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Drawing the Line: Regulation of Riot Control Agent Delivery Systems

Do wide-area riot control agent dispersal systems violate the Chemical Weapons Convention? According to Michael Crowley, many of them are inappropriate for law enforcement activities and could easily be misused in armed conflicts, or even to perpetrate wide-scale human rights abuses.

By Michael Crowley for ISN

Introduction

The Chemical Weapons Convention (CWC) is a multilateral treaty that prohibits the development, production, stockpiling, transfer and use of chemical weapons *"under any circumstances".* The CWC has 189 States Parties covering 98% of the globe, and its implementation is overseen by the Organisation for the Prohibition of Chemical Weapons (OPCW). The CWC covers a wide range of chemicals, including riot control agents (RCAs).[1] Although the Convention explicitly prohibits the use of such agents as a method of warfare, the manufacture, acquisition and use of appropriate types and quantities of RCAs -- and their delivery systems – is permitted for law enforcement purposes including domestic riot control. Nevertheless, there is continuing ambiguity as to the type and specifications of the means of delivery that are prohibited under the Convention. This ambiguity has potentially dangerous consequences, allowing divergent interpretations, policy and practice to emerge among the States Parties to the CWC.

"Wide area" means of delivery

Of particular concern are delivery systems that can be used to disperse significant amounts of RCA over wide areas and extended distances. Inadequate control of such "wide area" delivery systems has potentially grave consequences, including:

- *Use of RCAs in armed conflict:* Historically, "wide area" RCA delivery systems have been used by state military forces in large scale armed conflict to incapacitate combatants or in conjunction with lethal force. In recent times, a range of contemporary "wide area" RCA delivery systems has been promoted for use in counter-insurgency operations or urban warfare.
- *Use in chemical weapons programs:*A range of "wide area" delivery mechanisms that are designated as RCA munitions could also be used to disperse incapacitants or classic chemical warfare agents. This might enable states to evade CWC prohibitions by camouflaging illicit chemical weapons production under the guise of law enforcement munitions programs.
- *Proliferation to and misuse by a range of non-state actors:* including armed opposition forces, unregulated private military and security companies, and terrorist organisations.
- *Employment of inherently inappropriate munitions in law enforcement:* resulting intheserious injury

or death of bystanders as well as targeted individuals or groups.
- *Misuse to facilitate "large scale" human rights abuses by either state or non-state actors:* This could include the blanket application of significant quantities of RCAs against large peaceful gatherings resulting in *en masse* ill-treatment, or the employment of RCA delivery systems in conjunction with firearms as a "force multiplier".

Contemporary development and promotion

Research conducted by the Bradford Non-Lethal Weapons Research Project (BNLWRP) and the Omega Research Foundation (ORF) has identified the development, testing, production and/or promotion of a range of "wide area" RCA delivery systems by state or commercial entities in 15 countries since the CWC came into force 1997. Such RCA delivery mechanisms have included: large irritant sprayers; multiple munition launchers; automatic grenade launchers; rocket propelled grenades; mortar munitions; large caliber projectiles; heliborne munition dispensers; cluster munitions; vehicle protection and aerial denial munitions; unmanned aerial and ground vehicles. Delivery systems that were found to be causes for concern included:

- *Afterburner 2000 smoke and RCA dispersal system [United States]*. Marketing material produced by U.S. manufacturer MSI Delivery Systems Inc, described the Afterburner 2000 as a *"robust multi-mission, multi-purpose smoke generator capable of rapidly blanketing large areas with dense smoke."* According to the company *"Standard non-toxic training smoke mixed with irritants such as OC, CS, or Pepper upgrades the capabilities to include: Crowd Control and Civil Unrest, SWAT Teams and Tactical Incursions, Corrections Dept. (Riots / Prisoner Extraction), Less-lethal Terrorist Suppression, Urban Warfare (MOUT / COIN)".* The Afterburner 2000 can release over 1,500 cubic feet of smoke with a range greater than 100 feet (30 meters) in one second,and when utilised with ahigh-capacity backpack can expel 320,000 cubic feet (9,061 cubic meters) of smoke on a single charger. Although there is no information publicly available about which (if any) law enforcement and military entities in the U.S. or elsewhere have purchased this product, the manufacturer has stated that it "has commenced volume production and sales."
- *120mm mortar projectile [Russian Federation]*. According to the "Ordnance and munitions" volume of "Russia's Arms and Technologies", a Russian company has developed a 120-mm mortar shell filled with irritant-action pyrotechnic composition for the 2B11 mortar, and for 2S9, 2S23 and 2B16 artillery pieces. The mortar shell weighs 16 kilograms and has a maximum range of fire of 6.6 kilometers from the artillery pieces and 6.8 kilometers from the mortar. No further information concerning the manufacture, stockpiles and utilisation of the 120 mm mortar projectile has been made publicly available.
- *XM1063 155mm projectile [United States]*. General Dynamics Ordnance and Tactical Systems worked under the direction of the U.S. Army's Armament Research, Development and Engineering Center (ARDEC) to develop a 155mm artillery projectile - the XM1063. It was intended to have a range of at least 20 kilometers, and potentially up to 28 kilometers, and contained multiple sub-munitions which would be released above the target area and then fall to the ground and disperse their payloads. Estimates of the area covered vary between a minimum of 5,000 square meters to a reported maximum of 10,000 square meters. Publicly available documentation has described the payload as a *"non-lethal personnel suppression agent"* and it appears that malodorant (foul smelling) agents were considered as payload for this munition. According to a July 2008 Guardian article, testing of the XM1063 was completed successfully in 2007 and it was due for low-rate production from 2009. ARDEC reportedly stated *"that the production decision is on hold awaiting further direction from the program manager."*
- *RCA cluster munition [Russian Federation]*. A Russian company has reportedly developed a 500-kilogram cluster bomb packed with sub-munitions charged with irritant-action pyrotechnic composition. According to the "Ordnance and munitions" volume of "Russia's Arms and

