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SUMMARY HISTORY OF THE CHEMICAL CORPS

25 June 1950 - 8 September 1951

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Introduction

The degree of activity within the Chemical Corps has always been greatly influenced by the Nation's attitude toward certain special types of warfare and weapons. In the period between World War I and World War II public opinion more or less condemned gas warfare and, at times, threatened an end to the Corps, then known as the Chemical Warfare Service.1/ Generally speaking, neither the Congress nor the General Staff lent enthusiastic support to the Chemical Warfare Service. Only the threat that a foreign nation, Germany in particular, might resort to gas warfare, saved the Corps from extinction. It remained in existence mainly because of its insurance value.

During World War II the Corps assisted the Army and other forces in maintaining a state of readiness for toxic warfare. This alone constituted an important contribution to victory. But the functions of the Corps were not confined to readiness. The Corps developed, procured and issued smoke and incendiaries which played vital roles in strategical and tactical warfare and it trained the units which employed these weapons. Chemical Service units carried out training, maintenance and supply functions for flame throwers and aerial incendiary, smoke and flame bombings, as well

1/ P.L. 607, 79th Cong. provided that the CWS be known as the Chemical Corps. See also WD GO 99, 6 Sep 46

as well as doing their part toward readiness for gas warfare.

In the early days of World War II President Roosevelt declared that the United States would not initiate gas warfare, but would retaliate immediately and in full. This policy, in which Prime Minister Churchill concurred, remained in effect for the duration of the war. Near the end of the war, however, public opinion, segments of the press and some military leaders began to urge that the United States initiate gas warfare in the Pacific, especially after the collapse of Germany. A Gallup poll revealed a rise of from 23 to 40 percent between November 1944 and July 1945 in the percentage of those favoring the strategic use of gas in the Pacific. Factors in this change of attitude were the high casualty rates in routing the Japanese from cave-like defenses and, after V-E Day, the desire to bring the war to a swift conclusion. The timely development of the atomic bomb obviated any further consideration of all-out gas warfare, but, by its very nature, the dropping of the atomic bomb also set a precedent for initiation by the United States of a special type of strategic warfare in the future.

The present day mission of the Chemical Corps is more complex than that of the original Chemical Warfare Service of World War I. It includes responsibility for the defensive and offensive aspects of biological warfare and chemical warfare, the latter comprising incendiary and smoke activities as well as those of gas; and the defensive aspects of radiological warfare.[2] The Chemical Corps develops, manufactures, procures and supplies materiel pertaining to these types of warfare, and provides

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2/ DA SR-10-350-1, 15 Sep 51

technical supervision of the training of the Army within those fields. The chemical warfare staff officers of World War II have recently become Chemical, Biological and Radiological (CBR) staff officers.

The Impact of Korea

The opening of hostilities in Korea found the Chemical Corps unprepared for war, although there was a nucleus of well-trained personnel and adequate quantities of defensive equipment. The major task of the Chemical Corps at the time, in line with the general situation, was not in supporting operations in Korea but in preparing for a possible major war. First of all, Major General Anthony C. McAuliffe, then the Chief Chemical Officer, speeded up the procurement and supply of CBR items.3/ He also stressed the obtaining of data on the employment of chemical and biological agents. Ever since General McAuliffe's assumption of command of the Chemical Corps on 29 September 1949, he had accelerated developmental and testing activities at Dugway Proving Ground, which would result in authoritative knowledge on the behavior and employment of CBR agents. He insisted on data which were clear and specific, particularly on nerve gases. Thus, General McAuliffe gave a "terrific push" to the development and to the creation of facilities for producing new agents. He convinced general staff officers that the Corps had a most potent weapon in the nerve gases.4/ Funds for development

3/ Memo for Record, Hist Off, OC Chl O, sub: Interview with Lt Gen McAuliffe, 25 Oct 51. In CMLWG

4/ Interv, Hist Off, OC Chl O with Brig Gen Henry M. Black, Asst C Chl O for Materiel, 22 Oct 51. In CMLWG

and for producing the special munitions and agents were readily made available to the Corps. 5/

A part of General McAuliffe's success in CBR matters lies in the history of World War II. The then Chief of Staff, General George C. Marshall and the Assistant Secretary of War, Mr. John J. McCloy, in contrast to a number of their predecessors and contemporaries, firmly advocated preparation for gas warfare. Near the close of World War II, the Joint Chiefs of Staff were considering the use of gas in the Pacific. At the end of World War II, the Allies learned the secrets of the new powerful German nerve gases, which are now in production in the United States — and probably in Russia. Also, the long time research program of the Corps had begun to produce practicable results. The National policy of "retaliation only," had not been officially changed to one of "initiation" but the Joint Chiefs of Staff believed that the enemy in any major war would open with CBR weapons and that the United States had, therefore, to be ready to retaliate immediately. 6/

At the outbreak of war the Chemical Corps furnished several types of service troops and two types of combat units. The 4th Chemical Smoke Generator and the 2d Chemical Mortar Battalion[5] left the Z of I for Korea at the end of the summer of 1950. The latter battalion saw considerable action. On a number of occasions it served as "light artillery" for United Nation units which had no organic artillery. The smoke generator

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5/ The Corps' budget for FY 1950 was approximately thirty times that of the average budget in the several years preceding 1941.

