

## Curbing Social Protest in America: Microwave “Non-lethal” Weapons to be used for “Crowd Control”

Just in Time for the Capitalist Meltdown: Army, Justice Department to Field 'Pain Ray'.

By [Tom Burghardt](#)

Global Research, October 14, 2008

[Antifascist Calling...](#) 14 October 2008

Region: [USA](#)

Theme: [Police State & Civil Rights](#)

Back in July I [reported](#) that [Raytheon](#) (No. 4 on [Washington Technology's](#) “Top 100 List of Prime Defense Contractors,” with \$5,170,829,645 in revenue) was developing a microwave “non-lethal” weapons (NLW) system for the U.S. Army.

At a cost of \$25 million, five truck-mounted NLWs will soon be shipped off to Iraq for heavy-lifting in Iraqi cities for use against militant oil workers and citizens should U.S. energy multinationals finally get their greedy little hands on that nation’s [oil wealth](#). A slimmed-down version of the Active Denial System (ADS) is sought for deployment in the “homeland. According to [Aviation Week](#),

Raytheon is kicking off a U.S. Army program to mount Joint Silent Guardian non-lethal, directed energy weapons—with a range of more than 250 meters—on Ford 550 commercial trucks for crowd control.

The high power microwave (HPM) device heats water in a person’s outer layers of skin to the point of pain. Tests have shown that the effects can reach through cracks in and around concrete walls and even through the glass of automobiles, company officials say. (David A. Fulghum, “High Power Microwave Nearly Operational,” [Aviation Week](#), October 9, 2008)

[Aviation Week](#) also reports “the program is expected to be awarded by year’s end. A year after the contract is signed, the combination vehicle/weapons will start be fielded at the rate of one per month.”

With the American automotive industry in a death-spiral as a result of capital’s historic credit crunch, what better means to “rescue” the industry than buying a fleet of Ford 550’s for “crowd control.”

Particularly handy for deployment in American cities should “rioters” object to a [stolen presidential election](#) or the state moves to terminate what little is left of the social “safety net” (in the interest of kick-starting the “recovery,” of course) Silent Guardian is a product whose time has come!

Raytheon describes the [system](#) as “a revolutionary less-than-lethal directed energy application that employs millimeter wave technology to repel individuals or crowds without causing injury.” Without a hint of irony considering its intended use, Silent Guardian is

touted as a “protection system” that can “save lives” and even “de-escalate aggression.” Designed as a tool for “law enforcement, checkpoint security” and “peacekeeping missions,” the Department of Justice’s (DoJ) National Institute of Justice ([NIJ](#)) has been hawking its “benefits” for several years. According to the [NIJ](#):

NIJ is leveraging a less-lethal technology developed by the U.S. Department of Defense for use in law enforcement and corrections. The technology, called the Active Denial System, causes people to experience intolerable discomfort. It makes them stop, turn away and leave the area.

The Active Denial System emits electromagnetic radiation (radiofrequency waves) at 95 GHz. The system stimulates nerve endings and causes discomfort but does not cause permanent injury—the radiation penetrates less than 1/64th of an inch into a person’s skin. Symptoms dissipate quickly when the device is turned off or the person moves away from the radiation beam. ...

NIJ has created a small working prototype of the military Active Denial System that law enforcement and correction officers can carry. (“Active Denial System Deters Subject without Harm,” National Institute of Justice, October 25, 2007)

It now appears that Silent Guardian is ready for prime time.

But not so fast. A new [report](#) by Deutsche Stiftung Friedensforschung (DSF, German Foundation for Peace Research) physicist Dr. Jürgen Altmann, states that the ADS may be highly-damaging or even lethal. According to Dr. Altmann,

The Active Denial System (ADS) produces a beam of electromagnetic millimetre waves; such radiation is absorbed in the upper 0.4 mm of skin. The beam stays approximately 2 m wide out to many hundreds of metres. With a power of 100 kilowatts, the beam can heat the skin of target subjects to pain-producing temperature levels within seconds. With a prototype weapon, mounted in a military multi-purpose vehicle, the effects have been tested on hundreds of volunteers. In order to produce pain while preventing burn injury, the power and duration of emission for one trigger event is controlled by a software program. Model calculations show that with the highest power setting, second- and third-degree burns with complete dermal necrosis will occur after less than 2 seconds. Even with a lower setting of power or duration there is the possibility for the operator to re-trigger immediately. (Dr. Jürgen Altmann, “Millimetre Waves, Lasers, Acoustics for Non-Lethal Weapons? Physics Analyses and Inferences,” Deutsche Stiftung Friedensforschung (DSF), 2008, p. 4)

