Management Course which was an accomplishment of the fiscal year.[253]

(U) The principal management innovation during fiscal year 1956 was the establishment of the Chemical Corps Industry Advisory Council. The purpose of the council is to provide a group of outstanding industrial leaders who can advise the Corps on problems of organization, management, process engineering, purchasing, industrial mobilization planning, inspection, and other matters in the materiel field. Forty members, representing chemical, bacteriological, radiological, and allied scientific fields in actual industrial practice were chosen. General Stubbs was designated as chairman of the council and Mr. Leo F. Walsh, Industrial Advisor, OCCmlO, was appointed Executive Director and Vice Chairman. A committee of the council first met with Chemical Corps representatives on 21 June 1956 to consider the problem of disposal of by-product hydrochloric acid. The recommendations of this committee were accepted by the Chief Chemical Officer and were put into effect by Materiel Command and Engineering Command. It was believed that the council would be able to contribute significantly to Chemical Corps efficiency in coming years.[254]

Procurement and Production

(U) Fiscal year 1956 total procurement and production funds made available to the Chemical Corps amounted to $25,543,000 of which slightly more than $18

253
See above, p. 30.

254
(1) Quart Hist Rpt, 4th Quart, FY 56, Logistics Planning Div, OCCmlO. (2) Stubbs interv, 31 Aug 56. (3) Interv, Hist Off with Mr Leo F. Walsh, Logistics Planning Div, OCCmlO, 16 Aug 56. (4) Interv, Hist Off with Col C. J. Merrill, Cml C MATCOM, 22 Oct 56.

million was allotted by the Department of the Army, and approximately $7.5 million was allotted by other agencies. The obligation rate was 95 percent of the programmed and scheduled amounts. The total amount available was nearly $16 million less than in fiscal year 1955, a new indicator of the downward trend in procurement. Total funds available for expenditure amounted to $100,197,000 of which approximately half was planned for fiscal year 1956 expenditure. Actual expenditure, $44,288,000, failed to meet the goal, $50,768,000.[255]

(U) The decline in procurement and production is demonstrated not only by the smaller amount of funds available but also, and perhaps more significantly, by the decline in the dollar value of new business during fiscal year 1956. At the beginning of the year $54 million in new business was forecast while the year end revealed a total of less than half that amount. The value of new business acquired in fiscal year 1953 was more than three times the 1956 total. A further decline by half of the 1956 total is forcast for fiscal year 1957. Although new business declined sharply beginning in fiscal year 1954, the backlog of prior years' business maintained delivery values at a higher total for fiscal years 1954 and 1955 than in fiscal year 1953 when new business was at a high point. The delivery total value for each of the fiscal years 1953, 1954, and1955 was, however, more than $100 million. The total in fiscal year 1956 was approximately 70 million.[256]

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255 (1) Summary of Major Events and Problems, FY 55, pp. 128 - 30. (2) Quart Rev, 4th Quart, pp. 17 - 19.

256 Quart Rev, 4th Quart, pp. 79 - 80. (2) Mullen interv, 24 Aug 56. (3) George-Abbruscato interv, 13 Sep 56.

(U) Only $5 million of the $35 million in deliveries scheduled for fiscal year 1957 represents district procurement. The amount of new business handled by districts in fiscal year 1956 which was far less than half the total of approximately $26,000,000 and this fact in conjunction with the delivery forecast above did not warrant the retention of two fully operating procurement districts provided for under the district reorganization effective 1 July 1954. A decision was made in fiscal year 1956 to schedule no new procurement for the Chicago Chemical Procurement District. The Chicago District continued to operate during the year on the backlog of contracts still being administered. During fiscal year 1957 the Chicago office will be phased down to mobilization planning, certain procurement services, and selected item procurement for training purposes. New York Chemical Procurement District and Army Chemical Center Procurement Agency will handle all active procurement. Army Chemical Center Procurement Agency was created from the Chemical Corps Research Procurement Office under the Chemical Corps reorganization on the recommendation of the Ad Hoc Advisory Committee. The agency, a Class II activity of the Chief Chemical Officer, is resporsible to the Commanding General, Materiel Command, for all procurement in support of Chemical Corps activities, agencies, and installations at the Army Chemical Center.[257]

257

(1) Merrill interv, 22 Oct 56. (2) Report of the Ad Hoc Advisory Committee, p. 9. (3) "Recommended Plan of Organization, Chemical Corps Materiel Command," Ad Hoc Committee for Implementation of the Miller Report (Burns Committee), 13 Jan 56. (4) Quart Rev, 4th Quart, p. 79. (5) Quart Hist Rpt, 3d Quart, FY 56, Chicago Cml Procurement Dist, pp. 1 - 2. (6) Cl, 21 Feb 56, CCR 10 - 19, 2 Feb 56.

Table 5 — Chemical Corps Procurement by Item and Month (FY 56)

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Cumulative (FY 56)
Generator, Smoke, M3A2	0	0	0	250	300	255	109	133	Complete	------	------	------	1161
Cluster, Incendiary Bomb M35	0	0	0	0	0	0	0	0	0	367	913	0	1317
Cluster, Incendiary Bomb M36	0	0	0	0	0	0	0	0	160	776	1191	1252	3309
Bomb, Fire, 750 lb.	6593	9735	6467	6628	7568	4112	7825	4411	951	1470	2085	2603 Comp.	66435
Grenade, Smoke, White	150003	133337	24467	0	0	36178	0	0	0	Complete	------	------	356005
Pot, Smoke, Floating	10000	10000	10000	10000	10000	10000	10000	10000	9500	Complete	------	------	89500
Mask, Gas, HD, MkV	9026	9408	0	8107	9900	2112	1155	6600	12198	11290	6595	4415 Comp.	80909
Igniter, Fire Bomb, WP,	23775	10015	------	------	------	------	------	------	------	------	------	------	33790
Protector, Collective, 2500 CFM	------	------	------	------	------	------	------	------	------	6	Complete	------	6
Shell, Smoke, WP, 90 mm	------	------	------	------	------	------	------	------	------	5081	------	------	5081
Food Testing & Screening Kit	------	------	------	------	------	------	------	------	1260	Complete	------	------	1260
Canister, Gas Mask Aerosol	------	------	------	------	------	------	------	------	1896	Complete	------	------	1896
Detector Kit, Cml Agents, E28	------	------	------	------	------	------	------	------	703	------	97	------	800
Protector, Collective, 600 CFM	------	------	------	------	------	------	------	0	90	90	90	90	3600
Filter, Particulate, 75 CFM	------	------	------	------	------	------	------	10	------	------	------	------	10
Filter, Gas, 75 CFM	------	------	------	------	------	------	------	10	------	------	------	------	10
War Gas Id. Set	------	------	------	------	------	------	------	955	------	------	------	------	955
Protector, Collective, 5000 CFM, E35	------	------	------	------	------	------	------	6	Complete	------	------	------	6
Valve, Antiback draft, M-1	------	------	------	------	------	------	385	700	160	271	179	0	1215
Hexachlorethane, Class A, ungraund	230000	250000	240000	290000	250000	250000	250000	250000	250000	179000	Complete	------	2379000
Decon. Apparatus, PD, truck mtd.	------	------	------	20	21	30	Complete	------	------	------	------	------	71
Incendiary, Emer. Doc. Destroyer	500	2333	5000	5000	5000	2667	------	------	------	190	Complete	------	20690
Incendiary, Safe Destroying	------	0	0	696	------	------	------	------	------	------	------	------	696
Grenade, Hand, Smoke, WP	0	0	45120	52516	25064	------	0	7112	------	------	------	------	170112
Bomb, Incendiary Oil, NP	------	------	------	------	1145	0	0	0	------	------	------	------	3895
Pot, Smoke, Floating, HC (reworking)	10166	------	913	------	1105	Complete	------	------	------	------	------	------	12854
Rocket, Smoke, WP, 3.5"	40000	90000	53600	46400	15175	9984	------	------	------	------	------	------	254329
Shell, Smoke, WP 76 mm	8000	8000	8000	8000	8000	8000	8000	6956	Complete	------	------	------	62956
Shell, Smoke, WP, 105 mm	41063	41521	41296	41515	45689	46158	43515	40690	37366	Complete	------	------	370756
Set, Access. for Apl. Smoke Tank	------	------	------	------	33	Complete	------	------	------	------	------	------	33
Shell, Smoke, WP, 155 mm M104	19584	17000	16400	12000	14900	15000	15272	16100	22176	3720	Complete	------	151880
Shell, Smoke, WP, 155 mm M110	25000	27697	------	35048	36512	33000	35143	16000	22202	------	------	20000	248395
Rocket Head, PWP, 5.0"	1784	------	35000	------	------	------	------	------	------	------	------	------	36784
Shell, Smoke, for 4.2"	------	------	47225	51991	------	------	------	------	------	------	------	------	99216
Shell, Chemical, 105 mm, Arty.	0	6492	9061	2477	3063	37557	18456	17764	22673	43606	53848	55561	244563
Shell, Chemical, HD, 4.2"	------	10793	20396	20543	19657	Complete	------	------	------	------	------	------	71389
Shell, Chemical, 155 mm, M110	473	------	0	Complete	------	------	------	------	------	------	------	------	473
Kit, Chemical Agent Detector (conversion)	------	0	485	------	------	------	------	------	------	------	------	------	485
Rocket Chemical, 4.5	302	------	------	------	------	------	------	3119	2881	0	367	------	6669
Alarm, Gas, Automatic, E17	------	0	0	1	0	0	0	0	8	Complete	------	------	9
Antiset, M1	4823	------	------	------	------	------	------	------	------	------	------	------	4823
Cluster, Inc. Bomb M-12 (renovation)	2000	2000	2000	------	------	------	------	------	------	------	------	------	6000
Rocket, Chemical, HD, 4.5"	250	------	------	------	------	------	------	------	------	------	------	------	250
Shell, Chemical, HD, 155 mm	16513	10811	------	------	------	------	------	------	------	------	------	------	27324
Mine, Land, Chemical 1 gal	30200	134500	35000	Complete	------	------	------	------	------	------	------	------	200000
Shell, Smoke, FS, M2A1, for 4.2"	------	------	------	------	49848	1089	Complete	------	------	------	------	------	50937
Fuze, Floating Smoke Pot	60750	------	------	------	------	------	------	------	------	------	------	------	60750
Shell, Chemical, 155 mm	------	------	------	11	3483	0	33	------	------	------	------	------	3527
Filter, Gas & Particulate 5000 CFM, E24	0	------	0	0	0	------	6	Complete	------	------	------	------	6
Filter, Gas & Particulate 1200 CFM, E26	0	0	0	0	0	------	4	Complete	------	------	------	------	4
Cluster, Incendiary Bomb (renovation)	1000	------	------	------	66	------	------	------	------	------	------	------	1068
Filter, Gas & Particulate 2500 CFM, E 27	0	0	0	0	0	0	0	0	4	Complete	------	------	4
Water, Testing & Screening Kit	2233	------	------	------	------	0	0	------	6628	Complete	------	------	8861
Decon. Apparatus, PD, skid mtd, M6	------	------	------	7	Complete	------	------	------	------	------	------	------	7
Mixing & Transfer Unit, Incendiary Oil	23	34	26	Complete	------	------	------	------	------	------	------	------	83
Grenade, Smoke, Red	------	------	50011	------	------	44972	Complete	------	------	------	------	------	94983
Grenade, Smoke, Yellow	------	------	33995	------	------	------	------	------	626	------	------	------	34621
Alarm, Field, Automatic	------	------	0	0	32	2	------	------	------	------	------	------	34
Grenade, Smoke, Green	------	------	------	------	------	18923	44174	Complete	------	------	------	------	63097
Repair Kit, Prot. Mask, Agent.	------	------	------	------	------	------	73	Complete	------	------	------	------	73
Radioactive Source Set	------	------	------	------	------	------	------	------	------	------	99	51 Comp.	150

Source: Compiled from Monthly Summaries of Procurement Performance, FY 56, Headquarters, Materiel Command, (CMLHC-ZF 73) (Cml C 9).