6/ Interv, Hist Off, OC Cml O, with Brig Gen Henry M. Black, Asst C Cml O for Materiel, 22 Oct 51. In CMLWG.

troops performed their primary mission in connection with several Han River crossings, and prepared to screen Pusan from enemy bombers as the Chinese Communist air forces appeared to gain in strength. General McAuliffe feels that the Chemical Corps, so far, has made two substantial contributions to the fighting in Korea, namely, the supply of napalm and maintenance of napalm facilities for the air and ground forces, and the combat support by the 2d Chemical Mortar Battalion. 7/

On 30 May 1951, Major General Egbert F. Bullene succeeded General McAuliffe as the Chief Chemical Officer. Prior to becoming Chief, General Bullene had served as Commanding General, Army Chemical Center, for more than four years and briefly as Deputy Chief Chemical Officer. He had spent considerable part of a long military career in command of chemical troops. Since assuming command, he has emphasized the need for improvement of the organization of the Corps. 8/

The activities of the Chemical Corps as a technical service fall into three main categories, namely: research and development; supply and procurement; and the combined activities of war plans, troops, training and intelligence. The organization of the Office of the Chief has always, in general, followed that outline, with additional divisions ~~of~~ branches, such as those of personnel, safety, management, services, legal, and historical. A few minor units have generally been under the executive office, but the major units have reported to the Chief or his Deputy. The chiefs of the

7/ Memo for Record, Hist Off, OC Cml O, sub: Interv with Lt Gen McAuliffe, 25 Oct 51. In CMLMS.

8/ As of 8 Sep 51 the details of this reorganization were not completed. It was made official by DA GO 88, 12 Oct 51.

three major divisions have been operating chiefs as well as members of the staff of the Chief Chemical Officer.

General Bullene feels that his office should operate more along staff lines and has set up three commands, each under an assistant chief, one for research and engineering, another for materiel, and a third for training. This will remove a considerable part of the operating functions from Washington and make General Bullene's office a truly staff organization, as far as practicable. Other factors which induced General Bullene to make this reorganization were the President's directive which ordered the decentralization of government activities, DA policies which required the scattering of agencies as a safety precaution in case of atomic bombing, and a management survey which recommended this change. 9/

The three commands in the process of establishment are: The Research and Engineering Command, under Brigadier General William M. Creasy at Army Chemical Center, Maryland; The Training Command under Brigadier General Leonard J. Greeley at Fort McClellan, Alabama; and the Materiel Command under Brigadier General Henry M. Black. The last named command is now at Army Chemical Center, Maryland, but will move to Baltimore as soon as office space is available. The activities of these three commands will be discussed in detail below, after brief consideration of the overall personnel problem.

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(1) Memo for Record, sub: Interv with Gen Bullene, 24 Oct 51. In CMLWG
(2) Comptroller of the Army, Ppt on Management Survey of the Cml Corps, 30 Jun 51.

Personnel

The solution of military problems in the Z of I is generally threefold, in that the three factors of personnel, funds and facilities are ever present. Of these three, the personnel factor, i.e., the shortage of personnel, has been dominant, especially in the past six months. It permeates the consideration of every action by the Chemical Corps.10/

The reserves who re-entered the service after 25 June 1950 were, with some exceptions, reasonably suitable for their assignments. The shortage was one of specialties rather than one of total numbers. For example, there was an adequate number of officers trained in chemical warfare, but a distinct shortage of those trained in biological warfare and radiological warfare. BW and RW are relatively new developments and the shortage of both officer and civilian personnel in these fields is national, not just confined to the Chemical Corps. The Adjutant General has provided the Corps with about 800 technically trained enlisted men, which has been of some assistance, but has not solved the problem. Col. Ralph C. Benner, Chief, Personnel Division, OC Cml O, in June 1950, believes that the national shortage of technically trained persons, suitable for service in the Chemical Corps would have been even greater except for the GI Bill of Rights legislation.11/

10/ Memo for Record, sub: Interv with Gen Bullene, 24 Oct 51. In CMLWG.

11/ Memo for Record, sub: Interv with Col Ralph C. Benner, 29 Oct 51. In CMLWG.

Since June 1950, several developments have tended to produce a shortage of chemical officers for Korean duty. Overseas allotments, both in FECOM and EUCOM, have greatly increased. The authorizations for chemical officers in the Z of I have also grown. The replacement must arrive in Korea before the incumbent is rotated to the United States, which ties up two officers for one position for a period of time. In recent months, Colonel John R. Burns, Chief of Personnel since 1 May 1951, has been "scraping the bottom of the barrell" for officers to send to Korea and Europe.[12] Col Burns believes that there are many positions wherin the Corps could use handicapped officer personnel effectively. Any change in policy, however, requires Congressional action.

There is one type of activity, however, wherin there has not been a personnel shortage, that is, in safety operations. Prior to 15 June 1950, the Safety Branch, OC Cml O, and the safety operating personnel in the various installations were responsible for general safety, as well as technical safety. Just prior to the Korean outbreak, the Department of the Army assigned the general safety function to Army area commanders.[13] This relieved the safety agencies within the Corps of a part of their duties and enabled them to meet the extra technical requirements of the Korean affair without additional help.[14]

12/ Memo for Record, sub: Interv with Col John R. Burns, 24 Oct 51. In CMLWC.