Between 1995 and 2006, the U.S. Air Force Research Laboratory ([AFRL](#)) and the Joint Non-Lethal Weapons Directorate ([JNLWD](#)) have spent approximately \$51 million on the technology. What have U.S. taxpayers gotten for their money? Dr. Altmann avers,

In 2005 the military press reported about requests from the armed forces and mentioned fast deployment to Iraq. However, in September 2006 Secretary of the Air Force Wynne was quoted as being reluctant to deploy ADS on the battlefield; to avoid vilification in the world press **it should be used on crowds in the US first.**

In January 2007 a media day with live demonstrations of ADS system 1 was held at Moody AFB, Georgia. A deployment date of 2010 was mentioned; press

reports said that the beam heats the skin to 50C [122F] without lasting harm, not mentioning the fact that this depends on the beam being switched off immediately when such a temperature is reached. (Altmann, op. cit., p. 18) [emphasis added]

Yes, you did read that correctly: “to avoid vilification” it was recommended that the pain beam “should be used on crowds in the US first.” Dr. Altmann continues,

As a consequence, the ADS provides the technical possibility to produce burns of second and third degree. Because the beam of diameter 2 m and above is wider than human size, such burns would occur over considerable parts of the body, up to 50% of its surface. Second- and third-degree burns covering more than 20% of the body surface are potentially life-threatening-due to toxic tissue-decay products and increased sensitivity to infection-and require intensive care in a specialised unit. Without a technical device that reliably prevents re-triggering on the same target subject, the ADS has a potential to produce permanent injury or death. (Altmann, op. cit., p. 24)

Never mind that the system may cause permanent injury or even death via “complete dermal necrosis,” our capitalist masters are plowing full-speed ahead! A June 2007 [accident report](#), initially covered-up by the JNLWD, reveals that a lack of operator training and the removal of ADS safety features led to a “test subject” suffering painful burns that required hospitalization in a burn unit. Obtained by [Wired](#) defense analyst Sharon Weinberger the internal JNLWD document describes how,

Crucially ... the “ADS Crew did not realize that the ADS, when it came back to ‘stand-by’ mode, had defaulted to the previous setting of 100% power and allowed at least a 4 second trigger pull.” A casual, or secondary, factor was related to hardware: specifically, there was no working built-in range finder during the test, which could have helped prevent over-exposure.

Two people who reviewed the unredacted report for DANGER ROOM said the accident raises some basic questions about the weapon. Built-in range finders “have been basic features of high tech line-of-sight weapons and sensors for decades” and typically will prevent operators from using systems in an unsafe fashion, says one Pentagon official familiar with weapon’s development. “Yet those critical safety features, that were integrated into the HMMWV [Humvee] ADS System 1, were removed by the AFRL [Air Force Research Lab] prior to testing, exposing the test subjects to unconscionable risks.” (Sharon Weinberger, “Pain Ray Test Subjects Exposed to ‘Unconscionable Risks’,” [Wired](#), October 14, 2008)

Just another day at the office for Pentagon weaponeers. And given how local beat cops love tasing “suspects,” imagine the hijinks when the riot squad lets loose on a bunch of commie protesters down at the old Stock Exchange!

As University of Bradford researcher Neil Davison [points out](#), the United States and their NATO “partners” are resisting any moves to restrict NLWs from being developed or deployed, despite risks to their intended “targets”: “homeland” citizens rebranded as “rioters” and “domestic terrorists.”

