the existing radio broadcast infrastructure to remotely switch on radios, in the event of emergency warnings (for example, tsunami, cyclone or storm, flood, bushfire, terrorist alert, traffic hazards, or multiple 'all-hazards' uses).

- The triggering software system is simple, and in final form could easily be run by emergency services from a laptop computer, iPhone, BlackBerry or other mobile device.

- The simplicity of the YellowBird system makes it almost uniquely resilient and largely invulnerable to infrastructure failures (power failure, telephone network failures, Internet failure) and deliberate sabotage (industrial or military 'hacking,' viruses and assaults such as the 'Stuxnet worm.')

- The system would be uniquely applicable to mobile telephones and mobile devices, and by using radio would totally bypass the need for an intact Internet and mobile phone tower systems. It could interrogate the GPS device in the phone, and use the phone's radio reception.

ABC radio, and selected commercial broadcasters, works with emergency services to issue emergency warnings. **However, radio warnings may be missed if the radio is switched off, especially if people are asleep. People may also be trying to preserve battery power**.

The YellowBird ALERT system is unique in that it allows emergency authorities and radio stations to **selectively** switch on radios precisely in vulnerable areas, to ensure that emergency warnings are not missed.

Even when switched off, the YellowBird ALERT chip is regularly checking for a triggering tone. If the tone is detected, the chip 'listens' for a brief datastream specifying the boundaries of the 'risk polygon.' The chip interrogates a GPS chip, and if it is located within the risk polygon, it launches **a loud siren and flashing light before activating the radio, so that anybody nearby can hear the warning.**

How does the YellowBird ALERT work for Emergency Services personnel?

1. Emergency Services personnel determine that radio warnings are to be issued, typically with SEWS preceding the warning message, according to standard protocols.

2. A 'risk polygon' is drawn. This may be on the YellowBird ALERT software, but would be equally applicable and could be drawn from National telephone Alert software or StateAlert mapping with suitable development.

3. The datastream specifying the boundaries of the 'risk polygon' are either downloaded by the radio station, or faxed, or telephoned. The method used would be individually determined by Emergency Services and local radio stations.

4. Before issuing the on-air warnings, the radio station plays the triggering tone then the datastream.

5. YellowBird radios within the risk polygon emit a loud siren and flashing light to attract attention before the radio itself switches on.

Advantages of the YellowBird ALERT system over existing warning communications systems

- Instantaneous alerts can be issued with extreme precision, from single house, street, or location, to an entire country, instantly.

- Radio infrastructure is extremely reliable, and is rarely affected by the infrastructure disruptions that characterise natural, and indeed other, disasters.

- There is no computing cost or complexity whatsoever.

- The radios work when virtually all other communications have failed.

- There is no cost to Governments or Emergency Services to install and maintain the system, and there is no cost to send messages.

- Existing warning messaging protocols do not need to be changed.

- There is no reliance on intact power supplies or mobile telephone infrastructures.

- There should be compatibility with existing alert systems where a risk polygon is drawn.

- Cover of vulnerable areas is generally better with radio than all other methods of warning dissemination.

- The system can be used to cheaply provide messaging during recovery and relief operation after a disaster, when infrastructure has been damaged but emergency communications are desired.

Who has developed the YellowBird ALERT system?

A/Professor Stephen J Robson
Professor Robson was formerly a Medical Officer in the Royal Australian Navy, and has post-graduate qualifications in Public Health and holds a doctorate from the University of New South Wales. He is one of the senior academic staff of the Australian National University Medical School.

Mr David Templeman
Mr Templeman was Director General of Emergency Management Australia from 2000-2006, a period of unprecedented national and international activity. He is currently CEO of the Alcohol and other Drugs Council of Australia, and remains active in providing security and disaster management expertise in Australia and overseas. He is the author of '*Taking a punch: Building a more resilient Australia*.'

