

## ***Global Issues Report***

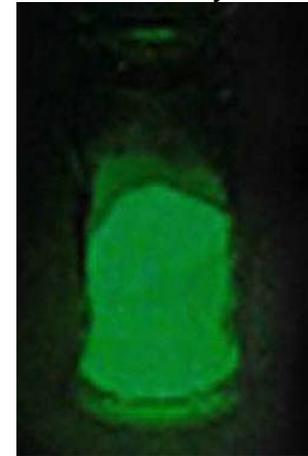
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2 March 2006

### **Dirty Bomb Instructions Posted on Hostile Web Forum**

The militant Islamic online forum [AlGhorabaa.net](http://AlGhorabaa.net), a site commonly used by Al-Qaida and Iraqi insurgents, recently circulated Arabic-language instructions on how to make a radium dirty bomb.<sup>1</sup> The posting gives instructions to distill radium from certain industrial products and to construct a detonation device to disperse the radioactive material. The 10-page document was published by Al-Rayat Al-Soud (Black Banners), which has produced similar instructions regarding the application of nuclear physics and other sciences to terrorism.<sup>2</sup> The feasibility of these instructions has not been analyzed, and it is unclear whether militants have developed the capability to use such a weapon against U.S. targets. Nonetheless, the posting indicates that Islamic militants are considering the use of dirty bombs for this purpose. Additionally, the display of such weapons expertise in a public forum serves to enhance the technical prestige of Islamic militants, which may lead to higher morale and increased recruitment of new members.

Figure 1: Supposed Raw Material for a Dirty Bomb.



Source: [AlGhorabaa.net](http://AlGhorabaa.net)

The author introduces the material by explaining that mujahideen do not possess the necessary “raw materials like uranium” to sufficiently wage jihad. Hence, argues the author, a radium dirty bomb presents the mujahideen with an “attractive alternative.” Its components are available commercially and such a weapon would be “very effective,” he asserts. As in previous publications, the author states that the purpose of this document is to “make the experiment easy and available for you, my brother the mujahid, as they say, in the kitchen.” The author uses colloquialisms common to Iraq and the Gulf states throughout the document. Pictures used to illustrate the instructions feature products widely sold in the U.S., such as Reynolds Wrap aluminum foil, suggesting that the author could even be based in North America.

<sup>1</sup> “مشاركة: القنبلة النووية الجهادية” (A Posting: A Jihadi Nuclear Bomb).” [AlGhorabaa.net](http://www.alghorabaa.net/forums/showthread.php?t=2912) 13 December 2005, 17 February 2006 <<http://www.alghorabaa.net/forums/showthread.php?t=2912>>.

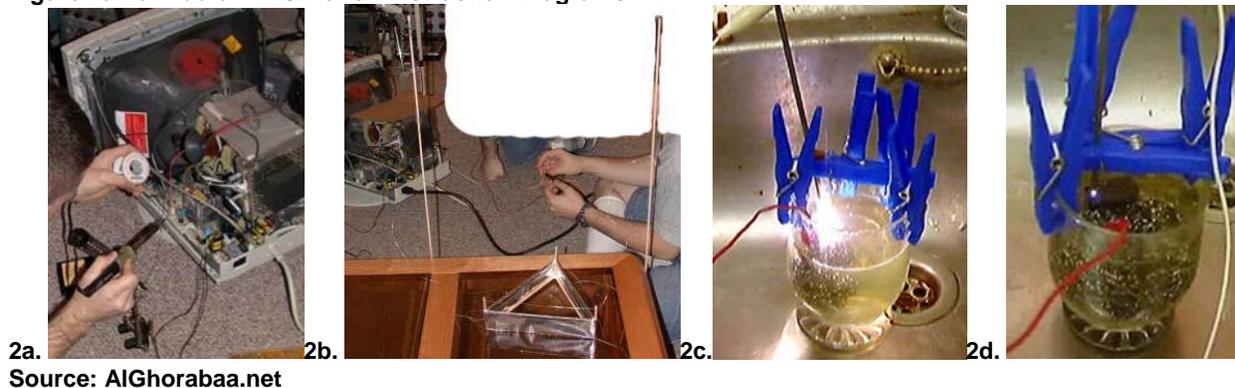
<sup>2</sup> See Global Issues Reports “Hostile Websites Host Discussions of Terrorist Nuclear Weapon Use,” 14 October 2005; and “EMP-Bomb Instructions Posted to Hostile Yahoo! Group,” 7 February 2006.

