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RESEARCH AND DEVELOPMENT DIVISION

OFFICE OF THE CHIEF CHEMICAL OFFICER

WASHINGTON 25, D. C.

HISTORICAL REPORT

15 OCTOBER 1951
TO
31 DECEMBER 1951

[redacted] INFORMATION

HISTORICAL REPORT

RESEARCH AND DEVELOPMENT DIVISION
OFFICE OF THE CHIEF CHEMICAL OFFICER

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HISTORICAL REPORT

RESEARCH AND DEVELOPMENT DIVISION
OFFICE OF THE CHIEF CHEMICAL OFFICER

LIST OF EXHIBITS

EXHIBIT A - Administrative Order 33, Office of the Chief Chemical Officer

EXHIBIT B - Administrative Order 34, Office of the Chief Chemical Officer

EXHIBIT C - Organizational Chart, Research and Development Division Office of the Chief Chemical Officer

EXHIBIT D - Functional Chart, Research and Development Division, Office of the Chief Chemical Officer

EXHIBIT E - Status of FY 1952 Funds as of 31 December 1951, Research and Development Division, Office of the Chief Chemical Officer

EXHIBIT F - Expenditures by Type Objective, Research and Development Division, Office of the Chief Chemical Officer

EXHIBIT G - Personnel Roster, Research and Development Division, Office of the Chief Chemical Officer

EXHIBIT H - Mobilization Plans, Research and Development Division, Office of the Chief Chemical Officer

PART I

ADMINISTRATION

A. Changes in Mission and Responsibilities.

1. The Research and Development Division, Office of the Chief Chemical Officer, was established 15 October 1951 by Administrative Order 33, Office of the Chief Chemical Officer, dated 31 October 1951. (Exhibit A)

2. The Research and Development Division is responsible to the Chief Chemical Officer for staff direction and guidance of policy and planning for functions pertaining to the Chemical Corps Research and Development program; ascertaining and advising as to the status of the program; insuring compliance with approved policy and program guidance.

3. Administrative Order 34, Office of the Chief Chemical Officer, dated 1 November 1951 established, effective 15 October 1951, three Chemical Corps field commands including the Chemical Corps Research and Engineering Command located at Army Chemical Center, Maryland. Paragraph 16 c1 of Administrative Order 34 abolished the Research and Engineering Division and assigned the functions and personnel of the Research and Engineering Division to Headquarters Chemical Corps Research and Engineering Command except for certain elements and functions which were transferred to the newly established Research and Development Division, Office of the Chief Chemical Officer, Washington 25, D. C. (Exhibit B) In effect, the Research and Engineering Division located at the Army Chemical Center became the Headquarters Research and Engineering Command and the Liaison Office, Research and Engineering Division, became the Research and Development Division, Office of the Chief Chemical Officer. This action, therefore, separated the former Liaison Office from the Research and Engineering Division and made it a separate and distinct staff division of the Office of the Chief Chemical Officer.

B. Acquisition and/or Disposal of Physical Facilities.

The Research and Development Division when established occupied rooms 2745, 2743, 2739, and 2737 in Building T-7, Gravelly Point. On 13 December 1951 room 2735 was assigned to the Research and Development Division.

C. Major Organizational Revision.

1. The organizational chart for the Research and Development Division, Office of the Chief Chemical Officer, is attached. (Exhibit C).

2. The functional chart of the Research and Development Division, Office of the Chief Chemical Officer, is attached. (Exhibit D).

D. Significant Development of Administrative Procedures.

1. Administrative procedures were established whereby information on the following items are summarized and kept current for use by the Chief, Research and Development Division, in carrying out his responsibilities:

a. Policy Book: The policy book is being prepared to present a brief summary, with appropriate references, of the policies of the Chemical Corps and higher authority pertaining to the research and development program in chemical, biological, and radiological warfare.

b. Summary of Major Actions: A summary of major subjects requiring planning and staff supervision by this office is maintained in order that the Chief, Research and Development Division, may be kept informed as to the progress and status of each.

c. Progress Reports: A procedure was established for the review, comment, and recommendation of the progress reports of the research and development projects furnished the Office of the Chief Chemical Officer by the Chemical Corps Research and Engineering Command. This action is designed to determine significant progress or lack of progress attained during the period reported and to recommend appropriate staff action when necessary.

d. Security Procedure: A procedure was placed in effect emphasizing the importance of proper handling and security of classified material and outlining a procedure to be followed by all personnel of the Research and Development Division to maintain adequate security.