Mr Brian Flanagan
Mr Flanagan was on the senior staff of Emergency Management Australia from 1999-2006., former Communications Director, Emergency Management Australia

Mr Ross Holmes
Mr Holmes was District Emergency Management Officer, NSW Police, Monaro Region until 2009. He now works in Risk Assessment with DFAT. He has extensive experience in coordinating response to bushfires, tsunami warnings and other hazards across all agencies.

All technical development has been performed by **LX Innovations** (Sydney, NSW) and **Design Momentum** (Sydney, NSW).

Support for the YellowBird ALERT system

The system has a high level of support for trials.

Included with the submission are correspondence from the NSW Fire Brigades Commissioner (**Attachment 1**) and the ACT Emergency Services Authority (**Attachment 2**). The system was demonstrated to Emergency Services Leaders in Western Australia, and text of email traffic from Ms Jo Harrison-Ward, CEO of the Fire and Emergency Services Authority (FESA) (**Appendix 1**) is included with the submission)

ABC Radio has provided written support for, and a willingness to be involved in, trials of the YellowBird ALERT system (**Attachment 3** and **Appendix 2**)

Disaster recovery NGOs including Oxfam, Caritas and the Australian Red Cross have been involved in demonstrations of the system and have pledged support for trials – typical correspondence is included in **Appendix 3**.

It should be noted that persons with visual, auditory and mobility disabilities can be extremely vulnerable to natural disasters, and we have received support and a willingness to be involved in trial from Vision Australia (see **Appendix 4**).

The system won the Insurance Council of Australia's annual national Community Resilience Award for 2010 (**Attachment 4**).

The YellowBird ALERT system also won first prize in the Electronics News Future Awards in 2010 (**Attachment 5**).

Response from the Commonwealth Government

The response from the Commonwealth Government to multiple has been **underwhelming**. We have been completely unable to secure anything other than two meetings with junior staff in the Attorney-General's Department (AGD), and we understand that all of these personnel have relocated elsewhere from the Department.

This has prompted us to write to the Prime Minister (**Attachment 6**). Two months have passed since the letter was sent, with no response whatsoever. Senator Gary Humphries has seen the YellowBird demonstration and as a result (we have been reliably informed) has placed a number on questions on notice about YellowBird ALERT following the February Senate Estimates process. How AGD will address these and the concerns we have raised in our letter to the Prime Minister is almost amusing to say the least.

Hence the opportunity to have YellowBird ALERT thoroughly assessed as a part of your Inquiry is welcomed. We are not, and have not, been advocating that YellowBird ALERT

is a replacement system -- a view being portrayed within AGD and in their statements to the media. Our approach has and always will be about enhancing existing arrangements with YellowBird ALERT complimenting recent developments in emergency warning capability such as NEWS Alert.

The community needs to be aware of the present difficulties being experienced by NEWS Alert but more importantly, where there are other systems that can add value especially in terms of community safety, there is simply no excuse for them to be ignored.

