

The 23d CBRNE Battalion: How We Train and Sustain 第 23 化生放核爆營：我們如何訓練與維持

By Major Denise R. Little and Major Rogelio A. Pineda

著者：Denise R. Little 少校與 Rogelio A. Pineda 少校

From: Army Chemical Review (ACR), Summer 2015

出處：美國陸軍化學兵半年刊，2015 夏季號

譯者簡介



譯者莊孝感先生，國立清華大學化學系(學士) 61年、化學研究所(碩士) 63年畢業，歷任國家中山科學研究院化學研究所助理研究員、副研究員、研究員、技士、技正、技監、副組長、組長，曾任國家中山科學研究院化學研究所化學戰-防護計畫主持人。專長為軍用毒氣偵檢預警技術與裝備研發、軍用濾毒技術與裝備研發、軍用污染消除技術與裝備研發、有害氣體紅外光遙測技術研發及核生化戰場管理。



譯者連勻誥少校，畢業於陸軍官校化學系93年班，美國軍官高級班100年班，歷任排長、後勤官、裁判官、放射安全官及化學參謀官，現任化生放核訓練中心學員生大隊部學員一中隊隊長。

The 23d Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Battalion, Camp Stanley, Korea, is the largest — and only forward-deployed — U.S. Army CBRNE battalion capable of weapons of mass destruction (WMD) and hazard reconnaissance, exploitation, and decontamination in the Korean theater of operations.

駐於韓國史丹利營區之第 23 化學、生物、放射、核子、爆炸(化生放核爆)營，為在韓國戰區編制最大(也是唯一前置部署)的美國軍陸軍化生放核爆(CBRNE)營，其具有對大規模毀滅性武器與危害的偵察、排除及污染消除的能力。

The battalion consists of the —

該營的組成如下—

- Headquarters and Headquarters Detachment.
- 營部與營部直屬部隊。

- 4th Chemical, Biological, Radiological, and Nuclear (CBRN) Company.
- 第 4 化生放核(CBRN)連。
- 61st CBRN Company.
- 第 61 化生放核(CBRN)連。
- 62d CBRN Company.
- 第 62 化生放核(CBRN)連。
- 501st CBRNE Company (Technical Escort).
- 第 501 化生放核爆(CBRNE)連(技術分隊)。
- 718th Ordnance Company (Explosive Ordnance Disposal).
- 第 718 軍械連(爆炸軍械處置)。

Each of the CBRN companies consists of one nuclear, biological, and chemical reconnaissance vehicle (NBCRV) platoon and three decontamination platoons — two of which are assigned the additional mission of reconnaissance and surveillance.

每一個化生放核(CBRN)連皆由一個核生化偵檢車(NBCRV)排與三個污染消除排(其中兩個污染消除排另分派附加的偵察與監視任務)。

The 23d CBRNE Battalion trains for two distinct wartime mission sets:

第 23 化生放核爆(CBRNE)營主要以下列兩類不同戰時任務為訓練目標：

- Freedom of movement and maneuver.
- 移動與調度的自由度。
- WMD elimination operations.
- 大規模毀滅性武器清除作業。

The battalion must execute these two distinct mission sets with a high level of technical competence at the same time that it endures continuous personnel turnover. Our challenge is to meet the need to “Fight Tonight” in two complementary areas — how we train and how we sustain.

第 23 化生放核爆(CBRNE)營須在人員不斷更迭的狀況下，同時執行這兩個具有高水平技術能力的不同任務。我們的挑戰是使得此兩互補領域(我們如何訓練與我們如何維持)符合「今夜開打」的要求。

How We Train

我們如何訓練

The 23d CBRNE Battalion, which is assigned to the 1st Armored Brigade Combat Team (1ABCT), 2d Infantry Division (2ID), has an operational control training relationship with 1ABCT maneuver battalions. Therefore, to further enable both

mission sets, the 23d CBRNE Battalion formulates as a company team package consisting of one maneuver support CBRN company and one chemical, biological, radiological, nuclear, and explosives response team (CRT). The company team package is task-organized to one of the 1ABCT maneuver battalions and, along with the CBRN company commander, forms a complete package. The CBRN company commander, who is collocated with the maneuver battalion commander, provides the maneuver battalion commander with technical advice on how to best use the full spectrum of CBRNE assets under his or her control.

