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ANNUAL REPORT
OF
MAJOR ACTIVITIES
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US ARMY ARMAMENT COMMAND
ROCK ISLAND, IL
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US ARMY ARMAMENT COMMAND
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ANNUAL REPORT OF MAJOR ACTIVITIES *

US ARMY ARMAMENT COMMAND

Fiscal Year 1975
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(RCS: CSHIS-6(R2))

Prepared by
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US Army Armament Command
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*Classified Chapters XVII, XXVIII, and a portion of XVII are contained in CLASSIFIED ANNEX to ARMCOM ANNUAL REPORT OF MAJOR ACTIVITIES, FY 1975.

PREFACE

The US Army Armament Command (ARMCOM) was established on 1 July 1973 at Rock Island, IL, to bring together all weapons and munitions under one command for the management of armament from initial research and development, through testing, production and fielding, additional improvements and modifications, to eventual obsolescence and demilitarization. The management of a commodity from the beginning through the end of its life cycle is not a new idea, but implementing this idea for all Army armament was a new concept.

The first ARMCOM Annual Report of Major Activities for FY 1974 was a history of the formation of ARMCOM and told of the many problems encountered in centralizing the management of weapons and munitions under one command. This second ARMCOM Annual Report of Major Activities for FY 1975 attempts to explain how ARMCOM functioned and accomplished its mission after the problems of the reorganization were resolved.

The volume is divided into chapters by function and organization. The major source of information for most chapters came from quarterly historical feeder reports from the ARMCOM directorates, offices and project/program managers. These reports were supplemented by additional research, interviews, staff meeting participation, Commander's Analysis, letters, telephone calls and document collection. Within the US Army, organizational designations are

frequently changed, and acronyms and abbreviations are used extensively. Therefore, since this is a history, the organizational names and acronyms used in the text are those which were current during FY 1975. To assist the reader to readily understand the abbreviations and acronyms, a Glossary is located at the back of the volume.

The research and writing of this volume was a combined effort by the Historians in the ARMCOM Historical Office. Mrs. Brenda M. Clark, ARMCOM Historian, prepared the initial outline and volume plan and wrote the chapters on the Joint Conventional Ammunition Coordinating Group, Production at Army Ammunition Plants, Maintenance, and Research, Development and Engineering. Upon her departure in April 1976, Dr. Joseph P. Harahan, ARMCOM Historian, who arrived in April 1976, and Miss Elaine M. Pospishil, ARMCOM Command Historian, worked together to complete the research and writing of the balance of the volume.

The Chief, ARMCOM Historical Office, wishes to express her appreciation to Mrs. Clark and Dr. Harahan for their professionalism in writing this volume; and to Mrs. Arline M. Nixon, Mrs. W. Bea Musick, and Miss Nancy L. Hart for their editorial expertise and typing talent which brought this volume to publication.

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CHAPTER XXVII

PROJECT MANAGER FOR SAFEGUARD MUNITIONS

Mission and Organization

The SAFEGUARD System is a US Antiballistic-Missile System which employs SPARTAN and SPRINT Missiles.

A SPARTAN is a Command-Guided Antimissile Missile carrying a nuclear warhead and powered by a three-stage solid-propellant rocket. Developed under a prime contract to Western Electric, this System has a range of several hundred miles and was first successfully test-fired in 1968. It is designated as the long-range element of the SAFEGUARD Missile Defense System.

A SPRINT is a Radar-Command-Guided Antimissile Missile propelled by a two-stage solid-propellant rocket motor. It has a nuclear warhead, a length of 8.2 meters, and a range of about 40 kilometers. It is designated as the closer-range element of the SAFEGUARD Missile Defense System.

The Project Manager (PM) for SAFEGUARD Munitions is stationed at Picatinny Arsenal, Dover, NJ. The PM SAFEGUARD Munitions is responsible for the project management of SAFEGUARD Munitions in accordance with Department of Defense (DOD) Directive 5010.14, Army Regulation (AR) 70-17, US Army Materiel Command Regulation (AMCR) 11-16 and other pertinent regulations.

The mission is to direct and control a complex program involving the life cycle management of two nuclear weapons and approximately 25 supporting items of equipment. This single authority encompasses: (1) research, (2) development, (3) test, (4) production, (5) training, (6) quality assurance, (7) procurement, and (8) logistic support. The PM SAFEGUARD Munitions also acts as the focal point for the collection, maintenance, and assessment of program data for assigned items within the DOD.