The document first explains how to obtain radioactive materials. It notes that radioactive isotopes, such as Cobalt-60, can be found in industrial factories. Should such material prove to be unobtainable, the posting explains, one can distill radium from commercial materials, such as certain types of luminescent industrial paint (Figure 1). It instructs the reader to make a distillation device by connecting two Pyrex containers via a sealed tube, and place the device inside an oven heated to 500°C. After “the zinc sulfate separates from the radium chloride,” the reader is instructed to dissolve the radium chloride in water and separate the radium using an electrical spark. The author states:

*Next, we take the positive cable from the monitor (TV). The screen should not be less than 21 inches. We take the ground cable from the line opening the screen. Then, by using both, we can develop an electrical line with a high voltage (approx 1000 [volts]). (Figure 2a) We place the dissolved radium chloride in water, and we tie the two electrical cables on the edges of a wood frame. We tie them with a thread that does not conduct electricity (Figure 2b)... Then we drop the two electrical cables tied to the wood frame that contains the suspended radium chloride [sic] (Figure 2c)....*

*You will see the gas rise and it is a very dangerous gas. The water will evaporate. To ensure that the water evaporates completely without causing any problems to the electrical circuit, we add mercury to the solution of suspended radium chloride before activating the electricity (Figure 2d). After the chloride evaporates, we can distill the radium that is mixed with the mercury, the same operation that we conducted for the mercury [sic] sulfate. The mercury evaporation can occur at 500°C. Thus, we will obtain the crude radium that has the capacity to radiate two million times as great as uranium....*

Figure 2a-2d: Radium Distillation Instruction Diagrams.



After providing instructions that further detail the above distillation process and appropriate storage methods, the posting explains how to integrate the newfound radium into a bomb:

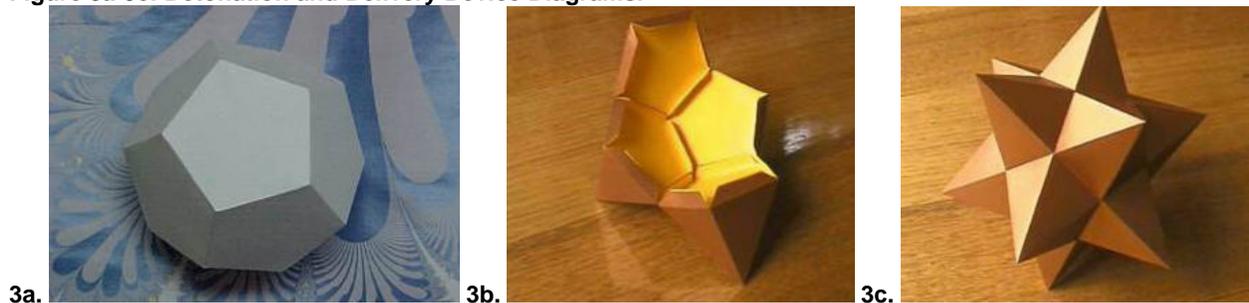
*[The radium] is placed inside this cover, which is made of out tightly wound aluminum. First, cut the pentagonal body out of the aluminum, as shown (Figure*

3a)... The aluminum should have a thickness of 1mm. We shape the thermal funnels above each of the five angles as shown. We make a five-sided pyramid of steel with a thickness of 1mm as seen in the picture (Figure 3b). Repeat this 12 times – a pyramid for every face of the bomb. Thus, the pyramids will be constructed before they are placed on the five sides of the bomb. Every pyramid is like a thermal bomb directed to melt the radium pieces that are inside the body of the bomb (Figure 3c).

This is the body of the bomb after soldering. When the bomb explodes the radium masses will melt and plume to form a self-perpetuating critical mass [sic] and then we will see mushroom cloud that is famous as a result of the nuclear bombs [sic].

PS – this bomb must explode at a distance of 1.5km from the surface of the target that is to be destroyed, in order to develop the explosive chain reaction [necessary] to cause destruction like the Hiroshima bomb [sic].

Figure 3a-3c: Detonation and Delivery Device Diagrams.



Source: [AlGhorabaa.net](http://AlGhorabaa.net)

It is unclear whether MRI adherents have developed the expertise and acquired the materials necessary to deploy a dirty bomb. The fact that militants have distributed instructions on the bomb's construction could imply that they are planning to build and deploy such a weapon. Additionally, the appearance that they have the ability to build and employ weapons of mass destruction sends an important propaganda message indicating that militants are developing a military capability that may soon be competitive with that of Western nations. Such postings may serve to lower frustrations regarding the technical superiority of the U.S. and other Coalition forces; with the added intent of improving morale among militants and enhancing their recruiting efforts. This report is meant to convey the information found on the website; not to determine the validity of the instructions or the claimed capability of the weapon described.