第 23 化生放核爆(CBRNE)營被指派至第 2 步兵師(2ID)內的第 1 裝甲旅作戰隊(1ABCT)，其與第 1 裝甲旅作戰隊(1ABCT)的機動營的作戰管制訓練相關聯。為確保未來兩者任務的達成，第 23 化生放核爆(CBRNE)營編組一化生放核機動支援連及一化生放核爆應變隊(CRT)成為一個加強連。該加強連任務編組於一個第 1 裝甲旅作戰隊(1ABCT)的機動營，併同化生放核(CBRN)連長，形成一個完整的編組。該任務編組之加強連連長，與機動營營長並列，可適時提供有關運用化生放核爆資源之專業技術建議，供機動營營長參考。

To maintain the “Fight Tonight” standards of 2ID, the 23d CBRNE Battalion must continuously conduct driver’s training courses, combatives training, weapons range exercises, and Tactical Combat Casualty Care courses. Therefore, the battalion training plan must account for the significant turnover of personnel (approximately 50 percent every 6 months) in Korea. To meet this challenge, the battalion developed an aggressive, 6-month training cycle — formalized in a unit training plan — that provides space and predictability for companies to train at individual and collective levels.

為維續第 2 步兵師(2ID)「今夜開打」之標準，第 23 化生放核爆(CBRNE)營必須持續執行駕駛訓練課程、戰鬥訓練、武器練習及戰術戰鬥傷亡看護課程。由於駐韓人員每半年會有約百分之五十的人員實施輪調，故營的訓練計畫必須將人員更換率納入考量要點。配合上述需求，第 23 化生放核爆(CBRNE)營發展出一套以六個月為一循環的單位訓練計畫，以提供各連隊作為個人及團體訓練的依據。

The primary focus during the first quarter of the 6-month training cycle was a battalion level NBCRV gunnery and squad situational training exercise that resulted in the certification of NBCRV squads and subteams within each reconnaissance and surveillance platoon, CRT, and decontamination platoon. The first dismounted reconnaissance sets, kits, and outfits (DRSKO) were concurrently fielded to six reconnaissance and surveillance platoons and four CRTs within the 23d CBRNE Battalion. A secondary focus was on driver’s training, the Combatives Level I Course, monthly weapons range exercises, and Tactical Combat Casualty Care courses. Other priorities included operationalizing leader development and certification through a comprehensive lieutenant development program; battalion competitions; and focus areas aimed at physical readiness, weapons proficiency,

medical tasks, maintenance, and logistics.

在六個月循環訓練的第一個階段，首要著重在營核生化偵檢車(NBCRV)火炮射擊及班模擬狀況練習，在本階段結束前，偵蒐排、化生放核爆應變隊(CRT)及消除排中核生化偵檢車(NBCRV)班與小隊的相關人員都必須通過鑑定。第一批的拆卸式偵檢組套件裝備(DRSKD)已經配發給第 23 化生放核爆(CBRNE)營的 6 個偵察與監視排及 4 個化生放核爆應變隊(CRT)。第一個階段訓練的第二個重點則是在駕駛訓練、第一級戰鬥課程、每月武器練習及戰術戰鬥傷亡看護課程。其他優先事項包括藉由全方位的中尉發展計劃實施領導統御培養及鑑定；各種營競賽；以及針對體能整備、武器熟練、醫護作業、維保作業及後勤作業等。

The culminating event of the second quarter of the training cycle was a battalion level, combined CBRNE field training exercise that included participation from maneuver battalions and aligned Republic of Korea partners and was executed according to the WMD elimination mission. Six reconnaissance and surveillance platoons and two CRTs were certified during the CBRNE field training exercise. The secondary focus of the battalion during the second quarter was on collective NBCRV gunnery. Other priorities included the completion of DRSKO fielding, driver's training, the Combatives Level II Course, monthly weapons range exercises, and Tactical Combat Casualty Care courses. In addition, leader development and certification continued.