13/ DA AR 385-10, dated 15 Jun 50

14/ Memo for Record, sub: Interv with Mr. Henry F. Harris, former Safety Engineer, OC Cml O, 24 Oct 51. In CMLWC

Research and Engineering

The period since June 1950 has witnessed several changes in the research and development organization of the Chemical Corps. Not the least of these was the centralization of the Biological Laboratories, the Medical Laboratories, and the Chemical and Radiological Laboratories under the administration of the Chief, Research and Engineering Division (6 March 1951). This move, which required the laboratories to communicate directly with the Research and Engineering Division on all matters concerning the research and development program, has facilitated staff control over the various operating agencies.15/

Since the spring of 1951 the R and E Division has exercised direct staff supervision over all of the research and development operating agencies of the Chemical Corps. Thus it was responsible for one of the most important activities of the corps - one which was becoming increasingly significant in an age of scientific warfare.

Also, an Engineering Agency was established on 15 May 1951 under the supervision of the Chief, Research and Engineering Division. The mission of this organization was to engineer in terms of their desired military characteristics those items and processes devised by Chemical Corps developing agencies; to prepare final designs for all Chemical Corps materiel and provide design criteria for technical facilities in such a way as to encourage mass production and permit the maximum utilization of commercially available materials and the minimum use of

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15/ Most of material for this section was taken from: Research and Engineering Division, Historical Summary, 25 Jun 50 through 8 Sep 51.

critical materials; to furnish technical assistance regarding Chemical Corps materiel and plants. This would relieve the developing agencies of the miscellaneous engineering functions which they had performed in the past and free them to devote their full efforts to the research and development problems at hand.

A marked change in official attitude toward military preparedness during this period, especially in the field of toxicological warfare, led to considerable expansion of the Chemical Corps research and development program. The outbreak of war in Korea and the Stevenson Committee's report (Secretary of Defense Ad Hoc Committees on Chemical, Biological, and Radiological Warfare) caused the R and D budget to be increased from $10,000,000 to $30,000,000. The number of persons working on research and development rose from 2,100 in June 1950 to 3,700 in September 1951. The design and construction of new facilities for the production of Chemical Corps agents also received much attention. The largest of these, a pilot plant for the five steps synthesis of agent GB, was built at Army Chemical Center, Maryland. Work was begun on a production plant for the same agent - the design being based on studies made at the pilot plant and those made by a civilian organization (Universal Oil Products) under government contract.

To facilitate testing of end items by the Chemical Corps, the Dugway Proving Ground was activated on 1 July 1950 as a separate Class II Industrial Installation. Its mission was the initiation and conduct of a program of comprehensive tests designed to insure the operational suitability of materiel developed by the corps. Further, it was to conduct environmental tests and make such comparative evaluations as might be necessary to provide information essential to Chemical Corps

tactical and strategic doctrine.

The Korean conflict, as well as the world crisis in general, revived interest in toxicological warfare and also accelerated a trend toward a change of emphasis in the development of Chemical Corps materiel. In order to provide the soldier in the field with required equipment it was necessary to stress the development of end items. General McAuliffe, Chief Chemical Officer during most of this period, issued verbal instructions that, regardless of previous plans, the following areas of development were to be rushed to completion: CW protection and detection; CW munitions for the Army Field Forces; BW (biological warfare) protection; a BW interim weapon; RW (radiological warfare) defense; and a liquid fuel contaminant.[16]

During the period 25 June 1950 to 8 September 1951, fifty-six items were standardized. Of these, thirty-six were end items and the remainder were component items. Only a few of the more important ones can be mentioned in this survey.

Several protective items were developed. One, the Collective Field Protector, M6, was completely new and bears little relation to its predecessors. Better filter designs and body construction have permitted great savings in weight and space and have led to considerable improvement over the M2A1 protector. A new collective protector for tank crews (E26) was almost ready for standardization in September 1951. This device, which has proved extremely efficient in engineering tests, will protect three individuals against either CW or BW attack.

16/ Memo, Col W. R. Currie C Develop Br R & E Div for Record, 15 Aug 50. In CMLWG.

In the protective field, a new lightweight, water-repellant gas mask carrier replaced the C15 carrier for use with the M9 gas mask. Not only was the new carrier more convenient to handle and better adapted to field use, but it was also much cheaper to produce than the item which it replaced. This fact, in view of the large quantities needed, represented a considerable saving in procurement costs.

Much work was done on thickened fuels and mixers. The new thickener, M3, was an improved fuel for both portable and mechanical flame throwers. In contrast with those for the M2, all the materials for its composition were available within the continental United States. A companion development was that of the M2 Incendiary Oil Mixing and Transfer Unit. This mechanical device permitted much more rapid production of thickened fuel than did the semi-mechanical M1 unit. It was very useful for expediting flame thrower and fire bomb operations. Nearing the standardization stage was another thickened fuel mixing and transfer unit (E3R2), which had the additional advantage of providing for the heating of gasoline during cold weather operations.

In a similar connection, a novel lightweight air compressor (E32) was expected soon to speed and simplify the pressurizing of flame throwers in the field. It weighed only sixty-eight pounds, as contrasted with the 700 pounds of the now standard M1 Compressor.

Developments were still being made in the field of fire bombs. All standard fire bombs were expendable gasoline tanks converted in the field by the addition of igniters produced from the M15 Grenade. However, a new missile, the E74, had been designed specifically for its major mission as a fire bomb. It was almost ready to be standardized in September 1951. Already officially adopted was the Fire Bomb

Igniter, M23. This was the first item designed solely for the purpose indicated by its name. It replaced adaptations of the M15 WP Grenade, which were not too well suited to the purpose of igniting the fire bomb. The M23 was constructed in such a way as to form an integral part of the fire bomb.