The PM SAFEGUARD Munitions Organization included three divisions: (1) Technical Management Division, (2) Configuration Management Division, and (3) Program Management Division; a special assistant for Product Assurance; and a Liaison Officer at Headquarters (HQ) US Army Armament Command (ARMCOM), Rock Island, IL.¹

Colonel A. A. Nord served as the PM SAFEGUARD Munitions until he was replaced on 12 August 1974 by COL James M. Turner, Jr. Colonel Turner served as PM SAFEGUARD Munitions throughout the balance of FY 1975. Mr. Moe M. Goldy served as Deputy Project Manager throughout the year.²

Trends During FY 1975

The general phase-down of the PM SAFEGUARD Munitions continued throughout FY 1975. The scheduled date for the 100 percent phase-out

¹ARMCOMR 10-6, Organization Mission, and Functions of Project/Product Management Offices, 17 Jan 74.

²Except as otherwise noted, this chap is based on PM SAFEGUARD Munitions Qtr Hist Rept 2 Dec 74 and 31 Jan 75 by Mr. Abondolo and 23 Apr 75, 29 Jul 75 by Mr. Blaustein.

is 31 December 1976. By that date, all functions will have been transferred to ARMCOM staff elements.

Although the basic mission of the PM SAFEGUARD Munitions to acquire warhead sections for SAFEGUARD Missiles remained unchanged, progress continued in shifting from the research and development stage to the production stage and on to the deployment stage. During the Second Quarter, FY 1975, action was started to arrange deployment of SAFEGUARD System Warhead Sections(WHDS) to site. Consequently, from this point on, the major effort of the PM SAFEGUARD Munitions Office was devoted to production of adaption kits (AK), assembling WHDS, and stockpile reliability. The initial deployment of SAFEGUARD WHDS began during the Third Quarter, FY 1975. By the end of the fiscal year, all AKs required for assembly into deployed warhead sections were delivered and all production activities were completed except for overbuild quantities and spares needed for use in the Stockpile Test Program

Specific Activities, Problems, and Accomplishments

Safety

Safety continued to be a major concern during FY 1975. During the First Quarter, FY 1975, a request was processed to change the SPRINT Military Characteristics (MC). New guidance was presented tasking the Design Review and Acceptance Group (DRAAG) to determine

that each of the required premature probabilities will be achieved under normal and abnormal conditions. It should assess all means by which input signals might possibly reach the warhead, coupled with an assessment of the probability of a resulting unintended detonation. The actual safety of the System is the essential issue, not only that the design meets the military characteristics.³

During the Second Quarter, FY 1975, the Nuclear Weapon Systems Safety Committee (NWSSC) completed the SAFEGUARD System preoperational safety study and concluded the System was found suitable for deployment. Several safety rules were recommended which were subsequently approved by the Joint Chiefs of Staff.

DRAAG meetings were convened by the PM in October and November 1974. They concluded that the W66 and W71 warhead designs were acceptable to the DOD for use in the SAFEGUARD System. The DRAAG recommended waivers on those MCs that were not met since they were deemed as not affecting system effectiveness and/or safety. On 18 February 1975, the Military Liaison Committee (MLC) approved the DRAAG recommendations of the acceptability of the W71 and W66 warhead designs to the DOD for use in the SAFEGUARD System. At the same time, approval was granted for the interim operational safety rules.

³Memo from D. R. Cotter to MG Pat W. Crizer, Army Member MLC, 26 Aug 74, on file in PM SAFEGUARD Munitions Office.

The final planned joint SPARTAN/SPRINT project officer meeting was held during the Fourth Quarter, FY 1975. All open actions have been completed. The only remaining tasks are the final Joint Safety and Reliability Assessments and revision of the Comprehensive Test Plans. These are being coordinated with the Energy Research and Development Administration (ERDA) and should be completed in the First Quarter, FY 1976.⁴

New Material Flight Test Program

The New Material Flight Test (NMFT) Program was initiated during the Second Quarter, FY 1975. The previous quarter, two SPRINT warhead sections were assembled by the Savanna Army Depot, Savanna, IL, and shipped to the Kwajalein Missile Range, Kwajalein Island, Marshall Islands, Pacific Ocean, for testing. The two SPRINT flights were successful. The final SPRINT research and development warhead section flight test, which had been conducted in August 1974, was also successful and all objectives were satisfied.