For emerging acoustic and directed energy weapons, however, there are no

international agreements restricting their development and proliferation beyond compliance with international humanitarian law, and the additional protocol to the Convention on Certain Conventional Weapons (CCW) that prohibits laser weapons intentionally designed to blind. Military establishments are keen to resist additional constraints on the development and use of “non-lethal” weapons technologies, as exemplified in a recent NATO report: “In order to ensure that NATO forces retain the ability to accomplish missions, it will be important that nations participating in NATO operations remain vigilant against the development of specific legal regimes which unnecessarily limit the ability to use NLWs.” (Neil Davison, “The Contemporary Development of ‘Non-Lethal’ Weapons,” Bradford Non-Lethal Weapons Research Project (BNLWRP), May 2007, p. 37)

In a telling—and chilling—description of why the ADS is “needed,” the Pentagon’s Joint Non-Lethal Weapons Directorate, [informs us](#),

*The ADS will support a full spectrum of operations ranging from non-lethal methods of crowd and mob dispersal, checkpoint security, perimeter security, area denial, port protection, infrastructure protection and clarification of intent (identifying combatants from non-combatants). Most currently available non-lethal weapons use kinetic energy, where the size and range of the target can limit or change the effectiveness of the weapon. The range of the ADS is 10 times greater than other non-lethal weapons and will have the same compelling non-lethal effect on all human targets, **regardless of size, age and gender**. (“Frequently Asked Questions Regarding the Active Denial System,” Joint Non-Lethal Weapons Directorate, no date) [emphasis added]*

Yet despite these risks, the National Institute of Justice in a cool “risk-benefit” analysis worthy of Dr. Mengele, is very much interested in a “hand-held, probably rifle-sized, short range weapon that could be effective at tens of feet for law enforcement officials.”

As global capitalism enters a new and potentially “terminal” phase of its disintegration, the U.S. ruling class and their European “partners” will increasingly resort to escalating levels of violence—from the criminalization of dissent to martial law—should “domestic terrorist” threats “get out of hand.” A general deployment of “non-lethal weapons” for use in “homeland” cities clearly has a prominent role to play along this repressive continuum. As Durham University geographer Stephen Graham [avers](#),

Those experiencing frequent ‘terrorist’ labelling by national governments or sympathetic media since 9/11 include anti-war dissenters, critical researchers, anti-globalization protestors, anti-arms-trade campaigners, ecological and freedom of speech lobbyists, and pro-independence campaigners within nations like Indonesia allied to the US. Protagonists of such a wide spectrum of opposition to transnational US dominance are thus all too easily dehumanized or demonized. Above all, they become radically delegitimized. Who, after all, will speak out in favour of ‘terrorists’ and their sympathizers? (“Cities and the ‘War on Terror’,” International Journal of Urban and Regional Research, Volume 30.2, June 2006, p. 257)

And so it goes during the never-ending “Year Zero” of the Bush regime. Silent Guardian: *Coming soon to a city near you!*

*Tom Burghardt is a researcher and activist based in the San Francisco Bay Area. In addition to publishing in Covert Action Quarterly and [Global Research](#), an independent research*

and media group of writers, scholars, journalists and activists based in Montreal, his articles can be read on [Dissident Voice](#) and [The Intelligence Daily](#). He is the editor of *Police State America: U.S. Military "Civil Disturbance" Planning*, distributed by [AK Press](#).

The original source of this article is [Antifascist Calling...](#)  
Copyright © [Tom Burghardt](#), [Antifascist Calling...](#), 2008

---

[Comment on Global Research Articles on our Facebook page](#)

[Become a Member of Global Research](#)

Articles by: [Tom Burghardt](#)  
<http://antifascist-calling.blogspot.com/>

**Disclaimer:** The contents of this article are of sole responsibility of the author(s). The Centre for Research on Globalization will not be responsible for any inaccurate or incorrect statement in this article. The Centre of Research on Globalization grants permission to cross-post Global Research articles on community internet sites as long the source and copyright are acknowledged together with a hyperlink to the original Global Research article. For publication of Global Research articles in print or other forms including commercial internet sites, contact: [publications@globalresearch.ca](mailto:publications@globalresearch.ca)  
[www.globalresearch.ca](http://www.globalresearch.ca) contains copyrighted material the use of which has not always been specifically authorized by the copyright owner. We are making such material available to our readers under the provisions of "fair use" in an effort to advance a better understanding of political, economic and social issues. The material on this site is distributed without profit to those who have expressed a prior interest in receiving it for research and educational purposes. If you wish to use copyrighted material for purposes other than "fair use" you must request permission from the copyright owner.

For media inquiries: [publications@globalresearch.ca](mailto:publications@globalresearch.ca)