Another type of newly developed igniter was the M201A1 Grenade Igniter Fuze. It replaced the M201 in all chemical grenades. Although the two items are identical mechanically, the older M201 was loaded with a pyrotechnic mixture of limited stability which could not be stored for long periods. The mixture used in the new fuze was not subject to the same defect.

The field of biological warfare was represented by several items. Agent TX was the first anti-crop pathogen standardized by the Chemical Corps. Normally employed with the M1 agent carrier, it was very effective against cereal crops. Almost ready for standardization was the E73 biological bomb. This missile was a modification of a standard Ordnance item used for the dissemination of pamphlets. For Chemical Corps purposes it was filled with biological agents. A cluster of biological bombs (the M33 cluster) was also developed. The item consists of a nose ejection type of adapter and of eighty-six M114 biological bombs; the M114 bomb was the first biological weapon to be standardized by the Chemical Corps.

New clusters appeared for incendiary as well as biological bombs. These were the M31 and M32 incendiary bomb clusters. They included new adapters which afforded complete protection to the bombs from physical and atmospheric damage. Furthermore, the adapters might be used as shipping containers for the missiles, thus eliminating the

expense and waste of packing materials.

Nor were chemical warfare munitions neglected. A 10-pound chemical bomb, the E54R4, was designed specifically for the dispersion of Agent GB. Having demonstrated satisfactory results in extensive engineering tests, it was almost ready for standardization. Seventy-six of these bombs could be clustered in an adapter, the assembled munition then being known as the E101 Cluster.

The use of smoke remained one of the important functions of the Chemical Corps. Consequently, a new mechanical smoke generator, the M2A1, was adopted as superior to the M2. Unlike the older generator, the M2A1 possessed a metering valve which permitted the operator to control the flow of oil and thus regulate the density of the smoke cloud. Moreover, an entirely new type of smoke generator was developed almost to the point of standardization. This device, the Pulse Jet Smoke Generator, E19R1, was based upon a principle quite different from that of all standard items. It was light in weight, rugged in construction, and, being equipped with only one moving part, was extremely easy to maintain.

Procurement and Supply of Chemical Corps Materiel

The supply mission of the Chemical Corps included the determination of item requirements, budgeting, procurement, inspection, storage, maintenance, distribution, and issue of 180 end items and 9,000 spare parts. 17/ Chemical Corps end items may be categorized as follows:

1. Chemical ammunition
2. Decontaminating material and equipment
3. Detection material and equipment
4. Impregnating material and equipment
5. Protective material and equipment
6. Service, handling and training aid material and equipment
7. Weapons and related equipment

At the time the Korean situation broke, all these activities were being carried on under the Armed Services Procurement Act of 1947 18/ and under the Department of Defense Mutual Defense Assistance Program. Current procurement under this program was relatively light and emphasis was placed mostly on Industrial Mobilization Planning. 19/ The Supply and Procurement Division and the Chemical Procurement Agency in the Office of the Chief Chemical Officer were responsible for general administration of all supply and procurement functions throughout the Corps, while the Inspection Division and the Inspection Equipment Agency

17/ Comptroller of The Army, Report on Management Survey of the Chemical Corps, (Restricted) 30 Jun 51, Ch. II, pp. 3 and 6. Hereinafter referred to as Report on Management.

18/ P. L. 413, 80th Cong.

19/ Memo (Conf), Asst Secy of the Army for AC/S G-4, 7 Apr 50, sub: Procurement Implementation under MDAP.

supervised all inspection activities. All of these units, with the exception of elements of the Supply and Procurement Division, were physically located at the Army Chemical Center, Maryland. Supply and procurement and inspection activities in the field were carried on by the following installations:

Depots	Location
Deseret	Tooele, Utah
Eastern	ACC, Md.
Midwest	Pine Bluff, Arkansas
Separate Storage Area	
Rocky Mountain Storage Area	Denver, Colorado

Procurement Districts	Location
Atlanta	Atlanta, Ga.
Boston	Boston, Mass.
Chicago	Chicago, Ill.
Dallas	Dallas, Texas
New York	New York, N. Y.
San Francisco	San Francisco, Calif.
Arsenals	
Edgewood	Army Chemical Center, Md.
Pine Bluff	Pine Bluff, Arkansas
Rocky Mountain	Denver, Colorado

The decision of the President to lend military support to the Republic of Korea led immediately to the adoption of an emergency procurement program. On 8 July 1950 Mr. A. S. Alexander, Under Secretary of the Army, redelegated authority for procurement to support the Korean

mission (but not the MDAP). He directed that the chiefs of the technical services could approve contracts up to $5,000,000 and the chiefs of field procurement offices contracts up to $500,000. He also called attention to the possibility of procuring without advertising under Section 2(c)(2) of the Armed Services Procurement Act of 1947 and under paragraph 3-202 of the Armed Services Procurement Regulation.[20] On the following day, 9 July, the Under Secretary supplemented his directive to provide that it would be entirely permissable to write one contract covering MDAP supplies, aid to Korea supplies and regular army purchases, and that in such cases his 8 July directive would also apply.[21]

In conformity with the directive of the Under Secretary of the Army, the Chief Chemical Officer on 12 July 1950 redelegated to the commanding officer of the Chemical Corps Procurement Agency, Lieutenant Colonel William H. Greene, the authority to personally approve contracts up to $500,000. He also directed Colonel Greene to study the practicability of procuring without advertising.[22]

While Colonel Greene and his staff were studying the situation, the Chemical Corps was being faced with the problem of speedily providing items to equip the units bound for Korea. It soon became apparent to all concerned with supply and procurement administration in the Corps that the best solution to problems of procurement aid to

20/ Memo, Under Secy of the Army for AC/S G-4, 8 Jul 50, sub: Emergency Procurement in Aid of the United States Military Support of the Independence of Korea. In CMLPA.

