



大規模作戰化武攻擊快反部隊應變整備(譯)

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By Captain Alex T. Roan

作者: Alex T. Roan 少校

譯者簡介



譯者游晉權少校，畢業於陸軍軍官學校 103 年班、陸軍化訓中心正規班 106-1 期、美國化生放核學校化學軍官高級班 2019 年班，歷任組長、副連長、後勤官、教官、連長，現職為陸軍化訓中心化參官。

Although nuclear weapons remain the most destructive weapons in the world, chemical weapons top the list of the most taboo and fear-inducing weapons of modern warfare. The use of chemical weapons violates multiple international treaties.^{1, 2, 3} As such, the slightest possibility of a chemical attack draws worldwide distress. In response to this threat, President Joseph R. Biden attempted to make the U.S. stance against chemical weapons known by “drawing a red line” and explicitly stating that the United States would directly respond to any Russian use of chemical weapons against Ukraine.⁴ If Russia decides to leverage chemical weapons, it will fall to the chemical, biological, radiological, nuclear, and explosives (CBRNE) Soldiers and commanders of Task Force 82 (TF82), 82d Air borne Division, Fort Bragg, North Carolina, to accurately assess and plan a ground response.

雖然核武器仍是世界上最具破壞性的武器，但化學武器是現代戰爭中最禁忌與最令人懼怕的武器。使用化學武器將違反多個國際條約。因此，即使僅有微小的可能性會發生化學攻擊，仍會引起全球的擔憂。為應對此一威脅，美國總統喬瑟夫·拜登試圖通過「劃定紅線」，並明確表示美國將直接回應俄羅斯對烏克蘭使用化學武器的任何行動，以表明美國對化學武器的立場。如果俄羅斯

決定利用化學武器，將由北卡羅來納州布拉格堡第 82 空降師 82 特遣部隊的化學、生物、核子、及爆炸(CBRNE)士兵們及指揮官們負責準確評估與規劃應對措施。

As a TF82 company commander, responding to this possible chemical threat is the primary mission. The CBRN Reconnaissance Platoon, Headquarters and Headquarters Company (HHC), 307th Engineer Battalion, 3d Brigade, 82d Airborne Division, which is under my command, allows our brigade to detect, assess, and confirm the presence of chemical weapons. This article highlights potential shortfalls in our tactical organizational design and in the equipment that our unit carries when responding to a chemical attack on a modern urban target within a large-scale combat operations (LSCO) setting. To understand this article, it is essential to understand what constitutes a current urban target, why a LSCO setting matters, and what capabilities are available. This article establishes tactics for emerging chemical attacks, describes our ability to respond with special equipment and techniques, and explains the deficits between theory and capability. This analysis assesses our capability to effectively respond to emerging scenarios and drive organizational change.

身為 82 特遣部隊的連長，首要任務是應對可能的化學威脅。在我指揮下的化生放核偵查排，隸屬於第 82 空降師第 3 旅第 307 工兵營營部連，能提供旅偵測、評估及確認化學武器的存在。本文強調了在大規模作戰行動(LSCO)環境中，針對現代城鎮目標進行化學攻擊時，我們戰術組織設計和裝備可能存在的不足。要理解本文，必須理解當前城鎮目標的組成，以及在大規模作戰環境的重要性，以及可用的能力。本文確立了應對新興化學攻擊的策略，描述了我們使用特殊裝備和技術的應對能力，並解釋了理論和實際能力之間的差距。這份分析評估了我們如何有效應對新興戰況的能力，並推動組織變革。

Assessing a Threat 評估威脅

Henry Kissinger aptly stated, "The more powerful the weapons the greater the reluctance to use them."⁵ While this sentiment generally holds true for nuclear weapons, it does not necessarily prove true for chemical weapons. Although the most prolific use of chemical weapons occurred during World War I, such weapons continue to plague the battlefield. However, the implementation of chemical weapons has become more sporadic; the tactics for employing these weapons have also evolved.

亨利·季辛吉 (Henry Kissinger) 恰如其分地說過：“武器越強大.....就會愈抗拒使用它們。”雖然這種觀點通常對於核武器來說是成立的，但不必然適用於

化學武器。雖然在第一次世界大戰期間化學武器的使用最為頻繁，但這類武器到現在仍然困擾著戰場。然而，化學武器的使用已變得更加零星；但使用這些武器的戰術也在不斷演變。

For the purposes of this article, overt chemical munitions attacks by state level militaries are excluded from discussion. Such attacks would escalate far beyond company missions, and responses would likely be kinetic. Instead, this article examines a more likely, and potentially more damaging, scenario involving a subversive enemy employing chemical weapons to delegitimize the U.S. military.

