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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM PROJECT STATUS REP--ETC(U)
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U.S. ARMY
MATERIEL DEVELOPMENT AND READINESS COMMAND

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MANUFACTURING METHODS & TECHNOLOGY

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SEMIANNUAL REPORT

FIRST CY 78

(RCS DRCMT-301)

PREPARED BY

USA INDUSTRIAL BASE ENGINEERING ACTIVITY

MANUFACTURING TECHNOLOGY DIVISION

ROCK ISLAND, ILLINOIS 61299

78 10 24 074

OCTOBER 1978

DEPARTMENT OF THE ARMY
US ARMY INDUSTRIAL BASE ENGINEERING ACTIVITY
ROCK ISLAND, ILLINOIS 61299

DRXIB-MT

SUBJECT: Manufacturing Methods and Technology Program Project Status Report, First Half CY78

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1. Reference is made to paragraph 3-8e(1) of AR 700-90, C1, Logistics, Army Industrial Preparedness Program, dated 10 March 1977.

2. This Semiannual Report is a summary compilation of the MANTECH/MMT Program Project Status Reports (RCS DRCMT-301) submitted to IBEA from DARCOM major subordinate commands and project managers. The document is used as a management tool for monitoring the progress of MMT projects.

3. Persons who are interested in the details of an individual project should contact the MT representative at the SUBMACOM. A list of those representatives is included in an appendix to this report.

4. This report represents an application of the automated information system developed by IBEA. The computerization of this report has resulted in a more accurate document in a more timely fashion. The project officers for this task were Ms. L. S. Hancock and Mr. H. E. Weidner, Autovon 793-6521.

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CONTENTS

TABLE OF CONTENTS	i
INTRODUCTION	1
OVERALL PROGRAM STATUS	3
Program Statistics	5
Projects Added 1st Half, CY78	17
Projects completed 1st Half, CY78	29
SUMMARY PROJECT STATUS REPORTS	39
Test and Evaluation Command	41
Aviation Systems R&D Command	51
Armament R&D Command Armament Materiel Readiness Command (Ammunition)	59
Armament R&D Command Armament Materiel Readiness Command (Weapons)	91
Mobility Equipment R&D Command	101
Communications R&D Command	107
Electronics R&D Command	111
Army Material and Mechanics Research Center Material Development & Readiness Command	119
Natick R&D Command	125
Missile R&D Command Missile Materiel Readiness Command	129
Tank-Automotive R&D Command Tank-Automotive Materiel Readiness Command	141
APPENDICES	147
I - Command Identification	149
II - User's Guide	153
III - Army MMT Program Representatives	157
DISTRIBUTION	163

INTRODUCTION

BACKGROUND

The Army Manufacturing Methods and Technology (MMT) Program was established in 1964 as a part of the Army Production Base Support (PBS) Program. The MMT Program has goals of improving existing manufacturing technology, translating new technology into production line processes, and supporting the modernization and expansion of the military hardware production base. Army Regulation AR 700-90, C1, paragraph 3-6, describes the objectives of the MMT Program as follows:

> To develop, on a timely basis, manufacturing processes, techniques, and equipment for use in production of Army materiel. In achieving this objective, strong consideration will be given to efforts that insure producibility, reduce costs or lead times, relieve critical materiel/ materials shortages, enhance safety, provide for abatement of pollutants, improve product quality and reliability, and advance the state-of-the-art in manufacturing methods and equipment.

AUTHORIZATION

This MMT Semiannual Report provides the status summaries of 541 active projects with an authorized cost of $259,841,100. The report is compiled, edited, and published for HQ, DARCOM by the Manufacturing Technology Division of the Army Industrial Base Engineering Activity (IBEA) according to AR 700-90, C1, paragraph 3-8e(1).

The distribution of this report is extended to Army materiel developers and users and to counterparts in the Navy and the Air Force. Inquiries on the detailed technical aspects of any individual project may be answered by the MMT Program representative of the action command under which the project was completed or is being executed. Inquiries or suggestions may also be directed to the Manufacturing Technology Division of IBEA.

COMPOSITION OF THE REPORT

The report is composed of two major sections:

Overall Program Status. A summary of important information that relates to the overall DARCOM program. The section includes statistics on the number of projects which were added and completed, changes in funding and data on allocations and expenditures of funds.

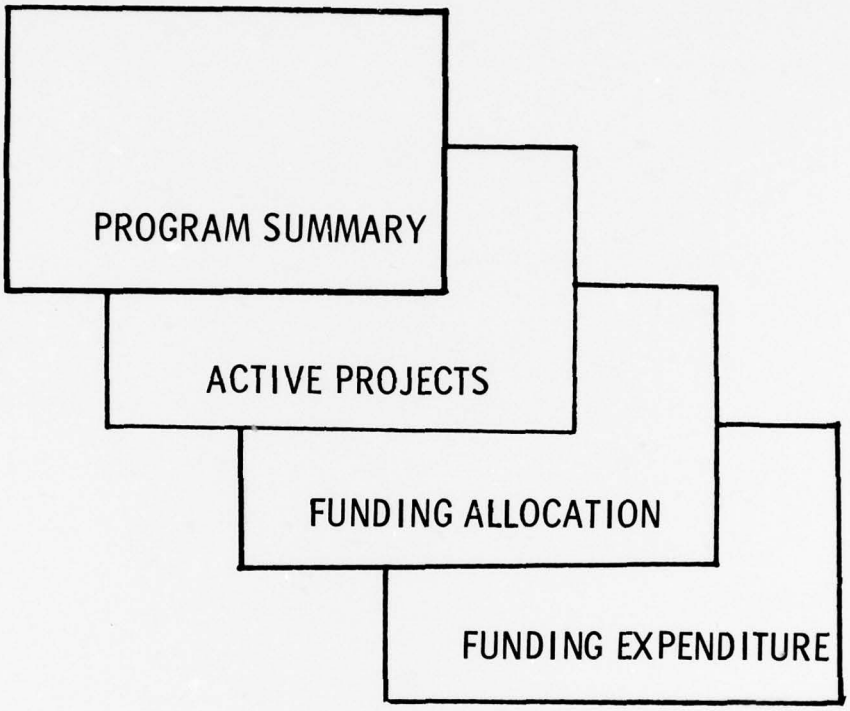
Summary Project Status Report. These reports are divided by organization and include a summary of funding by fiscal year and a narrative status for each project.

MMT PROGRAM

OVERALL PROGRAM STATUS



PROGRAM STATISTICS



PROGRAM STATISTICS

The overall MMT project reporting and funding status for the first half of CY78 is presented on the next eight pages. These tabulations include data for the DARCOM Major Subordinate Commands that have active projects and the AMMRC & DARCOM sponsored projects. The summaries provide cumulative figures relative to the number of projects by fiscal years, and distribution and expendatures of funds on contract and in-house. The projects that were completed during this report period are also included in these summaries since they were active during a portion of the period.

Additional efforts were expended during this report period to reduce the number of delinquent status reports. This included a reminder letter and extensive follow-up by telephone, however these efforts were largely ineffective in reducing the number of delinquent reports. There were 21 delinquent reports for this period. For the next report period, additional efforts will be concentrated on those projects that were delinquent. The goal for the 2nd Half CY78 Semiannual report is no more than 10 delinquencies.

MM&T PROGRAM SUMMARY

Organization	Number of Projects			Funding Status		
	Previous Period	This Period	% Change	Previous Period	This Period	% Change
AVRADCOM	65	56	- 14	$ 20,104,700	$ 19,625,100	- 2
CORADCOM	9	9	0	4,081,900	4,070,100	0
ERADCOM	56	45	- 20	28,498,400	21,170,700	- 26
MIRADCOM/MIRCOM	50	70	+ 40	20,130,800	27,101,500	+ 35
TARADCOM/TARCOM	21	27	+ 29	3,748,000	5,871,000	+ 57
ARRADCOM/ARRCOM (Ammo)	200	225	+ 12	129.[illegible],700	144,619,400	+ 12
ARRADCOM/ARRCOM (Weapons)	68	68	0	[illegible]48,000	10,606,200	+ 5
MERADCOM	8	19	+137	1,970,000	4,313,000	+118
NARADCOM	5	4	- 20	1,163,100	853,100	- 27
TECOM	4	4	0	2,408,000	2,489,000	+ 3
AMMRC/DARCOM	13	14	+ 8	14,371,000	19,122,000	+ 33
TOTAL	499	541	+ 8	$236,304,600	$259,841,100	+ 10

The MM&T Program Summary indicates that the active projects have increased by about 10% during this semiannual period. The bulk of this increase was in the missile and ammunition area although percentagewise MERADCOM had the largest increase. Most of the FY78 projects that will be funded are now included in this report. Approximately 25 additional FY78 projects are anticipated to be funded. The command listing has been realigned to agree with the present DARCOM organizational structure. Values for the previous period have been redistributed where required to correspond with the new organization.