PART II

FISCAL

A. Funds Allotted.

1. Funds for research and development available to the Chemical Corps for the first half of FY 1952 are tabulated below:

Source	Total Funds Available	Total Cumulative Obligations	Unobligated Balance vs Funds Available
Army Cml C	$36,503,605	$14,459,898	$22,043,707
Air Force	3,270,000	252,526	3,017,474
Navy	75,000	---	75,000
Total	39,848,605	14,712,424	25,136,181

A breakdown of these funds is summarized in Exhibit E attached.

2. Funds for payment of personnel of the Research and Development Division are part of the total funds for the operation of the Office of the Chief Chemical Officer. (See Historical Report of the Comptroller's Office, Office of the Chief Chemical Officer, for this fiscal information.)

B. Tabulation of the Expenditures by Type Operation.

1. Tabulation of expenditures by type operation is summarized in Exhibit F attached.

2. Funds for payment of personnel of the Research and Development Division are part of the total funds for the operation of the Office of the Chief Chemical Officer. (See Historical Report of Comptroller's Office, Office of the Chief Chemical Officer, for this fiscal information.)

PART III

PERSONNEL

A. Changes in Key Personnel.

The assignment and transfer of the key personnel in the Research and Development Division are as indicated below:

Effective Date of Change in Status	Name and Status	Authority
1 November 1951	Col. William J. Allen, Jr., assigned Chief, R&D Division	Par 3, SO 198 OCCml0, 1 Nov 51
1 November 1951	Lt. Col. H. P. McCormick, assigned Chief, Dev Branch R&D Division	Par 4, SO 198 OCCml0, 1 Nov 51
1 November 1951	Lt. Col. N. Birnbaum, assigned Deputy Chief, R&D Division	Par 5, SO 198 OCCml0, 1 Nov 51
1 November 1951	Lt. Col. J. G. Appel, assigned Executive Officer, R&D Division	Par 6, SO 198 OCCml0, 1 Nov 51
1 November 1951	Dr. H. I. Stubblefield, assigned Chief, Research Branch, R&D Div	
1 November 1951	Mr. M. F. Peake, assigned Chief, P&E Branch, R&D Division	
1 November 1951	Mr. Isaac Beall, assigned Chief, Engineering Branch, R&D Division	
26 December 1951	Lt. Col. Floyd B. Mitman, Jr., assigned Development Branch R & D Division	Par 2, SO 4 OCCml0, 5 Jan 52

B. Personnel Strength.

The Research and Development Division is authorized five (5) officers and twenty-four (24) civilians. As of 31 December 1951, there were five (5) officers and thirteen (13) civilians on duty. A roster of the personnel indicating name and duty is attached. (Exhibit G)

PART IV

PLANS

A. Plans for Peace-Time Establishment.

The current organizational and functional charts (Exhibits C and D) outline the peace-time organization of the Research and Development Division. The peace-time requirements for personnel are estimated to be five (5) officers and twenty-four (24) civilians in order that the Division may perform its assigned mission.

B. Mobilization Plans.

1. Purpose: To provide a plan to give adequate staff supervision of the Chemical Corps research and development program in the event of mobilization.

2. Assumption: That in the event of mobilization the research and development program of the Chemical Corps will be expanded based on the following policies:

a. Existing policies, directives, and regulations, except as modified in this plan, will remain in effect.

b. All portions of this plan are subject to such modifications as are necessary to conform to actions and decisions of the Research and Development Board and the Department of the Army.

c. Research and development activities will conform to guidance from the Munitions Board in the utilization of critical materials and the allocation of industrial facilities.

d. Research and development activities will be decentralized to the maximum extent possible, consistent with the maintenance of supervision and control.

e. In general, upon mobilization, applied research and development will be stressed, and added emphasis will be placed on those end items of materiel which are of immediate promise, and can be rapidly placed in the production line for use by the operating forces; later, emphasis will be given to those projects dictated by the exigencies of operations in which the Army becomes involved.

f. Greatly increased emphasis will be placed on continuous, positive, and intimate liaison with other Department of the Army research and development agencies.

g. To the maximum extent possible basic research and basic applied research will be undertaken by outside research organizations by contract.