The final configuration flight test of the SPARTAN warhead section was flown successfully at the Kwajalein Missile Range during the First Quarter, FY 1975. This success opened the way for the SPARTAN NMFT series the following quarter

⁴The ERDA is the successor to the Atomic Energy Commission (AEC).

The SPARTAN flight was only a qualified success because the XM107 Arm Safe Device was fired with a switch which had not been reset after production testing. Changes have been made to the final inspection procedures at the Arm Safe Device contractor's plant and at Picatinny Arsenal to preclude this situation from recurring.

Depot assembly of the remaining three NMFT WHDS, two SPARTAN and one SPRINT, was completed during the third quarter. Failure of the ERDA TM system on the SPRINT NMFT during post-assembly checkout at Albuquerque, NM, forced disassembly and return to the depot for rebuilding. This was accomplished and the WHDS was subsequently delivered to the Kwajalein Missile Range without further problems.

The SAFEGUARD New Material Firing Program was completed during the Fourth Quarter, FY 1975 and results were as follows:

SPARTAN:

NMFT-2 - During the second test, all objectives were successfully achieved except for excess time needed for the pneumatic system to function. An extensive investigation could not pinpoint the cause. In order to permit closer scrutiny of the condition of the pneumatic system in deployed hardware, inspection procedures and tests were added to the stockpile evaluation program.

NMFT-3 - During the third and final test all mission objectives were successfully achieved.

SPRINT:

NMFT-3 - The third and final test was an unqualified success and all flight objectives were met.

New Material Laboratory Test Program

The New Material Laboratory Test (NMLT) Program was initiated the First Quarter, FY 1975 at Picatinny Arsenal when the first three SPRINT XM7 AK subassemblies were successfully tested. Adaption kits for the NMLT Program are randomly selected from the production quantities, and are instrumented for testing. Three additional SPRINT XM7 AK subassemblies were successfully tested in the third quarter.

The SPARTAN NMLT Program got off with a satisfactory start the Third Quarter, FY 1975, with three XM10 AK subassemblies being successfully tested. Integrated Army/ERDA NMLT testing was initiated during the Fourth Quarter, FY 1975 with two SPRINT and one SPARTAN AK subassemblies being tested with companion ERDA fire sets. All tests were successful. Besides the integrated tests, one XM7 SPRINT and one XM10 SPARTAN AK subassembly successfully passed Army NMLT during the quarter. Four SPRINT, including three integrated, and eight SPARTAN, including five integrated, NMLT remain to be conducted.

Depot Activities

Installation and checkout of war reserve (WR) test and handling equipment at the Savanna Army Depot were successfully completed during the First Quarter, FY 1975. Interfaces between the equipment and trainers and new materiel flight test WHDS were

also successfully verified and validated and technical manuals were submitted to The Adjutant General, Department of the Army (DA), for printing and distribution.

During the same period, Savanna Army Depot successfully passed the technical checkout and technical proficiency inspection (TPI) for both the SPRINT and SPARTAN Systems. Consequently Savanna Army Depot received certification to assemble warhead (WH) sections.

In November 1974, Savanna Army Depot began assembling WR WHDS. Progress was very satisfactory, and WHDS assembly rates were ahead of schedule. However, a decision was made by DA to remove the nuclear mission from the Savanna Army Depot. This had a potential impact to the SPARTAN assembly schedule, since it was expected that some assembly crew personnel would seek other employment before the WHDS assembly operation was completed. In anticipation of such an event, plans were made to train a crew of Sierra Army Depot, Herlong, CA, personnel who had previous research and development SPARTAN assembly experience to augment Savanna Army Depot operations as necessary. A SPARTAN WHDS maintenance and training facility was established at Picatinny Arsenal. Picatinny Arsenal New Equipment Training (NET) personnel conducted a four-week SPARTAN WHDS assembly and maintenance training course during March 1975. The course was attended by Sierra Army Depot and AMC Surety Field Office personnel.