ACTIVE PROJECTS
BY
FISCAL YEAR

Organization	70	71	72	73	74	75	76	7T	77	78	TOTAL
AVRADCOM		1	0	1	5	9	11	0	13	16	56
CORADCOM			1	0	0	0	5	0	1	2	9
ERADCOM	1	0	0	0	1	6	14	0	17	6	45
MIRADCOM/MIRCOM						1	12	6	19	32	70
TARADCOM/TARCOM					1	3	4	0	8	11	27
ARRADCOM/ARRCOM (Ammo)	1	1	1	4	15	27	58	20	50	48	225
ARRADCOM/ARRCOM (Weapons)				2	3	9	9	0	29	16	68
MERADCOM						2	5	0	4	8	19
NARADCOM					1	0	2	0	1	0	4
TECOM							1	1	1	1	4
AMMRC/DARCOM					2	2	3	2	3	2	14
TOTAL	2	2	2	7	28	59	124	29	146	142	541

The median fiscal year for these projects is now between 7T and 77 whereas during the previous report it was between 76 & 7T. This median movement was primarily due to the addition of new FY78 projects. At the end of this report period one each of the FY70 and 71 projects shown above were closed out. There are 3 fewer FY72 projects, 5 fewer 73 projects, and 16 fewer 74 projects so there does appear to be some attempt at closing out these overdue projects. During this report period there were 100 projects that were more than 3 years old. This amounts to 18% of the total projects.

PROGRAM FUNDING ALLOCATIONS

(MILLIONS)

Organizations	No. Projects	Authorized Funds	Contractor Allocated	In-House Allocated
AVRADCOM	56	$ 19.6	$ 14.4 (73%)	$ 5.2 (26%)
CORADCOM	9	4.1	3.2 (78%)	0.9 (22%)
ERADCOM	45	21.2	15.4 (73%)	5.7 (27%)
MIRADCOM/MIRCOM	70	27.1	14.8 (55%)	12.3 (45%)
TARADCOM/TARCOM	27	5.9	1.7 (29%)	4.1 (71%)
ARRADCOM/ARRCOM (Ammo)	225	144.6	64.3 (44%)	80.3 (55%)
ARRADCOM/ARRCOM (Weapons)	68	10.6	4.2 (40%)	6.4 (60%)
MERADCOM	19	4.3	3.0 (70%)	1.3 (30%)
NARADCOM	4	0.9	0.6 (75%)	0.2 (24%)
TECOM	4	2.5	0.2 (9%)	2.3 (91%)
AMMRC/DARCOM	14	19.1	2.6 (13%)	16.6 (86%)
TOTAL	541	$259.8	$124.7 (48%)	$135.7 (52%)

The purpose of this chart is to indicate the distribution of project funds between contractors and in-house. The current report indicates slightly more funds in-house than are on contract. Since there has been insufficient time for the awarding of contracts an unusually large proportion of the FY78 funds are still in-house. The final distribution of funds will again indicate slightly more funding on contract. There does not appear to be a trend towards movement of funds in either direction for the program as a whole. A command by command comparison of similar percentages from the previous semiannual report indicates only moderate variations.

PROGRAM FUNDING EXPENDITURES

(MILLIONS)

Organization	No. Projects	Authorized Funding	Contractor Allocated	Contractor Expended	In-House Allocated	In-House Expended
AVRADCOM	56	$ 19.6	$ 14.4	$ 6.6 (45%)	$ 5.2	$ 2.5 (46%)
CORADCOM	9	4.1	3.2	1.5 (47%)	0.9	0.3 (28%)
ERADCOM	45	21.2	15.4	7.7 (49%)	5.7	1.4 (24%)
MIRADCOM/MIRCOM	70	27.1	14.8	8.2 (55%)	12.3	3.0 (24%)
TARADCOM/TARCOM	27	5.9	1.7	0.6 (33%)	4.2	1.5 (36%)
ARRADCOM/ARRCOM (Ammo)	225	144.6	64.3	43.9 (68%)	80.3	46.8 (58%)
ARRADCOM/ARRCOM (Weapons)	68	10.6	4.2	1.6 (38%)	6.4	3.9 (60%)
MERADCOM	19	4.3	3.0	1.8 (58%)	1.3	0.4 (30%)
NARADCOM	4	0.9	0.6	0.4 (61%)	0.21	0.17(79%)
TECOM	4	2.4	0.2	0.1 (49%)	2.3	1.3 (58%)
AMMRC/DARCOM	14	19.1	2.6	2.4 (93%)	16.6	10.4 (62%)
TOTAL	541	$259.8	$124.4	$74.8 (60%)	$135.4	$71.7 (53%)

The purpose of this chart is to indicate at what rate the funds are being expended both on contract and in-house. The expenditure rate is slightly lower than during the previous semiannual period due primarily to the new FY78 projects that have been added. A command by command comparison does not indicate any unusual changes. MIRADCOM/MIRCOM shows a substantial drop in funds expended. This was caused by a large number of new projects.

PROJECTS ADDED
IN FIRST HALF, CY78

TECOM

0 78 5071 TECOM PRODUCTION TEST METHODOLOGY ENGINEERING MEASURES
Artillery, vehicle and electronic conventional test capabilities need to be upgraded to provide more timely accurate test data for the test and evaluation process.

AVRADCOM

1 78 7123 IN PROCESS TECHNIQUES FOR CONTINUOUS BALANCING SHAFTING
Existing balancing techiques for shafting are difficult and costly, requiring many trial speed runs to establish the proper balance.

1 78 7155 COST EFFECTIVE MFG METHODS FOR IMPROVED HELICOPTER GEARS
Demand in helicopter operation of greater reliability of high performance gears at lower cost has required that improved processing and evaluation techniques be instituted.

1 78 7287 MULTI-ELEMENT MODULES FOR ARRAY ANTENNAS
Phased array antennas are typically very expensive. As a result mechanically scanned antennas have been preferred however this restricts the requirements that a radar can satisfy due to the slower scan speed of these antennae.

ARRADCOM-ARRCOM (AMMO)

8 78 1296 MANUFACTURING OF CB FIBERS

Existing filter production facilities are obsolete, inefficient and expensive to operate.

5 78 1320 PILOT STATIONS FOR FILLING & CLOSING IMPROVED WP MUNITION
The present smoke obscuration capability of the Army contains significant gaps and functional deficiencies in present munitions. inventories and supporting technology.

8 78 1335 MANUFACTURING TECHNOLOGY FOR NEW PROTECTIVE MASK
Existing filter production facilities are obsolete, inefficient and expensive to operate.

8 78 1339 MANUFACTURING TECHNOLOGY FOR PREPARATION OF B-1 DYE
Due to the carcinogenic properties of a chemical intermediate, B-N Aphthylaniene used in preparation of B-1 dye. No commercial source will provide the dye for use as a liquid agent detector.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

5 78 1345 FOR BIOLOGICAL WARNING SYSTEM
There is no biological agent detector mass production capability.

5 78 3907 MNOS COUNTER-MEMORY CIRCUIT FOR FUZES
There is no production capability for the low cost long-lead-time counter-memory circuits for XM587. Initial fuze production is scheduled for FY78-79.

5 78 3947 THICK FILM HYBRID CIRCUIT FOR FUZES
High cost is anticipated for two hybrid circuits used in the XM587/XM724 fuzes due to extensive hand labor and low yield.

5 78 4000 AUTOMATED M55 DETONATOR LOADING EQPT
Current production facilities lack versatility, present quality problems and are costly to operate and maintain.

5 78 4041 DEV OF AUTOMATED EQUIPMENT FOR ASSY OF MORTAR AMMO
The manual LAP of the 60MM, XM204 MOD 2 and the 81 MM, XM205 propelling charges is costly and subject to poor quality product.

5 78 4139 APPLIC OF RADAR TO BALLISTIC ACCEPT TEST OF AMMO (ARBAT)
Terminal ballistic data gathered by visual and aural observation results in erroneous, inadequate, and missing data. Critical decision must then be made with insufficient or incorrect information.

5 78 4148 REDUCED WEIGHT FORGING F/8 INCH MOTOR BODY
The present forging weighs 103 lbs. and requires extensive machining in the aft Trepan area.

5 78 4149 LOADING OF 30MM ADEN/DEFA HEDP AMMUNITION
Present processer for projectile fabrication, shaped charge liner fabrication and projectile loading is tailored for costly low volume production.

5 78 4150 NEW MFG PROCEDURE FOR SAWS AMMO
No economical method for production of saws ammo.

5 78 4153 INERTIA WELDER FOR THE M509 AND M483 PROJECTILES
The machine developed by Chamberlain Corporation does not have the design capability to achieve acceptable welding.

5 78 4214 POLLUTION ENGINEERING FOR 1983-85 REQUIREMENTS
The federal regulations for environmental control are changing and becoming more stringent for 1983 and 1985.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

5 78 4228 AUTO BAG LOADING/CHARGE ASSEMBLY & PACKOUT-155MM/8 IN
Final assembly and loading of the 155MM and 8" propelling charges need updating for cost effectiveness and for mobilization capabilities. These have been primarily manual operations.

5 78 4237 CONTINUOUS TNT PROCESS ENGINEERING
Current CIL process requires process and safety improvements.

5 78 4249 SEPARATION OF EXPLOSIVES FROM SPENT ACID/WATER SLURRIES
Separation of explosive fines from spent acid streams and water slurries cannot be effectively accomplished on the plant scale with existing methods, rate of recovery is too small by present efforts.

5 78 4252 IMPROVE PRESENT PROCESSES FOR THE MANUFACTURE OF RDX & HMX
Process variables have never been optimized in the RDX - HMX mfg process, reactant concentrators, temperature and time of reaction and procedures such as recycling or reaction filtrate need to be examined.

5 78 4263 AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ
Controlled cooling and processing of HE produced on a continuous basis is important to the modernization program.

5 78 4267 CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B
The batchwise cooling process of RDX/TNT/WAX slurry allows only a limited control of granulation.

5 78 4281 CONSERVATION OF ENERGY AT AAPS
Reduce energy consumption at ammunition plants.