3. Organization: The current organizational and functional charts (Exhibits C and D) of the Research and Development Division will continue to be the basis for organization in the event of mobilization.

4. Personnel: Current mobilization plans for the Research and Development Division require ten (10) officers and thirty-seven (37) civilians. These requirements are summarized in Exhibit H attached.

C. Current Planning.

Generally speaking, the current plans for research and development which are in effect and based on the existing policies, policy directives, programs, and guidance furnished by higher authority and the Chief Chemical Officer will be continued. The Research and Development Division will exercise staff supervision over these existing plans to assure compliance. Current plans will be reviewed and necessary action taken to modify or obtain authority for modification as appropriate. Otherwise, current plans and policies are to continue. A procedure has been established whereby the need for advance planning is determined and a program of action established to implement and supervise this planning to assure the Chemical Corps of timely completion of various phases of the research and development program in accordance with directives, plans, and target dates established by the Chemical Corps and high authority.

PART V

OPERATIONS

A summary of the major staff actions of the Research and Development Division is indicated below:

19 October 1951 — The research and development technical service chief's luncheon was held. Major General Maris, Research and Development, G-4, conducted the discussion. Lt. Col. Birnbaum attend for the Chemical Corps. During the luncheon conference, General Maris discussed the desirability of increasing publicity for Army research and development activities and announced that G-3 would, in the future, take a major part in the determination of military characteristics and requirements. The need for each of the technical services to give sufficient attention to the elimination of critical and strategic materiels, lowering costs, and anticipating production problems during development was emphasized.

26 October 1951 — General Loucks sent a letter to Colonel W. L. Wilson, Federal Civil Defense Administration, stating that there was no unnecessary overlapping and duplication between the activities of the Chemical Corps and those of the FCDA. He pointed out that in addition to the Chemical Corps laboratories, the Department of Agriculture and the United States Public Health Service were conducting work for the Corps and that the research and development program in biological warfare defense conducted by the Chemical Corps has not been designed to fulfill the broader requirements of civil defense.

13 November 1951 — Letter signed by General Bullene to Chemical Corps Research and Engineering Command on critical materiels and objectivity in research and development was prepared desiring that the widest possible dissemination be made and steps be taken to insure that the proposed use of critical and strategic materiels in end items be reduced to an absolute minimum and that new items be given prompt objective and impartial evaluation.

15 November 1951 — Letter sent to Chemical Corps Research and Engineering Command directing that necessary housing and messing support be furnished to approximately eight (8) Corps of Engineer personnel who are to work at Dugway Proving Ground on explosive tests during May 1952.

16 November 1951 — Colonel Allen attended a conference at Headquarters Army Field Forces on Army Field Forces requirements for GB filled munitions.

20 November 1951 — G-4 was requested to designate Colonel W. J. Allen as an associate member on the Committees on Chemical and Biological Warfare, Research and Development Board.

21 November 1951 — Letter was sent to Chemical Corps Research and Engineering Command forwarding letter from Bureau of Ships inviting the Chemical Corps to participate in AW, BW, and CW Sea Decontamination Tests and directed that the Chemical Corps Research and Engineering Command participate in the tests.

28 November 1951 — General Bullene expressed an interest in investigating methods for "breaking" foreign gas mask canisters. At his direction the problem was discussed with Doctor Rueggeberg who suggested numerous lines of attack. Chemical Corps Research and Engineering Command was requested to furnish comments on the suggestions.

29 November 1951 — Information was furnished the United States Air Force on the CW and BW testing program of the Chemical Corps including a description of the test facilities of the Chemical Corps both currently in operation and proposed. It was stated that it was believed that the existing and planned test facilities of the Chemical Corps were adequate to meet stated Air Force test requirements. It further requested Air Force support in those portions of the test program where they could contribute additional lands and test aircraft.