就本篇文章而言，排除了國家軍事行動的化學彈藥攻擊的討論。這類的攻擊將遠超出連級任務的範疇，且回應很可能是動能相應的。相反地，本文探討了一種更有可能、也更具有潛在破壞性的場景，即敵對勢力利用化學武器來削弱美國軍方的合法性。

I define a modern urban battlefield as city infrastructure capable of sustaining large populations and providing first world commodities. This setting contributes to the complexity of chemical weapon employment due to the inevitability of the daily lives of a large number of civilians being suddenly interrupted by warfare. The establishment of this setting under the banner of a LSCO fight results in a posture that includes many government agencies, nongovernmental organizations, humanitarian aid, and modern Army equipment on both sides of the conflict.

我將現代城鎮戰定義為城市基礎設施具備支撐大量人口和能夠提供已開發國家商品。這種假定增加了化學武器使用的複雜性，因為大量平民的日常生活突然被戰爭打斷是不可避免的。在大規模戰鬥行動（LSCO）的背景下建立這種情境，意味著許多政府機構、非政府組織、人道援助和現代軍隊裝備都參與到衝突雙方的態勢中。

The type of attack that I am most concerned about is one that would target civilians and military forces alike. An attack of this type would almost certainly aim to degrade the perception that the military was able to provide refuge to those fleeing the conflict. In the most sinister of scenarios, this might even appear to be the military's fault. These types of scenarios have occurred and have created a precedent for future implementation.

我最關注的攻擊類型，是那些同時針對平民和軍事力量的攻擊。這種攻擊幾乎肯定旨在削弱人們對軍方為逃離衝突的人提供庇護的觀感。在最險惡的假定中，這甚至可能被認為是軍方的錯誤。這些想定已經發生過，並為未來的運

用創造了先例。

For example, during the Moscow Theatre hostage crisis in 2002, Chechen rebels stormed a theatre, taking more than 100 hostages; the Russians responded by pumping a gas mixture containing a lethal substance into the theater to incapacitate the hostage-takers, resulting in the deaths of more than 120 people. Russia's deployment of a lethal substance against the Chechen rebels proves that certain substances can immediately incapacitate crowds. Encountering a weapon like this at a refugee center or a border crossing location under the guise of riot control could create a massive problem for our forces. Additionally, Russia could use a similar tactic to control riots within its own country, further legitimizing this application without risking an international response.

舉例來說，2002 年莫斯科劇院人質危機中，車臣叛亂分子闖入一家劇院，劫持了 100 多名人質；俄羅斯方面以向劇院內投炸含有致命物質的氣體混合物的方式回應，使劫持者失去行動能力，但結果造成 120 多人死亡。俄羅斯使用致命物質對付車臣叛亂分子證明了某些物質可以立即使群眾失去行動能力。如果在難民收容中心或邊境以鎮暴控制的名義使用這類的武器，將對我們的軍隊造成巨大問題。此外，俄羅斯可能會使用類似的策略來控制境內的騷亂，進一步合法化此應用而不冒國際反對聲浪的風險。

Another example recently occurred in the Russia- Ukraine conflict but, fortunately, did not result in death. Heavy Russian shelling resulted in the rupture of ammonia storage tanks in the northern Ukrainian city of Rubejny, Lugansk Oblast, spilling toxic ammonia and causing nearby residents to seek shelter. This scenario demonstrates that, under the right conditions, the enemy could improvise, creating a chemical weapon using civilian industrial chemical plants and effectively destabilizing an urban objective. This improvised tactic would actively combine toxic industrial materials (TIMs) and artillery-based targets to form a TIM-artillery approach to urban centric objectives. Although attacks like this can cause severe hardship to civilians and military personnel, they do not constitute the direct employment of a chemical munition and, therefore, do not cross that ever-diminishing red line.

