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**From:** Dan Fahey; Berkeley, California, USA; [duweapons@hotmail.com](mailto:duweapons@hotmail.com)

**To:** Editor; *European Biology and Bioelectromagnetics*; [editor@ebab.eu.com](mailto:editor@ebab.eu.com)

**Subj:** Peer Review of Chris Busby and Saoirse Morgan, “Did the use of Uranium weapons in Gulf War 2 result in contamination of Europe? Evidence from the measurements of the Atomic Weapons Establishment, Aldermaston, Berkshire, UK.”

Please accept the following unsolicited comments on the paper by Busby and Morgan you are considering for publication. The page numbers I reference refer to the version of their report found at <http://www.llrc.org/du/subtopic/aldermastonrept.htm>.

The Busby and Morgan paper is not ready for publication in its current form. The paper has three major flaws that need to be addressed:

1. The authors do not provide any evidence to support their claim that the US military uses natural uranium in weaponry, or that weaponry containing natural uranium was used during March-April 2003 in Iraq.
2. The authors do not provide sufficient evidence showing that air flows in March-April 2003 could have transported natural uranium from Iraq to England.
3. The authors do not consider any alternative explanations for the finding of natural uranium in air filters in Berkshire.

These problems effectively invalidate Busby and Morgan’s conclusions that in March 2003 the U.S. military used bombs and missiles containing natural uranium; that natural uranium then traveled in air flows from Iraq to Berkshire, England; and that people in Berkshire each inhaled tens of millions of natural uranium particles.

1. No evidence of natural uranium in weaponry. The core problem here is that the Berkshire air filters contained natural uranium (U) and not depleted uranium (DU). The authors conflate the confirmed use of DU ammunition with the unconfirmed use of U in weaponry. Without citing a source, the authors state that “...it is now universally conceded that a significant amount of uranium weapons were used in the bombing and anti tank warfare...” (p. 9). While it would be useful here for the authors to clarify the terms “universally conceded” and “significant amount,” the authors also need to provide evidence that natural uranium is used in weaponry in addition to or instead of depleted uranium. The U.S. Department of Defense (DoD) has confirmed and vigorously defended its use of DU munitions in Iraq, but in 2004 it denied that “uranium of any type” is in any “guided bombs or cruise missiles” used by U.S. forces in Iraq or Afghanistan (1). Nowhere in the paper do the authors acknowledge this denial or present any evidence to refute it. Busby and Morgan need to document the use of weapons containing natural uranium during March-April 2003 in Iraq and explain why DoD has acknowledged using DU ammunition but denied using U in missiles or bombs.

2. Insufficient wind information. The authors claim that “winds in Baghdad where most of the main bombing occurred were south or southwesterly, sending any material northwards” (p. 11),

but copious satellite imagery shows that winds in late-March and early-April 2003 in Iraq were westerly and northerly, blowing air to the east and south (3); Busby and Morgan should explain this discrepancy. The authors interpret weather maps as showing a “significant potential airflow” from northwestern Africa to northwestern Europe (pp. 11-14), but they do not provide sufficient information showing potential or actual airflows from Iraq to northwestern Africa or from Iraq via other routes to England. In addition, the authors do not provide any information about the size of the natural uranium particles found in the air filters in Berkshire; therefore their claim that “each person in the area inhaled some 23 million uranium particles of diameter 0.25 microns” (p. 2) is groundless.

3. No Alternative Explanations Considered. The authors have identified a potentially important public health issue; namely the finding of elevated levels of natural uranium in March-April 2003 in air filters that are within 13 km (8 mi) of the UK Atomic Weapons Establishment (AWE) at Aldermaston in Berkshire, England (pp. 4-9). Busby and Morgan note that these air filters were specifically constructed to monitor for radioactivity and uranium released from the AWE nuclear site (p. 4). However, the authors assert that the U found in the Berkshire filters did not come from the nearby AWE site: Busby and Morgan claim the natural uranium came from Iraq (p. 9). Why is the natural uranium found in the air filters in Berkshire more likely to have originated 4,100 km (2,500 mi) away in Iraq than to have drifted 13 km (8 mi) from the AWE nuclear weapons site? Busby and Morgan do not answer this essential question.

Moreover, the authors do not mention or discuss any potential source for the U in the air filters other than the war in Iraq. Here the authors use correlation (finding of U in England at the same time as the invasion of Iraq) to incorrectly infer causation (the only possible reason for U found in England is the war in Iraq). Busby and Morgan do not consider even one other explanation for the finding of U in Berkshire air filters, such as uranium mining in Africa (2); this omission undermines the integrity of their case.

Finally, the authors do not explain why no DU was found in the air filters in Berkshire. The US and UK militaries have confirmed that they used DU ammunition in March-April 2003 in Iraq. If the supposed simultaneous use of weapons containing natural uranium produced oxides that traveled to England, why did the confirmed use of DU munitions not also produce particles that traveled in the same air flows from battlefields in Iraq to the English countryside?

## **Conclusion**

Busby and Morgan report an interesting finding, but they do not support their explanation of the cause of this finding with either credible or sufficient evidence. I am sure you will agree that this paper requires significant changes and fact checking before it is considered salient, credible, and worthy of publication. ■

(1) See “U.S. DOD: no uranium contained in guided bombs and cruise missiles used in Iraq and Afghanistan,” <http://www.wise-uranium.org/dissgw.html>.

(2) See “Depleted uranium dust from 2003 Gulf War in Berkshire?” <http://www.wise-uranium.org/dissgw.html#AWEDUST>.

(3) See “Iraq Oil Fire Smoke—March 2003,” <http://www.globalsecurity.org/intell/library/imint/iraqi-freedom-smoke.htm>; UNEP reports on Iraq, <http://postconflict.unep.ch/publications.htm>; “NOAA Satellite Captures Hot Spots in Baghdad,” <http://www.noaanews.noaa.gov/stories/s1117.htm>; “Oil Fires in Iraq - Close-up of Baghdad,” <http://www.nasa.gov/centers/goddard/news/topstory/2003/0321iraq.html#23>; and U.S. National Climatic Data Center, “Hazards/Climate Extremes,” <http://www.ncdc.noaa.gov/oa/climate/research/2003/mar/hazards.html#Extratropic>.