Stephen J Robson

David Templeman

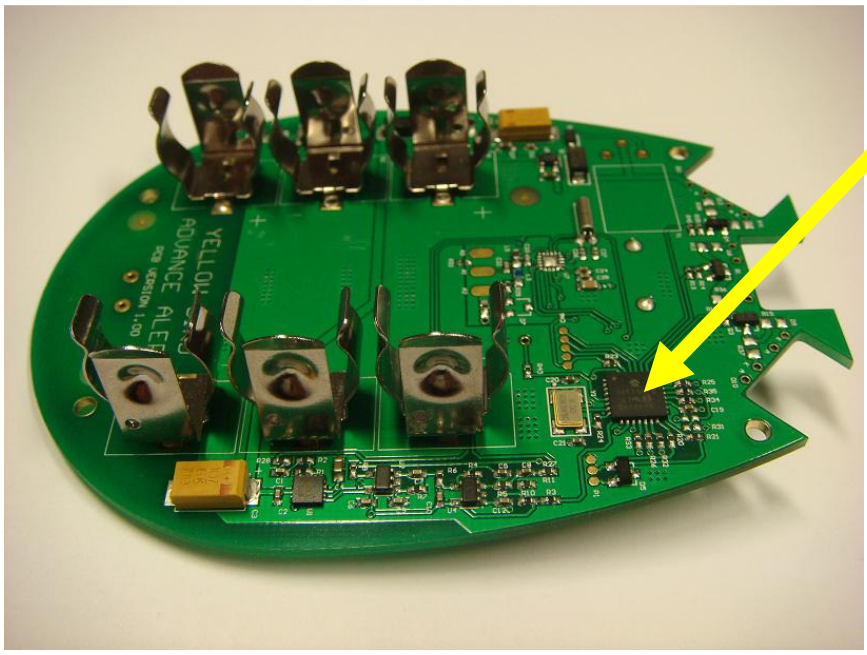
Canberra, April 2011

Conclusion

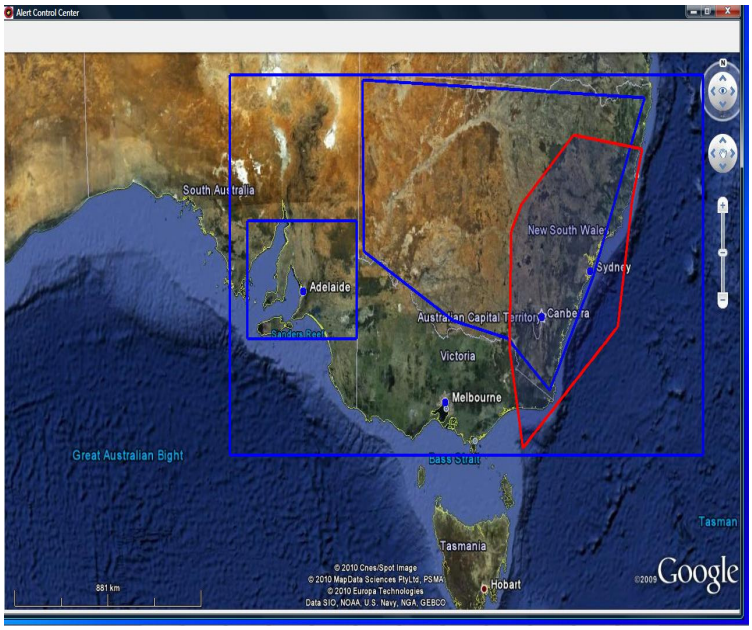
Natural and man-made disasters will continue to affect Australia, as they will the rest of the world. Current arrangements for warning dissemination have many drawbacks, and are commonly fail during and after severe disasters.

The YellowBird ALERT is a low-cost, technically simple system which can readily enhance national warning capability with minimal cost. Lessons from the experience with *Cyclone Larry* emphasize the benefits of improving the versatility of radio application in relation to warning communities in both a pre- and post-disaster setting.

We welcome the opportunity to brief your Committee of Inquiry on the importance and community significance of YellowBird ALERT. It would also be important for the Committee to have a demonstration of the YellowBird ALERT system, something we would be pleased to arrange.



YellowBird ALERT chip (arrowed) – attached to an example radio



Typical YellowBird ALERT 'Risk Polygon' Display

Example possible form of YellowBird ALERT Radio

Front View

Rear View

Yellowbird “hand-held”

Yellowbird “belt-attached”

Appendix 1.

Text of email correspondence from Ms Jo Harrison-Ward to David Templeman on 1st October 2010, after our demonstration of the YellowBird ALERT system to FESA in Perth.