21/ Memo, USA for AC/S G-4, 9 Jul 50, sub: Supplement to Memoranda on MDAP and Emergency Korean Procurement. In CMLPA.

22/ Proc ltr No. 104-51, ACCml C for Matl to CO Cml C Proc Agency, 12 Jul 50, sub: Emergency Procurement in Aid of US Military Support of Independence of the Republic of Korea and MDAP. In CMLPA.

Korea lay not in undue expansion of the Chemical Procurement Agency, but rather in modifying the mission of the procurement districts. Instead of having the districts concentrate principally on procurement planning, it appeared to be more valuable to have them supplement such planning by some actual procurement. This, however, was not a change that could be accomplished overnight, because procurement district personnel had to undergo a period of intensive training before undertaking their new assignments. In order to carry out procurement in the most expeditious manner, the districts were given responsibility for procuring the items for which they had planning responsibility. On 5 September 1950, all six procurement districts were officially authorized "to procure supplies and equipment as directed in procurement schedules to be issued."[23] Until 27 December 1950 the chiefs of the procurement districts were limited in the extent of their procurement authority to $500,000, but on that date it was raised to $1,000,000.[24]

The increase in procurement and supply activities is indicated by the following statistics. For the six month period from January through June 1950, the monthly average number of line items on requisitions received for processing by the Chemical Corps was as follows: end items, 1,340; and spare parts, 982. For the period July through October 1950 (after the start of the Korean action) the comparable figures were: end items 5,727; and spare parts, 6,432.[25] For the period January through June 1950 the monthly average number of tons shipped from the

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23/ Proc ltr No. 152-51, OC Cml C, 5 Sep 50

24/ Proc ltr No. 251-51, OC Cml C, 27 Dec 50.

25/ Rpt on Management, Ch. II, p. 4.

depots was 2,625; for the period July through October it was 13,661.[25] The total tons shipped during the fiscal year 1950 was 34,450 and it was valued at $1,205,000. For the fiscal year 1951, 69,250 tons worth $4,186,000 were shipped.[27]

The expansion of procurement and supply activities led to a reorganization in the Office of the Chief Chemical Officer in the fall of 1950. On 26 September 1950 an Assistant Chief Chemical Officer for Materiel was appointed, to assume his duties as of 1 October. This officer was made responsible for all functions pertaining to materiel requirements, procurement, inspection, maintenance, and distribution. The Supply, Industrial, and Inspection divisions were put under his command.[28] The chief of the Chemical Corps Procurement Agency was made responsible to the chief, Industrial Division. To this important post General McAuliffe named the most experienced officer in procurement activities in the Corps, Colonel (later Brigadier General) H. M. Black.

The appointment of the Assistant Chief Chemical Officer was reminiscent of World War II when there were two Assistant Chiefs, one for Materiel and one for Field Operations. The organization which Colonel Black was appointed to command generally resembled that of World War II,[29] the chief difference being that in World War II the research and development staff agency, the Technical Division, was also under the

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25/ Ibid.

27/ IOM, C Sup Div to ACCml C for Matl, 12 Oct 51, sub: Narrative Hist Rpt. In CMLNG.

28/ Adm O 19, OC Cml O, 26 Sep 50.

29/ Organ Chart OC CWS, 11 Dec 44.

Assistant Chief for Materiel. By 1950 a separate Research and Engineering Division responsible directly to the Chief Chemical Officer had been set up. In the fall of 1951 the Department of the Army directed that three commands be activated under the Chief Chemical Officer to supervise the following functions: materiel, research and engineering, and training.[30] There was also another difference in what might be called the administrative philosophy of World War II and 1950 set-up with regard to inspection. This was that during World War II the Inspection Division had suboffices in the installations over which they had direct jurisdiction. In the 1950 organization the chief, Inspection Division, did not have direct supervision over installation suboffices because General Black believed that was a function over which the commanding officer of the installation and not the chief of the Inspection Division, should have ultimate jurisdiction.[31]

The additional activities of the Corps brought on by the Korean conflict and the IMAP program led to a number of organizational changes within the lower echelons of General Black's office and to the quickening of a number of projects which had been planned or which had got under way following World War II. Among the organizational changes were the following: the activation of a unit in the Industrial Division to administer the Controlled Materials Plan,[32] and the activation of an Equipment and Facilities Branch in the Inspection Division.[33]

30/ DA GO 68, 12 Oct 51.

31/ Interv, Hist Off with Gen H. M. Black, 19 Feb 51.

32/ CMP was provided for in Defense Production Act of 1950, P.L. 774, 81st Cong., amended by P.L. 96, 82d Cong.

33/ Organ Chart, Insp Div OC Cml O, 1 Aug 50. In CMLWG.