(U) Table 5 indicates the amount of accepted item production and procurement during fiscal year 1956. As this table demonstrates, many major procurement schedules were completed before the end of the fiscal year. Completion of schedules and revision of requirements by claimant agencies brought about a "stretch-out" of existing schedules and a reprogramming of new schedules, particularly at the arsenals.[258] Specific procurement and production problems and accomplishments will be briefly discussed below.

M35 and M36 Incendiary Bomb Clusters.[259]

(C) Production design, contractual, materials, and lead-time problems which had plagued the procurement history of the M35 and M36 incendiary bomb clusters were solved during fiscal year 1956. A major production effort was scheduled on the M35 cluster at Rocky Mountain Arsenal, and a like effort on the M36 cluster at Pine Bluff Arsenal, but, because of a change in strategic concepts, the Air Force drastically cut requirements. The M35 schedule was reduced in third quarter, FY 1956, from a year-end FY 1957 goal of about 48,000 clusters to about 19,000 clusters. The M36 goal was reduced from about 18,000 to 7,500. Considerable reduction in workload was conseqtently made at both arsenals. Rocky Mountain Arsenal, having the larger program, found it economical to use the same crew on filling operations one month and clustering

258 (1) See above, pp. 57 - 59. (2) See Quart Revs, 3rd Quart, p. 65, 4th Quart, p. 78.

259 Summary of Major Events and Problems, FY 55, pp. 135 - 36.

operations the next, thus maintaining the optimum size workforce while restricting output to schedule.[260]

M116A1 Fire Bomb[261]

(U) At the beginning of fiscal year 1956, one firm, the Aircraftsman Corporation, was producing M116A1 fire bombs under financial difficulties which were in part the result of too low an original bid. Another producer, Diamond Building Products Company, had suspended production and was soon to go into bankruptcy. A Chemical Corps effort to relieve both firms by arranging for Aircraftsman to assume Diamond production quotas at a more favorable price was not successful. Aircraftsman also went into involuntary bankruptcy when the Army Contract Adjustment Board refused the firm's claims for support and contract adjustment. At the time of production suspension Aircraftsman had produced 83,000 units, 87 percent of contracted quantity. A third contractor, the Evans Reamer Company, overcame production engineering problems to initiate production which totaled 1800 units by the end of the third quarter and 7966 by the end of the fiscal year. The total production goal for this company is 71,000 units, and the total program was adjusted from 179,000 to 150,000 units to account for the unfilled portions of the Diamond and Aircraftsman contracts. As of the end of the fiscal year there was a small production schedule deficit

260 (1) Interv, Hist Off with Mr Asher Z. Cohen, Industrial Div, CmlC MATCOM, 30 Oct 56. (2) Quart Rev, 3rd Quart, Classified Supplement, pp. 43-44, 4th Quart, p. 78, 4th Quart, Classified Supplement, pp. 35-36. (3) Quart Hist Rpt, 4th Quart, FY 56, CmlC MATCOM.

261 Summary of Major Events and Problems, FY 55, pp. 136 - 37.

which, it was felt, the contractor could adjust during fiscal year 1957.[262]

E51R15 Noncombat Protective Mask

(U) Procurement requirements were stated in fiscal year 1955 by the Federal Civil Defense Administration (FCDA) for the E51 noncombat protective mask. These requirements were increased during fiscal year 1956 to make a total of 43,000 masks under procurement. The Chemical Corps was also advised that FCDA contemplated procurement of 60,000 additional E51 masks, 120,000 E52 canisterless civilian protective masks, and 25,000 infant protectors in fiscal year 1957. Initial E51 mask production attempts during fiscal year 1956 were characterized by many difficulties. Tooling required during development proved to be unsatisfactory for mass production. The tooling problem was solved, but rubber molding and assembly problems were not entirely eliminated by the end of the fiscal year. Full production was expected during fiscal year 1957.[263]

Commercial Chemicals[264]

(U) The procurement of commercial chemicals for the Department of the Army and, in some cases, other governmental agencies was a responsibility acquired by the Chemical Corps mainly in fiscal years 1954 and 1955. During the brief

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262
(1) Cohen interv, 30 Oct 56. (2) Quart Hist Rpts, 1st, 3rd, and 4th Quarts, FY 56, CmlC MATCOM.

263
(1) Quart Hist Rpt, 3rd Quart, FY 56, Logistics Planning Div, OCCmlO. (2) Interv, Hist Off with Mr Alfred A. Cooke, Industrial Div, CmlC MATCOM, 3 Oct 56.

264
Summary of Major Events and Problems, FY 55, pp. 133 - 34; FY 54, pp. 121 - 22.

period in which the Chemical Corps exercised this responsibility the number of items was reduced from 629 to 510. Depot stocks were reduced from 345 items at a value of $7,000,000 to 166 items at a value of $1,800,000. Designations for local procurement included 297 items, and improvements were made in purchasing, packing, and packaging with significant savings to the government. Fiscal year 1956 procurement of commercial chemicals amounted to $1,900,000 of which all but about $500,000 was handled through local purchase.[265]

(U) Fiscal year 1955 difficulties with open-end contracting were solved in fiscal year 1956. Manufacturers' complaints that the open-end contract forced them to engage in a retail business with posts, camps, and stations were answered by closely scheduling demand time and quantity. Chemical Corps difficulties resulting from expiration of contracts prior to the acquisition of sufficient materials or material to be supplied under emergency requisition were solved by evolving a new contract clause which provides that amounts up to 100 percent of the original contract may be supplied within sixty days after the exhaustion of the originally contracted supply. This allowed supply to continue while a new contract was being made. The minimum value to be contracted under open-end procedures was reduced in order to include most commercial chemical supply. As a result of these innovations, the use of the open-end form was expected to expand from the ten major contracts in effect at the end of the fiscal year.[266]

265
(1) Interv, Hist Off with Lt David I. Johnston, Industrial Div, CmlC MATCOM, 4 Oct 56. (2) Statement, "Details Justifying Chemical Corps' Stand Regarding Logistic Responsibilities," n.d., prepared by Supply Div, CmlC MATCOM.

266
Johnston interv, 4 Oct 56.

(U) Problems remained in the commercial chemicals field and work was being done toward their solution. Scheduling of procurement amounts was made difficult by international aid requirements which are not forecast. An international aid requirement unexpectedly stated could use the entire amount of an existing contract and the 100 percent "safety factor." The Chemical Corps suggested that some method of forecasting international aid requirements be found, or, alternately, the Chemical Corps be permitted to write a new contract for international aid requirements which could not readily be supplied within existing schedules. Within the ordinary supply system it is still an Army requirement that requisitions be filled within thirty days. Since procurement lead time is ninety days on many items, this requirement meant that depot stockage of certain items was retained at uneconomical levels. The Chemical Corps has suggested extending requisition filling time to 105 days for CONUS as well as overseas areas to permit greater use of direct purchase. Demand scheduling and user inventory levels could be adjusted accordingly. The third problem was one which was solved as each separate question arose. This problem was the difficulty of obtaining adequate specifications for some individual requirements placed by other than Army agencies. On two occasions during fiscal year 1956 it was necessary to send technical personnel from Materiel Command and Engineering Command into the field to investigate and prepare specifications for requested chemicals. This preparation was an accomplishment of fiscal year 1956.[267]

267
Johnston interv, 4 Oct 56.

Other Accomplishments and Forecasts

(S) Drawings and special tooling for the E21 automatic field alarm, an automatic electronic gas detection device, were obtained from the contractor on the completion of fiscal year 1955 user-test procurement.[268] Using this data a new procurement schedule was set up and a contract awarded in March at an item price approximately half that of the original development and production contract. No deliveries were made before the end of the fiscal year.[269] The Air-A-Plane Corporation contract for M3A2 mechanical smoke generators was completed in February 1956. The engine-head difficulties of fiscal year 1955 were solved. New procurement was planned for fiscal year 1957.[270] Again this year there was no production of the M9A1 field protective mask, but production for engineering tests was expected in fiscal year 1957 on the canisterless E13 field protective mask, a possible replacement for the M9A1 mask. Production was completed in fiscal year 1956 on the fiscal year 1953 and 1954 requirements for the Navy Mark V gas mask. A contract was awarded for fiscal year 1956 requirements and further requirements were expected in fiscal year 1957. Obtaining a supply of proper filter material and Navy specification Whetlerite continued to be production problems.[271]

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268 Summary of Major Events and Problems, FY 55, p. 133.

269 Johnston interv, 4 Oct 56.

270 (1) Summary of Major Events and Problems, FY 55, p. 137. (2) Quart Hist Rpt, 3rd Quart, FY 56, CmlC MATCOM. (3) Cohen interv, 30 Oct 56.

271 Cooke interv, 3 Oct 56.

[redacted]

Production planning was done in fiscal year 1956 on several potential production items including a massive 750 pound bomb, a 500 pound low-drag Navy bomb, and two anti-crop and one anti-personnel BW bombs.[272]

Toxic Planning and Production[273]

(C) Site "A", the Phosphate Development Works at Muscle Shoals, Alabama, was operated throughout fiscal year 1956 to provide dichlor, the intermediate product for production of GB nerve gas. With the Chemical Corps reorganization, supervision of Site "A" passed from Research and Engineering Command to the new Engineering Command. Transfer of supervision to Materiel Command was delayed from the scheduled date of 1 January 1956 to 1 July 1956 to permit final round-out of the facility. This round-out was completed with an increase of capacity to 45 tons of dichlor per day per cascade. The major problem remaining at the year-end transfer from Engineering Command to Materiel Command was the reduction of by-product phosphorus oxychloride to the useful principal raw material, phosphorus trichloride. The reduction facility was unable to support the entire plant in full operation. Engineering Command was to retain responsibility for the reduction facility pending the solution of this problem. Other by-product problems were solved during fiscal year 1956. Materiel Command laid plans during fiscal year 1956 to operate the entire plant by moving one crew from

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272 Cohen interv, 30 Oct 56.

273 Summary of Major Events and Problems, FY 55, pp. 138 - 43.

step to step, thus insuring economy, efficiency of operation, and the maintenance of a well-trained crew.[274]

(C) The round-out program for the final two production steps at Rocky Mountain Arsenal, Site "B", also made significant progress. Yields were increased and at the same time it was discovered that equipment could be modified and simplified. On 5 February 1956 Steps IV and V were combined in a single operation with an increase in efficiency. This combination and round-out capacity were tested in a 70-day "sustained run" of the entire plant during April, May, and June 1956. It was found that it was possible to operate during 77.6 percent of the period, and that twenty shut-down periods were required for repair and maintenance. Yield was good at an average of 88.63 percent of product against input. Quality was generally good with a lot rejection rate of 14.5 percent. Feed rates varied from 150 percent to 240 percent of design, and the integration of the two steps proved feasible.[275]

(U) Problems remaining at Site "B" included the perpetual problem of the clogging of various parts of the system by solids, and the disposal of wastes and by-products. Considerable progress was made in the solids problem by modifying equipment, providing better valves and control methods, and by improving cleaning procedures. More progress along the same lines was expected

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274
(1) Interv, Hist Off with Mr Joseph J. Marcus, Industrial Div, CmlC MATCOM, 3 Oct 56. (2) See below, pp. 194 - 95.

275
(1) Marcus interv, 3 Oct 56. (2) Quart Hist Rpts, Classified Appendixes, 1st, 2nd, 3rd, and 4th Quarts, FY 56, Rocky Mountain Arsenal.

in fiscal year 1957. The waste problem was expected to be solved with the completion of the new disposal lake.[276] A solution to the problem of disposal of by-product hydrochloric acid was being worked out at the end of the fiscal year. Studies demonstrated that this by-product could be reprocessed into usable chlorine and caustic in the chlorine plant already available at Rocky Mountain Arsenal. Commercial operation of the chlorine plant under lease has not proved economically feasible, but analysis indicated that the contemplated by-product operation would be both economical and efficient.[277]

Industrial Mobilization Planning

(U) Funds amounting to $15,073,000 were made available for Chemical Corps Industrial Mobilization Planning in fiscal year 1956. A total of $14,514,000 obligated represented 97 percent of funds available and 100 percent of the obligation schedule. Total funds available for expenditure during fiscal year 1956 under this program were $24,927,000 of which it was planned to expend $12,155,000. Actual expenditure exceeded the plan by 3 percent.[278]

(U) Industrial Mobilization planning covers; (1) rehabilitation, modernization, and expansion of reserve plants; (2) lay-away of industrial plants;

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276 See above, pp. 70 - 71.