29 November 1951 — Lt. Col. Birnbaum attended the underground atomic weapons test at the Atomic Weapons Proving Ground in Nevada with General Bullene, General Creasy, Colonel Hale, Lt. Col. Steidtmann, and Lt. Col. York. The test was accomplished on schedule and preliminary data indicated it to be successful. It was noted that Chemical Corps personnel engaged in the experimental program had done an excellent job. The discussion was held with General Bullene and General Creasy concerning increased participation in future tests by the Chemical Corps.

30 November 1951 — Recommendations of the Chemical Corps Advisory Council (7 - 8 September 1951) were approved for implementation with the following reservations and comments:

a. That the recommendation concerning cold weather agents correctly expressed the concern of the Chief Chemical Officer.

b. That the proposed Crash Program in the BW field applied specifically to the development of the data necessary for design of plants and did not embrace the munition field. The recommendation was deferred pending receipt of an Advisory Council estimate as to the cost and availability of funds for the recommended Crash Program.

c. Approval of a recommendation concerning the simplification of the M9 kit was withheld as it was felt that a kit containing tubes to detect G Agents and mustard together with their reagents and pump would not represent an order of magnitude simplification and further that the Army Field Forces requirements for detection for several war gases including known or suspected agents was over-riding.

d. That the recommendation "the Chemical Corps be given primary responsibility for the development of rockets for the dissemination of toxic agents" be deferred since approval by high authority was to be required and it was doubtful that such approval could be obtained at this time.

30 November 1951 — Chemical Corps Research and Engineering Command was informed that a detection kit was required to detect vesicants, G agents, CK, CG, arsine, AC, and known or suspected enemy agents which differ from U. S. agents and that a simplified kit for agents GB and H is not required.

4 December 1951 — The Chief Chemical Officer stated that he desired to continue the current policy of personally approving the distribution list of the TOP SECRET reports published by the SO Division of the Chemical Corps Biological Laboratory.

4 December 1951 — 5-4 was requested to take action to have the Ordnance Corps furnish the Chemical Corps without reimbursement 5,000 T164 4.5 inch rockets (GB) and 5,000 T165 4.5 inch rockets (HD) for use in a combined user-operational evaluation test at Dugway Proving Ground during the summer of 1952.

7 December 1951 — A letter to A. E. Childs, DCDRD, Ministry of Supply, UK, by General Bullene informed Mr. Childs that Mr. E. K. G. James was returning to England on or about 10 December 1951, expressed an appreciation by the Chemical Corps for the assistance obtained by the Corps, and requested that Mr. Childs attempt to arrange for immediate assignment of a replacement for Mr. James.

7 December 1951 — Request for allocation from emergency funds for research and development totalling $3,000,000 was submitted to G-4 for the following:

Priority and Title	Funds Requested
1 GB Pilot Plant	$1,000,000
2 Field Alarm for G Agents	400,000
3 Equipment and methods for collective protection	500,000
4 Horizontal Sampling Grid, DPG	500,000
5 Elevated Platform and Sampling Grid, DPG	100,000
6 Process for Drying BW Agents	200,000
7 Organic Synthetic Research	300,000

10 December 1951 — Chemical Corps Research and Engineering Command was requested to consider a project a conduct preliminary field tests of Botulinus Toxin and to forward their recommendations to this office.

11 December 1951 — The United States Air Force requested Chemical Corps to place highest priority on GB bombs, aerosol generators, and spray tanks and to continue work on ½-lb. BW bomb. The Chemical Corps informed the United States Air Force that 5.45 million dollars were required, in addition to current Air Force funds, to complete the desired development and fund for the test items. The Chemical Corps recommend that work continue on the E82 GB Bomb to the drawing and specification stage. Chemical Corps restated its need for information on G factors, fuzing, and lugs and stated that funds were required by 1 March 1952 and adequate aircraft support for tests by 1 April 1952.

13 December 1951 — General Bullene wrote Dr. Johnstone, Chairman, Chemical Corps Advisory Council, requesting him to consider the desirability of having the Council meet twice each year. One meeting is proposed for February to assist in formulating the project program prepared in June and a September meeting devoted to a review of progress made during the preceeding fiscal year.