5 78 4285 TNT EQUIV TESTING FOR SAFETY ENGINEERING
Present criteria for blast resistant structures is in terms of surface burst of hemispherical TNT. In structural design, to protect from the output of other energetics. The designers must have data pertinent to the material in question.

5 78 4288 EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERA
Information is required to upgrade processes and facilities to provide max safety by the development on safe distances between explosive and end items to determine safe depth of explosives and to determine sensitivity criteria.

5 78 4341 AUTOMATED EQUIPMENT FOR ASSY OF MORTAR IGNITION CARTRIDGES
Manual type operations for the production of ignition cartridges have resulted in low levels of quality, safety, and high costs.

5 78 4349 MOD OF PRESS LOADING FOR HEP PROJECTILES
Labor intensive loading with wasteful increments and machining of excess explosives.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

5 78 4431 AUTOMATED EQUIP FOR MORTAR IGNITION CARTRIDGES
Production of ignition cartridges for mortars is basically a manual operation which exhibits low level production quality, safety, and high cost characteristics.

5 78 4444 BODY FOR M42/M46 GRENADE
Present methods for producing M42 and M46 grenades are costly.

5 78 4447 NITROGUANIDINE PROCESS CONTROL ANALYTICAL SYSTEMS
The need exists to provide the analytical methods for process control and product assurance.

5 78 4449 PROCESS IMPROVEMENT IN DRYING/COATING OF RDX COMPOSITIONS
The existing facilities which are common to the manufacture of comp B and the other RDX composition would limit the availability of these items below their MOB requirements.

5 78 4454 AUTOMATIC INSPECTION DEVICE EXPLOSIVE CAST IN SHELL
Currently conventional film radiography characterizes by cost of film and high personnel costs is used for detection of defects in explosive casts. This is not only costly but involves the questionable reliability of human interpretation.

5 78 4466 EVAL TNT, CYCLOTOL, AMATEX, OCTOL WITH PA MELT-POUR FACIL
The melt/pour explosive fill equipment was designed for the Army's preferred fill, Comp B, with little regard for the application of this equipment to the alternate explosive fills.

5 78 4469 AUTOMATED INSERTION OF GRENADE LAYERS
The manual insertion grenade layers into projectiles is a highly manual, costly and hazardous operation.

5 78 4472 DEV OF EQUIPMENT FOR QUTO FAB OF CENTER CORE PROP BAGS
Manufacturing of center core prop bags is a long, time consuming, piecemeal process which is very costly.

5 78 4498 MT FOR CONSOLIDTN & AUTO ASSEMBLY OF SMALL MINES
Off-line operations and multiple handling is required for the preominately manual lap operations.

5 78 4508 PROCESS IMPROVEMENTS FOR PRESSABLE RDX COMPOSITIONS
Present production methods for pressable RDX Compositions necessitates the use of facilities which will be required for Comp B mfg during mobilization.

5 78 6596 BALL PROPELLANT PILOT PLANT STUDIES
A pilot facility with variable control systems is needed, because current engineering work must be performed on production lines when available, and conflicts with productive operations.

5 78 6634 MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJECTILE
Depleted uranium is pyrophoric and requires care in machining and/or grinding to finish configuration.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

5 78 6654 NDT FOR QC IN MFGR OF ADVANCED FRAGMTG STEEL SHELL
The Army does not have a NDT System with the flaw detection and discrimination capability needed to insure the safety of high fragmentation artillery projectiles.

5 78 6681 OPTIMIZE PARAMETERS FOR PROD SHEAR FORMING OF PROJECTILES
Current methods of fabrication for artillery projectiles use conventional forging and drawing practices which require extensive machining.

5 78 6683 PRODUCTION OF TUNGSTEN BASE ALLOY PENETRATORS FOR AP MUNIT
Processing technology and production engineering data for the fabrication of Tungsten alloy penetrators is needed.

5 78 6693 BALL PROPELLANT DETERRENT COATING-CAM RELATED
The deterrent coating step in ball propellant manufacture produces a product that demonstrates significant ballistic variability from batch to batch.

5 78 6725 AUTOMATED INERTIA BANDING MACHINE FOR ARTILLERY MUNITIONS
Gas metal arc welding - GMAWI is presently used for welding overlays for rotating bands, may be overly expensive and requires skilled operators.

5 78 6736 TECH READINESS ACCEL THRU COMPUTE INTEGRATED MFG (TRACIM)
Lead time to bring munition production lines to mobilization levels is excessive. Non-availability of technical skills (tool makers and machinists) and up-to-date on item description. Manufacturing process, tool designs, gages, fixtures, and facilities.

5 78 6748 SCAMP POLLUTION ABATEMENT
The pollutants produced by scamp lines have been investigated under a project 57X 4114. Subproject F2. When complete, in FY77, a recommended abatement system will result. This system must be tested.

5 78 6753 METHODS FOR ORIENTING & FEEDING SMALL CALIBER AMMO
The existing batch process used slow parts feeders. Feeders initially developed for the 5.56MM mod program have had mechanical problems and have not achieved the required efficiency.

5 78 6760 DRYING LOW DENSITY BALL PROPELLANT
Low density ball propellant is low in weight, high in moisture content and more hazardous than conventional ball propellant thus creating a number of problems in drying process.

5 78 6774 MFG METHODS FOR ADPS PROJECTILE (25MM)
The existing process for manufacturing the 25MM (MICV) APDS projectile are inefficient and labor intensive. The present methods cannot meet required production rates.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

ARRADCOM-ARRCOM (WPNS)

6 78 3901 MANUFACTURE OF FLUIDIC AMPLIFIERS BY COLD FORMING
Present methods of manufacturing fluidic amplifiers are costly as they require 100% inspection because of unsatisfactory repeatability in dimensions and finishes.

6 78 7649 COMPUTERIZED POWDER METALLURGY FORGING DESIGN-CAM
In the overall process design for P/M forging, preform design is most difficult and relies on a trial-and-error approach.

6 78 7655 APPLICATION OF THERMOARC SPRAY WEAR COATINGS
Lightweight alloy components have inadequate wear resistance.

6 78 7710 INJECTION MOLDING OF RUBBER OBTURATOR PADS
The high cost of the standard neoprene rubber obturator pad for 155MM cannon, is due largely to the long, two hour cure required in the compression molding operation.

6 78 7716 PROTOTYPE PROD LINE FOR PRESSURE PHOSPHATE COATINGS
Conventionally phosphated military items experience less than five hours salt spray corrosion resistance.

6 78 7741 INSPECTION INSTRUMENTATION FOR FIRE CONTROL INSTRUMENTS
Equipment to align and calibrate test fixtures used in inspection of fire control instruments cannot accurately determine instrument linearity and angular motion with out probability of significant error.

6 78 7743 APPLICATION OF ANTI-FOG CONDUCTIVE FILMS
Exposed optical elements of tracking and sighting optical systems fog in a rapid temperature change environment.

6 78 7747 INJECTION MOLDED PLASTIC FOAMS FOR SMALL ARMS APPLNS
M16 butt stock are relatively expensive to fabricate because two different molding operations are required.

6 78 7802 ESTABLISH MACHINE TOOL PERFORMANCE SPECIFICATIONS
Performance capability of production machine tools is not known.

6 78 7807 PROGRAMMED OPTICAL SURFACING EQUIP AND METHODOLOGY-CAM
Production quantities required for any given military optic are small. Thus, cost saving possibilities of mass production are not available and other means of cost reduction must be sought.

6 78 7808 LEAK DETECTION TECHNIQUES FOR SMALL SEALED FIRE CON ASSY
Leak testing by standard pressure testing methods on small sealed fire control assemblies is difficult, far from precise and does not provide the desired confidence level.

6 78 7814 SYNTHETIC QUENCHANT FOR HEAT TREATING WEAPON COMPONENTS
Conventional quenchants have limited cooling rates, pose safety and health hazards, and pollute the environment.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

6 78 7825 ELIMINATION OF FACILITATING HONING OPERATIONS
Improved techniques and equipment can feasibly eliminate certain honing operations thus reduce costs.

6 78 7840 PORTABLE MULTI-DEGREE-OF-FREEDOM SIMULATOR
Deficiencies in automatic cannons mounted on helicopters or armored personnel carriers that arise due to mounting conditions and environmental vibrations are not revealed.

6 78 7844 ROOM TEMPERATURE PHOSPHATING
The present phosphating process must be done at high temperatures and is energy intensive.

6 78 7943 ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS
Rock Island Arsenal requires an effective investment program for production facilities and equipment and a comprehensive facilities modernization plan.

6 78 8017 POLLUTION ABATEMENT PROGRAM
More stringent environmental requirements are being established for air and waste water discharge.

DARCOM

D 78 5052 ARMY ENGINEERING DESIGN HANDBOOK FOR PRODUCTION SUPPORT
Technical scientific and engineering data is continually being generated within the Army and needs to be collected in appropriate documents.

MERADCOM

E 78 3532 MOLTEN SALT LI/C1 BATTERY
Present lead acid and nickel iron batteries often need recharging in order to complete an eight-hour shift.

E 78 3587 SLUFAE MINE NEUTRALIZER LAUNCHER
Successful models of the launch tube for the slufae min neutralizer have been made by hand in the laboratory only (model shop).

E 78 3604 SOLID STATE POWER SWITCH
There is no production base for solid state power switch. The nature of this device is such that no manufacturing technology or method exists for the unique assembly requirements.