277 (1) Marcus interv. (2) Interv, Hist Off with Mr John L. Traub, Directorate for Supply and Procurement, CmlC MATCOM, 24 Oct 56.

278 (1) Summary of Major Events and Problems, FY 55, pp. 143 - 46. (2) Quart Rev, 4th Quart, FY 56, pp. 17, 19.

(3) acquisition of reserve production equipment; (4) lay-away of industrial production equipment; (5) industrial preparedness measures; (6) planning with industry. Nearly $1.5 million of the total amount obligated during fiscal year 1956 was devoted to individual projects in these areas while more than $2.5 million was earmarked for the maintenance and operation of the program as a whole. Among the projects the highest dollar-value group was industrial preparedness measures with an expenditure program of $7,683,400. Twenty-one industrial preparedness measures, projects undertaken to improve producibility, eliminate the need for critical materials, and reduce procurement lead time, were proposed during fiscal year 1956 and eighteen were approved.[279]

(U) The rehabilitation, modernization, and expansion of reserve plants group was another large dollar volume activity. Important projects in this group included the round-out of toxic production facilities, both at Rocky Mountain Arsenal and Muscle Shoals, Alabama,[280] the extension of the bombing mat at Pine Bluff Arsenal, and the sealing of waste disposal lakes at Rocky Mountain Arsenal.[281] Equipment and plant lay-away were lesser groups in dollar value, but an important accomplishment and an important problem were connected with both these groups.

279
(1) Quart Rev, 3rd Quart, FY 56, pp. 73-74, 4th Quart, FY 56 pp. 92-94. (2) Presentation, Review and Analysis, 4th Quart, FY 56, CmlC MATCOM. (3) Statement, 18 Oct 56, Industrial Mobilization Planning Div, CmlC MATCOM.

280
See above, pp. 172 - 74.

281
See above, pp. 70 - 71.

(U) The accomplishment was the completion of the first phase of the production equipment inventory ahead of the target date, 31 December 1955. This phase which involved the inventory, cataloging, and permanent marking of each item of Chemical Corps production equipment having a value greater than $500, covered about 22,000 items.[282] The second phase of the production equipment inventory, the inventory of all other equipment essential to the mobilization capacity of a plant or line and production equipment valued between $100 and $500, was begun in January 1956. Approximately 6,500 of the 20,000 items estimated to be in this category had been inventoried by year's end. The third phase of the program, the analytical inspection of actual equipment performance, was initiated during fiscal year 1956, but results will not be apparent until fiscal year 1957.[283]

(U) The problem with respect to reserve plants and equipment was in the maintenance of lay-away plants and equipment. Fiscal limitations allowed less than 1½ percent of the replacement value of lay-away plants and equipment to be made available for maintenance and preservation. In view of the fact that much Chemical Corps equipment and many plants are highly technical in nature, and in view of the fact that the Chemical Corps has lacked sufficient funds for a first-class maintenance and preservation program since World War II, this allowance is insufficient. In compliance with the regulation, the Chemical

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282
Summary of Major Events and Problems, FY 55, pp. 145 - 46.

283
(1) Quart Rev, 4th Quart, FY 56, pp. 95-96. (2) Staff Conference Notes, 31 Oct 55, Materiel Division, OCCml0.

Corps accepted a lower standard of maintenance, and, in consequence, a lower degree of readiness with respect to reserve plants and equipment.[284]

(U) An important area within the mobilization planning activity which cannot be measured in terms of dollar expenditure was planning with industry. The allocation of industrial capacity for specific items in stated quantities is an essential part of early readiness in event of mobilization. The Department of Defense, in order to insure planning in this vital area, designated top priority planning items of which thirty-eight are the responsibility of the Chemical Corps. The Corps is also responsible for sixty items on a Department of the Army supplementary list of lesser priority. Allocation is complete on thirteen items with a value of $662,000 and is complete except for a quantity valued at $300,000 on sixteen additional items whose total value is $1,789,000. Nine items in quantity valued at $252,000 were unallocated at the close of the fiscal year.[285]

(C) The importance of industrial mobilization planning as a whole was rising as opposed to the current procurement program. The management of mobilization planning therefore posed questions of proper mobilization emphasis and activity in a period of declining procurement. The Chemical Corps followed a policy which emphasized mobilization readiness with respect both to conventional and specialized weapons. The greatest activity and the greatest problem

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284 DeAngelis interv, 14 Sep 56.

285 (1) Quart Rev, 4th Quart, p. 75. (2) Statement, 18 Oct 56, Industrial Mobilization Planning Div, CmlC MATCOM.

was the retention of procurement and production "know-how" while keeping pace with technological developments. The Corps' prime concern in connection with this problem was the retention of a "core" of technical personnel vital to the resumption of discontinued operations in event of mobilization. The Chemical Corps was unable to compete with other larger services and with private industry in the retention of personnel.[286] It was hoped that a partial solution to this problem would be the outcome of a continuous re-evaluation of mobilization planning projects which was instituted in fiscal year 1956. An administrative element in this problem is the proper obligation of mobilization funds. The obligations of previous fiscal years tended to fall in the last half of the fiscal year, resulting in uneven performance. This situation was unsatisfactory to DCSLOG and to the Chemical Corps. DCSLOG accordingly established an obligation rate per quarter of 20 percent, 30 percent, 40 percent, and 10 percent for fiscal year 1957. The Chemical Corps felt that this rate was unrealistic and requested a rate by quarter of 8 percent, 28 percent, 38 percent, and 26 percent. Decision was pending at year's end. Considerable improvement in scheduling was expected for fiscal year 1957.[287]

Requirements, Cataloging and Standardization

(U) Chemical Corps requirements computation procedures did not change

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286 See above, pp. 39 - 42.

287 (1) Presentation, Review and Analysis, 4th Quart, FY 56, 27 Aug 56, CmlC MATCOM. (2) Manes-Hewitt interv, 8 Oct 56.

during fiscal year 1956. One principal event in the requirements area was the computation of requirements for the Budget Supported Force, fiscal year 1957. The Budget Supported Force concept is a new and supplementary technique in mobilization computation based upon available resources. Another event was the handling of a foreign aid program twice the dollar value of the fiscal year 1955 program. The foreign aid program included the obligation of $1,013,000 in the Direct Forces Support Program, the implementation of a $921,771 Military Defense Assistance program, the processing of a $371,000 Civilian Supply program, and the processing of $397,431 of Military Defense Assistance Reimbursable Aid Requests.[288]

(U) Fiscal year 1956 was a year of considerable accomplishment in the cataloging field. As of the end of the year conversion to federal catalog identification for Chemical Corps items was 80 percent complete. There are six phases in the federal cataloging operation: (1) development of item names and definitions; (2) development of patterns from more than 10,000 identification patterns; (3) development of item identifications; (4) refinement of identifications as compared to those of other technical services; (5) maintenance and publication of Federal Catalog data; and (6) utilization and conversion of the Federal Catalog data. The Chemical Corps chose the alternative of conversion on a commodity group basis rather than a per item basis. Immediate effects of this accomplishment were standardization of identification and nomenclature, ready accountability of item responsibility, convenient

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288
(1) Quart Hist Rpts, 3rd and 4th Quarts, FY 56, Logistics Planning Div, OCCml0. (2) Interv, Hist Off with Mr Glen I. Rhorer, Logistics Planning Div, OCCml0, 23 Aug 56.

interchange of information with other technical services and greater efficiency in storage, issue, and Financial Inventory Accounting operations. An additional benefit which could come about was considered to be the more logical assignment of responsibilities for items within standardized commodity groups. Other cataloging activities included the issuance of about forty-five equipment publications, a significant gain over last year's twenty-nine.[289]

(U) Several examples will serve to illustrate the extent of the standardization program under which a continuous study is made of operations and materials within the procurement and supply system to determine where increases in efficiency and economy may be realized. Celotex was substituted for fibrous glass as a cushioning material for the M35 incendiary bomb clusters with a savings of $18,000. The utilization of gages covered by Military Standard specifications eliminated the need for preparation of 512 drawings and blueprints at a savings of $10,930. Redesign of shipping pallets for reuse resulted in a savings of $282,295. These examples illustrate a total savings of approximately $4,000,000 and demonstrate that the $1,054,950 obligated in fiscal year 1956 under the cataloging and standardization programs by Engineering Command and Materiel Command was well applied.[290]

289

(1) Interv, Hist Off with Mr Ernest A. Flinn, Logistics Planning Div, OCCml0, 15 Aug 56. (2) Interv, Hist Off with Mr C. D. Yeffman, Logistics Planning Div, OCCml0, 24 Aug 56. (3) Memo, Mr E. A. Flinn to Ch, Logistics Planning Div, OCCml0, 16 Aug 56, sub: Cataloging and Standardization. (4) Quart Hist Rpts, 1st, 2nd, 3rd, and 4th Quarts, FY 56 Logistics Planning Div (Formerly Materiel Div), OCCml0.

290

(1) Quart Hist Rpts, 1st, 2nd, and 3rd Quarts, FY 56, Logistics Planning Div, OCCml0. (2) Memo, Mr E. A. Flinn to Ch, Logistics Planning Div, OCCml0, 16 Aug 56, sub: Cataloging and Standardization.

Supply

(U) Funds were made available to the extent of $6,424,000 for the supply, distribution, and maintenance program during fiscal year 1956. The obligation rate was 98 percent. A total of $7,909,000 was available for expenditure, and $5,710,000 was actually expended.[291] The Chemical Corps operated Chemical Sections at New Cumberland, Memphis, and Utah General Depots. The Corps also operated Eastern and Midwest branch depots and Rocky Mountain Arsenal Storage area. A commodity center for the procurement, supply control, and storage of repair parts was operated as a part of the Chemical Section of Memphis General Depot. In all, 7,026,000 square feet of storage space was operated. Also available to the Chemical Corps was 3,088,000 square feet of storage space in three Ordnance Corps branch depots. Total gross storage space was 10,114,000, and total net usable storage space was 7,210,000 square feet, of which 3,808,000 square feet was covered storage at 81 percent occupancy and 3,402,000 was open storage at 91 percent occupancy.[292]

(U) The value of Chemical Corps stocks on hand at the end of the fiscal year was $349,347,000, a figure only slightly higher than that at the beginning of the year. The total value of the Chemical Corps Stock Fund was $46,696,000,

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291 See Quart Rev, 4th Quart, FY 56, pp. 17, 19.

292 Quart Hist Rpt, 4th Quart, FY 56, CmlC MATCOM.

a decline of approximately $8 million from the beginning of the year.[293] Total tonnage stored in Chemical Corps branch depots and Chemical Sections of general depots amounted to 338,820 of which 29,972 tons were non-issuable. Tonnage handled has been steadily declining for the past four years, and the fiscal year 1956 total continued the trend at 37,920 tons, approximately half the fiscal year 1955 total. Total receipts in fiscal year 1956 were 21,627 tons and total shipments were 16,293 tons.[294]

Repair Parts[295]

(U) During fiscal year 1956 the recommendations of the Chemical Corps Ad Hoc Committee on Repair Parts were nearly fully implemented.[296] Of the twelve objectives for the control of repair parts inventories originally set up, five were completed. These included: (1) the development of "where used" data for all Chemical Corps repair parts; (2) the determination of repair

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293
See above, pp. 54 - 58.

294
(1) See Summary of Major Events and Problems, FY 55, App. A, Classified Supplement, pp. 14 - 15. (2) Quart Hist Rpts, 1st, 2nd, 3rd, and 4th Quarts, FY 56, CmlC MATCOM.