17 December 1951 — Requirement for 5,000 4.5 Inch T164 rockets (GB) and 5,000 4.5 Inch T165 rockets (HD) at an estimated cost of $1,120,000 was sent to Materiel Division for necessary action. These rockets are to be used in tests at Dugway Proving Ground in the fall of 1952. PT&I was contacted concerning the activation, equipment, and training of a rocket battalion to conduct the tests.

17 December 1951 — The Army Equipment Development Guide was reviewed by this office and comments were made as to necessary changes and additions desired for inclusion in future editions of this document.

18 December 1951 — Talks on BW and CW were given to a group of Federal Civil Defense Administration consultants (Project East River). This information was presented to the consultants in order that they could evaluate and recommend optimum combinations of non-military measures which will assist the FCDA in their preparation to minimize the effects of ABC attacks.

18 December 1951 — Chemical Corps Research and Engineering Command was directed to prepare portions of the Primary Program 7, "Research and Development", and Primary Program 10, "Supply", for FY 1953 and FY 1954 which are elements of the Department of the Army Primary Program.

19 December 1951 — Chemical Corps Research and Engineering Command was directed to schedule the tests required by the Operations Research Group. This action was based on a letter from Dr. W. A. Noyes, Jr. which inclosed the Operations Research Group field test program for GB munitions.

19 December 1951 — Chemical Corps Research and Engineering Command was requested to investigate the feasibility of dissemination of GB by means of a pulse jet smoke generator.

19 December 1951 — Chemical Corps Research and Engineering Command was notified that approval had been obtained and official notification was being forwarded by the Canadian Government for conducting the proposed toxic CW trials at Fort Churchill in 1952.

20 December 1951 — Chemical Corps received the Research and Development Board Consolidated Guidance Report dated 1 December 1951 which was approved at the 45th Meeting of the Research and Development Board dated 19 December 1951. Copies were furnished Chemical Corps Research and Engineering Command for information and guidance.

21 December 1951 — A conference was held with General Bullene, General Loucks, Colonel Hayes, and Colonel Allen to discuss the adjustment of Chemical Corps graded personnel requirements. It was determined that research and development had a requirement for 257 spaces but that even if these spaces were retained there was not sufficient 01 money to pay for them. These spaces were broken down as follows:

Camp Detrick	113
Chemical Radiological Laboratory	105
Dugway Proving Ground	28
Medical Laboratories	11

It was determined that research and development would contract the guards at Dugway Proving Grounds (83) and Camp Detrick (98). The total cut for research and development was, therefore, 438 of which 257 are unfilled spaces for which there is no 01 money and 181 are guards which are to be contracted.

26 December 1951 — Col. Appel was designated as Security Officer, Research and Development Division, Office of the Chief Chemical Officer, vice Dr. H. I. Stubblefield.

26 December 1951 — Comptroller's Office, Office of the Chief Chemical Officer, initiated action for reprogramming $2,814,496 for the emergency rehabilitating Fort Terry.

27 December 1951 — Branch chiefs' of Research and Development Division were directed to give attention to future matters in order that appropriate plans and actions could be initiated at the proper time to assure the timely, efficient completion of research and development problems. The branch chiefs were directed to submit a list of items of advance planning falling under their responsibility.

29 December 1951 — Materiel Division issued project order OC 168-52 for the procurement of 10,000 4.5 Inch rockets (GB and H filled) for use in test at Dugway Proving Ground in the fall of 1952 at an estimated cost of $1,120,000.

EXHIBIT D

FUNCTIONAL CHART

OFFICE OF THE CHIEF CHEMICAL OFFICER

RESEARCH AND DEVELOPMENT DIVISION

CHIEF AND EXECUTIVE OFFICE

Staff advisors to Chief Chemical Officer on matters pertaining to research and development, specifically: aid and advise the Chief Chemical Officer in preparation of Chemical Corps research and development policies and program guidance; ascertain and advise as to status of the research and development program and assure its compliance with approved policies and guidance; accomplish staff coordination of research and development matters and assist the Commanding General, Research and Engineering Command, in carrying out his assigned mission.