在訓練的第二個階段中，首要著重在營級化生放核爆(CBRNE)野戰綜合訓練，其以執行大規模毀滅性武器排除任務為課題，並由機動營與南韓部隊共同參與。在化生放核爆(CBRNE)野戰綜合訓練期間，要求 6 個偵察與監視排及 2 個化生放核爆應變隊(CRT)須通過鑑定。第二個階段中的次要重點則是在核生化偵檢車(NBCRV)綜合火炮射擊。其他優先事項包括完成拆卸式偵檢組套件裝備(DRSKD)部署、駕駛訓練、第二級戰鬥課程、每月武器練習及戰術戰鬥傷亡看護課程。另外，領導統御培養及鑑定亦持續進行。

The 23d CBRNE Battalion discovered that the stated priorities for both quarters of the 6-month training cycle were accompanied by training challenges which were unique to Korea. To address the challenges associated with conducting an internal battalion level NBCRV gunnery, the battalion employed the 1ABCT master gunner to train three reconnaissance and surveillance platoon sergeants and a designated battalion master gunner from the operations and training (S-3) office. But because assignments to the 23d CBRNE Battalion are just 1 year in length, that approach only resulted in a short-term solution. To increase continuity within NBCRV platoons, the 23d CBRNE Battalion began providing funding for an eligible senior noncommissioned officer (NCO) to attend the Stryker Master Trainer Course (held in the United States) if the NCO agreed to a 1-year extension of his or her tour in Korea. The NCO then served as the Stryker master trainer in the S-3 office for the duration of the extension.

在執行上述訓練的過程當中，第 23 化生放核爆(CBRNE)營發現因其駐韓之特殊

性，為了達到六個月的訓練週期中每個階段諸項要求重點，產生許多需要克服的挑戰。例如，在執行營級核生化偵檢車(NBCRV)火砲射擊訓練時，該營雇用第 1 裝甲旅作戰隊(1ABCT)的主砲手訓練 3 位偵察與監視排的士官與 1 位來自作戰和訓練(S-3)辦公室的指定營主砲手。但是因為派駐到第 23 化生放核爆(CBRNE)營的人員任期只有 1 年，所以這種方法只能產生一個短期的解決方案。為增進核生化偵檢車(NBCRV)排的持續性，第 23 化生放核爆(CBRNE)營開始提供資金讓符合資格的士官去參加美國境內開班的史崔克專精訓練課程，參訓的條件之一就是要願意續留韓國一年。人員完訓後即調作戰和訓練(S-3)辦公室，在其續留時間內專職負責史崔克訓練實務。

The fielding of DRSKO also brought substantial training challenges to light. Occupational Safety and Health Administration safety standards require that all Soldiers operating in self-contained breathing apparatuses be certified at the hazmat operations level. And the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) requires that advanced individual training and Advanced Leader Course graduates be certified at the hazmat operations and technician levels. However, the 23d CBRNE Battalion receives Soldiers who have not met these requirements or whose certifications could not be located in the Department of Defense (DOD) Fire and Emergency Services Certification Program Lookup System (available at <www.dodffcert.com>). Furthermore, the nearest location where hazmat operations and hazmat technician level certifications can be obtained is the U.S. Air Force Fire Emergency Service at Osan Air Base — about a 2-hour drive from Camp Stanley. The battalion continues to work with USACBRNS and the U.S. Army Human Resources Command to ensure that assigned personnel have obtained the necessary certifications and that the information has been uploaded to their digital profiles.

拆卸式偵檢組套件裝備(DRSKD)部署亦帶來明顯實質的訓練挑戰。職業安全衛生署之安全標準要求所有士兵皆需要經過危害物質操作標準認證後才能操作空氣呼吸器，且美國陸軍化生放核學校(USACBRNS)要求進階個人訓練與進階領導課程的畢業生都要通過危害物質操作及技術人員認證。然而第 23 化生放核爆(CBRNE)營的士兵並未皆具有相關認證，或是他們曾經獲得的認證未確實被登錄在國防部火災緊急救援認證查詢系統內。此外，可獲有效認證最近的機構是離史丹利營區兩小時車程的美軍空軍烏山基地。為了解決這個問題，該營持續與美國陸軍化生放核學校(USACBRNS)及美國陸軍人力資源指揮部合作，希望確保未來調派單位之人員具有相關證照且確定相關證照皆已登載於電子兵資系統。