295
Material for this section taken from: (1) "Chemical Corps Program for the Control of Repair Parts Inventories," as revised 1 Jul 56, Supply Div, CmlC MATCOM. (2) Quart Hist Rpts, 1st, 2nd, 3rd, and 4th Quarts, FY 56, CmlC MATCOM. (3) Interv, Hist Off with Mr Ralph Burnett, Supply Div, CmlC MATCOM, 18 Sep 56. (4) Statement, "Significant Accomplishments Under Program 9," incl to draft DF, Col W. J. Allen, CO, CmlC ENGCOM to Col C. J. Merrill, CmlC MATCOM, n.d., sub: Osmanski Committee Recommendations on Transfer of Supply and Procurement Responsibilities for Non-Toxic Items.

296
See Summary of Major Events and Problems, FY 55, pp. 149 - 52.

parts interchangeability; (3) the review and revision of supply manuals; (4) maintenance evaluation during materiel development in order to forecast repair parts requirements for each end item; and (5) the improvement in supply and maintenance training both for individuals and units.

(U) Four other objectives were just short of completion at the end of the fiscal year. These included: (1) the establishment and continuation of a world-wide inventory of end items requiring repair parts support; (2) the elimination of all nonessentail and excess repair parts from depot stocks; (3) the purification of stock accounting systems to provide accurate and timely repair parts stock status information; and (4) the reduction in order and shipping time in order to reduce stocks of repair parts in the distribution pipeline. With respect to the first of these objectives, a full inventory of applicable end-items was complete except for two Tables of Allowances for Class II activities. Significant progress was made in regard to the second objective. Repair parts items numbering 1,036 were eliminated, consolidated into 115 kits or declared nonessential. Transfers to other services, authorizations for local purchase, or the obsoletion of end-items removed another 1,251 items from Chemical Corps stockage. In all, the repair parts items list was reduced by 28 percent, and 90,000 cubic feet of storage space was released for other use. Stock accounting systems were felt to be adequately purified by the end of the fiscal year to meet the third objective, but the shortage of electircal accounting machines and the small number of Chemical Corps items prevented the overseas extension of machine accounting methods. Order and shipping times were cut permitting a corresponding

reduction in inventory, but it was estimated that gains in this area would not be fully realized until revision of packing and packaging specifications had been completed. New packing and packaging will allow greater transportability, and, hence, shorter shipping time.

(U) Two of the remaining objectives depend upon the establishment of the Army Field Stock Control System which was piloted during fiscal year 1956 and was scheduled to be established throughout CONUS in fiscal year 1957 and 1958.[297] The final objective involved the review of Chemical Corps service support unit organization and functions. The review was accomplished by studying the Corps of Engineers' system for supply of organizational maintenance parts through field maintenance shops, and the evaluation of the implications of exercises FOLLOW ME, BLUEBOLT, and SAGEBRUSH on service unit tables or organization and equipment. The Chemical Corps adopted a system similar to that of the Corps of Engineers, and field maintenance facilities had been established in all continental armies by the end of the fiscal year. The exercises were reviewed and changes in tables of organization and equipment were recommended or in preparation at the end of the fiscal year.

Maintenance

(U) The Chemical Corps maintenance program fell behind schedule in fiscal year 1956 and the value of unserviceable but repairable stock rose approximately $1.5 million over year end, fiscal 1955, primarily because a number of high value individual items for which rebuild parts were not readily

297
See below, p. 192.

available were in for repair. The value of rebuilt stocks amounted to $3,296,000 and the cost of rebuild was $823,000. The ratio of cost to value of rebuild was slightly lower than in the previous two years.[298]

(U) Major renovation programs during fiscal year 1956 were for M4A2 smoke pots, M3 and M18 smoke grenades, and M34 bomb clusters. A principal event in the maintenance area was the completion of the establishment of field maintenance missions in each of the continental army areas with responsibility for the issuance of maintenance parts, as noted above. In order to improve standards of maintenance in organization and unit maintenance echelons, positions for regional maintenance representatives were established under the authority of AR 750-312, 10 November 1955, at Eastern and Midwest Chemical Depots and at Deseret Chemical Depot Activity. The mission of these representatives is to give technical assistance and advice to users of chemical equipment and ammunition throughout CONUS. Since the inauguration of the program in April 1956, all CONUS installations have been visited at least once. The Navy Department and the Marine Corps have also availed themselves of this service, and the Air Force was investigating requirements, scheduling, and feasibility at the end of the fiscal year. A supplementary aid to the dissemination of maintenance information to users was the Chemical Corps authorization to participate in the Department of the Army preventive maintenance monthly magazine, PS, which is published in "comic-book" format. The representative program had effected better chemical maintenance by user

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298
(1) See Summary of Major Events and Problems, FY 55, pp. 154 - 57.
(2) Quart Rev, 4th Quart, FY 56, pp. 101 - 02.

organizations even in the brief period of operations. The maintenance representatives were also able to provide valuable information on the status and location of chemical items in the hands of users.[299]

(U) Planning was completed and a supply bulletin forwarded for publication during fiscal year 1956 on "maintenance float equipment." "Maintenance float equipment" covers the stockage of spare end-items within maintenance shops which can be used to replace unserviceable items not immediately repairable. This reserve would cut down the time during which organizations would be deprived of the use of equipment in repair, and it would prevent the uneconomical repair of items needed for immediate use. Fiscal year 1956 saw a reemphasis on the elimination of uneconomical repair, and AR 750-314 was promulgated on 18 October 1955 to limit the cost of repairs on unserviceable items. The cost ceiling would give the Chemical Corps improved control over maintenance expenditure and would assist in reducing large expenditures on items which could be more economically replaced.[300]

Storage

(U) Since fiscal year 1956 was a period of declining activity, as noted above, emphasis was placed during the year on refinement of procedures. Much of this refinement was inspired by higher echelons; and the Chemical Corps co-operated with the Department of the Army in several projects. The Chemical

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299
(1) Burnett interv, 18 Sep 56. (2) Interv, Hist Off with Lt Col David W. Dick, Supply Div, CmlC MATCOM, 18 Sep 56.

300
Burnett interv, 18 Sep 56.

Corps part in the Depot Command Management System, Financial Inventory Accounting, and the Army Stock Fund is recounted above.[301]

(U) One of the important Department of the Army projects was the work of the Depot Operations Manual Committee on which the Chemical Corps had two representatives. This committee, following the work done in fiscal year 1955 by the Depot Procedures Standardization Task Force, was investigating and evolving organizational and operational standards for all Army depots. One Chemical Corps representative was working in the organizational and the other in the operational area. Two DCSLOG task forces were also working on both current and long-range planning for Army storage facilities. Chemical Corps representatives were writing assigned portions of Army manuals on storage instructions. Chemical Corps representatives were also assisting in preparation of Department of the Army Circular 780-2 which was to establish the basic formula for determining storage space requirements throughout the Army.[302]

(S) The Chemical Corps participated with other technical services in the DCSLOG planning project for the establishment of an underground pilot depot. This pilot depot, on the general depot pattern, was to have an active distribution mission. The Chemical Corps was planning the smallest participation

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301 See above, pp. 59 - 65.

302 (1) Dick interv, 18 Sep 56. (2) Interv, Hist Off with Mr Eugene P. Smith, Supply Div, CmlC MATCOM, 14 Sep 56. (3) Quart Hist Rpt, CmlC MATCOM, 1st Quart, FY 56.

of any technical service, but the Corps plans to store and issue general supplies to a midwestern states distribution area. In addition, a portion of the repair parts mission will be transferred to this depot. The Chemical Corps planners envisioned economical operations and an ideal storage climate. It was thought that this installation would be a benefit to the Chemical Corps and the Army as a whole.[303]

(C) Within the Corps the reassignment of program responsibilities from the Office of the Chief Chemical Officer to Materiel Command also brought about the transfer of responsibility for direct communication with the General Services Administration concerning the storage and maintenance of strategic and critical materials. The Corps' responsibility with respect to strategic and critical materials is a growing one. These items now total about 25 percent of total Chemical Corps storage. Facilities were developed to care for the increased tonnage generated during fiscal year 1956, and planning was being done for the anticipated fiscal year 1957 workload.[304]

(U) A continuing Chemical Corps problem is the storage and handling of toxics. During fiscal year 1956 new instructions were issued for the storage and handling of GB.[305]

303
(1) Smith interv, 14 Sep 56. (2) Quart Hist Rpt, Logistics Planning Div, OCCmlO, 4th Quart, FY 56. (3) Interv, Hist Off with Mr E. R. McDaniel, Logistics Planning Div, OCCmlO, 23 Aug 56.

304
Smith interv, 14 Sep 56.

305
(1) Smith interv. (2) Quart Hist Rpt, CmlC MATCOM, 3rd Quart, FY 56.

Distribution

(U) In distribution as well as in storage, fiscal year 1956 was a year of refining procedures. The principal procedural refinement which took place during the year was the replacement of the alphabetical sorting cards used in the machine recording of Chemical Corps stock control, status, and transactions at the Materiel Command level. The system had outgrown the alphabetical sorting method, and this method, based on item nomenclature, was causing confusion, misfiling of cards, and inappropriate supply actions. The cards were replaced by others in a stock number sequence. Advantages were easier filing, easier conversion to the federal stock number and code classification series, and more accurate reporting. The new method was expected to be an aid in the planned Materiel Command assumption of responsibility for receiving all requisitions on the Chemical Corps which will take place in fiscal year 1957. Another fiscal year 1957 development which was planned in fiscal year 1956 was the transfer of all requirements computation and stock control for all Chemical Corps Stock Fund items from the Office of the Chief Chemical Officer to Materiel Command.[306] Chemical Corps participation in Department of the Army distribution developments will be discussed under separate headings below.

(U) Project MASS. During fiscal year 1956 the Chemical Corps planned participation in Project MASS (Modern Army Supply System) which was to begin 1 July 1956. Chemical Corps participation is limited to repair parts, and the

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306
(1) Interv, Hist Off with Mr Walter J. Patro, Supply Div, CmlC MATCOM, 14 Sep 56. (2) McDaniel interv, 23 Aug 56. (3) Quart Hist Rpt, CmlC MATCOM, 1st Quart, FY 56.

system initially was to supply only Seventh Army in Europe. Under the project MASS system, supply impetus was to come from the lowest echelon in the theater. Requisitions were to be transmitted by machine punch card and radio transmitter to the issue point, in the case of the Chemical Corps, the Chemical Section, Memphis General Depot. The one machine punch card, reproduced at the issue point, was to be used for all requisition purposes and as a shipping document. Priority transportation, mostly air, was planned. A benefit found in preparation was the reduction of Seventh Army stockages by about 60 percent. Chemical Corps representatives expected many other benefits from the operating system including more economical storage, better control of issues, less maintenance, greater ease of issue, and greatly accelerated order and shipping time. No additional personnel was planned to handle the system.[307]

(U) Interservice Supply Support System. The Interservice Supply Support System was another innovation still in the planning stage. The system was set up by agreement of the Chief of Staff, United States Army, the Chief of Naval Operations, the Chief of Staff, United States Air Force, and the Commandant of the Marine Corps to provide for joint supply action. The Chemical Corps was interested in the Chemical Commodity Group which was set up under this agreement. The plan was to make a single service responsible for all commodities in any particular group. Procurement will not be instituted until supplies of all services have been committed, and stocks will be

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307
Interv, Hist Off with Mr Max Migdall, Supply Div, CmlC MATCOM, 18 Sep 56.

Table 6 — Property Disposal - FY 1956 Analysis

Status of Excess Declarations and Disposition:

Excess on Hand as of 1 Jul 55	$ 65,918,762.00
Excess Declared thru 30 Jun 56	38,620,207.00
Total excess for disposal FY 56	$ 104,538,969.00
Actual Disposals thru 30 Jun 56	
Transferred	$ 52,435,438.00[a]
Donated	606,340.00
Destroyed	1,491,632.00
Released to Property Disposal Officer	9,023,740.00
Redistribution D/A	1,417,517.00
Sold	5,210,772.00
All other	1,441,183.00
Total disposals FY 56	$ 71,626,622.00

Excess/Surplus to be Disposed of as of 30 Jun 56:

Excess MRD/GSA Processing	$ 6,306,550.00[b]
Surplus (Property Officers)	26,605,787.00[c]
Total awaiting disposal	$ 32,912,347.00
Demilitarized thru 30 Jun 56:	$ 18,066,475.00

[a]Includes surplus M14 & E31 Clusters ($17,705,983.00), and M17 & M17A1 Clusters ($34,307,244.00) transferred to Tooele Ord Depot for Demilitarization Purposes.