Thanks David

I spoke to ---------- – ---------- after you left and advised if they were thinking of progressing and trialling, I would be happy to partner in a trial. Jo

Jo Harrison-Ward

Chief Executive Officer

Fire & Emergency Services Authority of WA

Appendix 2

Text of email correspondence from Mr Ian Mannix of ABC Radio to A/Prof Stephen Robson, on 20th February 2011

----- Original Message -----
From: Ian Mannix
Date: Sunday, February 20, 2011 7:11 pm
Subject: RE: Yellow Bird, the ABC, and national disaster preparedness
To: Stephen Robson

Hi Steve

Good luck with the submission.

Yes, the ABC is happy to support testing of this product, and its widespread use.

Ian

Appendix 3

Text of email correspondence from Ms Carol Hubert, National Manager, Research, Australian Red Cross, to A/Prof Stephen Robson on 12th January, 2011

From: "Hubert, Carol"
Date: Wednesday, January 12, 2011 6:22 pm
Subject: RE: Yellow Bird
To: 'Stephen Robson'

Hello Steve

Well, couldn't QLD have done with such a device as yours!

I have spent an amount of time investigating possible pathways to senior Red Cross people (outside of the International Programs staff you have previously spoken with) and, sadly but not unexpectedly, have drawn a blank on the basis that product development and venture initiatives are not our 'core business'.

But, like the International ES staff you spoke with, our Australian Emergency Services Department would be most willing to trial a product once developed.

All the best

Carol

Carol Hubert
National Manager, Research

Appendix 4

Text of email from Ms Christina Hinchliffe, Vision Australia, to Mr Brian Flanagan, dated 16th November 2009.

-----Original Message-----
From: Christina Hinchliffe
Sent: Monday, 16 November 2009 1:00 PM
To: Brian Flanagan
Subject: Statistics

Hi Brian,
Thanks for taking the time to visit Vision Australia and provide a briefing on Yellow Bird. Vision Australia is very supportive of this initiative which could benefit our clients across Australia.
Please see statistics below:
Currently, there are 300,000 Australians who are blind or have low vision and with a growing and ageing population this number is expected to double to 600,000 by 2020*.
About 12,000 people in NSW, ACT and VIC are Deafblind.

In relation to other disability organisations you could approach we recommend PWD (see details below).

Therese Sands at PWD (People with Disability Australia)

You could also try the following:
Dougie Heard at Disability Council NSW
Women with Disability Australia
Physical Disability Australia/Physical Disability Council
Association of Blind Citizens
Blind Citizens Australia
Guide Dogs
Forsyth Foundation
Council on Intellectual Disability
AFDO (Australian Federation of Disability Organisations)

Christina Hinchliffe
Occupational Therapist
Equipment Solutions
Vision Australia

NEW SOUTH WALES FIRE BRIGADES

227 Elizabeth Street Sydney NSW 2000
PO Box A249, Sydney South NSW 1232
Telephone: (02) 9265 2999 Facsimile: (02) 9265 2988

Home Page: www.fire.nsw.gov.au Email: info@fire.nsw.gov.au ABN: 12 593 473 110

Your Reference:
File No.:
Contact Officer:

Telephone No.:
Facsimile No.:
Email:

28 April 2010

Professor Stephen Robson

Dear Stephen

Thank you for visiting me recently to demonstrate and explain the "Yellowbird" concept.

As I stated when we met, I see a clear and compelling case for introduction of such a simple, cheap and therefore readily accessible technology to complement the existing and proposed suite of measures being used by emergency services and governments to warn the public about impending or actual emergencies and disasters.

Recent experiences in Australia and abroad have highlighted the strong, and reasonable expectation by governments and members of the community that they will receive timely warnings of potentially damaging or life-threatening events. I am particularly impressed by the ability of Yellowbird, when in "passive" mode (for example when people are asleep at night) to activate and deliver a warning tone. As I indicated to you, the simplicity of the concept, and the fact that it has been developed by a member of the community who has experienced a disaster and knows first-hand the need for warnings and information, makes this concept particularly attractive.