The battalion discovered that, due to the high personnel turnover rate, maintaining proficiency levels comparable to those observed in the United States was unrealistic. The 23d CBRNE Battalion tackled the challenge of maintaining and increasing the technical proficiency levels of reconnaissance and surveillance platoons and CRTs

using a three-pronged approach. First, the battalion chose to protect CRTs from red-cycle taskings throughout the 6-month training cycle.[1] The CRTs were involved in green- and amber-cycle taskings; and during the amber cycles, they were called on, if needed, to assist the red-cycle company. For example, the CRTs covered numerous M9 pistol range taskings during the 6-month training cycle because they had the experience required for such taskings. The second means that the 23d CBRNE Battalion used to increase the proficiency levels of reconnaissance and surveillance platoons and CRTs was through the quarterly funding of stateside mobile training teams. Depending on mobile training team availability, the battalion funds training for Advanced Chemistry and Biology, Advanced Radiation I and II, Hazardous Air Pollutants On Site (HAPSITE)®, Portable Isotopic Neutron Spectroscopy (PINS)®, and Target Recognition. And finally, the 23d CBRNE Battalion continues to identify personnel throughout the formation who are master trainers on other technically demanding equipment. For example, CRT sergeants are technically proficient on higher-level analytics, as are explosive ordnance disposal team leaders on various robots. Through the use of a certification checklist that includes quarterly, semiannual, and annual testing requirements, these identified master trainers now certify rotational personnel in areas such as HAPSITE, PINS, and Throwbots® (miniature reconnaissance robots) as they arrive at their assigned units.

另外第 23 化生放核爆(CBRNE)營發現，因為單位內人員流失率高，若要將其專業專長之有效性與美國境內部隊相比是不切實際的。為增加偵察與監視排及化生放核爆應變隊(CRT)的專業有效性，採三方面努力。第一，在六個月的循環訓練中，營避免使化生放核爆應變隊(CRT)進入紅色循環階段。化生放核爆應變隊(CRT)陸續經過綠色與琥珀色循環階段，當在琥珀色階段期間，如果有需要，會讓它們去支援紅色循環階段的連。舉例來說，化生放核爆應變隊(CRT)因為任務的需求，所以在為期六個月的循環訓練當中可能包括了許多 M9 手槍射擊訓練。第二，第 23 化生放核爆(CBRNE)營利用每季的預算申請美國本土機動訓練隊資源，精進偵察與監視排及化生放核爆應變隊(CRT)的專業性。視機動訓練隊可配合的時間，由營框定經費來執行進階化學及生物課程、進階輻射一級與二級、攜帶式氣象層析質譜儀(HAPSITE)® 訓練、可攜式同位素中子光譜儀(PINS)® 訓練及目標分析等課程。第三，針對單位特性所必須熟稔操作之各種裝備，持續發掘並培養單位內可用師資。舉例來說，化生放核爆應變隊(CRT)的士官都具有高等分析的技術專長，就像爆炸物處理小組的指揮官是多種機器人(自動控制裝置)的專家一樣。透過每季、每半年及每年的認證要求項目，這些經過鑑定的訓練專長人員於單位報到後，就可以對地區內輪訓的人員進行攜帶式氣象層析質譜儀(HAPSITE)、可攜式同位素中子光譜儀(PINS)訓練及 Throwbots® 微型偵蒐自動控制裝置的鑑定。

Although the 23d CBRNE Battalion maintained proficiency with its assigned mission-essential task list, it did not do so without facing challenges that were unique

to Korea. Whether training for either of the two battalion wartime missions or meeting “Fight Tonight” deployment readiness requirements, adjustments for personnel turnover were continuous. The battalion discovered that the best way to adjust for the extremely high personnel turnover rates in Korea was by incorporating a 6-month training cycle and identifying master trainers to increase technical and tactical proficiency and continuity.

如果第 23 化生放核爆(CBRNE)營沒有面對在韓國這樣特殊的挑戰，他們不會需要依照指定任務及基本作業清單來維持它的專業性。無論是否依照兩類營戰時任務訓練或達到「今夜開打」的部署準備要求，人員的快速流失之調整都是持續的。第 23 化生放核爆(CBRNE)營發覺，在韓國面對極高的人員更換率，最好的方法就是執行六個月的循環訓練，並確認專業教官以提高技術及戰術之專業性與持續性。

How We Sustain 我們如何維持

To meet “Fight Tonight” sustainment requirements, the 23d CBRNE Battalion collaborated with sustainment units at brigade and theater levels to develop a comprehensive plan for support in armistice and wartime operations. At the battalion level, the primary task was to develop a comprehensive maintenance program, a 72-hour unit basic load, and push packages for resupply operations. The sustainment requirements were shared with higher echelons using venues such as Ulchi Freedom Guardian, 2ID WMD Elimination Microexperiment, Key Resolve, and Warpath exercises.