[b]Includes Repair Parts ($2,484,604.00) and Ton Containers ($911,632.00).

[c]Includes Surplus Lewisite ($2,640,089.00) being offered for sale to private industry, M12, M14, M17, M17A1, M19 and M22 Clusters, M50 Bombs, and GA ($18,130,327.00).

Source: Property Disposal Branch, Supply Div, CmlC MATCOM.

supplied from the stockage closest to the user regardless of ownership. The Chemical Corps was preparing for the inauguration of the system which was expected to be productive of great economy and efficiency.[308]

(U) Army Field Stock Control System. The Army Field Stock Control System is primarily a system for the establishment and review of installation stock levels against usage factors. The Chemical Corps participated in the pilot establishment of this system in six posts, camps and stations in CONUS during fiscal year 1956. An immediately apparent effect was the reduction of installation inventories since it was quickly discovered that usage did not warrant stockage of many items. Chemical stockage was reduced by an average of 20 percent. The average reduction for the other technical services was 50 percent. The Army Field Stock Control System is basic to the installation of project MASS, and Chemical Corps representatives expected the system and project to be installed throughout CONUS as well as overseas.[309]

Property Disposal

(U) Table 6 summarizes property disposal actions during fiscal year 1956. The property disposal program proceeded smoothly during the fiscal year with few problems.

308

(1) Interv, Hist Off with Mr Dugald Kelly, Supply Div, CmlC MATCOM, 18 Sep 56. (2) Quart Hist Rpt, CmlC MATCOM, 3rd Quart, FY 56. (3) Joint Army - Navy - Marine Corps - Air Force Agreement on Interservice Supply Support, signed by Maxwell D. Taylor, Chief of Staff, United States Army, Arleigh Burke, Chief of Naval Operations, N. F. Twining, Chief of Staff, United States Air Force, Lemuel C. Shepherd, Jr., Commandant of the Marine Corps, 30 Dec 55.

309

Kelly interv, 18 Sep 56.

(U) The Chemical Corps was assigned the Army-wide mission for disposal of radioactive wastes in June 1955. During fiscal year 1956 disposal procedures were evolved and numerous requests were received for the disposal of materials in the regular army supply system having radioactive components. Examples of such materials are radio tubes, radioactive markers, laboratory wastes, and clothing used in handling radioactive materials. The Chemical Corps stored this material at two holding points, one at Dugway Proving Ground and one at Army Chemical Center. Arrangements were made for transportation and salvage, or for co-ordination with the Navy for dumping at sea when salvage was not possible. Materiel Command was charged with the prime responsibility, but assistance was received from the Chemical Warfare Laboratories and from the Army Environmental Health Laboratories. Standards for disposal of radioactive wastes were set forth in Army Regulations 755-380 dated 17 May 1956.[310]

(U) The Chemical Corps Technical Escort Detachment, a Materiel Command agency, has been responsible for the transportation and handling of radioactive materials. Instructions in this task were provided by the Army Environmental Health Laboratories at regular intervals. The Technical Escort Detachment has done an outstanding job.

(U) Another accomplishment of Technical Escort Detachment and property disposal personnel was the burning of a large quantity of GA, obsolete nerve gas, at Dugway Proving Ground. This was the first large scale disposal of a nerve gas, and, consequently, a complete documentary film was made of the

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(1) Interv, Hist Off with Capt C. W. Chabalko, Jr., Supply Div, CmlC MATCOM, 14 Sep 56. (2) Quart Hist Rpts, CmlC MATCOM, 1st, 2nd, 3rd, and 4th Quarts, FY 56.

disposal procedure. A complete range of down-wind toxicity data was also gathered. There were no accidents, and no ill effects were felt by any of the participants. The operation proved that proper procedures had been evolved to perform a dangerous task safely.[311]

(U) The disposal of a large quantity of obsolete lewisite gas was still a problem in fiscal year 1956.[312] During the year the gas was put up for sale. Seventeen commercial firms indicated an interest in the material. Bids will be opened in September 1956. If any of these bids present a feasible use for lewisite which is consistent with safety standards and national security, a problem will have been successfully solved.[313]

(U) Another disposal problem concerns the by-products of the Phosphate Development Works at Muscle Shoals, Alabama.[314] Arrangements were made to sell excess amounts of by-products or to transfer quantities to the use of Chemical Corps contractors. Through these processes 23,767 tons of hydrochloric acid, 3,918 tons of phosphorus oxychloride, 3,988 tons of methyl chloride, and 3,755 tons of phosphorus trichloride have been disposed of from the beginning of plant operations through May 1956. This arrangement was

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311 Chabalko interv, 14 Sep 56.

312 See Summary of Major Events and Problems, FY 55, p. 158.

313 Chabalko interv, 14 Sep 56.

314 See above, pp. 172 - 74.

mutually satisfactory to the chemical industry and to the Chemical Corps.[315]

Quality Assurance

(U) The Chemical Corps policy problem with respect to quality assurance is, in smaller compass, the problem of the Army as a whole, the maintenance of a highly trained technical staff capable of inspecting a variety of items at the lowest possible cost. On the Army level, the problem of maintaining and equipping such a staff may have led to the rejection of a proposal for setting up a single Department of Defense inspection service. Army Regulations 715-20, 19 April 1956, reaffirmed the inspection organization and policy of the Army while providing for maximum economy and efficiency. The reorganization of the Chemical Corps, following the recommendations of the Ad Hoc Advisory Committee, provided for the maximum retention of "know-how" by concentrating quality assurance technical personnel in one element, Inspection Equipment Agency, redesignated Quality Assurance Technical Agency. To this agency also were assigned functions of preparing designs and specifications for inspection gages and equipment. Thus the control of both personnel and equipment was vested in the same element closely associated with the Materiel Command Headquarters through the dual assignment of key personnel.[316]

315
(1) Chabalko interv. (2) Ltr, Mr H. W. LeMay for the Commander, Chemical Corps Phosphate Development Works to CG CmlC MATCOM, 7 Jun 56, subs Tank Car Shipments from MSPDW.

316
(1) See above, pp. 156 – 58. (2) Interv, Hist Off with Mr Edward J. Van Arnhem, Logistics Planning Div, OCCmlO, 16 Aug 56. (3) Quart Hist Rpt, CmlC MATCOM, 3rd Quart, FY 56.

(U) The principal operating problem in quality assurance was the rising cost of inspection. Rising costs were largely the result of declining deliveries[317] which raised the per-item inspection cost. It was believed that a thorough investigation of the system would disclose areas where duplications could be eliminated and economies effected. This investigation was in process at the end of the fiscal year.[318] Fiscal year 1956 accomplishments will be considered under separate headings below.

Standardization of Inspection Procedures

(U) Under the Chemical Corps reorganization a Quality Assurance Biological Warfare Office at Fort Detrick was established under the supervision of Quality Assurance Technical Agency. This establishment permitted the coordination of quality assurance work in the BW field with that done at the headquarters.[319]

(U) A continuing training and orientation program was maintained during the year both for the personnel within the headquarters and in the field. This program was highlighted early in the year by a conference on quality assurance held for commanding officers of field agencies in Headquarters, Materiel Command on 18, 19, and 20 July 1955. During the remainder of the year

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317 See above, pp. 163 - 66.

318 (1) Van Arnhem interv, 16 Aug 56. (2) Quart Hist Rpt, CmlC MATCOM, 4th Quart, FY 56.

319 Quart Hist Rpt, CmlC MATCOM, 3rd Quart, FY 56.

personnel from Quality Assurance Division, later the Directorate for Quality Assurance and Quality Assurance Technical Agency, attended as students or acted as instructors in courses held by the Chemical Corps and by other services. Near the close of fiscal year 1956 the new and standardized procedures evolved during the course of training and reorganization were embodied in a new regulation presenting data on procurement inspection. The year's experience was also to become a part of a Quality Assurance Manual which had been in preparation but required extensive revision after reorganization.[320]

(U) Also in the area of standardization of procedures was the development, late in the fiscal year, of a method for recording surveillance data on machine records cards. This development was a joint effort of the Office of the Chief Chemical Officer, Engineering Command, and Materiel Command. In order to make surveillance reports readily available, Materiel Command had originally requested permission to microfilm these records for which retirement exemption had been granted. Personnel of Engineering Command, however, preferred a machine records code for the information used in that command. The two commands pooled their problems and requirements and evolved a code useful to both. The new system was being installed at the end of the fiscal year.[321]

320
(1) Quart Hist Rpts, CmlC MATCOM, 1st, 2nd, 3rd, and 4th Quarts, FY 56.
(2) CmlC MATCOM Reg 85-11, 20 Jun 56.

321
(1) Quart Hist Rpts, CmlC MATCOM, 1st, 2nd, 3rd, and 4th Quarts, FY 56.
(2) Van Arnhem interv, 16 Aug 56.

Inspection Equipment and Facilities

(U) A three-year program for the acquisition of a minimum mobilization base of inspection aids was inaugurated late in fiscal year 1955. A total of $379,375 was allotted for this purpose in fiscal year 1955; all but $55,000 of that sum was to be used in manufacture of equipment. The fiscal year 1956 allotment was $235,540 plus $295,200 carried over from the previous year and unobligated because of the late start. Work on the program was proceeding satisfactorily according to the schedule which allowed for the fact that the program could not be planned strictly on a fiscal year basis. The Chemical Corps also initiated a program for the manufacture of test bars for the Air Force. Ten sample bars produced during the fiscal year were accepted by the Air Force.[322]

(U) Two major quality assurance facilities -- an X-Ray Laboratory and an extension of the bombing mat at Pine Bluff Arsenal -- were added during fiscal year 1956. The X-Ray Laboratory was completed in March. Tests of the one million volt X-Ray unit and the photo-flourographic camera produced good results. Low voltage equipment was proved while inspecting actual production items. The facility was accepted from the Corps of Engineers in April. The extension of the bombing mat at Pine Bluff to permit testing of new large bombs and clusters was 90 percent complete at the end of the fiscal year.[323]

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322 Quart Hist Rpts, CmlC MATCOM, 1st, 2nd, 3rd, and 4th Quarts, FY 56.

323 (1) See above, p. 70 . (2) Quart Hist Rpts, CmlC MATCOM, 3rd Quart and 4th Quarts, FY 56.

Department of Defense and Department of the Army Programs[324]

(U) The Chemical Corps continued work on the Department of the Army Inspection Council during fiscal year 1956. The Department of Defense work in connection with Stanford University on inspection sampling procedures was of prime Chemical Corps concern. Mr. Joseph Mandelson, Directorate for Quality Assurance, Materiel Command, made a presentation to the Department of Defense liaison committee for statistical research on this subject, and Mr. Mandelson's work was made a part of the Department of Defense - Stanford program. Mr. Mandelson visited Stanford University to do research work, and various other members of the directorate and Quality Assurance Technical Agency worked on the project. It was expected that a Department of Defense standard for the determination of optimum sample size in destructive testing by attributes would be evolved.[325]

324
See Summary of Major Events and Problems, FY 55, pp. 160 - 62.

325
(1) Quart Hist Rpt, CmlC MATCOM, 2nd Quart, FY 56. (2) Rpt of Travel, Mr Joseph Mandelson, Quality Assurance Div, to Ch, Quality Assurance Div, CmlC MATCOM, 20 Sep 55, subs Report of Official Travel.

Appendix A

Copy of
Department of the Army
SUMMARY SHEET

FROM: Office of the Chief Chemical Officer

TO: DEPLOG FOR: Approval

SUBJECT: Reorganization of the Chemical Corps

DATE: 8 August 1955

DISPOSITION

1. There are forwarded herewith copies of the report of the A Advisory Committee on Chemical Corps Mission and Structure. (Comme known as the "Miller Committee".)

2. It is my plan, within the authority available to me, to pr rapidly as practicable to effect changes in the organizational stru of the Chemical Corps so as to conform, as nearly as possible, to t mendations of the Committee.

3. Certain changes recommended will require the approval of D or other higher authority. Pronouncement relative to recommendatio the Committee, and plans for implementation should be made both wit military establishment and to the public as rapidly as possible.