E 78 3605 TRANSCALENT (HIGH POWER) TRANSISTOR
Currently available solid state power devices of required ratings and their heat sinks often are too heavy and bulky to be conveniently used in compact, lightweight power conditioners.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

E 78 3606 250 AMP TRANSCALENT (HIGH POWER) RECTIFIER
There is no production source available for the transcalent (high power) rectifier for use in solid-state power processing circuits and systems.

E 78 3613 VEHICLE-MOUNT ROAD MINE DETECTOR SYSTEM ANTENNAS
The fabrication of these antenna modules is by manual operations and is labor cost excessive.

E 78 3717 HIGH TEMPERATURE TURBINE NOZZLE FOR 10KW POWER UNIT
Super alloy metals used in hot components of gas turbines are limited in operating temperature and are subject to premature failure in dusty or corrosive atmosphere. Alloy metals are strategic materials and are costly to manufacture.

E 78 3749 HYDRAULIC ROTOR ACTUATORS
The proven configuration has never been produced on a quantity basis. Manufacturing methods for close tolerance and microfinishers are not available

CORADCOM

No New Projects.

ERADCOM

No New Projects.

AMMRC

M 78 6350 MATERIALS TESTING TECHNOLOGY
Destructive and certain conventional non-destructive testing techiques are respectively unsuited and inadequate or hard to be adapted to on-line production testing usage.

NARADCOM

No New Projects.

MIRADCOM-MIRCOM

R 78 3075 INFRARED TESTING OF PC BOARDS AND MICROCIRCUITS
Structural/electrical flaws in colid state devices used in micro-circuits and printed circuit boards are difficult to detect.

3 78 3115 ENGINEERING FOR CALIBRATION EQUIPMENT
Measurement sciences or metrology must be continually advanced in relevant technology areas to keep pace with many army programs.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

R 78 3121 APPLICATION AND NDT OF LINE PIPE FOR MOTOR COMPONENTS
Area saturation rocket motor cases are expensive despite their high production volumes.

R 78 3126 PROCESSING OF LASER OPTICAL CERAMICS BY GRADIENT FURNACE
The production rate is low and the costs high when producing the laser rods by the present Czochralski process.

R 78 3133 PROD OF LITHIUM FERRITE PH SHIFTER FOR PHASED ARRAY RADARS
The garnet presently used in phase arrays is costly, and the manufacturing process is difficult and expensive.

R 78 3136 IMP. MANUFACTURING PROCESSES FOR COMPLIANT BEARING GRYROS
The present method of manufacture is too expensive for volume production.

R 78 3147 ADDITIVE PROCESS OF PROCESSING PRINTED CIRCUITS
The subtractive process of making printed circuits is used almost 100% for DOD applications, this process is a large user of copper and the waste material is difficult to dispose of.

R 78 3165 PRODUCTION TECHNIQUES FOR SEALING HYBRIDS
20% of Hybrid reject rate is associated with sealing.

R 78 3170 REPLACEMENT OF TPH-8156 AND TPH-8159 PROPELLANT
Replacement of curing agent and resulting propellant have only been produced on Lab scale.

R 78 3171 AUTO MONITOR AND CONTROL FOR WAVE SOLDERING MACHINES
3-5 of rejected PCB's are due to improper or uncontrolled wave soldering.

R 78 3183 IMPROVED PROCESSES FOR INERTIAL GRADE Q-FLEX ACCELOROMETER
Low yield of Q-Flex accelerometer due to bias stability and scale factor stability.

R 78 3188 INFRARED IMAGING SEEKERS FOR THERMAL HOMING MISSILES
Present methods of production and testing require high labor skills.

R 78 3204 INTERNAL SHEAR FORGING FOR MISSILE PRIMARY STRUCTURE
The present rolled or die forged stiffening rings for the Pershing missile are excessively expensive.

R 78 3218 REDUCE FINISHING COST OF SLIP CAST FUSED SILICA RADOMES
Radome manufacturing costs are high and yield is low.

R 78 3228 PRODUCTION METHODS FOR EXTRUDABLE HTPB PROPELLANT
Production of high volume solid composite small caliber rocket motors is time consuming (7 to 14 days).

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

R 78 3229 LOW COST DISPOSABLE MANDRELS
Expensive core mandrels are used to cast solid propellant graims removal is a problem.

R 78 3253 HI CURRENT DENSITY CATHODE
Tubes presently being produced for 0.5 - 1.0 amps/cm^2 oper operations have lifetime ratings of only 3500 hrs.

R 78 3254 SEMI-FLEXIBLE THIN FILM SEMICONDUCTORS
Present circuit boards lack the packing density and stringent packaging qualities projected for future missile electronic systems.

R 78 3372 MFG METHODS FOR MAGNETIC COMPONENTS
Newer electromagnetic devices with reduced weight and value are beyond the capabilities of present manufacturing processes.

R 78 3376 TESTING ELECTOR-OPTICAL COMPONENTS AND SUBSYSTEMS
Manufacturing Technology necessary for large-scale production of electro-optical systems is very limited.

R 78 3436 DEVELOP CERAMIC CIRCUIT BOARDS AND LARGE AREA HYBRIDS
Cost is a critical factor in conventional welding associated with the manufacture of high volume missile systems.

R 78 3440 PRODUCTION TESTING OF CONTROL SYSTEMS FOR GUIDED WEAPONS

R 78 3441 APPLICATION OF HIGH ENERGY LASER MANUFACTURING PROCESS
Cost is a critical factor in conventional welding associated with the manufacture of high volume missile systems.

R 78 3453 GROUND LASER LOCATOR DESIGNATOR PRODUCTION IMPROVEMENTS

R 78 3453 LO COST - HI VOLUME RADIOGRAPHIC INSPECTION

TARADCOM-TARCOM

T 78 4264 INSERTS AND FRICTION FILLERS FOR TRACK RUBBER PADS
Track pads cut and chunk in rocky or frozen ground resulting in reduced pad life and increased costs and maintenance.

T 78 4575 LASER WELDING TECHNIQUES FOR MILITARY VEHICLES
No manufacturing baseline exists for welding high strength material by advanced high-speed welding techniques.

T 78 5014 FOUNDRY CASTING PROCESSES USING FLUID FLOW & THERM ANALYS
Foundry casting processes are wasteful of raw materials and energy.

T 78 5017 AUTOMATED WELDING OF ALUMINUM COMBAT VEHICLES
Manual welding is time consuming and fatiguing.

PROJECTS ADDED IN FIRST HALF, CY78 (Continued)

T 78 5019 TACTICAL VEHICLE STORAGE BATTERY
The major cause of tactical vehicle battery failure is battery container breakage.

T 78 5024 GEAR DIE DESIGN AND MFG UTILIZING COMPUTER TECHNOLOGY (CAM)
Proper tooth pattern on bevel gears must be made by trial and error.

T 78 5062 PRODUCTION OR ARMORED VEHICLE VISION BLOCKS
Fabricate an economically improved ballistic vision device.

T 78 5064 LIGHTWEIGHT SADDLE TANK
Fabricate an economical high impact non-metallic fuel tank.

T 78 5083 UPSCALING OF ADVANCED POWDER METALLURGY PROCESSES
Powder metals processes have not been utilized in large components.

T 78 7085 PROD TECH FOR FAB OR TURBINE ENGINE RECUPERATOR
Current method requires a large number of welds to fabricate component.

T 78 5097 INTEGRALLY CAST LOW COST COMPRESSOR

TOTAL PROJECTS ADDED IN FIRST HALF, CY78 116

PROJECTS COMPLETED IN FIRST HALF, CY78

AVRADCOM

1 74 8046 SM COOLED AXIAL TURBINE BLADE DISK/COOLING PLATE FAB (UTTAS)
Final reports on Phase 1 and 2 are available, fifty 1st stage blades are ready for engine tests. A final report is in printing.

1 75 8154 CADAM OF EXTRUSION DIES FOR ALUMINUM, TI AND STEEL PARTS
Tech report has been reviewed and returned to contractor for printing and distribution. AVRADCOM report no. TR 78-29 and AMMRC Ctr 78-26 have been assigned to the report.

ARRADCOM-ARRCOM (AMMO)

5 76 1296 MT FOR CB FILTERS
SP2 a vacuum conveyor system was acquired and proven out, SP2 a filling process was finalized. SP3 a contract scope was prepared for evaluating deep bed compaction techniques. SP4 preliminary data for moisture adsorption by charcoal.

5 76 1313 ASSESSMENT OF HAZARDS IN PRODUCTION OF PYROTECHNIC COMP
Assessment completed. Rupture disc suppression reduced hazard from post ignition or burn rate. Friction stimuli must be higher than expected to achieve explosion. Water is less effective than halon. Qty dist facility and shipping costs can diminish.

5 76 3062 PELLET THERMAL POWER SUPPLY TECHNOLOGY
Battery performance was closely grouped with respect to 2.75 rocket specifications, however, extreme performance displayed considerable spread with no clear correlation to process or fabrication parameter variations. Effort continues under 5 76 3062.

5 75 3077 PRODUCTION METHODOLOGY FOR VALIDATION OF ELECTRONIC FUZES
Project completed. The results indicated that a ten module validation facility is technically and economically benefical. The final report which contains the ten modules detail design has been completed.

5 7T 3104 COPPER AMPULES FOR FUZE POWER SUPPLIES
Union Carbide designed a cartridge and weight assembly machine for the copper ampule. The drawing package was approved for fabrication under the IPF efforts 5 76 3096 and 5 77 6096. Will make, fill and seal copper ampules for PSI 15 for M732 fuzes.