最近的另一個例子發生在俄羅斯和烏克蘭的衝突中，但幸運的是並未導致人員死亡。俄羅斯的猛烈砲擊導致烏克蘭盧甘斯克州魯貝尼市的氨儲罐破裂，釋放出有毒的氨氣儲槽，使附近居民不得不尋找庇護所。這種情況說明，在適當的條件下，敵人可以恣意利用民用工業化學工廠製作化學武器，有效地破壞城市目標。這種臨機策略將活躍地結合工業毒性化學物質（TIMs）與以砲兵為

基礎的目標，形成一種以工業毒性化學物質和砲兵為特點的對城鎮目標的方法。儘管這樣的攻擊可能給平民和軍事人員帶來嚴重困擾，但它們並不構成直接使用化學彈藥的條件，因此並未越過那條日益減少的紅線。

Responding to a Threat 應對威脅

To understand how the 82d Airborne Division would respond to the scenarios described above, it is important to understand how TF82 mobilizes and postures. It is no secret that the 82d Airborne Division can deploy anywhere in the world within 18 hours, but that feat translates to a large force of very light paratroopers arriving armed to the teeth with little else to sustain or protect it. The TF82 CBRN Reconnaissance Platoon carries everything it needs to assess a target for the presence of chemical or toxic materials and decontaminate its members. The design creates two distinct mission-critical gaps in capability: the lack of superior-level capacity to investigate and determine the type of chemical compounds present and the inability to decontaminate a large population, including vehicles. To better convey the importance of capabilities, I would like to address each of the two scenarios described above and explain how the U.S. Army might respond.

要了解 82 空降師將如何應對上述情景，應先了解第 82 特遣部隊如何動員和態勢是非常重要的。82 空降師可以在 18 小時內部署到世界上任何地方，這並不是秘密，但這意味著一支由非常輕裝的傘兵組成的大型部隊即將抵達，除了武器裝備外，幾乎沒有其他維持或保護自己的能力。第 82 特遣部隊化生放核偵察排攜帶了評估目標是否存在化學或有毒物質以及可對成員進行消除作業所需的一切設備。這種設計在能力上產生了兩個對任務有極關鍵且明顯的缺點：缺乏進階能力來調查和確定存在的化合物類型，以及無法對大規模人口（包括車輛）進行消除作業。为了更好地傳達此能力的重要性，我想談談上述兩個情景，並解釋美國陸軍可能如何應對。

In the first scenario, the toxic substance is employed in gas form in an urban center, killing more than 120 people. Most U.S. Army CBRN units carry organic equipment that will protect Soldiers from a gas threat, thus allowing continued operations in and around the target area. However, the TF82 CBRN Reconnaissance Platoon does not carry drugs that counter the effects of toxic substances. For that, it would be necessary to coordinate for outside support.

在第一個情景中，在城市中使用氣體有毒物質，造成 120 多人死亡。大多數美國陸軍化生放核部隊攜帶建制裝備，可以保護士兵免受有毒氣體威脅，得

以在目標區域及周圍繼續進行作戰。然而，第 82 特遣隊化生放核偵察排並沒有攜帶對抗有毒物質影響的藥物。為此，需要協調外部支援。

The CBRN Reconnaissance Platoon has the tools necessary to take samples of any chemicals detected on site and rely on coordination to determine definitive chemical presence based on sample chemistry. A tremendous higher-level asset that could bolster TF82 is the U.S. Navy preventative medical team. The team's Level 2 assessment capability applies to theater level rather than tactical-level decision making. The naval team can only support forward tactical operations if the assessment is time-consuming and would stall tactical operations. The naval team is not equipped to accompany a forward tactical element, meaning that all samples must be returned to a designated site that employs leak prevention measures. Once the analysis is complete, a diagnosis produces two outcomes—a treatment and a defense. Given limited time to respond, the tactical commander will be able to respond to a suspected chemical attack only by cordoning the area and tending to casualties. Once the catalyst is known, the ability to save lives depends on a higher level of medical care and the proper drugs for countering the chemical deployed.

