Bomb-detecting “divining rod” banned for export

Jason Lomberg, Technical Editor

They say truth is stranger than fiction. Since 2008, Iraq’s military and police have utilized a divining rod (err, a “bomb detection device”) known as the ADE 651 [1] to detect explosives. With no electrical components and no scientific basis for its effectiveness, the ADE 651 has undoubtedly cost countless lives. Thus, justice was served when its creator, Jim McCormick, was arrested [2] on suspicion of fraud. The 53-year-old former UK police officer was taken into custody last week, and his device banned for export.

The ADE 651 “bomb-detection” device in action.

The ADE 651 looks like a barcode scanner with a rod attached to the end. Truth be told, a barcode scanner would probably be more effective. With no batteries or power source required, the ADE 651 purportedly works on static electricity. To get started, the user walks in place a few seconds to “charge it.” But it gets better. After a “programmed substance detection card” is inserted [3], the devices “tunes into” the frequency of a particular explosive or substance, and the rod swivels in the direction of the target. According to Mr. McCormick, the device can detect explosives up to 1 km away. Nevermind that Dr Markus Kuhn of Cambridge University's Computer Laboratory determined that the “detection cards” are no different from anti-theft tags found at Walmart. Nevermind that its operation is similar to a Ouija board. What’s horrifying is that Iraqis rely on these devices in place of physical inspections.

The device purportedly works on the principle of “electrostatic magnetic ion attraction.” According to a Lebanese reseller [4], the ADE 651 works on “nuclear quadrupole resonance (NQR) or nuclear magnetic resonance (NMR).” It would all be hilarious if lives weren’t at stake. This is the stuff of medicine shows and cheap hucksters, but many buy into it. According to Police officer Husam Muhammad [5],

using the device properly is “more an art than a science.” “If we are tense, the device doesn't work correctly. I start slow, and relax my body, and I try to clear my mind,” he says. Major General Jehad al-Jabiri, head of Baghdad's bomb squad, ardently defends its usage. "Whether it's magic or scientific, what I care about is it detects bombs," he said [3].

The most astounding revelation is the price tag. In 2008, the Iraqi Ministry of the Interior purchased [6] 800 such devices for $32 million, at a cost of up to $60,000 apiece. Not bad for a glorified dowsing stick. McCormick has sold the ADE 651 across the Middle East and Asia (see video below of training conducted in Thailand). American forces won’t touch the device. Major General Richard J Rowe, US army, said, “I don't believe there is a magic wand that can detect explosives. If there was, we would all be using it. I have no confidence that these work.” Lt. Col. Hal Bidlack, US Air Force (Retired) says that, “It would be laughable, except someone down the street from you is counting on this to keep bombs off the streets.” The US Military uses dogs to detect explosives.

As the NY Times mentions [6], proponents of the ADE 651 attribute problems to user error. Operators must have a steady pulse, be relaxed, and well-rested. Without pontificating too much, this is endemic of the old Iraqi military, where subordinates were terrified of speaking up for fear of retribution. Loathe to question the established order, Iraqi military and police still largely operate this way. If an authority figure says it works (i.e. the government invested lots of money in it), then it works. I’m reminded of a reader who contacted me [7] requesting help testing his “thought screen helmet” (a tin foil hat). Both may be based on hocus-pocus, but at least the thought screen helmet doesn’t cost lives.

Source URL (retrieved on *04/16/2014 - 4:33am*):
http://www.ecnmag.com/blogs/2010/01/bomb-detecting-%E2%80%9Cdivining-rod%E2%80%9D-banned-export?qt-recent_content=0&qt-video_of_the_day=0

Links:
[1] http://en.wikipedia.org/wiki/ADE_651
[2] http://www.independent.co.uk/news/uk/crime/head-of-bomb-detector-company-arrested-in-fraud-investigation-1876388.html
[3] http://news.bbc.co.uk/2/hi/programmes/newsnight/8471187.stm
[4] http://www.prosec.com/ADE651.htm
[5] http://www.npr.org/templates/story/story.php?storyId=111750111
[6] http://www.nytimes.com/2009/11/04/world/middleeast/04sensors.html?_r=1
[7] http://www.ecnmag.com/Blogs/2009/12/tin-foil-hat-brigade/