5 76 3104 COPPER AMPULES FOR FUZE POWER SUPPLIES
Union Carbide designed an ampule assembly machine and designed and built a cutter assembly machine. The latter was built and will be placed in the IPF line. The former will be built on IPF project 5 76 3096 and 5 77 3096.

5 7T 3127 MINIATURE BEARINGS AND SHAFT MFR FOR THE XM734 FUZE
Coil tooling and coil assembly machine design were completed. Final technical report will be issued following MMT project 5 77 3127.

5 76 3139 MANF OF INTERCONNECTIONS FOR FLUIDIC CIRCUITS
The project has been completed. The final report has been written and distributed.

5 73 4012 FINAL ROLL MILL/PAD-MAKEUP MACHINE FOR MORTAR INCREMENTS
Work had previously been completed. A final status report was written during this period. For this project 74% of the funding went towards equipment procurement and 16% went for salaries and fringes.

5 74 4013 CONTINUOUS NC MFG BY THE MAG. NITRATE PROCESS
The work was completed. Pilot plant equipment was installed with this year's funds and debugged. The final technical report was worked on.

5 75 4013 CONTINUOUS NC MFG BY THE MAG. NITRATE PROCESS
Methods of protecting the pilot plant from the effects of sulfuric acid were examined. The pilot plant was prepared for protectives storage.

5 75 4015 SYSTEM FOR THE AUTOMATED PROCESSING OF BENITE-PROTOTYPE
A 200BL batch of ingredients transferred successfully to assy. waterjet cutting of strands was recommended. A benite pilot lot was processed thru M490 rounds successfully fired thru 105mm gun at APG. Screw extrusion and acetone solvent raise system safety.

5 76 4073 PHOTOFLASH COMPOSITIONS DESENSITIZED BY COATANTS
A draft of the final technical report has been completed. The photoflash formulation developed performed as well as conventional powders and with improved safety. The formulation will be presented in the final report.

5 7T 4105 AUTO INCR LDG + ASSY OF PROP CHGS W/ CENT CORE IGN
Final status report was prepared during this period. This FY7T effort provided in-house tech support for adequate review and monitoring of Phase 3 (assembly module). The Phase 3 effort was carried out with FY76 funding.

PROJECTS COMPLETED IN FIRST HALF, CY78 (Cont'd)

5 77 4139 APPL OF RADAR TO BALLISTIC ACCEPT TEST OF AMMO
Final report for FY77 effort has been submitted. For status of project 4139 see 5 78 4139 below.

5 72 4162 AUTO LINE FOR THE MELT-POUR PROCESSING OF HIGH EXPLOSIVES
The final report has been prepared and submitted.

5 74 4162 AUTO LINE FOR THE MELT-POUR PROCESSING OF HIGH EXPLOSIVES
The final report has been prepared and submitted.

5 74 4165 PROTOTYPE FACILITY FOR RECOVERY OF HMX FROM RDX/HMX ADMIX
This is the final report. Simmer tanks, slurry pumps and control panel were installed in Bldg D-5 at HAAP, cyclones, hold-up tanks and pumps were installed in Bldg E-4 at HAAP.

5 75 4165 PROTOTYPE FACILITY FOR RECOVERY OF HMX FROM RDX/HMX ADMIX
This is the final report. Equipment installed by prior year project in Bldgs D-5 and E-4 at HAAP were water tested and calibrated. Testing and debugging of the pilot plant was initiated.

5 76 4165 PROTOTYPE FACILITY FOR RECOVERY OF HMX FROM RDX/HMX ADMIX
This is the final report. Debugging of the pilot plant was completed and a parameter study to optimize operation run. Modifications were made in the cyclones. Amount of HMX recovered varied from 34 to 58 lbs and yield varied from 32-64 percent of HM.

5 74 4169 ESTABLISHMENT OF IMPROV PROC TO MANUFACTURE NITROGUANIDINE
A colorimetric method of analysis of nitroguanidine was defined which gives both percentage guanidinium ion and nitroguanidine in the sample. A method for on-stream particle size analysis of feed to the calcium cyanamide kiln was defined also.

5 7T 4202 PROTO EQ FOR CONT, AUTO PDN OF SOLVENT TYPE MULTI-BASE PROP
Processing of M26 on dehy system continued. 20 M26E1 runs were made thru pre-mixer + mixer. Work on cutting M26E1 resulted in poor quality granules. Corrective action is being taken, dehy, pre-mixer, mixer, extruder + cutter were converted f/M30A1.

5 73 4202 PROTO EQ F/CONT AUTO PROD OF SOLVENT-TYPE MULTI-BASE PROP
This project is complete. The final report was prepared.

5 75 4202 PROTO EQ F/CONT AUTO PROD OF SOLVENT-TYPE MULTI-BASE PROP
M30 NC production runs thru the thermal dehy were completed. 74 M30 runs were made on the premixer. Work was continued on eliminating porosity in the mixer product. 1100 lbs of M30 prop was successfully tested in gun firings and closed bomb tests.

5 76 4202 PROTO EQ F/CONT AUTO PROD OF SOLVENT-TYPE MULTI-BASE PROP
Work was started in processing M26 NC thru the thermal dehy. 29 runs of M26E1 prop was made thru the pre-mixer and mixer. Initial runs of M26E1 prop were made thru the extruder. Feed problems were encountered. Work on M26E1 will continue in FY7T.

5 71 4205 PROC SPENT ACID FR RDX/HMX FR RECOV OF EXPLOSIVE + ACID
This is the final report. Ammonia and calcium hydroxide can replace sodium hydroxide as neutralizer and causticizer. Granular activated carbon can be used to adsorb residual explosives from process. N-Propyl acetate is effective for RDX/HMX extract.

5 74 4205 PROC SPENT ACID FR RDX/HMX FR RECOV OF EXPLOSIVE + ACID
This is the final report. Installation of a heating and circulating loop has resulted in reduction of explosive precipitation in the primary evaporator feed tank thereby reducing the explosive load limit in the HAAP spent acid area (B-LINE).

5 74 4263 AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ
Project effort has been completed and final report submitted.

5 75 4263 AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ
Project effort has been completed and final report submitted.

5 75 4271 IMPROVED PROCESSES TO POLISH, DRY, AND GLAZE BLACK POWDER
Bench scale studies were successfully completed indicating that a pilot plant study should be undertaken as Phase 2. Polishing was achieved in 3 minutes and glazing in 15 minutes compared to the normal 2 minutes for polishing and 2-4 hrs for glazing.

5 7T 4288 EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA
No action on individual test programs as total funding was utilized for monitoring and coordinating program efforts.

5 76 4288 EXPLOSIVE IN PLANT SAFE SEPARATION AND SENSITIVITY CRITERIA
All 9 final task reports were completed.

PROJECTS COMPLETED IN FIRST HALF, CY78 (Cont'd)

5 75 4310 RECRYSTALLIZATION AND GROWTH OF HMX + RDX
This is the final report. A pilot plant was designed consisting of an evaporator, crystallizer and explosives/solvent separation systems. Equipment was procured and Bldg C-6 at HAAP modified to accommodate the pilot plant.

5 76 4310 DMSO RECRYSTALLIZATION OF HMX/RDX
This is the final report. Installation of the DMSO pilot plant equipment was performed. Hazard analysis of the system was initiated.

5 77 4310 DMSO RECRYSTALLATION OF HMX/RDX
This is the final report. Installation of the DMSO pilot plant equipment and hazard analysis is completed. A late start FY78 project will be submitted to complete thermal insulation of process and service piping and to prove-out/optimize process.

5 77 4416 ALTERNATE MFG PROCESS FOR S+A-GEMSS
Final tests were conducted on the PEP S+A. Based upon results of these tests and tests by the XM75 contractor, the PEP S+A has been included in DT II tests and is anticipated to be type classified in the XM74 + XM75 mines.

5 76 4500 MOD TEST TECH FOR IMMED DATA ACQ, REDUC, ANALY, DISSEM, CAM REL
This project is complete. Final report presented May 78. Action is being taken to implement the information generated in the course of this program.

5 77 6553 ADAPT ACOUS ANALY-INSPECT OF WELDED OVERLAY BAND-ARTY SHELL
Task completed. The production line test of the welded overlay band inspection engineering model and final report was completed Apr 78.

5 73 6580 INDUCTION HEAT TREATING OF PROJECTILE SHAPES
Both scan and static methods for induction heat treating of 8 inch M509 and 155mm M483 projectile bodies were investigated. Both methods were determined to be uneconomical when compared to conventional heat treating systems.

5 76 6625 AUTO ASSY + INSPECT LINE FOR BEEHIVE FUZE MOVEMENTS
Work completed. This project established the machine and tool design for facilities project no. 5 78 6652. Five of the designs completed will be utilized to update prior built machine, facilities project no. 5 78 6652.

5 75 6654 NDT METHODS OF QC IN MFG OF ADVANCED FRAG. STEEL SHELLS
Task complete. Ultrasonic multi-transducer study indicated that cylindrical portions of the 155mm projectile could be automated. The inspection of the base was not successfully accomplished. Magnetic insp. equip. has been successfully dev. and tested.

5 76 6716 DEV MATH MODEL-FORMING OPER FOR CURR/FUTURE ARTY MP DESIGN
Project is complete. A computer program has been written for establishing optimum nosing parameters.

ARRADCOM-ARRCOM (WPNS)

6 75 7111 COMPUTER ASSISTED GRAPHICAL TECHNIQUE FOR PROD OF WEA SYS
This project is complete. The software is not performing properly thus the system does not have the ability to program the necessary variety and complexities of parts.