Warhead section assembly at Savanna Army Depot continued during the balance of FY 1975 and all scheduled deliveries were accomplished. Since the start of WHDS assembly, a technical assistance team had been located at Savanna Army Depot to expeditiously resolve assembly related problems and thus avoid excessive delays in WHDS production. The team consisted of representatives from AMC, Picatinny Arsenal, Weapon System Contractor, and Office of the Project Manager for SAFEGUARD Munitions.

The decision to implement project CONCISE reduced the current depot (Savanna Army Depot) from being used for assembly of warhead sections to an inactive status, and the SAFEGUARD mission must be transferred to another depot. As the fiscal year ended, plans were being generated for an effective transition to assure continuous support for the WHDS activities.

Transportation of Warhead Sections

The transportation or deployment of warhead sections became a major effort toward the end of FY 1975. It is the third step of the life-cycle of the SAFEGUARD WHDS which began with research and development, through production and on to deployment.

Planning for transportation of WHDS was completed during the first half of FY 1975. The ARMCOM was designated as the executive agent for AMC in this area. The ARMCOM Transportation and Traffic Management Directorate prepared a plan to cover the entire logistic

move and staffed it through AMC and DA. An Interservice Support Agreement (ISSA) was developed with the US Air Force and approved. A Letter of Instruction was issued by the US Army Forces Command, (FORSCOM), Atlanta, GA, for its support and modifications to interim storage facilities at Grand Forks Air Force Base, Emerado, ND, and were completed in late January 1975. Helicopter transportation of warhead sections was approved by the responsible agencies.

Shortly after the beginning of CY 1975, the program was set in motion to initiate and sustain deployment of tactical SPRINT and SPARTAN WHDS. The first warhead sections were delivered in February 1975 to the Mickelson SAFEGUARD Complex and to the temporary storage area at Grand Forks Air Force Base. Initial operational capability was achieved by 1 April 1975 as scheduled. By the end of FY 1975, the total quantity of warhead sections required for tactical deployment had been delivered to the interim storage area in North Dakota, and the installation of warhead sections into cells was on schedule.⁵

Stockpile Reliability

The SAFEGUARD Stockpile Firing Program (SMIRT) was officially cancelled by the Ballistic Missile Defense (BMD) Program Manager in January 1975. Guidance was received to develop a new stockpile

⁵ See Chap XIII, Trans & Traf Mgt, Sp Proj Sec for info on actual movements of WHDSs to site.

laboratory test program which will insure that safety and surety will not be degraded during deployment. Sampling and test plans are presently being revised accordingly, after which, they will be coordinated with ERDA/Sandia Laboratories and incorporated into revised SPRINT and SPARTAN WHDS comprehensive test plans.

Cost Reduction/Value Engineering

During FY 1975, 12 actions were validated, bringing the cost reduction amount achieved for the fiscal year to \$100,900, or over twice the goal of \$50,000. The PM SAFEGUARD Munitions has thus exceeded its goal for cost reduction/value engineering for the fifth consecutive year since the program was formally established in FY 1971. It also marks the end of the formal program for PM SAFEGUARD Munitions. There will be no FY 1976 goal established, as no new funds are expected. The following summarizes the results achieved since implementation of the formal program:

SAFEGUARD Munitions Cost Reduction/Value Engineering Savings

<u>FY</u>	<u>GOAL</u>	<u>NO. OF ACTIONS</u>	<u>VALIDATED SAVINGS</u>	<u>% OF GOAL</u>
71	\$193,000	13	\$512,400	265%
72	175,000	12	203,900	117
73	175,000	12	324,300	185
74	50,000	19	505,400	1011
75	<u>50,000</u>	<u>12</u>	<u>100,900</u>	<u>202</u>
TOTAL	<u>\$643,000</u>	<u>68</u>	<u>\$1,646,900</u>	<u>256%</u>

Source: PM for SAFEGUARD Munitions, 4th Qtr, Hist Sbm, 29 Jun 75.

CHAPTER XXVIII
PROJECT MANAGER FOR
SELECTED AMMUNITION

This Chapter is CLASSIFIED "CONFIDENTIAL".
Please Refer to the CLASSIFIED ANNEX,
ARMCOM ANNUAL REPORT OF MAJOR ACTIVITIES,
FY 1975

pp. 1393 - 1417