RECOMMENDATION

It is recommended that DEP LOG provide approval, in principle, 17 August, for effecting the following changes:

a. To establish Headquarters, Chemical Corps Research an opment Command in Washington.

b. To relocate Headquarters, Chemical Corps Materiel Com Army Chemical Center.

c. To establish a Chemical Corps Engineering Command at Chemical Center, Maryland.

d. To organize the Army Chemical Center in accordance wit mendations of the Committee.

e. To abolish the position of the Assistant Chief Chemica for Biological Warfare.

f. To establish the position of Assistant Chief Chemical for Plans and Doctrine, in Washington.

g. To abolish the Chemical Corps Training Command.
h. To reorganize the Office, Chief Chemical Officer in accordance with the recommendations in this report.

COORDINATION

None required.

WILLIAM M. CREASY
Major General, USA
Chief Chemical Officer

2 Incl
1 Memo to Lt Gen Carter B. Magruder
2 Rept Ad Hoc Cmte (13 cys)

Aug 8 1955

CMLPC

MEMORANDUM FOR: LIEUTENANT GENERAL CARTER B. MAGRUDER
DEPUTY CHIEF OF STAFF FOR LOGISTICS
DEPARTMENT OF THE ARMY

SUBJECT: Reorganization of the Chemical Corps

1. For the past six months the Ad Hoc Advisory Committee on Chemical Corps Mission and Structure has been studying and evaluating the Chemical Corps.

2. As you will recall, the membership of this Committee was as follows:

Mr. Otto N. Miller, Chairman
Vice President, Standard Oil Company of California

Mr. Hans A. Klagsbrunn
Senior Member, Klagsbrunn, Hanes and Irwin

Dr. James A. Shannon
Director, National Institutes of Health

Mr. George H. Watkins
Vice President, University of Chicago

3. The Committee has completed its task, and, on 6 August 1955, submitted its report to me. In accord with your memorandum of 5 August, 1955, I enclose copies of the report, which I have classified "For Official Use Only".

4. I have been impressed with the unusual caliber of the Committee members, who are outstanding leaders in their professions. Their approach to the assignment has been objective and thorough. The members have spent long and arduous hours on Committee work which entailed great sacrifice, not only on their part but also on the part of the organizations with which they are affiliated. This sacrifice has been motivated by a sense of patriotic duty.

5. I am deeply grateful to the Committee for its assistance and I commend its report to you.

6. It is planned that the Committee will return in about one year to examine the results of implementation of its recommendations and to make such other recommendations as would then be appropriate.

7. Although I have temporarily classified the report "For Official Use Only," I believe all classification should be removed as rapidly as possible, but not until the report is approved, at least in principle, by you.

8. In my view, it is of the utmost importance that dissemination of the report of the Committee be made, both within and without the Corps, with dispatch. Further, public pronouncement relative to the conclusions of the Committee should be made at an early date, as soon as major policy decisions have been made.

9. I am very desirous of briefing my top commanders on the results of the Committee work, and plans for implementation, at my regular Commanders' Conference to be held 18 August 1955. I would be most appreciative, therefore, if I can have your approval prior to that date, at which time I propose to remove the classification from the report.

10. Subject to your concurrence, it is my plan to proceed as rapidly as practicable to effect changes in the organizational structure of the Chemical Corps so as to conform, as nearly as possible, with the recommendations of the Committee. It is contemplated that these major steps can be accomplished within the personnel and payroll ceilings presently available.

11. In major areas, in connection with the proposed changes, I request your approval, in principle, as follows:

a. To establish the Headquarters, Chemical Corps Research and Development Command in Washington, as a Class II activity.

b. To relocate the Headquarters, Chemical Corps Materiel Command from leased space in Baltimore, Maryland, to the Army Chemical Center, Maryland. (I do not plan to move the Headquarters, Chemical Corps Materiel Command to Army Chemical Center without removing the Headquarters, Research and Development Command from that installation.)

c. To establish a Chemical Corps Engineering Command at Army Chemical Center.

d. To organize the Army Chemical Center in accordance with the recommendations of the Committee, in lieu of the plan previously approved by you in your memorandum to me dated 27 May 1955.

e. To abolish the position of the Assistant Chief Chemical Officer for Biological Warfare, and to include the operating responsibilities and activities of this position in those of the Commanding General, Research and Development Command, proposed to be established in "a" above.

f. To establish the position of Assistant Chief Chemical Officer for Plans and Doctrine, to be located in Washington as a part of the Office, Chief Chemical Officer.

g. To abolish the Chemical Corps Training Command, and distribute the functions of this Command to the Chemical Corps School and other Chemical Corps elements, as appropriate.

h. To reorganize the Office, Chief Chemical Officer in accordance with the recommendations in this report.

12. I am advised by the Committee that Department of the Army and Department of Defense officials, i.e., the Assistant Secretary of the Army (Civil-Military Affairs) and the Assistant Secretary of Defense for Research and Development, have expressed a desire for early receipt of a copy of the report. In addition to copies specifically prepared for you and the above, there are forwarded herewith ten copies of the report, for you to make such distribution as you see fit at this time.

WMS

RABergseth/sw/52081

WILLIAM M. CREASY
Major General, USA
Chief Chemical Officer

Appendix B

DEPARTMENT OF THE ARMY

Deputy Chief of Staff for Logistics

Washington 25, D.C.

LOG/B3 43361 NOV 7 1955

MEMORANDUM FOR: CHIEF CHEMICAL OFFICER

SUBJECT: Reorganization of Chemical Corps

1. Reference is made to your memorandum and summary sheet dated 8 August 1955, requesting approval of the proposal to reorganize the Chemical Corps in accordance with your attached Ad Hoc Committee Report on Chemical Corps Mission and Structure.

2. At the present time you are subject to the following known directives pertaining to organization:

a. Comment No. 2, G4 to CCmlO, file G4/B1 42224, dated 14 August 1951, subject: "Establishment of Chemical Corps Field Commands".

b. DF, G4 to CCmlo, file G4/F1 30694A, dated 20 May 1952, subject: "Ad Hoc Committee to Study Report of Army Scientific Advisory Panel".

c. DEP LOG Memorandum to CCmlO, LOG/B3 21286, dated 27 May 1955, subject: "Organization of Army Chemical Center".

The above three references under which you are now governed are hereby withdrawn.

3. The Secretary of the Army has approved abolishing the Assistant Chief Chemical Officer for Biological Warfare (Incl. 1) and establishing the Assistant Chief Chemical Officer for Planning and Doctrine (Incl. 2).

4. The transfer of unit training and abolishing the Training Command may be deferred pending reconsideration of the overall problem in the near future. I desire, however, that you continue planning

on implementation of the recommendations of your Committee in these areas.

5. Your Committee proposed consolidating storage and distribution activities in the field with other Technical Services. This will be handled separately by the Logistic Functions Assignment Board.

6. With the authority reposing in you as Chief Chemical Officer and with the withdrawal of the above referenced communications, you are empowered to initiate and carry out the requisite actions in implementing your Ad Hoc Committee recommendations in entirety, except as noted in paragraph 4, and reorganize the Chemical Corps in such manner as to effectively and economically perform the mission assigned.

CARTER B. MAGRUDER
Lieutenant General, U.S. Army
Deputy Chief of Staff for Logistics

2 Incls
1. Memo C/S 2 Nov 55
subj: ACCmlO for BW
2. Memo C/S 2 Nov 55
subj: ACCmlO for P&P

DEPARTMENT OF THE ARMY
Washington 25, D.C.

2 NOV 1955

MEMORANDUM FOR: CHIEF OF STAFF

SUBJECT: Assistant Chief Chemical Officer for BW

By virtue of the authority vested in me by subsection 208(a) of Public Law 581, 81st Congress (Army Reorganization Act of 1950) I hereby abolish the position of Assistant Chief Chemical Officer for BW established by the Secretary of the Army 22 October 1953.

Wilber M. Brucker
Secretary of the Army

DEPARTMENT OF THE ARMY
Washington 25, D. C.

2 NOV 1955

MEMORANDUM FOR: CHIEF OF STAFF

SUBJECT: Assistant Chief Chemical Officer for Planning & Doctrine

By virtue of the authority vested in me by subsection 208(a) of Public Law 581, 81st Congress (Army Reorganization Act of 1950) I hereby establish the position of Assistant Chief Chemical Officer for Planning & Doctrine.

Wilber M. Brucker
Secretary of the Army

Appendix C

RECOMMENDED DESIGNATION OF CHEMICAL CORPS PROGRAM DIRECTORS

a. PROGRAM NO.	b. PROGRAM	c. PRESENT ASSGMT	d. RECM FUTURE ASSGMT	e. REASON FOR PROPOSED ASSIGNMENT
1A	TCE Troop	Plans, Training & Intelligence Division	Asst. Chief Cml Officer for Planning and Doctrine	Planning character of program relates it to missicn of Plng & Doct.
1B	TD Troop	Comptroller	Comptroller	Included in Compt. mission.
2	Materiel	Materiel Division	Requirements & Production Planning	Office of major interest.
3	Installa-tions	Materiel Division	Requirements & Production Planning	Office of major interest.
4A	Planning	Plans, Training & Intelligence Division	Asst. Chief Cml Officer for Planning and Doctrine	Office of major interest.
4B	Management	Comptroller	Comptroller	Office of major interest.
4C	Legal-Liaison	Legal	Legal	Office of major interest.
4D	Tech & Public Info	Administra-tion Divi-sion	Administra-tion Division	Office of major interest.

RECOMMENDED DESIGNATION OF CHEMICAL CORPS PROGRAM DIRECTORS (Cont'd)

a.

PROGRAM NO.	PROGRAM	PRESENT ASGMT	RECM FUTURE ASGMT	REASON FOR PROPOSED ASSIGNMENT
11	Construction	Materiel Division	Engineering Command	Compatible with function of Comd as stated in Miller Com Rept.
14	Intelligence	Plans, Training & Intelligence Division	Asst. Chief Cml Officer for Planning and Doctrine	Office of major interest.
15	R&D - CW and R&D - BW	Research and Development Division & Asst. Chief Cml Officer for BW	Research and Development Command	Office of major interest
16	Joint Projects	Plans, Training & Intelligence Division	Asst. Chief Cml Officer for Planning and Doctrine	Character of this program relates to functions being asgd to Plng & Doct.

App. C

Appendix D

10 January 1956

SUBJECT: Command and Staff Duty for Chemical Corps Officers

TO: All Chemical Corps Officers

As you know, an Ad Hoc Committee appointed by me has recently completed a study of the mission and structure of the Chemical Corps. One of the points in their report was to emphasize the "primacy of research and development within the manifold responsibilities of the Chemical Corps." While I largely subscribe to this finding, I am somewhat disturbed at the interpretation of it which has apparently been made by some of our military personnel. My feeling is that some of them believe there is no adequate avenue of advancement for the officer who, by training and experience, is better qualified for command and staff duties. I cannot agree with this concept.

Research and development, per se, is accomplished largely by the civilian personnel of the Corps with the active participation and support of the military. When a career officer is placed in a research and development "slot" for a tour of duty, he should come there with a military perspective and should insure that the military perspective is maintained within the area to which he is assigned. Just as the civilian scientist with an adequate military background may find some aspects of his work clarified by virtue of his military experience, so the military man with scientific training and experience may get a more profound understanding of certain aspects of research and development. On the other hand, there is sometimes a regrettable tendency for officers with such dual training to submerge themselves too deeply in detailed scientific matters, thereby obscuring their military perspective. The primary job of a Chemical Corps officer is a military one; he should not be in competition with the civilian professional personnel, who by specialized training, long tenure and concentration of interest, have become experts in their particular fields.

Using our capable civilian professional personnel, together with officers trained in military command and staff matters, we can weld a strong civilian-military team dedicated to doing an outstanding job on projects of true military significance.

I feel that it is necessary, not only for the present, but for the future, as well, to maintain The Chemical Corps School and a nucleus of Chemical Corps troop units under my control, administered by, and operated under, some Chemical Corps agency such as the existing Training Command.