Among the projects which got under way was the removal of the spare parts depot from the Army Chemical Center to the Memphis General Depot in July 1951, the establishment of inspection laboratories at various universities, and the preparation of standard inspection procedures and surveillance directives.

Plans, Training and Intelligence Functions [34]

The participation of U.S. forces in the fighting on the Korean peninsula naturally resulted in an expansion of the United States Army and one of its components, the Chemical Corps. At the beginning of this period the authorized strength of the active army was 643,000 men; by 8 September 1951 it had increased to 1,353,000. The percentage of expansion in the Chemical Corps was even greater. The increased activity in the Plans, Training and Intelligence (PTI) Division in the Office of Chief Chemical Officer, reflected the growth, as they prepared to meet the present as well as any potential emergencies.

Planning

On 20 September 1950 the ACofS, G-3, directed all technical and administrative services to prepare revisions of their sections of Army Mobilization Plan-II, Part II, Mobilization Troop Basis. This revision was to be based upon a revised phasing of combat divisions to the several theaters. It was to assume an active army strength of 1,261,000 men. The General Staff also requested revised personnel ceilings, under which new units could be activated. The Chemical Corps submitted their section of the revised troop basis to ACofS, G-3, in October 1950, and it was included in the published volume of the AMP II, Part II, dated 1 November 1950.

In June 1951 ACofS, G-3, informally requested the Chief, Chemical Corps, to revise the above-mentioned mobilization troop basis for the first six months of mobilization. They were to use as a basis the

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34 The information in this section is based upon DF, Chief, PT&I Div to Exec O, OC Cml O, 12 Oct 51, sub: Historical Record. In CMLWG.

active army establishment then in existence as well as a revised schedule for the phasing in of combat divisions. The Plans and Operations Branch, [redacted] Division, worked out this revision which was submitted to G-3 on 9 July 1951.

During the period covered by this report the Plans and Operations Branch prepared and revised the Chemical Annexes to Logistic Studies for Projected Operations (LD-SL's). These studies cover planned operation in all parts of the world and are based upon assumptions and overall data furnished by the General Staff. They require the preparation of the Chemical Corps element of the troop basis and the computation of Class IV requirements for the operation as a whole and for any special projects contained in the list of assumptions.35/

In addition to working on the special studies, the Plans and Operations Branch also revised the Chemical Annex to the Army Emergency Operation Plan (AEOP 1-50) for incorporation in AEOP 1-51 and prepared a Chemical Corps Annex to the JCS plan based on Headstone concept. The Branch also viewed other operational plans as directed by the General Staff.

The authorized strength of the army more than doubled during the period covered in this historical summary, while the number and strength of Chemical Corps T/O&E units showed an even sharper increase. On 1 April 1950 there was a total of twenty-four T/O&E units within the Corps with an aggregate authorized strength of 2,235. Seventeen months later

35/ Studies completed during the period were LD-SL-15, June 1951; LD-SL-5, July 1951; LD-SL-8, August 1951; LD-SL-12, August 1951. Moreover, the Chemical Corps Annexes of the following LD-SL's were revised in accordance with comments and directives from ACofS, G-4; LD-SL-6, January 1951; LD-SL-7, March 1951; LD-SL-9, March 1951; LD-SL-10, March 1951; LD-SL-14, April 1951.

the number of units had risen to seventy-six with an aggregate strength of 8,118.

In accordance with directives contained in the Army Mobilization Plan II, the Plans and Operations Branch prepared the Chemical Corps Plan II based on data submitted by the divisions and separate branches of the OC Cml O. This plan, published on 1 April 1951, was a revision of and superseded the previous Chemical Corps Mobilization Plan. The several field installations of the Corps are revising their own mobilization programs accordingly. The Branch provided the required technical assistance and has reviewed the plans which have been submitted. In conjunction with the field installations and other divisions of the OC Cml O, the Branch also revised the Tables of Distribution for all Chemical Corps field installations and, on 19 April 1951, submitted the revisions to the ACofS, G-3. Also revised were various T/O&Es and T/As for which this service has proponent responsibility.

The ACofS, G-3, as required by AlP-II, instructed the Chief Chemical Officer to determine the number of enlisted personnel who were to receive chemical training upon mobilization. This number was to include not only Chemical Corps personnel but also those from other services. This work was completed during November 1950.

Training

The most significant development in Chemical Corps training during the period 25 June 1950 to 8 September 1951 was the establishment of the Army Chemical Training Center at Fort McClellan, Alabama.[36] This action, which took place on 9 April 1951, culminated a prolonged

[36] DA GO 17, 2 Apr 1951.

effort on the part of the Chemical Corps to change the location of its major training activities from the Army Chemical Center, Maryland, where the bulk of the postwar chemical training had been accomplished, to a more suitable training installation.

As a Class II activity under the command of the Chief Chemical Officer, the Army Chemical Training Center (ACTC) performs all staff and command functions for Chemical Corps activities at Fort McClellan except those falling to the Class I commander, the Commanding General, Third Army. The main function of the ACTC Headquarters is the administrative control of all chemical training conducted at Fort McClellan -- that is, the management and supervision of the Replacement Training Center, of the Chemical Corps School, and of the training of any chemical T/O&E units assigned to the installation. It is contemplated that the Army Chemical Training Center will be designated later as the Chemical Corps Training Command, with functions expanded to include those of training operations. In this event the Training Branch of the Plans, Training and Intelligence Division would be left with a purely staff role. It is also contemplated that the authority and responsibility of this Chemical Corps Training Command will be extended to cover all training conducted within other Class II installations of the Chemical Corps. 37/

Another significant expansion in Chemical Corps training was the activation of a Chemical Replacement Training Center (CRTC at the Army

37/ This action was recently authorized by DA GO 88, 12 Oct 51.