6 75 7460 ELECTROCHEMICAL MACHINING APPLIED TO DEBURRING + SHAPING
An electrochemical machining system for the fabrication of howitzer recoil mechanisms was designed, built, tested, and delivered to Rock Island Arsenal.

6 75 7550 PROTOTYPE OF PRODUCTION ELECTRO-SLAG REFINING FACILITIES
Project is complete. It recommends that hollow preforms be incorporated into the next 105mm M68 preform rfq.

6 76 7582 PROCESS FOR FABRICATING BI-DENSITY RUBBER WPN COMPONENTS
No status report was received. Past reports have shown that all the funds have been spent but project follow-up and final 301 is delinquent because of the ARRCOM-ARRADCOM formation. In the ARMCOM split this project did not make an orderly *transition.*

6 76 7588 ROTARY FORGE INTEGRATED PROD TECHNOLOGY
A final report has been drafted.

6 76 7647 PROCESS FOR MANUFACTURING SWAGING MANDRELS FOR GUN BARRELS
Various equip designs and models were tested and a system selected for the manufacturing of gun-barrel swaging mandrels.

DARCOM

A 74 100H UNIAPT EVALUATION - NC/CAM
This project is complete and demonstrated that the best method for operating an NC tape preparation system is the use of a time share system.

MERADCOM

7 75 3508 DRY COMPOSITE MEMBRANE FOR REVERSE OSMOSIS
This project developed techniques and equipment for the quantity production of wet/dry reversible dry cellulosic-type ro membrane modules suitable for use in the military multi-purpose water purification equipment.

7 76 3532 MOLTEN SALT LI/CL BATTERY
Project work was completed during first CY76. Final report was written but never submitted. Final report has now been received and project will be reported as completed.

7 75 3552 IMPROVED ALUMINUM ALLOY WELDING FILLER METALS
Project work was completed during first CY76. Final report was written but never submitted. Final report has now been received and project will be reported as completed.

7 76 3580 FUEL CELL STACK PRODUCTION
Project work was completed during first CY77. Final report was written but never submitted. Final report has now been received and project will be reported as completed.

E 77 3589 MAN PORT MTL RERADN RADAR ANTENNAS AND FILTERS
Project was terminated and 140K was reprogrammed to MACI project E 79 3579. Termination was due to the cancellation of the development effort of the portable long range detector of metal objects (Plormods).

CORADCOM

2 76 9773 COMPUTER AID F/PREP OF AUTO ANALOG CIRCUIT PROD TEST PROG
This project is complete. The various computer programs developed have been demonstrated. A follow on contract has been awarded to extend the techniques to additional and more complicated circuits. See project 2 78 9773.

ERADCOM

2 70 9217 MMT: FERRITE SOLID STATE RECEIVER PROTECTOR
Varian at Beverly Mass has produced a long life solid state ferrite diode receiver protector. Ten VFX-9500 limiters were produced and half of them were sent to Hughes for use in the TPQ-36 mortar locating radar. Contract was extended for testing.

2 75 9371 AUTOMATING ELECTROD PRODUCTION OF LITHIUM CELLS
This effort could not be completed with the remaining funds. Since other companies are capable of producing the cells at the desired rate of 5000 cells per month it was decided to cancel this project.

2 75 9441 ARC PLASMA SPRAYED PHASE SHIFT ELEMENTS
Project completed. The arc plasma spray process was shown to be an effective technique for fabricating dielectric-loaded ferrite phase shifters. However, improved materials and process to assure reproducibility are needed before it can be competitive.

2 77 9832 AUTO WIRE WRAP VERIFIER, CAM RELATED
Project completed. The HDL algorithm has been successfully integrated with automatic wirewrap machine software. The Class I technical report is being prepared.

2 75 9836 QC TECH FOR FABR OF 18MM + 25MM ETCHED CORE MICROCHAN PLATES
Varian associates concentrated on formalizing its quality control procedures for microchannel plates. MCPs are now better, cheaper, and more available. Yield was improved from 16% to 30%. Nitech also uses these procedures to reduce rejection rate.

H 78 9871 AUTO PRODUCTION OF MILITARY INTEGRATED CIRCUITS
Project was cancelled because the objective disappeared. $500K went to 9738 Pulsed Gaas Impatt Diodes and $250K went to 9767 Auto Assy of Temperature Compensated Voltage Controlled Crystal Oscillators (TCVCXO).

AMMRC

M 76 6382 HEALTH/SAFETY PROCS PROCEDURES - MFR OF DEPLETED URANIUM COMP
Camera ready copy in preparation. All work completed. Letterkenny Army Depot will print and issue as DARCOM Handbook.

MIRADCOM-MIRCOM

R 7T 3126 PROCESSING OF LASER OPTICAL CERAMICS
AMMRC grew large neodinium doped yittrium-alumina-garnet ingots in an electric resistance furnace. The ingots were cut into 3mm x 30mm rods, polished, and tested in a laser at ECOM. They lased.

3 75 3134 PRODUCTION OF FIELD EFFECT ELECTRON EMITTERS
Procedures were developed for growing composites of uranium and tungsten such that approx. 10 million uniformly spaced tungsten fibers were contained in each square centimeter of surface area. Ten patents were issued covering oper of matl as field emi.

R 77 3134 MFG METHODS FOR PRD OF FIELD EFFECT ELECTRON EMITTERS
The primary objective of this project was to develop procedures for plating closely space control grids on oxide-metal composites. A computer program has been dev. to assist in determining proper pin height and spacing.

R 77 3138 ACOUSTICAL HOLOGRAPHIC PASSIVE NDT-CERAMIC RADOME
Project completed. The fab. of the acoustical imagining system scanner control and processing unit was completed. The holoscal 200 system was modified to provide B-scan capabilities. Also, 3-D package was designed and fab.

R 77 3145 COMPUTER AIDED SPECKLE HOLOGRAPHIC COMP VOID DET SYS (CAM)
This project is complete. The final report has been published. The resulting system has the capability of analyzing speckle interferograms of flawed cylinders.

R 77 3188 INFRARED IMAGING SEEKERS FOR THERMAL HOMING MISSILES
Texas instruments made a study of different materials and production methods for low cost infrared seeker heads. Will include diamond turned and aspheric lenses, and automatic methods for building and aligning the detector, optics, and scanner.

3 76 3224 MM&T PROGRAM ON SCREENING OF ELECTRONIC COMPONENTS
The moisture analysis test (MIL-STD-883 method 1008) has been implemented in MIL-STD-883 method 5004 and 5008 for microcircuits and hybrid microcircuits respectively. Mobile ion detection tests and nitride stability test will be implemented in LSI designs.

3 7T 3228 PRODUCTION METHODS FOR EXTRUDABLE HTPB PROPELLANTS
Accomplishments were not updated from last report period.

3 76 3228 PRODUCTION METHODS FOR EXTRUDABLE HTPB PROPELLANT
Accomplishments were not updated from last report period.

3 7T 3229 METHODOLOGY FOR PRODUCING LOW COST, DISPOSABLE MANDRELS
The effort is being continued under R 78 3229.

3 76 3229 METHODOLOGY FOR PRODUCING LOW COST/DISPOSABLE MANDRELS
The effort is now being conducted under R 78 3229.

3 76 3230 MANUFACTURE METHODS FOR HIGH SPEED MACH OF ALUMINUM
Methods and technology for high-speed machining of aluminum missile structures were successfully developed by this project and are currently scheduled for implementation in the prod of cruise and gsrs missile sys at General Dynamics and Vought respectively.

R 77 3452 LOW COST QUANTITY PRODUCTION TECHNIQUES FOR LASER SEEKERS
The contractor made a formal Phase I presentation including Phase I MMT process analyses, manufacturing facilities. Assembly and test plans, and a dedicated assembly area design. The Phase I interim report was approved.

TARADCOM-TARCOM

4 75 4391 ISOTHERM HEAT TREAT F/HIGH STRENGTH DUCTILE IRON CAST-PH 2
All work completed. The durability of the austempered cast ductile iron components are inferior to standard forged components. The cast components are not recommended for low temperature application.

4 76 4395 IMPROVED SEATS FOR MILITARY VEHICLES
All data was evaluated and the final report was prepared.

4 75 4512 AUTOMATED WELDING OF HULL STRUCTURES - MORE THAN ONE AXIS
All work is completed. A final report is being completed by TARADCOM. An automatic gas metal arc welding machine using standard componentry was designed and fabricated. An eddy current sensing probe was coupled to a minicomputer to direct the equip.

4 74 4548 PROC ESR STEEL F/IMPROVED HOMOGENEOUS ARMOR-PH 1 + 2
All work completed. A final report is being prepared. Techniques to produce improved ESR armor have been developed.