Although the Army commands, by their very structure, are better equipped than the Chemical Corps to supervise and administer the overall training of troops and staff personnel, nevertheless, that part of training offered through our Chemical Corps School organization is equally essential in assuring operational readiness of Chemical Corps troops required for combat and semi-combat assignments, assignments which are of extreme importance to the Chemical Corps.

In the new Career Management Division recently established in my office, as a result of the recommendations of the Ad Hoc Committee, I firmly intend that steps be taken to insure that all Chemical Corps officers gain adequate training and experience in military command and staff duties.

There is a vital requirement in the Chemical Corps for officers with military command and staff experience and training. We cannot develop adequate offensive and defensive materiel without a strong "user viewpoint" being ever present in our daily activities. As in industry, there is always room in the Chemical Corps for advancement of the capable leader and competent manager.

I know that the key civilians in our organization join me in the conviction that we need to maintain officers in the Chemical Corps adequately trained and experienced in the military profession, just as we need civilian scientists, engineers and others adequately trained in their professions. I therefore, intend to insure that the Corps will always have a "supply" of competent, loyal, and devoted officers, trained to participate in as well as to administer the Army's varied operations.

/s/ William M. Creasy

WILLIAM M. CREASY
Major General, USA
Chief Chemical Officer

APPENDIX B

DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF CHEMICAL OFFICER
KEY ASSIGNMENTS
1 JUNE 1956

Supplied by: Career Management Div., OCCmlO

OFFICE OF THE CHIEF CHEMICAL OFFICER

Chief Chemical Officer - Major General William M. Creasy

Deputy Chief Chemical Officer - Colonel William E. R. Sullivan

Deputy Chief Chemical Officer for Scientific Activities - Dr. Per K. Frolich

Executive Director - Edgar A. Crumb

Assistant Chief Chemical Officer for Planning and Doctrine - Brigadier General William R. Currie

Executive Officer - Colonel Joseph C. Boyer

Assistant Executive Officer - Captain Ephraim M. Gershater

Chief, Administration Division - Colonel Melvin W. Reed

Chief, Career Management Division - Colonel Frank M. Arthur

Chief, Logistics Planning Division - Colonel Gilbert P. Gibbons

Comptroller of the Chemical Corps - Colonel Charles W. Nussbaum

Legal Adviser - Colonel Frederick C. Lough

Chief, Program Coordinating Office - Lt Colonel Irving R. Mollen

Provost Marshal - Lt Colonel Leslie A. Arnold

OCCMLO ACTIVITIES LOCATED AT ARMY CHEMICAL CENTER, MD.

Chemical Corps Inspector General - Colonel Russell W. Dodds

Traffic Consultant - Lt Colonel Basil A. Harkins

Industrial Security

Chief - Captain Marion E. Kerr

Chemical Corps Advisory Council

Executive Director - Dr. C. B. Marquand

Chemical Corps Technical Committee

Executive Secretary - Dr. T. S. Ecker

ARMY CHEMICAL CENTER, MD.

Hq, Army Chemical Center, Md.

Commanding General - Brig Gen John R. Burns (Retired eff 30 Jun 56)

Commanding General - Brig Gen Marshall Stubbs (Eff 1 Jul 56)

Deputy Commander - Col Walter L. MacLachlan

FIELD ACTIVITIES

Chemical Corps Intelligence Agency, Washington, D.C.

Commanding Officer - Lt Col Donald G. McNamara

Chemical Corps Board, Army Chemical Center, Md.

President - Col Fred J. Delmore

Chemical Corps Field Requirements Group, Army Chemical Center, Md.

Deputy Commander - Col Rubert D. Chapman

Office of the Scientific Advisor, Army Chemical Center, Md.

Senior Scientific Advisor - Lt Col John A. Bacon, Jr.

Chemical Corps Liaison Office, Air Force Armament, Eglin Air Force Base, Florida

CmlC Liaison Officer - Lt Col John P. McEvoy

Chemical Corps Liaison Office, Naval Rad Defense Lab, San Francisco, California

CmlC Liaison Officer - Capt Delbert S. Barth (Reasgd eff 13 Jul 56)

CmlC Liaison Officer - Capt William N. Home (Eff 25 Jun 56)

CHEMICAL CORPS MATERIEL COMMAND

Chemical Corps Materiel Command, Army Chemical Center, Md.

Commanding General - Brig Gen Marshall Stubbs

Deputy Commander - Col Claude J. Merrill

CHEMICAL CORPS MATERIEL COMMAND (Contd)

Army Chemical Center Procurement Agency

Commanding Officer - Col Elmer J. Collins (Reasgd eff 18 Jun 56)

Commanding Officer - Lt Col James R. Chapman (Eff 19 Jun 56)

Procurement Districts

Atlanta Chemical Procurement District, Atlanta, Georgia

Commanding Officer - Lt Col Robert D. Trathen

Boston Sub-Office, New York Chemical Procurement District, New York, N. Y.

OIC - Maj Robert C. Braden

Chicago Chemical Procurement District, Chicago, Illinois

Commanding Officer - Col Charles H. McNary

Dallas Chemical Procurement District, Dallas, Texas

Commanding Officer - Maj Eugene F. Lennon, Jr.

New York Chemical Procurement District, New York, New York

Commanding Officer - Col Harold Walmsley

San Francisco Chemical Procurement District, Oakland, California

Commanding Officer - Lt Col Vincent J. Kosebutzki

Arsenals

Edgewood Arsenal, Army Chemical Center, Md.

Commanding Officer - Lt Col Allan C. Hamilton

Pine Bluff Arsenal, Arsenal, Ark.

Commanding Officer - Col William H. Greene

Rocky Mountain Arsenal, Denver, Colo.

Commanding Officer - Col Donald G. Grothaus

CHEMICAL CORPS MATERIEL COMMAND (Contd)

Depots

Eastern Chemical Depot, Army Chemical Center, Md.

Commanding Officer - Maj Arthur F. Morgner

Midwest Chemical Depot, Arsenal, Ark.

Asst for Depot Operations - Maj Claude B. Dykes

Memphis General Depot, Memphis, Tenn.

Chemical Supply Officer - Col Willis G. Robbins

New Cumberland General Depot, New Cumberland, Pa.

Chemical Supply Officer - Maj Clair L. George

Utah General Depot, Ogden, Utah

Chemical Supply Officer - Maj Harold E. Bowman

Technical Escort Detachment, Army Chemical Center, Md.

Commanding Officer - Maj Vernon E. Dehner

Quality Assurance Technical Agency, Army Chemical Center, Md.

Commanding Officer - Lt Col Harry C. Gilbert

CHEMICAL CORPS RESEARCH & DEVELOPMENT COMMAND

Chemical Corps Research & Development Command, Washington, D.C.

Commanding General - Brig Gen Jacquard H. Rothschild

Deputy Commander for Scientific Activities - Dr. John L. Schwab

Biological Warfare Labs, Ft Detrick, Md.

Commanding Officer - Col John J. Hayes

Production Development Labs, Pine Bluff Arsenal, Arsenal, Ark.

Commanding Officer - Lt Col Michael R. DeCarlo (Reasgd eff o/a 1 Aug 56)

Commanding Officer - Col Leonard C. Miller (Eff Jul 56)

CHEMICAL CORPS RESEARCH & DEVELOPMENT COMMAND (Contd)

Chemical Warfare Labs, Army Chemical Center, Md.

Commanding Officer - Col Donald H. Hale

Commanding Officer - Col Lloyd R. Fellenz (Eff 1 Sep 56)

Dugway Proving Ground, Dugway, Utah

Post Commander - Col Donald D. Bode'

CHEMICAL CORPS TRAINING COMMAND

Chemical Corps Training Command, Ft McClellan, Alabama

Commanding Officer - Col Thomas H. James (Retired eff 30 Jun 56)

Commanding Officer - Col John M. Palmer (Eff 1 Jul 56)

Chemical Corps School

Commandant - Col Edwin Van Keuren (Retired eff 30 Jun 56)

Commandant - Col Carl Burke (Eff 1 Jul 56)

CHEMICAL CORPS ENGINEERING COMMAND

Chemical Corps Engineering Command, Army Chemical Center, Md.

Commanding Officer - Col William J. Allen, Jr.

Deputy for Engineering - Mr. Louis E. Garono

Phosphate Development Works, Muscle Shoals, Ala.

Commanding Officer - Maj Serge Tonetti

OVERSEAS THEATER CHEMICAL OFFICERS

USAFFE - Col William H. B. Howard, APO 343, San Francisco, Calif.

USAREUR - Col Ralph B. Strader, APO 403, New York, N.Y.

USARCARIB - Lt Col John G. Appel, APO 834, New Orleans, La.

USARPAC - Lt Col Richard O. Gordon, APO 958, San Francisco, Calif.

USARAL - Lt Col Olaf G. Miller, APO 949, Seattle, Wash.

RYCOM - Maj Albert Gilbert, APO 331, San Francisco, Calif.

Hq, SETAF - Maj Thomas B. Flynn, APO 168, New York, N.Y.

ARMY CHEMICAL OFFICERS

FIRST ARMY, Governors Island, New York

Chemical Officer - Col Theodore P. Gahan

SECOND ARMY, Ft George G. Meade, Md.

Chemical Officer - Col David Armitage

THIRD ARMY, Ft McPherson, Ga.

Chemical Officer - Col John D. Tolman

FOURTH ARMY, Ft Sam Houston, Tex.

Chemical Officer - Col Richard R. Danek

FIFTH ARMY, Chicago, Ill.

Chemical Officer - Col Stoessel S. Barksdale (Reasgd eff 15 Jul 56)

Chemical Officer - Col Elmer J. Collins (Eff 19 Jun 56)

SIXTH ARMY, Presidio of San Francisco, Calif.

Chemical Officer - Col Fred W. Ludecke

MILITARY DISTRICT OF WASHINGTON

Chemical Officer - Col Thomas H. Magness, Jr.

ARMY CHEMICAL OFFICERS (Contd)

SEVENTH ARMY, USAREUR

Chemical Officer - Col Clarence B. Brennon, Jr.

EIGHTH ARMY, USAFPE

Chemical Officer - Col R. Beverly Caldwell

CORPS CHEMICAL OFFICERS

I Corps, USAFPE APO 358, San Francisco, Calif.	Lt Col Rex E. Selk
III Corps Ft Hood, Texas	Maj Francis A. Bader
V Corps USAREUR APO 79, New York, N.Y.	Lt Col Chester Dombrowski
VII Corps, USAREUR APO 107, New York, N.Y.	Col Walter W. Kuehler
IX Corps, USAFPE APO 331, San Francisco, Calif.	Col William W. Campbell
XVIII Airborne Corps Ft Bragg, N. C.	Maj Gilbert U. Newby (Reasgd eff 15 Jul 56) Lt Col Edward V. R. Needels (Eff 29 Jun 56)

DIVISION CHEMICAL OFFICERS

1st Armored Division Ft Hood, Texas	Maj Milton S. Vaughn
1st Cavalry Division, USAFPE APO 201, San Francisco, Calif.	Maj George Kontra
1st Infantry Division Ft Riley, Kans.	Maj Winnick K. Richardson (Reasgd o/a 10 Jul 56) Maj William L. Phillips (Eff 1 Jul 56)
2d Armored Division, USAREUR APO 42, New York, N.Y.	Maj Jack Montgomery

DIVISION CHEMICAL OFFICERS (Contd)

2d Infantry Division Ft Lewis, Wash.	Maj Samuel T. Bonds
3d Armored Division Ft Knox, Ky.	Maj Clinton D. Harvey
3d Infantry Division Ft Benning, Ga.	Maj George C. Nowers
4th Armored Division Ft Hood, Tex.	Maj Glenn C. Bell, Jr.
4th Infantry Division, USAREUR APO 39, New York, N.Y.	Maj Leslie J. Lundell
5th Infantry Division, USAREUR APO 112, New York, N. Y.	Maj Eugene J. Farrell
7th Infantry Division, USAFFE APO 7, San Francisco, Calif.	
8th Infantry Division Ft Carson, Colo.	Lt Col Fred B. Mitchell
9th Infantry Division, USAREUR APO 111, New York, N.Y.	Maj Grant R. Brickell
10th Infantry Division, USAREUR APO 36, New York, N.Y.	Lt Col William C. Behrenberg
11th Airborne Division, USAREUR APO 112, New York, N.Y.	Maj Eugene I. Humphrey
24th Infantry Division, USAFFE APO 24, San Francisco, Calif.	Maj Alton L. Kelly
25th Infantry Division, USARPAC APO 25, San Francisco, Calif.	Lt Col Clifford P. Holm
71st Infantry Division, USARAL APO 949, Seattle, Wash.	Capt Joseph A. McDade
82d Airborne Division Ft Bragg, N. C.	Lt Col William S. Wiley, Jr.