為了滿足「今夜開打」維持的要求，第 23 化生放核爆(CBRNE)營與旅級或戰區層級的維持單位合作，發展在平時及戰時提供行動支援的全面計劃。在營的層級，首要任務是制定一個全面的維持計畫，一個 72 小時的單位基本攜行量以及預囤補給作業。這些維持的要求事項，透過乙支自由衛士演習、第 2 步兵師(2ID)大規模毀滅性武器排除微型試驗、關鍵決斷演習、征途演習等機會與各層級的友軍共享。

Maintenance Program 維持計畫

Two NBCRVs from the Brigade Special Troops Battalion, 1ABCT, were task-organized to the 23d CBRNE Battalion, increasing the battalion NBCRV fleet for the purpose of training and readiness oversight. The battalion maintained a 20-vehicle NBCRV fleet above 90 percent by implementing a comprehensive maintenance program, which included the following advancements:

為了提升第 23 化生放核爆(CBRNE)營核生化偵檢車(NBCRV)編組的訓練及準備，並同時達到監督的目的，第 1 裝甲旅作戰隊(1ABCT)旅特戰隊營的兩輛核生化偵檢車(NBCRV)任務編組到第 23 化生放核爆(CBRNE)營。藉由執行全面的維持

計畫，第 23 化生放核爆(CBRNE)營可保持單位內 20 輛核生化偵檢車(NBCRV)車隊具超過百分之九十的妥善率。此計畫包括下列優點：

- An extension to the field service representative contract was requested, granted, and funded by the project manager.
- 由專案經理請求、授予與資助野戰勤務代表合約的展延。
- The NBCRV technical manual was condensed into a more manageable, user-friendly version to assist Soldiers in conducting preventive maintenance checks and services.
- 簡化核生化偵檢車(NBCRV)技術手冊為更易於管理、使用者友善的版本，以幫助士兵進行預防性維護檢查和服務。
- Soldiers with Military Occupational Specialty 94F (Computer/Detection Systems Repairer) and Additional Skill Identifiers F1 (Biological Integrated Detection System/Joint Biological Point Detection System Repairer) and F6 (NBCRV Sensor Suite Maintenance Technician) were diverted to the Korean Peninsula.
- 將具有 94F(計算機/檢測系統維修)軍職專長與附加專長 F1(生物綜合檢測系統/聯合生物點探測系統維修廠)與 F6(核生化偵檢車傳感器套件維修技術員)的士兵分派到朝鮮半島。
- The battalion maintenance officer and a select master NBCRV maintenance NCO attended the Additional Skill Identifier F6 course and an abbreviated Universal Mobile Tester course at Fort Gordon, Georgia.
- 遴派營保養軍官與專業核生化偵檢車(NBCRV)保養士官，至佐治亞州哥登堡參加附加專長 F6 課程及短期的一般機動測試員課程。
- 2ID acquired a Universal Mobile Tester for the battalion to conduct services on the Biological Agent Warning System and run diagnostics on the line-replaceable units in the Joint Biological Point Detection System.
- 第 2 步兵師(2ID)獲得了一個通用機動測試器，對化生放核爆(CBRNE)營提供生物戰劑警報系統服務，並對聯合生物點檢測系統中的線路可更換單元進行診斷。
- The project manager installed data collectors in two NBCRVs to identify the root causes of maintenance failures with the Chemical Biological Mass Spectrometer.
- 專案經理在兩輛核生化偵檢車(NBCRV)上安裝數據採集器，以確定化學/生物質譜儀維護故障的根本原因。
- Circuit cards were purchased and added to the unit basic load of the NBCRV platoon to replace damaged cards in the Mass Spectrometer Electronics Module and save on Chemical Biological Mass Spectrometer costs.
- 購買線路卡並納入單位核生化偵檢車(NBCRV)排的基本攜行裝備清單，及時

更換質譜儀電子模組內損壞之線路卡，節省化學/生物質譜儀的花費。

- Quarterly NBCRV operator and maintenance courses were conducted, with semiannual support from project manager instructors providing training on start-up, operation, troubleshooting, and shutdown procedures for the sensor suites.
- 每季執行核生化偵檢車(NBCRV)操作保養課程，每半年由專案經理指導員提供傳感器套件的啟動、操作、故障排除及關機程序訓練。

With the fielding of DRSKO, there was no requirement for a field service representative for reconnaissance and surveillance platoons; therefore, equipment went straight to the test, measurement, and diagnostic equipment activity for service while consumables were ordered through the usual Army supply system. Furthermore, the equipment was standardized across all assessment teams except CRTs. The battalion extracted the preventive maintenance checks and services from the technical manuals, with equipment identified as requiring weekly and monthly maintenance; consequently, the technical manual was reduced to a 147-page document. Additionally, in the interest of simplicity and a common understanding across the battalion, a standardized bumper format was developed for uploading DRSKO equipment into Standard Army Maintenance System – Enhanced boxes. Due to the unique requirement of the 501st CBRNE Company to maintain its commercial, off-the-shelf equipment, a field service representative contractor was employed to assist with the trouble-shooting, service, repair, and evacuation of equipment to the continental United States and the procurement of consumables for commercial, off-the-shelf equipment.