TOTAL PROJECTS COMPLETED IN FIRST HALF, CY78: 81

MMT PROGRAM

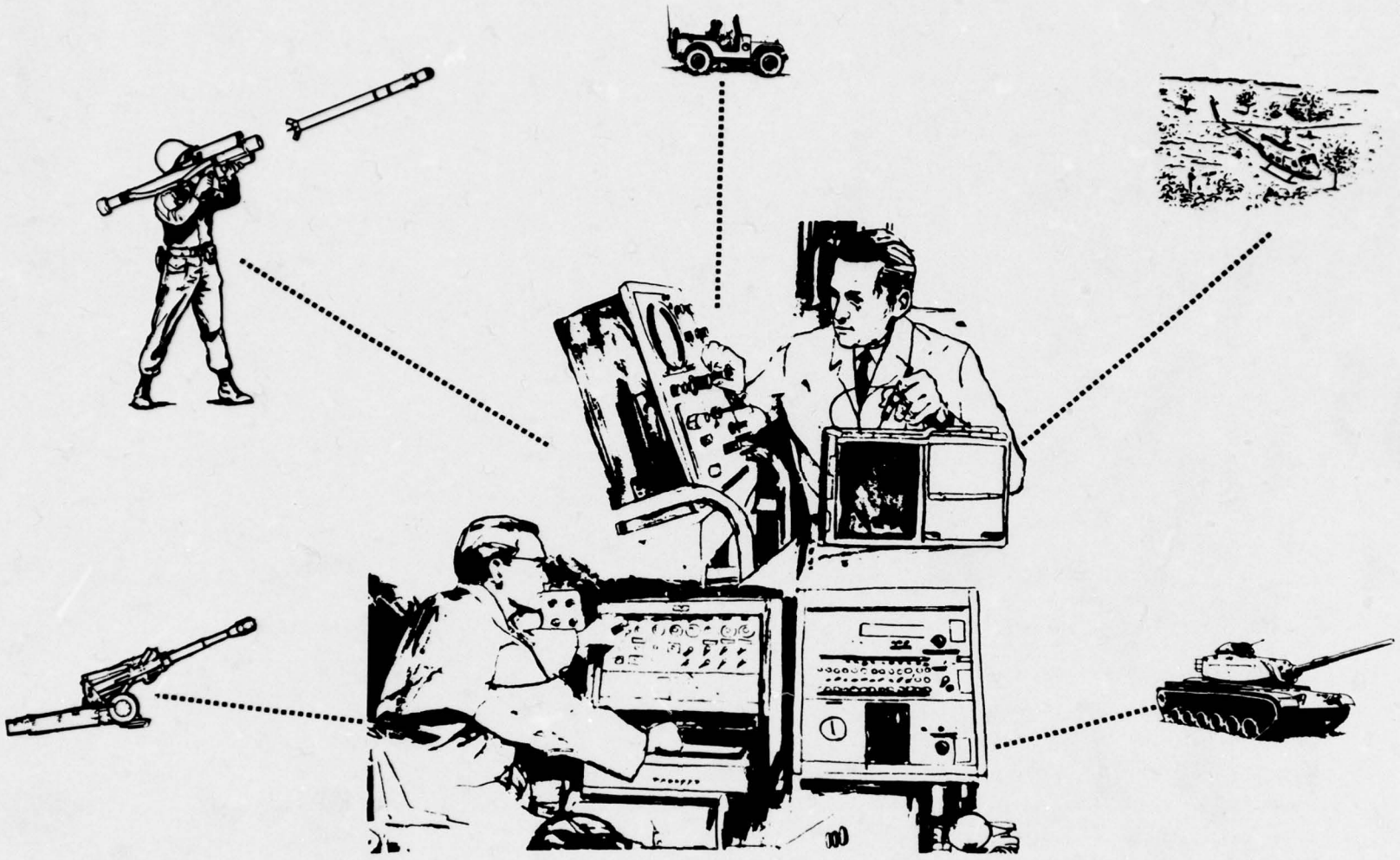
SUMMARY PROJECT STATUS REPORT



MANUFACTURING METHODS AND TECHNOLOGY PROGRAM

SUMMARY PROJECT STATUS REPORT

The Summary Project Status Report for each SUBMACOM is preceded by the tabulated SUBMACOM MMT project funding status. The accuracy of funding amounts is based on the individual RCS DRCMT-301 reports. Persons interested in the up-to-date financial status of funded projects by SUBMACOM and by fiscal code (see DISCUSSION) should consult RCS CSGLD-1123 (R1) (MIN), Army PBS Program, published monthly by the Information Systems Agency, US Army Research, Development and Acquisition, HQ, DARCOM.



TEST AND EVALUATION COMMAND

(TECOM)