化生放核偵察排具有在現場取樣的必需品並依賴協調單位來對樣品檢測以確定化學成分。能夠增強第 82 特遣隊能力的一個重要高層單位是美國海軍預防醫療小組。該小組的 2 級評估能力適用於戰區級別而不是決策戰術級別。如果評估需要很長時間且會遲滯戰術行動，該海軍小組無法陪同前方戰術單位，這意味著所有樣本必須採取密封措施並送回指定的場所。分析完成後，診斷會產生兩個結果：治療和防禦。鑒於時間有限，戰術指揮官只能通過封鎖區域並照顧傷員來應對疑似化學攻擊。一旦催化劑確定，拯救生命的能力取決於更高級別的醫療護理和對抗使用化學物質的適當藥物。

In the ammonia spill scenario, the ability of the CBRN Reconnaissance Platoon to respond would be quickly degraded and dictated by the chemical concentration. TF82 cannot contain the spill or clean or decontaminate affected areas. TF82 has a containerized kit that includes a full-body encapsulation suit with a self-contained breathing apparatus (SCBA) for extended presence on an objective.

在氨泄漏的情景中，化生放核偵察排的應對能力將很快受到化學物質濃度的限制及支配。第 82 特遣隊無法控制泄漏，也無法清除或消除受影響的區域。第 82 特遣隊擁有一個集裝箱套件，其中包括一套全身包覆式防護服和自給式呼吸器 (SCBA)，以延長在目標區域的存在時間。

Recommendations 建議

The underlying logic in determining the posture of the company commander, brigade commander, and TF82 commander to respond to a chemical attack depends on a precarious balance between threat assessment and budget constraints. The mission is highly fluid, and it would not be feasible to account for all possible attack vectors. Assessing the threat involves considering the likelihood of an attack and the potential damage it could cause. So far, the approach demonstrates a willingness to accept a high level of risk based on the unlikelihood of a chemical attack. However, the potential for significant casualties in such an attack remains.

要確定連長、旅長和第 82 特遣隊指揮官應對化學攻擊的態勢的基本邏輯，取決於威脅評估和預算限制之間的脆弱平衡。這項任務的高度不確定性，不可能考慮所有可能的攻擊向量。評估威脅牽涉考慮可能發生的攻擊與可能造成的損害。到目前為止，這種方法顯示在不太可能發生化學攻擊的情況下，願意接受較高風險的意願。然而，可能導致重大傷亡的攻擊潛在風險仍然存在。

Three levels of change could be implemented to better posture TF82 forces to respond to a chemical attack on military and civilian populations. I am not suggesting that we overhaul our force posture for the most dangerous course of action; rather, I propose an intermediate approach that aligns assets to set the stage for a response.

可以實施三個等級的變革，以更好地應對第 82 特遣隊在軍事和人民群眾中發生的化學攻擊。我並不建議我們徹底改變我們的部隊態勢以應對最危險的行動方案；相反地，我提出了一種中間的方法，將資源調整到一個能夠做出應對的階段

The first level of change would be the simplest to implement. Any potential for future operations must be aligned in Europe, so the U.S. Army should coordinate with the North Atlantic Treaty Organization (NATO) regarding any changes in the response to the threat of chemical warfare. NATO would benefit from this proposal due to the proximity of NATO allies to the frontlines. TF82 would also greatly benefit from receiving a second CBRN reconnaissance platoon as an attachment to HHC. This added workforce would allow maintenance of the same posture across multiple locations. As the HHC commander responsible for the CBRN Reconnaissance Platoon, I am uniquely positioned to recognize that preparedness requires a shared understanding of higher-level assessment and treatment assets. This level and type of readiness are critical to TF82. Preparedness begins with posturing the necessary personal protection, detection, and medical

treatment equipment in theater and ends with a rehearsal in which these assets are coalesced within an acceptable timeline.

第一層變革是最簡單實施的。任何未來可能的作戰發展必須與歐洲密切合作，故美國陸軍應與北約協調取得有關於應變化學戰威脅的任何變化。由於北約盟國與前線地區的距離接近，北約將受益於此提議。第 82 特遣隊也將受益於配屬在營部連的第二個化生放核偵察排。這個額外的支援人力將使得同盟可能在多個地點保持相同的態勢。作為負責化生放核偵察排的營部連連長，我有獨特的優勢去理解，應變化學威脅時需要共享對較高層級的評估和處置資源。這種程度和類型的戰備狀態對第 82 特遣隊至關重要。做好準備始於在戰區預備好必要的個人防護、偵測和醫療設備並順利結束演習，且在可接受的時間內將這些設備整合在一起。

The second level of change would be to coordinate directly with emergency services in the host country. This change would allow a faster return on investment. Since the assessed scenarios take place in a modern urban setting, emergency services would be readily available. This option would enable the 82d Airborne Division to circumvent the bureaucratic red tape that is linked to dealing with host nation armed forces and allow on-the-ground coordination. TF82 should attach a chemical decontamination company to its ranks to facilitate this option. This company would not be a part of the 82d Airborne Division and would need to come from an enabling unit. The challenge of coordinating the restructuring of TF82 to accommodate such a company would be outdone by the benefit of having a dedicated company to assess, plan, and respond to a chemical attack.