Chemical Center.38/ The Korean situation, with its attendant expansion of the army troop basis and increased requirements for fillers and replacements for chemical units, made the activation of a Chemical Replacement Training Center necessary. Previously the training of replacements, on a much smaller scope, had been done either in T/O&E units or at the Chemical Corps School. A Chemical Corps Table of Distribution authorized the Chemical Replacement Training Center a strength of thirty-eight officers, two warrant officers, and 105 enlisted men.

The CRTC began operation at the Army Chemical Center, Maryland, in September 1950, with a planned maximum training load of 440. Initially, all trainees arriving at the CRTC had already received basic individual (recruit) training, thereby limiting the work at the Chemical RTC to advanced individual (Chemical Corps technical) training. Beginning in February 1951 the CRTC began to receive trainees directly from reception centers. This expanded the training period at CRTC from eight to fourteen weeks and increased the number receiving instruction to 660. On 2 July 1951 the training program was extended from fourteen to sixteen weeks which further increased the number of trainees to 880. Current plans contemplate the continuance of this number of trainees as well as the inauguration of a leadership course involving approximately fifty students. With the establishment of the ACTC the Chemical Replacement Training Center was moved in April 1951, from the Army Chemical Center, Maryland to Fort McClellan.

38/ DA GO 28, Sec VII, 24 Aug 50; GO 36, ACC, Md., 5 Sep 50.

During this period the Chemical Corps School changed its organization in order that its peacetime structure would be basically the same as its planned organization for mobilization. Prior to this reorganization the school contained three major divisions, namely, Administrative, Resident Instruction, and Publications and Extension Course. Under the new setup, and as planned for under mobilization, there are but two major divisions in the school. They are the Academic and the Administrative Divisions. The current organization of the Chemical Corps School will facilitate the transition from peacetime to mobilization conditions. 39/

A number of internal changes were made concurrently with the over-all change in the organizational structure of the Chemical Corps School. Two of these were of considerable importance.

Under AMP II the Chemical Corps School was made responsible for the development and promulgation of the official Chemical Corps doctrine. Consequently, a Doctrine Board, directly under the Commandant of the School, has been established at the school and integrated into its peacetime organization. Thus, under mobilization conditions, doctrinal responsibilities can more readily be assumed by the Chemical Corps School.

A Research and Analysis Section, under the Chief of the Academic Division, has also been created. This section will be responsible for conduct of independent research on doctrinal and pedagogical subjects and for the promulgation of published research as guidance for all

39/ DA Message 32473, 6 Apr 51; Ltr, OC Cml O, 10 Apr 51.

personnel of the school and other interested Department of the Army agencies.

During July and August 1951 the Chemical Corps School moved from the Army Chemical Center, Maryland, where it had been located since September 1920, to the newly established Army Chemical Training Center, Fort McClellan, Alabama.[40] Pending the completion of new permanent construction designed especially for the Chemical Corps School at Fort McClellan, the school is occupying temporary facilities. The FY 1952 military construction budget currently before Congress contains projects for the school and related activities involving a sum in excess of $8,000,000. Additional funds will be required in subsequent fiscal years to complete the plant and housing facilities.

During FY 1950, the year immediately preceding the period covered by this study, there was a total enrollment of 1,283 officers and 159 enlisted men at the Chemical Corps School.[41] The FY 1951 program called for a student enrollment of 2,278 (the actual enrollment was 2,406). During that year there were 2,159 graduates. The anticipated school enrollment for FY 1952 is 4,207 students.[42] The expected increase in the student enrollment at the Chemical Corps School meant that an increase in the resident personnel of the school would be almost necessary. Consequently the Assistant Chief of Staff, G-1, approved, in 1951, the authorization for an additional twenty-four

40/ DA Message 32959, 17 Jul 51; Ltr, OC Cml O, CMLWL-M-22, 18 Jul 51, sub: Movement of Chemical Corps School including Attached and Assigned Units, as amended by ltr CMLWL-M-22, same subject, 19 Jul 51.

41/ DA Tny Prog. FY 1950-FY 1951.

42/ Army Progress Rpt, Sec. G-A - Training, Aug 51.

officers and thirty-seven enlisted men in the school's permanent personnel.[43]

There was also, during this period, an expansion in the various chemical reserve activities. Effective 1 April 1951 five additional Chemical ROTC units were established. Scheduled to begin operation in the academic year 1951-1952,[44] these were located at Canisius College, New York; Saint Peter's College, New Jersey; Vanderbilt University, Tennessee; Wake Forest College, North Carolina, and at Idaho State College. With the addition of this group, the number of Chemical Corps ROTC units reached a total of eleven and are expected to produce 544 second lieutenants annually, beginning with the academic year 1954-55.

