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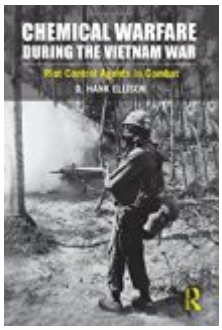

D. Hank Ellison. *Chemical Warfare during the Vietnam War: Riot Control Agents in Combat.* London: Routledge, 2010. 216 pp. $32.95, paper, ISBN 978-0-415-87645-2.

Reviewed by Daniel Spector

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Commissioned by Margaret Sankey (Air University)

Chemical Warfare during the Vietnam War addresses the controversial topic of using chemical agents in war, particularly tear gas. D. Hank Ellison was an infantry soldier later commissioned as an officer in the Chemical Corps. He has extensive experience with chemical equipment and chemical agents, and has been an instructor at Michigan State University training students in the safe handling of hazardous materials. He is very credible.

The author states his goals in the introduction. These are to discuss the history of riot control agents in combat, from the standpoint of international agreements, as well as the weapons and tactics used. He will evaluate how effective these agents were and whether their use could lead to use of lethal chemical agents. Ellison accomplishes this in a brief, but comprehensive text.

The “prelude” chapter notes that the first chemical agents used in Vietnam were herbicides to destroy vegetative cover for Viet Cong guerillas. This began with tests in 1961 that proved this would be a useful tactic, but Washington worried that widespread use would lead to charges that the United States was violating international agreements on chemicals weapons. There was consensus that herbicides were not covered by the agreements. In 1962 Washington approved providing herbicides to the South Vietnam government, but limited American involvement to technical advice. Also in 1962 Washington decided to approve providing riot control agents to the South Vietnamese army, grenades containing the tear agent CN and vomiting agent DM. Both were considered nonlethal and not covered by international agreement. Both were commercially available and in the U.S. military inventory. Anxious to avoid communist propaganda charges, the United States banned use of these chemical agents by American forces.

The number of American forces in Vietnam expanded dramatically in 1965, but no change was made in use of chemical agents by those forces until Marines began operations around Qui

Nhon. These involved searching areas from which the Viet Cong raided Marine bases and harassed civilians. Unaware of the ban on use of riot control agents the battalion commander responsible for this mission decided to use tear gas to root out Viet Cong in caves and tunnels in the region. The tear gas used was CS, which had replaced CN as more effective. This was Operation Stomp, and it began on September 5. It was a success and resulted in the capture of seventeen Viet Cong and rescue of three hundred civilian hostages. It did, however, generate a controversy when press observers noted the violation of U.S. rules of engagement. The Marine colonel who authorized use of CS faced charges, but discussions about the incident ended with his exoneration and the approval of tear gas as a nonlethal weapon.

The next three chapters, "Tunnels," "Escalation," and "Niches," describe the intially cautious U.S. approach regarding tear gas and its eventual widespread use. In late September the secretary of defense authorized a single use of CS in military operations to evaluate effectiveness. The International Red Cross had scheduled a conference that would address the use of riot control agents, so there was pressure to use CS quickly. The United States selected an area twenty-five miles northwest of Saigon, the "Iron Triangle," as the target area. The Viet Cong had extensive tunnel complexes there from which they launched attacks. U.S. forces only used two CS grenades in two tunnels later found to be empty, but the mission was declared a success. A year later Operation Cedar Falls in the same area saw extensive use of CS and smoke grenades to drive the Viet Cong out of tunnels, using a commercial blower called the "mighty mite" to push the gas and smoke farther into the tunnels. The legendary "Tunnel Rats" began with this operation. These were Chemical Corps soldiers who fought any remaining guerillas in the tunnels and destroying the complexes when cleared. As the war proceeded, employment of tear gas became more sophisticated and varied. Research resulted in the development of variations of CS to make it more persistent and available for use in artillery and distribution by air. Researchers also studied the benefits and drawbacks of tear gas in various scenarios and in combination with other weapons systems. Soon after withdrawal from Vietnam the United States used the lessons learned in Vietnam during the Mayaguez incident in 1975. Tear gas helped with the rescue of this merchant ship off the coast of Cambodia.

The chapter on urban warfare may have the most relevance to twenty-first-century conflict, which likely to occur in built-up areas. Ellison describes the experience in Saigon and Hue during Tet in 1968 in detail. Employment by the Marines in Hue of 4,700 CS grenades and 350 E* rocket launchers, each armed with 16 CS rounds, demonstrates the effectiveness of tear gas. The United States and its allies were not the only ones to use chemical agents in Vietnam, as discussed in the chapter "Communist Chemical Operations." These not only involved use of tear gas, but also programs for chemical defense training, decontamination efforts, and making bunkers safe against chemical attacks.

Ellison addresses the questions posed in the introduction in the conclusion. He notes the effectiveness of tear gas in tactical operations. Moreover, the war provided important modifications in the composition of tear gases, delivery means, and use with other weapons and tactics. He also concludes that tear gas use did not lead to employment of more lethal chemical weapons. The controversy over herbicides like Agent Orange, however, overshadowed discussion of tear gas. The result was a 1975 decision to limit use of tear gas to riot control, prevention of the use of civilians to shield attackers, protection of convoys, and rescue missions.

Besides the text, Ellison provides four useful appendices. These deal with technical information on chemical agents, U.S. munitions and weapons systems, Viet Cong use of improvised

chemical munitions, and protective masks. Each has a relevant bibliography. There is also a comprehensive bibliography and extensive endnotes to facilitate further study.

Chemical Warfare during the Vietnam War will be of interest to those studying the war or the history of tear gas use in military and police operations. It should be in the library of any institution with programs involving chemical weapons and defense.

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