I wish you well with its further development. Thank you again for briefing me on this most worthwhile project.

Yours sincerely

Greg Mullins AFSM
Commissioner
Deputy Chair, NSW State Emergency Management Committee

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ACT Emergency Services Agency

22 April 2010

Professor Stephen Robson

Dear Professor Robson,

Thank you for your presentation on the Yellow Bird ALERT system to the ACT Emergency Services Agency (ESA) senior officers on 30th March 2010. Emergency service organisations around the nation are acutely aware of the need to provide timely and accurate warnings to the community of impending and current emergencies; such a position has also been the subject of discussions and recommendations at many 'post emergency' investigations and reviews.

The presentation you gave on the Yellow Bird ALERT system was very well received by ACT ESA staff. The ability to use an inaudible tone from an AM or FM radio to activate a flashing light and emit a loud alarm sound is both innovative and practical, and provides another means of communicating emergency messages. The ESA team noted the key feature of Yellow Bird --being activated remotely without the need to enhance any existing radio/communications infrastructure.

I wish you well in the demonstration of this technology to governments and emergency service organisations, and trust that you will receive an equally supportive response during your discussions.

ESA would welcome the opportunity to participate in a trial of Yellow Bird.

Yours sincerely

Tony Graham
Ag Commissioner
ACT Emergency Services Agency

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ABC
Local Radio

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Adelaide SA 5001
Tel. +61 8 8343 4000
abc.net.au

23 June 2009

Tamara Chafee
Business Development Manager
ANU Enterprise Pty Ltd

Dear Tamara

ABC Local Radio believes that radio could form the central basis of an emergency warning system throughout Australia. Radio is free, universal, robust and a central part of the lives of all Australians. It already exists.

We are looking forward to working with your team to further develop the usefulness of radio and radio signals to deliver a possibly unique warning system for Australia.

As discussed the ABC is willing to assist with provision of support to use our frequencies as part of a trial at an agreed site or sites. Our technical staff has already assisted with some understanding of similar systems elsewhere in the world, and we will continue to work with you on that area. We are available to assist with connection and distribution of the radio signals, and to take feedback from the community.

This is an exciting opportunity which could deliver Australia a world class emergency warnings system, grown at home, and based around Australia's leading emergency warning broadcaster.

Regards

Ian Mannix
ABC Local Radio
Manager Emergency Broadcasting and Community Development

LX INNOVATIONS WINS ELECTRONICS FUTURE AWARD

- By LX Innovations on 25 September 2010
- 0 comments

Download:yellow-bird.jpg

For the second year running, LX Innovations has won a major award at the Electronics Future Awards 2010.

LX Innovations was awarded winner in the Digital Home category, Highly Commended in the Communications category and nominated in the Wellness and Environment categories with YellowBird ALERT.

YellowBird ALERT (Automatic Linking to Emergency Radio Transmissions) is an emergency alert system that warns of natural disasters, such as bushfires or floods, by utilising AM and FM radio transmissions.

YellowBird logs onto a registered radio station and sits dormant until an alert is received. In the event of an emergency, authorities may decide to send an alert by creating a message and alert tone package, which sends out an immediate radio broadcast. If contact it lost with the registered radio station, Yellow Bird will notify the user and scan for alternative stations.

Simon Blyth, director of LX Innovations said ”my team and I are thrilled and greatly encouraged to receive this award” and added that he was pleased to be able to support an event that recognised and promoted electronics innovation.

In 2009, LX Innovations was awarded overall winner at the EDN Innovations Awards for Best Project with WMD3000, a device that monitors a user's gym workout and provides feedback wirelessly. Also awarded to LX, was first place in Best Application of Test/Data Acquisition category and highly commended in the category of Best Application of RF Wireless Design.
The Electronics News Future Awards, continuing the tradition founded by the EDN Innovation Awards, recognises excellence in Australian and New Zealand electronics (http://www.electronicsnews.com.au/awards.aspx).