Fourteen chemical departments were established in the various organized reserve school centers throughout the country. These departments established and conducted programs in career instruction, at both the basic and advanced level, for Chemical Corps reserve officers. Eight additional chemical departments are scheduled for activation by 30 October 1951.[45] To support the instruction conducted in these chemical departments of the CRC Schools, the Chemical Corps School developed and disseminated subject schedules based upon the resident instruction in the basic and advanced courses at the school itself. Five additional officer spaces were allocated temporarily to the Chemical Corps [illegible]

43/ DF, ACofS, G-1, 200.3 Chem (22 Jan 51), sub: Increased Military Personnel Authorization for Chemical Corps School, to C Cml O, thru G-4; offered and transmitted by Comment No. 2, ACofS, G-4, G-4/9673, 19 Feb 51.

44/ DA GO 3, par. 5, 5 Feb 51.

45/ Ltr OCAFF, ATTNG-18 461, 19 Jan 51, sub: Instructional Material for ORC Schools; Ltr OCAFF, ATTNG-18 461, 25 Jun 51, sub: Instructional Material for ORC Schools; Ltr OCAFF, ATTNG-18 353 (ORC Sch), sub: ORC Schools - Enrollment, Attendance, and Shipping Instructions.

for the completion of these ORC subject schedules.

Chemical service type units and Chemical Corps reserve officers holding mobilization designations with OC Cml O and Chemical Corps Class II installations were given greater opportunities for summer training and active duty tours.

During the period covered by this report there was, throughout the army, an increased emphasis on chemical, biological, and radiological warfare. A particular effort was made to provide a maximum integration of these three fields into a single indentifiable phase of warfare. To accomplish this, the term CBR was adopted as the official Army abbreviation for these types of warfare when used in a collective sense.[46]

The establishment of schools and courses in CBR was an important manifestation of the increased emphasis on the integration of these three forms of warfare. The commanders of theaters and of continental armies were directed to set up CBR schools for the instruction of appropriate personnel appointed to serve as unit chemical defense officers (now unit CBR officers) and noncommissioned officers (now unit CBR noncommissioned officers).[47] These schools have been established in all overseas commands with the exception of Austria and Trieste. It is contemplated that courses in these two areas will begin on or about 1 October 1951. In EUCOM a total of 198 officers and 404 enlisted personnel have attended CBR schools, and it is estimated that approximately 50 percent of the EUCOM training objective has been met.

46/ Ltr, TAG AGAO-S 312.4 (6 Jul 51) G-4-M, 10 Sep 51, sub: Military Terms and Abbreviations and Symbols.

47/ Ltr, TAG AGAO-S-[illegible]-3 (2 Jan 51) G-3-M, 25 Jan 51, sub: Integration of Chemical, Biological and Radiological Defense Training.

A CBR school known as the Far East Chemical School has been established at Gifu, Japan for the training of unit CBR officers and noncommisioned officers. A correspondence course in CBR, equivalent to sixty hours of resident instruction, was prescribed for all Chemical Corps officers in FECOM. In the United States CBR schools are established, or are in the process of establishment, in all of the army areas.

All the training programs for Chemical Corps units contain CBR training in addition to that prescribed in ATP 21-114 (ten hours of instruction) for the individual soldier. CBR instruction was included in courses at the Chemical Corps School designed for Chemical Corps personnel, Army personnel other than the Chemical Corps and for personnel of other services. To bring more experienced officers up-to-date on recent developments, The Adjutant General submitted a requirement for a high level chemical-biological warfare course to the Army Field Forces on 3 July 1951. The Chief Chemical Officer emphasized to the ACofS, G-3, the need for an orientation course of this type.

During the period from June 1950 to September 1951 the Chemical Corps developed Department of the Army literature to provide indoctrination of all military personnel in the field of atomic energy (DA Pamphlet 20-110) and in the basic aspects of biological warfare defense (TC No. 12, Nov. 50). Much of the Chemical Warfare literature, developed during World War II, was rewritten and brought up to date and then published and distributed. Additional literature, presently under preparation, will contain material on biological and radiological warfare. The Chemical Corps School was authorized twelve additional military writers to meet the FY 1951 accelerated training literature program.

Intelligence

Responsibility for all of the intelligence functions of the Chemical Corps fell to the Intelligence Branch, PT&I Division. In general, this branch was charged with the production and maintenance of CBR intelligence; the recommendation of policies for the dissemination of technical information; the review, evaluation and preparation of scientific and technical information pertinent to the Chemical Corps. These functions, of course, represent an implementation of the over-all G-2 mission. The branch is also responsible for counterintelligence and security measures.

The activities of the Intelligence Branch were greatly increased with the advent of the conflict in Korea. The branch received a vast amount of military and technical intelligence from the Far East. Consequently it was confronted with the job of reorganizing in order to meet this influx and of acquiring the qualified personnel to fill new positions. At the present time these problems are not entirely solved, and temporary expedients have been adopted to meet the emergency.

There was also a rapid rise in the amount of counterintelligence work because of the increase in the number of new employees hired by the Corps as well as because of the number of reserve officers called back to active duty. Personnel in both of these categories required security clearance. Greater production of military equipment resulted in many more industrial facility clearances. The NATO program also contributed to an expansion in the work of the section for there were more requests for foreign visitor clearances as well as a greater demand from foreign governments for Chemical Corps publications.

The period between June 1950 and September 1952 saw great expansions take place within the Plans, Training and Intelligence Division. Some of this, of course, was because of the Korean situation. Much of it, however, was the result of the general preparedness program which looked beyond Korea to potential difficulties of greater magnitude.