隨著拆卸式偵檢組套件裝備(DRSKD)部署，偵察與監視排就不需要野戰勤務人員支援；因此，設備直接進行測試、測量和診斷設備服務活動，同時通過一般的軍隊供應系統訂購消耗品。此外，除了化生放核爆應變隊(CRT)外，裝備需通過所有評估小組的標準。第 23 化生放核爆(CBRNE)營利用每周及每月的裝備鑑定、保養，檢視技術手冊中預防保養檢查工作的相關要點，將技術手冊簡化濃縮成 147 頁。另外，為了使全營可以輕易理解，將拆卸式偵檢組套件裝備(DRSKD)操作手冊(草案)納入美軍標準保養系統中，以供單位查詢。因第 501 化生放核連特殊的要求要保持其商用現售可得的裝備，聘雇一野戰服務代表商業人員對其提供協助，處理裝備障礙排除、服務、修繕及撤除作業及商維現售可取得的裝備消耗品採購作業。

Unit Basic Load

單位基本攜行量

The next sustainment challenge that the 23d CBRNE Battalion tackled was the identification and subsequent funding of the unit basic load required to meet “Fight Tonight” standards. The battalion ordered 72 hours’ worth of consumables for its units and enough decontamination solution for three combat arms battalions. In

addition, the battalion purchased the new PINS3-CF®, thus reducing the logistic requirement for liquid nitrogen. Throughout receipt of the unit basic load, all companies continued to improve load plans to account for all classes of supplies during numerous battalion, brigade, and division alert exercises. These exercises refined alert procedures in preparation for wartime missions.

第 23 化生放核爆(CBRNE)營維持戰力的下一個挑戰，是為滿足「今夜開打」標準所必須具備的單位基本攜行量之律定以及經費框定。第 23 化生放核爆(CBRNE)營必須攜帶單位 72 小時所需消耗品及供給其他三個戰鬥兵科營級消除所需之物品，對此，第 23 化生放核爆(CBRNE)營藉採購可攜式化學及爆炸物辨識系統(PINS3-CF®)，減少液態氮的需求亦減輕了部分後勤負擔。針對單位基本攜行量的需求，各連持續精進各種裝載計劃，以便在許多營、旅和師警示訓練期間考慮所有類別的用品。這些演練都使得單位得以對戰時任務的警示程序及準備過程更加完善。

Push Packages

預囤

To resupply the newly designed company teams for their wartime mission, the battalion developed push packages for NBCRV reconnaissance platoons, reconnaissance and surveillance platoons, decontamination platoons, CRTs, and explosive ordnance disposal teams. The definition of the sustainment requirement provided a shared (user to theater level) understanding of the WMD resupply system. Push packages consisted of a standard set of consumables that could be adjusted to meet any specific mission requirement. In most cases, standard push packages were requested; however, after conducting a large mission at a biological facility, additional handheld assays and RAZOR® EX pouches may be added to the push package for CRTs. Collaborations regarding the contents and cost of push packages were conducted with 1ABCT, 2ID, and the 19th Expeditionary Sustainment Command during the 2015 2ID WMD Elimination Microexperiment, which was facilitated by the Asymmetric Warfare Group.