ADMINISTRATIVE BRANCH

The Administrative Officer, acting as the Chief of the Branch, is responsible for operating the message center, maintaining classified and unclassified correspondence and files; supervises mail control desk; controls personnel, supply, and security activities within the division; maintains all records pertaining to personnel in the division.

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RESEARCH BRANCH

The Chief, Research Branch, is responsible for the review, evaluation, and coordination of guidance, policies, and directives pertaining to research received from higher authority and for the preparation of policies and guidance for the research portion of the Chemical Corps Research and Development Program. Provides Chemical Corps representation on staff conferences pertaining to research. Advises Chief, Research and Development Division, as to status of research projects in Chemical Corps program, and of related research projects in programs of other agencies. Maintains necessary coordination with appropriate military, non-military, Federal, and private agencies.

ENGINEERING BRANCH

The Chief, Engineering Branch, is responsible for the review, evaluation, and coordination of guidance, policies, and directives pertaining to engineering, and for the preparation of policies and guidance for the engineering portion of the Chemical Corps Research and Development Program. Provides Chemical Corps representation at staff conferences pertaining to engineering. Advises Chief, Research and Development Division as to the status of engineering projects in the Chemical Corps program, and of related engineering projects in programs of other agencies. Maintains necessary coordination with appropriate military, non-military, Federal and private agencies.

DEVELOPMENT BRANCH

The Chief, Development Branch, is responsible for the review, evaluation, and coordination of guidance, policies, and directives pertaining to the development of Chemical Corps items and for the preparation of policies and guidance for the development portion of the Chemical Corps Research and Development Program; provides Chemical Corps representation at staff conferences pertaining to development, including conferences called by the Chief Chemical Officer, conferences of the other Divisions and Branches of the Office, Chief Chemical Officer, higher authority in the Army, Department of the Air Force and Navy, and Department of Defense, including the Research and Development Board; advises the Chief, Research and Development Division, as to the status of all research projects involving the development of end items and of related development projects in programs of other military agencies; maintains necessary liaison and coordination with appropriate military, non-military, Federal and private agencies; maintains complete, up-to-date data on all field tests of Chemical Corps items, and recommends changes in such testing programs, in accordance with guidance received from higher authority.

OFFICE OF THE CHIEF CHEMICAL OFFICER
RESEARCH AND DEVELOPMENT DIVISION

CHIEF AND EXECUTIVE OFFICE

Staff advisors to Chief Chemical Officer on matters pertaining to research and development, specifically: aid and advise the Chief Chemical Officer in preparation of Chemical Corps research and development policies and program guidance; ascertain and advise as to status of the research and development program and assure its compliance with approved policies and guidance; accomplish staff coordination of research and development matters and assist the Commanding General, Research and Engineering Command, in carrying out his assigned mission.

PLANS AND EVALUATION BRANCH

The Chief, Plans and Evaluation Branch, is responsible for review and coordination and evaluation of guidance, directives, plans, policies and controls pertaining to the research and development program, received from higher authority; and for preparation of appropriate policy directives and program guidance; for review of Chemical Corps plans, programs, procedures, facilities and budget estimates, funding programs and controls and for recommending appropriate actions. Prepares defense and assists in directing the defense of research and development portions of Chemical Corps budgets. Prepares briefings and presentations pertaining to research and development. Maintains liaison and effects staff coordination with Research and Development Board, Chemical Corps Board, and other Arms and Services on plans and policies. Provides membership for Chemical Corps on Panel on Programs, Chemical Warfare Committee, Research and Development Board. Advises Chief, Research and Development Division, as to status of research and development contracts.

RESEARCH BRANCH

The Chief, Research Branch, is responsible for the review, evaluation, and coordination of guidance, policies, and directives pertaining to research received from higher authority and for the preparation of policies and guidance for the research portion of the Chemical Corps Research and Development Program. Provides Chemical Corps representation on staff conferences pertaining to research. Advises Chief, Research and Development Division, as to status of research projects in Chemical Corps program, and of related research projects in programs of other agencies. Maintains necessary coordination with appropriate military, non-military, Federal, and private agencies.

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