

If Karachi airport used fake bomb detectors, they should have known better

June 12 2014, by Michael Sutherland



A Taliban bomb causes massive destruction in Karachi. Credit: EPA/Rehan Khan

The devastating [Taliban attack](#) at Karachi's Jinnah airport this week was shocking not just for the loss of life, but for the sheer brazenness of the assault. Pakistan is no stranger to terrorist attacks, so it seems remarkable that a heavily armed band of ten people could make it anywhere near the supposedly secure locale of a major international airport.

It seems their path may have been eased because the airport [continued to use](#) the phony ADE-651 device, at least something similar, to detect explosives. The ADE-651 was sold to officials in Iraq by UK fraudster Jim McCormick before he was sentenced to ten years in jail for his crimes. While neither the airport nor the Pakistan government has confirmed that the ADE-651 was in use at Jinnah, the airport admitted in 2010 that the devices in use operated according to the same principles. It is also thought that the ADE-651 is still in use at many other hot spots around the world.

How it 'works'

The ADE-651 and other similar "remote detection devices" are made of a plastic handle attached to a telescopic, swivelling antenna. The handle is connected via a cable to a pouch worn on the user's belt, containing a card said to encode information about the explosives being hunted. The device is billed as emitting an electromagnetic signal at a specific frequency that is picked up by the contraband, causing the handle to point in the direction of explosives.

It is in fact essentially a modern take on the dowsing rod. McCormick claimed it could be used to detect minute quantities of explosives, ammunition and drugs up to a kilometre away and marketed them at prices of [up to £27,000](#). They were used particularly widely in Iraq during the violent insurgency following the end of the Iraq war.

Closer investigation reveals such a device simply cannot operate according to the laws of physics. Even those among us whose memory of school physics is a little hazy might know a little bit about devices that emit and detect electromagnetic signals. Most of us use one every day in the form of a mobile phone. If you were to open up your phone you'd find complicated electronics used to generate and detect such signals as well as the battery used to power the device.

Open up an ADE-651 on the other hand and you see nothing. It's a hollow box, empty of circuits or any visible power source.

Instead, McCormick's company optimistically claimed power came from the static electricity generated by users shuffling their feet. The cards which sat in the pouch of the user's belt were found to be empty of information; they contained the tags used to deter shoplifting in stores. These tags were put in glass jars with a sample of explosives in the hope that somehow the "signature" of the explosives would be transferred. It is the equivalent of placing your bankcard next to a stack of £20 notes in the hope that your balance might increase. It doesn't work.

Most damningly, in the [Old Bailey trial](#) it emerged that the earliest version of the ADE-651 device was essentially a novelty golf ball detector, the kind of joke gift you might buy the struggling golfer in your life for Christmas. McCormick simply removed the "golf ball detector" label and marketed it as a high explosives detector for use in war zones.

Lethal failure

I was a part of a team from the University of Cambridge that [conducted scientific field trials](#) of the ADE-651 in order to rule out the possibility that some mysterious and unknown effect might be at work.

We used the principle of double-blind detection, hiding explosives without telling the person doing the detecting. That meant that no information about their location could inadvertently leak. The result? After many trials we found that the ADE-651 device was no better than random chance at detecting explosives. You would do just as well guarding Jinnah airport by flipping a coin as you would with one of these devices.

In court, the judge told McCormick he had a "[cavalier disregard of the potentially fatal consequences](#)" of his con. When the ADE-651 was used by Iraqi military and police personnel to "secure" Baghdad, hundreds of civilians were killed in brutal market place bombings. At the same time, it is estimated that McCormick made in excess of £50 million selling these devices, buying a yacht and the former home of Hollywood star Nicolas Cage.

It is remarkable that despite overwhelming scientific evidence and a fraud trial that received international media coverage, these devices, or devices similar to them, may have been used at Jinnah airport. The story of the ADE-651 is not just one of gross scientific incompetence, but one of unrestrained greed at the expense of human suffering, conducted on a massive, international scale. One can only hope after the devastating events in Pakistan any remaining security forces using these devices will insist on using methods which have been proven to work. This will undoubtedly save lives.

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