CONTINENTAL ARMY COMMAND

7100th SU, Hq CONARC, Ft Monroe, Virginia

Col Roy W. Muth (Eff 26 Jun 56)

Lt Col Robert N. Ladson

Lt Col Thomas E. Marfing

Lt Col Floyd B. Mitman, Jr.

Lt Col James A. Richardson

Maj William J. McDermott

Maj Charles C. Pelham

CONARC BOARDS

7102 SU, Board #2 Ft Knox, Ky.	Capt Duane L. Emerson Capt Victor L. Saynisch (Reasgd eff 24 Aug 56) Capt William V. Ford (Eff Jul 56)
7103 SU, Board #3 Ft Berning, Ga.	Lt Col Jose A. Andino (Reasgd eff 5 Sep 56)

LOGISTICAL COMMAND

Hq 1st Logistical Command, Fort Bragg, North Carolina

Col Pierre A. Kieff

Lt Col Nat Giambelluca

Maj Willis E. Stemple (Reasgd eff 24 Aug 56)

Hq 2d Logistical Command, Fort Bragg, North Carolina

Maj Kidon O. Thoreson

SPECIAL WEAPONS PROJECT

8451st DU, Hq, Special Weapons Project, Washington, D.C.

Maj Robert H. Rodden

Maj John M. Wilson

Capt Thomas W. Connolly

8452d DU, Special Weapons Training Group, Sandia Base, Albuquerque, New Mexico

Lt Col Charles H. Davenport, Jr.

Capt John J. Ball, Jr.

8452d DU, Hq, Special Weapons Command, Sandia Base, Albuquerque, New Mexico

Lt Col Clyde W. Bankes

8460th DU, Hq Base Comp, Killeen, Texas

1st Lt James B. Speer, Jr.

CHEMICAL CORPS UNITS

Groups

81st Chemical Group, Fort Bragg, N.C.

Commanding Officer - Col Roland P. Fournier

100th Chemical Group (Field) (ComZ), Ft McClellan, Ala.

Commanding Officer - Col Charles A. Cain

Commanding Officer - Col Maurice Peerenboom (Eff 1 Jul 56)

Battalions

1st Chemical Battalion (Svc), APO 34, USAREUR

Commanding Officer - Maj Frank Koresdoski

2d Chemical Weapons Battalion, Dugway Proving Ground, Dugway, Utah

Commanding Officer - Maj Louis J. Stefani

CHEMICAL CORPS UNITS (Contd)

Battalions (Contd)

3d Chemical Battalion, Fort Bragg, N.C.

Commanding Officer - Lt Col William A. Cowne

4th Chemical Battalion (Smoke Generator), APO 166, USAREUR

Commanding Officer - Lt Col Louis Ruiz

5th Chemical Battalion (Smoke Generator), Fort Bragg, N.C.

Commanding Officer - Maj William S. Horne

6th Chemical Battalion (Smoke Generator), APO 125, USAREUR

Commanding Officer - Lt Col Louis T. Lazzarini

83d Chemical Battalion, Fort McClellan, Ala.

Commanding Officer - Maj Ralph L. Aldridge

85th Chemical Battalion, Fort McClellan, Ala.

Commanding Officer - Maj Manley H. Trumble

218th Chemical Battalion (Smoke Generator), Fort McClellan, Ala.

Commanding Officer - Maj Morton Kraftsow

ROTC INSTRUCTORS

Massachusetts Institute of Technology, Cambridge, Mass.

Lt Col Joseph S. Brinkley, Jr.

Maj Douthit L. Furches (Reasgd eff 1 Jul 56)

1st Lt Peter E. Hexner (Eff 1 Aug 56)

Canisius College, Buffalo, New York

Capt Bernard M. Fillinich

Capt Robert C. Silner (Reasgd eff 24 Aug 56)

St. Peter's College, Jersey City, New Jersey

Capt John E. Stenger

Ohio State University, Columbus, Ohio

Maj Patrick H. Donahue

Capt William I. Fox

Bucknell University, Lewisburg, Pa.

Capt William S. Cranford

University of Delaware, Newark, Del.

Maj Thomas A. Mitchell (Reasgd eff 1 Jul 56)

Maj Theodore L. Enteles (Eff 7 Jun 56)

Georgia Institute of Technology, Atlanta, Ga.

Maj Eugene E. Monk (Reasgd eff 24 Aug 56)

Maj Robert K. Bradford

Capt Norman E. Sudnick

Texas A&M College, College Station, Tex.

Maj Earnest C. Wright

Oklahoma University, Norman, Okla.

Capt Fort A. Verser (Reasgd eff 24 Aug 56)

Capt William C. Miles

Purdue University, Lafayette, Ind.

Maj Richard S. Clark

Maj William C. Lafield, Jr.

Capt Harold W. Shear

Michigan State University, East Lansing, Mich.

Maj Martin J. Burke

ROTC INSTRUCTORS (Contd)

Municipal University of Wichita, Kans.

1st Lt Abraham F. Muscari

Idaho State College, Pocatello, Idaho

Capt Gerald A. Corwin

University of California, Los Angeles, Calif.

Capt Carl R. Duncan

INSTRUCTORS AT NON-CHEMICAL SERVICE SCHOOLS

The Armored School, Fort Knox, Ky.

Lt Col Claude W. White

Army War College, Carlisle Barracks, Pa.

Col John M. Palmer (Reasgd eff 1 Jul 56)

Col Stoessel S. Darksdale (Eff 15 Jul 56)

The Infantry School, Fort Benning, Ga.

Lt Col John L. Carson (Reasgd eff 2 Jul 56)

Lt Col Walter L. Miller (Eff 1 Jul 56)

Maj Roy H. Berger (Reasgd eff 25 Aug 56)

Maj John A. Cassidy

AAA & GM Branch, The Artillery School, Fort Bliss, Tex.

Capt Robert E. Pardee (Reasgd eff 24 Aug 56)

Capt James N. Elliott

INSTRUCTORS AT NON-CHEMICAL SERVICE SCHOOLS (Contd)

Command and General Staff College, Fort Leavenworth, Kans.

Col Carl E. Grant

Lt Col Martin L. Denlinger

Lt Col John C. Hinchie

Lt Col William F. Lynch (Reasgd eff 1 Jul 56)

Lt Col Charles G. Micheau (Eff 15 Aug 56)

Naval Damage Control School, Treasure Island, San Francisco, Calif.

Maj Earl R. Shappell

AFWAF Detachment, Maxwell Air Force Base, Ala.

Lt Col Woodrow W. Reagan

Industrial College of the Armed Forces, Fort Lesley J. McNair, Washington, D.C.

Col Victor C. Searle

United States Military Academy, West Point, New York

Maj Howard Reiner (Reasgd 18 Jun 56)

Maj Donald G. MacWilliams (Eff 5 Jul 56)

Capt Delbert S. Barth (Eff 13 Jul 56)

Capt Robert S. Day

Capt Louis O. Elsaesser

1st Lt John K. Stoner, Jr. (Eff 8 Jun 56)

The Engineer School, Fort Belvoir, Va.

Capt Alexander E. Charleston

ARMY RESERVE ADVISORS

Boston, Mass.

Capt Theodore P. Olson

New York, N.Y.

Lt Col Gregory Villaflor

Wilmington, Del.

Maj Henry A. Dexton

Charleston, S. C.

Maj Gordon W. Davis

Raleigh, N. C.

Lt Col Speers G. Ponder

MILITARY COMMISSION AND ATTACHE' ASSIGNMENTS

7430th AU, Joint Brazil-US Military Commission, APO 676, New York, N.Y.

Capt Richard B. Elliott

8580th DU, OCS, Intelligence, Paris, France, APO 230, New York, N.Y.

Lt Col Frank L. Schaf, Jr.

8580th DU, OCS, Intelligence, Rome, Italy, APO 794, New York, N.Y.

Lt Col John G. Hoffman, Jr.

8580th DU, OCS, Intelligence, Copenhagen, Denmark, APO 170, New York, N.Y.

Maj Joseph C. Hiett

MISCELLANEOUS UNITS

7890th AU, Heidelberg, Germany, Duty on Staff of Comdr-in-Chief Allied Forces Northern Europe, Oslo, Norway, APO 85, New York, N.Y.

Maj Gregg Henry

7242d DU, Army Sec, MAAG, Japan, APO 500, San Francisco, Calif.

Lt Col Daniel J. Gaston (Reasgd eff 24 Jun 56)

Maj Walter L. Flanigan

Maj John P. Crispell (Eff 10 Jul 56)

7243d DU, Army Sec, MAAG, Germany, APO 80, New York, N.Y.

Lt Col Fred A. Jacobs

8475th DU, Office of the Secretary of Defense, Washington, D.C.

Col James E. McHugh

Lt Col Alexander Batlin (Reasgd eff 10 Jul 56)

Lt Col Vincent L. Ruwet

8485th DU, Army Element, Joint Chiefs of Staff, Washington, D.C.

Col Graydon C. Essman (Reasgd eff 15 Jul 56)

Col Robert W. Breaks (Eff 12 Jul 56)

8528th DU, Office of the Comptroller of the Army, Washington, D.C.

Lt Col Roy I. Olson

8529th DU, Office of the Chief of Information, Washington, D.C.

Lt Col Merritt W. Briggs

Capt George F. Townsend, Jr.

8533d DU, Office Asst Chief of Staff, Intelligence, Washington, D.C.

Maj Eugene F. Them (Reasgd eff 15 Jul 56)

Capt Don S. McClelland

534th DU, Office Deputy Chief of Staff for Military Operations, Washington, D.C.

Lt Col Benjamin G. Moore

556th DU, Office Chief of Research and Development, Washington, D.C.

Lt Col Truman F. Cook (Reasgd eff 1 Sep 56)

Lt Col Dale L. Vincent

Lt Col James A. Hebbeler (Eff 18 Jun 56)

Lt Col Harvey E. Sheppard (Eff 29 Jun 56)

Lt Col William M. Stone (Eff 29 Jun 56)

591st DU, Field Office, Office of the Inspector General, Philadelphia, Pa.

Col Zack M. Williams (Reasgd eff 1 Jul 56)

Lt Col Willard Swearingen

651st DU, USA Elm Allied Forces, Southern Europe, Navy FPO 510, New York, N.Y.

Lt Col Norman I. Shapira

Lt Col Donald D. Limoncelli

651st DU, US Army SHAPE, Paris, France, APO 55, New York, N.Y.

Lt Col Samuel E. Baker

621st DU, Hq, ASA, Far East, AFFE, APO 500, San Francisco, Calif.

Maj Jacob M. Brom

669th DU, US Army Standardization Group, Ottawa, Canada

Col Carl S. Casto (Reasgd eff 6 Aug 56)

Lt Col Michael R. DeCarlo (Eff o/a 1 Aug 56)

670th DU, US Army Standardization Group; London, England, FPO 100, New York, N.Y.

Lt Col Leonard C. Miller (Reasgd eff Jul 56)

Lt Col Rhett G. Harris

8730th DU, Dept of Health, Education & Welfare, Washington, D.C.

Col Walter A. Guild

8740th DU, Staff Support Group, Washington, D.C.

Lt Col Alexander Batlin (Eff 10 Jul 56)

8755th DU, Office of Selective Service, Providence, R. I.

Lt Col Wilfred Intlehouse

9100th TU, Off QM General w/sta Army Reactors Br, Reactor Development Division, AEC, Washington, D.C.

Lt Col Belmont S. Evans

9111th TU, QM Food & Container Institute for the Armed Forces, Chicago, Ill.

Lt Col George E. Danald