Technologies: *"This cluster bomb has been developed from the standard 500kg cluster bomb packed with smoke sub-munitions. It is dropped from a fixed-wing or rotary-wing aircraft in an altitude span of 100 to 12,000m at a speed of up to 1,200 km/h…The bomb permits high concentrations of an irritant agent to be attained within a short time."* No further information concerning the manufacture, stockpiles and utilisation of the cluster munition is currently publicly available.

It is clear from this research that a range of delivery mechanisms has been developed that deliver far larger amounts of RCAs over wider areas and/or over greater distances than can be delivered by hand-held sprays and other RCA devices or munitions commonly employed in law enforcement today.

Certain forms of "wide area" RCA delivery systems may have utility in large scale law enforcement situations provided they meet the CWC "types and quantities" restriction and are employed in conformity with human rights standards. However, some of these could also be readily misused in armed conflict, thereby breaching the CWC. Such RCA delivery systems should be stringently regulated to prevent misuse.

Other forms of "wide area" RCA delivery systems are completely inappropriate for any form of law enforcement, having utility only in armed conflict or large-scale human rights abuses. Such munitions inherently breach the CWC "types and quantities" restriction and/or the prohibition on the use of RCAs as a "method of warfare". They should be considered to be chemical weapons and verifiably destroyed.

Despite civil society and media reports detailing the development and promotion of a range of "wide area" RCA delivery systems apparently in conflict with the Convention, none of the OPCW policy-making organs have effectively addressed this issue to date. Indeed, few CWC States Parties have yet clarified their position regarding the regulation of RCA munitions under the Convention.

Destruction of Turkish RCA mortar munitions

One notable exception, however, has been Turkey. In 1996, prior to the coming into force of the Chemical Weapons Convention, a Turkish company, MKEK, produced 1,000 120mm CS mortar munitions. These munitions weighed over 17 kilogrammes and had a maximum range of over 8 kilometers. Although they were never used, they were subsequently promoted by the company until September 2010. Following an investigation by BNLWRP, ORF and the Institute of Security Studies into the promotion of these munitions, Turkey stated that it considered such large calibre RCA munitions to be prohibited under the Chemical Weapons Convention and that it had destroyed all existing munitions, together with all epoxy models and marketing materials. Turkey also conducted outreach to brokers and intermediaries to inform them that promoting or trading such items is not permissible under Turkey's CWC obligations. Turkey's robust actions in this area have been of great importance – providing a powerful precedent for developing common understanding and approaches to this issue.

Recommendations

Given the evident dangers arising from unregulated production, proliferation and misuse of "wide area" RCA delivery systems, the BNLWRP and ORF recommend that relevant policy making organs of the OPCW should:

- Develop a process for determining prohibited means of RCA delivery;
- Develop a regularly updated clarificatory document detailing prohibited RCA delivery systems;
- Strengthen existing RCA declaration and reporting measures, and explore the feasibility and utility of introducing appropriate monitoring and verification measures.

For additional reading on this topic please see:
Drawing the Line: Regulation of “Wide Area” Riot Control Agent Delivery Mechanisms under the Chemical Weapons Convention
NATO and the Challenge of Non-Lethal Weapons

For more information on issues and events that shape our world please visit the ISN's Weekly Dossiers and the ISN Blog.

[1] Riot Control Agents covered by the convention include 2-chlorobenzalmalononitrile (CS), dibenzoxazepine (CR), 1-chloroacetophenone (CN), oleoresin capsicum (OC) and pelargonic acid vanillylamide (PAVA).

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