為能提供戰時任務中所獲配屬單位或團體之補給需求，營為核生化偵檢車(NBCRV)偵察排、偵察監視排、污染消除排、化生放核爆應變隊(CRT)及爆炸軍械處置小組發展了預囤作業。維持戰力的要求，係提供大規模毀滅性武器補給系統的共享協議(對戰場層級的使用者)。預囤的物資包含了標準量的消耗品(可供應任何特殊的任務需求)。在一般的狀況下，標準量的預囤物資是可行的；然而，若要執行大規模生物設施的任務，可能就要將手持式檢驗儀及生物偵檢系統納入化生放核爆應變隊(CRT)的預囤物資清單。預囤物資的內容物及花費考量，透過 2015 年不對稱作戰大隊支援的第 2 步兵師(2ID)大規模毀滅性武器消除微型試驗，由第 2 步兵師(2ID)的第 1 裝甲旅作戰隊(1ABCT)及第 19 後勤指揮部共同研擬。

Conclusion

結語

While training for two distinct wartime mission sets and meeting “Fight Tonight” deployment readiness requirements, the 23d CBRNE Battalion continues to gather lessons learned regarding the best ways to train and sustain the unit. The battalion makes use of a 6-month training cycle and information gained from annual exercises including Ulchi Freedom Guardian, 2ID WMD Elimination Micro-experiment, Key Resolve, and Warpath to continue to refine tactics, techniques, and procedures and improve combined operations. But these practices are by no means the end state; they merely represent the beginning of an enduring ability to increase tactical and technical expertise while out-fitting units for distinct wartime mission sets — all while enduring the continuous personnel turnover in Korea.

為使訓練同時滿足兩種戰時任務目標並達到「今夜開打」的要求，第 23 化生放核爆(CBRNE)營持續獲取相關經驗，以尋求對單位更好的訓練及維持方式。第 23 化生放核爆(CBRNE)營採取 6 個月為一循環的訓練模式，並藉定期舉辦的演習(乙支自由衛士演習、大規模毀滅性武器消除微型試驗、關鍵決斷演習、征途演習)擷取寶貴經驗，據以修訂戰術、戰技、及相關程序，以精進聯合作戰行動。但這些練習無論如何都不是最終版本，是不斷累積的經驗數據，可做為戰時戰術戰技專家們調配部隊的參考資料(同時承受在韓國持續的人員流動)。

Endnote:

註釋

[1] The Army time management cycle consists of three phases:

[1]軍隊時間管理週期包括三個階段：

- Red. The red phase, or support period, allows leaders to take advantage of all training opportunities to conduct individual Soldier, leader, and collective training; routine medical, dental, and administrative tasks are typically addressed during this period. Self-development is the key focus during the red phase.
- 紅色：紅色階段，亦稱作支援階段，領導者利用訓練的各個時機執行單兵、幹部及團體訓練；一般醫療、齒科及行政作業等。在紅色階段期間，自我成長是本階段的重點。
- Amber. The amber phase, or mission training period, focuses on the lowest level of combat power, meaning that crews, squads, and platoons take part in educational and other training; scheduled maintenance and other critical readiness training tasks take place during this phase. The focus of the amber phase is more on the individual, with limited collective training opportunities.
- 琥珀色：琥珀色階段，亦稱為任務訓練階段，著重在最低階層的戰鬥力量，也就是指成員、班及排級的教育訓練。表排的保養作業及其他不可缺少的訓

練整備作業都在這個階段進行。本階段重點大多在個人訓練，另外有少許的集體練習機會。

- **Green.** The green phase, or prime time, focuses primarily on Soldiers and leaders; this type of training often includes collective tasks that are integrated through multiechelon training. Green-phase training always supports the mission-essential task list objective. Administrative and other activities are eliminated during the green phase to ensure that all Soldiers participate in the training.
- 綠色：綠色階段，亦稱為黃金時段，著重在領導者及士兵之間的鏈結。此型態的訓練通常包含綜合各階層訓練的團體作業。綠色階段永遠支撐著任務-關鍵作業清單目標。在此階段，應摒除一切行政事項及其他活動以確保士兵皆能參與訓練。

Major Little is the S-3 officer, 23d CBRNE Battalion. She holds a bachelor's degree in chemistry from the U.S. Military Academy–West Point, New York, and a master's degree in chemistry from the University of North Carolina at Chapel Hill.

Little 少校是第 23 化生放核爆(CBRNE)營作戰和訓練(S-3)辦公室軍官。她擁有紐約西點的美國軍事學院化學學士學位，以及教堂山的北卡羅來納大學化學碩士學位。

Major Pineda is the executive officer, 23d CBRNE Battalion. He holds a bachelor's degree in molecular biology from San Jose State University, San Jose, California, and a master's degree in environmental management from Webster University.

Pineda 少校是第 23 化生放核爆(CBRNE)營執行軍官。他擁有加利福尼亞州聖荷西聖荷西州立大學分子生物學學士學位，以及韋伯斯特大學環境管理碩士學位。