第二層變革是直接與受支援國家的緊急應變部門進行協調。這一變革將使投資回報更快速得到反饋。由於評估的場景假定在現代城市環境中，緊急應變部門將可隨時提供支援。這一選項將使第 82 空降師得以避開處理與受支援國家武裝部隊溝通協調交涉的繁文縟節，並實現地面協調。為促成這一選項，第 82 特遣隊應將一個化學消除連配屬在自己的部隊。這個連不屬於 82 空降師的一部分，應需來自支援部隊。與重組且容納這樣一個連的第 82 特遣隊來協調的挑戰，將被一個專門評估、規劃和應對化學攻擊的連級單位具備的優勢所超越。

The third level of change would require a redesign of organic equipment and force composition. The addition of a dedicated chemical decontamination company is a concept that has been previously introduced, and the company even existed at one point. However, due to threat level, downsizing, and force

restructuring, this asset was removed from the division. The strongest argument against this change is simple: We have not needed that company asset. However, I contend that the weaponry and the intensity of a LSCO battlefield warrant the return of this internal asset.

第三層變革需要重新規劃建制裝備和部隊組成。增加一個專業的化學消除連是先前提出的概念，這個連甚至曾經在編制上。然而，由於威脅層級縮小和部隊重組的因素，這個單位已經從師內解編。當時對這一變革的最有力的觀點是簡單明了的：我們並不需要那個連級單位。然而，我主張，在大規模作戰行動戰場上的武器和戰鬥強度保證需要這個內部單位的回歸。

Conclusion 結論

From my perspective, one of the keystones in responding to a chemical threat is the authorization for U.S. forces to engage. This type of authorization is weightier than an order for paratroopers to rush forward into an unknowable situation. Secondary effects must be considered. The 82d's current mission requirements do not exactly warrant the mobilization of massive supplies in preparation for a chemical attack; however, improving our posture is possible and is the responsible thing to do.

從我的角度來看，在應變化學威脅時，授權美軍參與行動是至關重要的。這種授權的重要性，超過了讓空降部隊匆忙接收命令投入一個未知的狀況，應必須考慮到第二層面的影響。82 空降師目前的任務要求並不全然保證為應對化學攻擊而動員大量補給；然而，改善我們的態勢是可能，也是負責任的做法。

A LSCO war will test every level of readiness and stress the ability to adapt. The U.S. Army must continue to build shared understanding at all levels. Army leaders must accurately assess organizational design and how it relates to the enemy, constantly considering chemical weapons and how U.S. forces can respond to them. Tailoring the force posture to respond to chemical weapons (whether intentional or unintentional) within a city will be crucial. This posture must provide detection, assessment, diagnosis, and treatment capabilities. In any future conflict, the possibility that civilian populations would become a target for chemical weapons must be considered and these crucial aspects will save military and civilian lives.

大規模作戰行動的戰爭將考驗各層級的戰備能力，以及強調適應能力。美陸軍必須在各個層面上持續建立共識。陸軍領導者必須準確地評估組織設計及其與敵人的關聯，並不斷考慮化學武器以及美軍如何應對它們。對於應對城市中的化學武器（無論是有意還是無意）來說，量身定制部隊態勢將至關重要。

這種態勢必須提供偵測、評估、診斷和治療能力。在未來任何的衝突中，都必須考慮到平民成為化學武器目標的可能性，而這些關鍵因素將拯救軍事和平民的生命。

Urban battlefields hold a special place in the U.S. Army history; 100 years ago, the U.S. Army established military dominance across European cities. Although the way we fight urban battles has been molded by the contemporary age, the daunting threat of chemical weapons remains eerily familiar and frighteningly effective.

城鎮作戰在美陸軍的歷史中佔據著特殊的地位；100 年前，美軍在歐洲各城市確立了軍事優勢。雖然我們打城鎮戰的方式已經受到當代的影響，但化學武器的可怕威脅依然令人毛骨悚然且極具破壞性。