##End##

About LX

LX Innovations is an award winning Australian electronics design house, specialising in the wireless and low power electronics designs. LX offers clients a range of professional solutions designed to take a new product idea from concept through to production.

LX Innovations services include full turnkey electronics design, electronics, firmware and software design, electronics engineer consultancy, rapid prototyping, electronics manufacturing and commercialisation and technical support. LX's team takes an innovative approach to developing each project to ensure it gets to market fast with the best possible features.

STEPHEN J. ROBSON
BMEDSC, MBBS, MM, MPH, MD, FRANZCOG, MRCOG

The Hon Julia Gillard MP
Prime Minister of Australia
Parliament House
Canberra ACT 2600

Dear Prime Minister,

The YellowBird system for emergency warning dissemination

I am writing in response to your call for State and Territory Emergency Services Ministers to evaluate Australia's preparedness for, and resilience to, large-scale natural disasters.

The devastating natural disasters in this country (flood, fire, cyclone, and storm surge) as well as New Zealand (the Christchurch earthquake) and the Pacific (tsunami) have demonstrated the extreme vulnerability of existing emergency warning systems to infrastructure and environmental failure. Mobile phone, fixed line and Internet-based warning systems are useful for pre-emptive warning, but fail with loss of power and mobile phone network integrity. To make matters worse, these systems rely on computer resources and the recent IT disasters befalling the National Australia Bank and Virgin Blue demonstrate clearly the vulnerability of such warning networks to accidental or deliberate damage.

The Report into Cyclone Larry (2006) prepared by General (Rtd) Peter Cosgrove AC clearly recommended that radio is the only reliable method of communication in the acute and recovery phases of natural disasters. My group has developed the radio-based YellowBird system for dissemination of precise, instant emergency warnings and messaging direct to specific locations. The system uses the existing ABC and commercial radio infrastructure to issue 'wake up' warnings to radios (using AM, FM, and indeed any radio band). Governments would face no infrastructure cost, no maintenance cost, and no cost to send warnings. It is almost completely invulnerable to other infrastructure failure (power, phone networks, the Internet). It is precise and reliable. It could easily be adopted for use in any means of receiving radio transmission, including mobile phone and other mobile device handsets. This means that 'wake up' and warning could be precisely delivered to such devices in the absence of power and intact mobile phone networks, using radio.

The YellowBird system won the Insurance Council of Australia's national annual Resilience Award for 2010, as well as the Electronic Future award for 2010. It has the support of ABC radio for trials, as well as emergency services in New South Wales, the ACT, South Australia and Western Australia. Furthermore, the charity NGOs Red Cross, Vision Australia, Oxfam and Caritas all support trials of YellowBird. The Government of the Solomon Islands support trials of the Yellow Bird system for tsunami and other natural disaster warnings.

Despite these facts, and the repeated failure and community criticism of existing warning systems, we have had no success in gathering support from your Government. The Commonwealth Attorney-General, The Hon Mr Robert McClelland MP, has not seen a demonstration of the system, a task left to a former junior adviser Mr Ben Sakker Kelly.

It seems absolutely extraordinary that, with the awards our group has received for this innovative system to enhance community safety, and with the wide support we have from the national broadcaster and emergency services authorities, this Australian invention has been ignored by your Government. We are extremely disappointed in continually having our approaches refused. Your Government appears to have been locked into a warning system estimated to cost around $100 million with ongoing costs every time it is used — for much less than one million dollars, YellowBird would be ready to commission for the entire country.

Prime Minister, the YellowBird system is designed to save lives when all other systems have failed. It should not replace the NEWS Alert and other systems. However, it would enhance and compliment existing arrangements.

We would welcome an opportunity to demonstrate the YellowBird system to you and your Department.

Yours sincerely,

Associate Professor Stephen J Robson
Canberra ACT 2600

15th February, 2011