TEST AND EVALUATION COMMAND

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
76	1	706,000	87,300	83,800 (95%)	618,700	559,200 (90%)
7T	1	185,000	0	0 (0%)	185,000	150,000 (81%)
77	1	863,000	27,000	27,000 (100%)	836,000	535,000 (63%)
78	1	735,000	111,000	0 (0%)	624,000	87,000 (13%)
TOTAL	4	2,489,000	225,300	110,800 (49%)	2,263,700	1,331,200 (58%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 9% INHOUSE ALLOCATED 90%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 7T 5071	IMPROVEMENT OF PRODUCTION TEST METHODOLOGY SEE INDIVIDUAL SUBTASKS BELOW FOR STATUS	185.0	0.0	150.0	DEC 77	SEP 78
0 7T 5071A	ACCEPTANCE TEST PROCEDURES NINETEEN ATPS WERE COMPLETED AND PUBLISHED.	0.0	0.0	0.0		SEP 78
0 7T 5071B	FUNDAMENTALS OF RICOCHET SEE PROJECT 0 76 5071 SUBTASK B FOR STATUS	0.0	0.0	0.0		SEP 78
0 7T 5071C	TEST OPERATIONS PROCEDURES TWENTY-FIVE TOPS WERE COMPLETED AND SUBMITTED TO HQ TECOM.	0.0	0.0	0.0		SEP 78
0 7T 5071D	HARD MOUNT USAGE FOR MORTAR AMMO TESTING TASK TERMINATED. THE REQUIREMENT FOR A STANDARD HARD MOUNT FOR TESTING OF MORTAR AMMUNITION WAS BASED ON OBSERVED VARIATION IN PERFORMANCE AT DIFFERENT SITES. IT WAS DETERMINED THAT THESE VARIATIONS WERE NOT RELATED TO THE BASE PLATE.	0.0	0.0	0.0		JUL 78
0 7T 5071E	IN-TANK FUEL TEMPERATURE IN ARMORED VEHICLES MEASUREMENTS WERE OBTAINED ON THE M60A1 AND M113A1 VEHICLES. IT WAS CONCLUDED THAT TEMPERATURE-TIME PROFILES CAN BE GENERATED DURING ENDURANCE TEST CYCLES. TOP 2-2-607 WILL BE REVISED.	0.0	0.0	0.0		SEP 78
0 7T 5071F	HELMET PENETRATION OF SMALL ARMS THE 1-78 REPORTING PERIOD STATUS FOR THIS SUBTASK WAS NOT PROVIDED.	0.0	0.0	0.0		SEP 78
0 76 5071	IMPROVEMENT OF PRODUCTION TEST METHODOLOGY SEE INDIVIDUAL SUBTASKS BELOW FOR STATUS	706.0	87.3	559.2	MAR 77	SEP 78
0 76 5071A	ACCEPTANCE TEST PROCEDURES TASK COMPLETED. TWENTY-THREE ATPS WERE COMPLETED AND PUBLISHED. A REPORT COVERING THESE ACCOMPLISHMENTS HAS BEEN PREPARED.	0.0	0.0	0.0		JUL 78
0 76 5071B	REFINEMENT OF TITANIUM ARMOR SPECS TASK COMPLETED. FINAL REPORT(APG-MT-4818) WAS DISTRIBUTED NOV 1976. AMENDMENT OF SPECIFICATION MIL-T-46077B WAS INITIATED.	0.0	0.0	0.0		JUL 78
0 76 5071C	AUTOMATIC DATA COLLECTION SYSTEMS FOR AIR CONDITIONER THE AIR CONDITIONERS AIR-FLOW PARAMETER AND COOLING CAPACITY COMPUTER SOFTWARE PROGRAM HAVE BEEN COMPLETED. THE REMAINING EFFORT WHICH IS TO BE COMPLETED IN SEPT. 78 CONSIST OF INSTRUMENTATION INSTALLATION AND MODIFYING THE EXISTING COOLING CAP. PROG	0.0	0.0	0.0		SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 76 5071D	IMPROVED TRANSPORTABILITY TEST CAPABILITIES THE TRANSPORTABILITY TEST OPERATIONS PROCEDURE 1-2-500 WAS CHANGED TO INCLUDE THE USE OF THE COMPUTER SOFTWARE TO TEST DEVELOPMENTAL AND PRODUCTION AUTOMOTIVE ITEMS.	0.0	0.0	0.0		SEP 78
0 76 5071E	EVALUATION OF IMPROVED BORESCOPE TECHNIQUES TASK COMPLETED, THE NEW TECHNIQUES REDUCED THE PRODUCTION INSPECTION TIME APPROXIMATELY 30%.	0.0	0.0	0.0		JUL 78
0 76 5071F	IMPROVED FUEL HANDLING TEST CAPABILITY TASK COMPLETED, NEW FACILITIES WERE RECOMMENDED TO INCLUDE A NET POSITIVE SUCTION HEAD FACILITY, A FILTER/SEPARATOR TEST STATION, A PUMP PRIMING AND TEST STATION, AND A MARINE TERMINAL PIER TO PERMIT CANTING AND DECANTING OF THE TANK FARM SYSTEM.	0.0	0.0	0.0		JUL 78
0 76 5071H	DEV OF IMPROVED METHODOLOGY FOR SAFETY EVAL OF GEN EQPT TASK COMPLETED, A FINAL REPORT OF IMPROVED METHODS FOR SAFETY EVALUATION OF GENERAL EQUIPMENT WAS COMPLETED (MT-5116, JUNE 78), PUMP PRIMING AND TEST STATION, AND A MARINE TERMINAL PIER TO PERM	0.0	0.0	0.0		JUL 78
0 76 5071I	EVAL OF CO2 CONTAMINATION FROM TANK MACHINE GUNS THE DESIGN HAS BEEN COMPLETED FOR ALL ITEMS WITH THE EXCEPTION OF AN AIR BLOWER. THE MATERIALS FOR THIS PROJECT ARE AVAILABLE WITH EXCEPTION OF THE AIR BLOWER.	0.0	0.0	0.0		SEP 78
0 76 5071J	TEST OPERATIONS PROCEDURES FORTY-TWO DRAFT TOPS WERE COMPLETED AND SUBMITTED TO HQ TECOM, 23 FINAL REPORTS WERE PRINTED AND DISTRIBUTED.	0.0	0.0	0.0		SEP 78
0 76 5071K	JOINT BALLISTIC TEST CONFERENCE SUPPORT TASK COMPLETED.	0.0	0.0	0.0		JUL 78
0 76 5071L	IMPROVEMENT OF INERT LOADING CAPABILITIES THE PELRON (POLYURETHANE) PROCESS IS AN IMPROVED METHOD WITH UNLIMED APPLICATION, OTHER MATERIALS (SAND, STEEL, CYPSUM,WAX) APPLICATION LIMITATION HAVE BEEN IDENTIFIED, PELRON IS BEING CONSIDERED FOR ADDING TO MIL-I-60350.	0.0	0.0	0.0		SEP 78
0 76 5071M	ARTILLERY PROJECTILE SPOILER PLATE DESIGN + PERFORMANCE TASK COMPLETED, STABLE DESIGNS WERE DEVELOPED FOR THE 155MM, 175MM, AND 8 INCH PROJECTILES ACHIEVING RANGE REDUCTIONS ON THE ORDER OF 4000 TO 5000 METERS DURING TEST FIRINGS.	0.0	0.0	0.0		JUL 78
0 76 5071N	DROP TEST PROCEDURES FOR AMMUNITION TASK COMPLETED, THE FINAL REPORT (APG-MT-4884) RECOMMENDED NEW SAMPLE SIZES AND TEST SEQUENCES, AND USE OF METALLIZED COATING ON 12-INCH CONCRETE PAD IN LIEU OF 3-INCH STEEL. FURTHER STUDY IS REQUIRED.	0.0	0.0	0.0		JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 76 5071D	MAINTAINING TEMPERATURE DURING TESTS OF AMMUNITION TASK COMPLETED, IT WAS CONCLUDED THAT THE USE OF THE STANDARD FIBER BOARD OVER PACK PROVIDES ADEQUATE THERMAL INSULATION FOR AMMUNITION DURING TEST OPERATIONS WHEN IT IS TEMPERATURED-CONDITIONED IN AND TRANSPORTED IN AN INSULATED CONTAINER.	0.0	0.0	0.0		JUL 78
0 76 5071P	UNIFORM STDS FOR LASER DESIGNATOR DEVELOPMENT TASK COMPLETED, AN INTERIM GUIDANCE DOCUMENT HAS BEEN PREPARED THAT INCORPORATES THE TOP PROCEDURES.	0.0	0.0	0.0		JUL 78
0 76 5071Q	FUNDAMENTALS OF RICOCHET RICOCHET TESTS WERE COMPLETED, PHASE II FIRING TESTS HAVE BEEN DELAYED AS THE RANGE AND TECHNICAL SUPPORT PERSONNEL WERE NOT AVAILABLE, COMPUTER SOFTWARE HAS BEEN DEVELOPED TO FACILITATE DATE REDUCTION.	0.0	0.0	0.0		SEP 78
0 76 5071R	HELMET PENETRATION OF SMALL ARMS TASK COMPLETED, A FINAL REPORT WAS PUBLISHED AND A NEW PROCEDURE WAS PREPARED FOR INCORPORATION INTO TOP 4-2-016 ON SMALL ARMS AMMUNITION.	0.0	0.0	0.0		JUL 78
0 76 5071S	APPLICATION OF DATA BASE TECHNOLOGY TO WORKLOAD SCHEDULING A PILOT PROGRAM HAS BEEN DEVELOPED WHICH PERMITS A DIRECT ASSESSMENT OF COST CENTER WORKLOAD FOR THE ARTILLERY AND ARMOR PROJECTS, COMPUTER SOFTWARE HAS BEEN DEVELOPED FOR THE MATERIEL TESTING DIRECTORATE.	0.0	0.0	0.0		SEP 78
0 76 5071T	VALIDATION OF ACCEPTANCE TEST PROCEDURES TASK COMPLETED, A FINAL REPORT WAS PREPARED AND APPROVED FOR PUBLICATION, MT-5071, JAN, 78.	0.0	0.0	0.0		JUL 78
0 77 5071	IMPROVEMENT OF PRODUCTION TEST METHODOLOGY SEE INDIVIDUAL SUBTASKS LISTED BELOW	863.0	27.0	535.0	DEC 78	SEP 79
0 77 5071A	ACCEPTANCE TEST PROCEDURES ELEVEN NEW ATPS WERE COMPLETED AND PUBLISHED, FIFTEEN WERE REVISED WITH TWO OTHER STILL IN THE PROCESS OF BEING UPDATED, THE ATP INDEX HAS BEEN REVISED AND UP DATED, TASK COMPLETED.	0.0	0.0	0.0		JUL 78
0 77 5071AA	IMPROVED MOBILITY MODEL TEST SUPPORT A PROTOTYPE VEHICLE RIDE EVALUATOR HAS BEEN PROCURED AND TESTED, THE TERRAIN AND SURFACE CHARACTERISTICS OF CURRENT VEHICLE TEST COURSES HAVE BEEN RECORDED FOR COMPARISON WITH THE REQUIREMENTS OF A COMPUTERIZED MODEL OF VEHICLE MOBILITY.	0.0	0.0	0.0		SEP 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 77 5071AB	IMPACT SENSITIVITY OF FUZES A COMPREHENSIVE SEARCH IS UNDERWAY TO ESTABLISH THE PHYSICAL PARAMETERS WHICH DESCRIBE THE EFFECTS OF RAIN AND BRUSH ON FUZES AND THE FACTORS THAT MUST BE REPRODUCED TO OBTAIN A VALID TEST OF PRODUCTION FUZES.	0.0	0.0	0.0		SEP 79
0 77 5071B	REFINEMENT OF TITANIUM ARMOR SPEC MIL-T-46077 TASK COMPLETED, THE TECHNICAL REPORT (APG-MT-5003) ON FIRING TESTS OF 14.5MM APL, B-32 PROJECTILES AGAINST ARMOR PLATE OF 11/2INCH, 13/4INCH, AND 2INCH WAS APPROVED BY TECOM HQ, AND DISTRIBUTED IN SEPT, 1977.	0.0	0.0	0.0		JUL 78
0 77 5071C	BACKSPALLING CHARACTERISTICS TASK WAS DELAYED AWAITING THE ARRIVAL OF DUAL HARDNESS STEEL (MIL-S-46099A), THE RATIO OF FACE-PLATE TO BACK-PLATE THICKNESS ON THE PLATES WILL BE 45/55 RATHER THAN 50/50 AS WAS TESTED PREVIOUSLY.	0.0	0.0	0.0		SEP 79
0 77 5071D	REQUIREMENT + FEASIBILITY FOR A RICOCHET RANGE TASK COMPLETED, A REPORT WAS PUBLISHED IN AUG, 1977 WHICH RECOMMENDED A RICOCHET FIRING RANGE FOR TESTING HIGH-VELOCITY KINETIC-ENERGY TANK AMMUNITION, FUNDS HAVE BEEN REQUESTED FOR THIS RANGE.	0.0	0.0	0.0		JUL 78
0 77 5071E	DEFINITION AND EVALUATION OF UNSATISFACTORY IGNITION TASK COMPLETED, THE FINAL REPORT (APG-MT-5136, JUNE 78) CONCLUDED THAT NO UNIVERSAL QUANTITATIVE CRITERIA FOR EVALUATION OF PROPELLING CHARGE SAFETY WAS AVALIABLE.	0.0	0.0	0.0		JUL 78
0 77 5071F	METHODS OF HALOGEN LEAK DETECTION A LITERATURE SEARCH HAS BEEN CONDUCTED TO IDENTIFY POTENTIAL LEAK DETECTION METHODS INCLUDING COMMERCIALLY AVALIABLE EQUIPMENT AND TECHNIQUES, A LEAK DETECTION ACCUMULATION CHAMBER HAS BEEN CONSTRUCTED.	0.0	0.0	0.0		SEP 79
0 77 5071G	SMALL CALIBER WEAPON COOK-OFF TESTING A REVIEW OF RECENT COOK-OFF STUDIES WAS COMPLETED, THE SCHEDULED FIRING OF THE M60E2 MACHINE GUN AND M16A1 RIFLE WAS DELAY DUE TO THE NON-AVALIABILITY OF GUNCREWS AND TEST SUPPORT PERSONNEL, THE FIRINGS HAVE BEEN RESCHEDULED FOR THE 4TH QTR9 FY78.	0.0	0.0	0.0		JUL 79
0 77 5071H	SMALL ARMS RICOCHET INVESTIGATION RICOCHET DATA FOR THE 7962MM PROJECTILE WERE REVISED BALLISTIC COEFFICIENTS AND DRAG FUNCTIONS, THIS RESULTED IN CHANGES TO THE DATA PUBLISHED IN REPORT MT-4613, THE REVISED REPORT HAS BEEN DISTRIBUTED TO THE RECIPIENTS OF THE INITIAL REPORT.	0.0	0.0	0.0		JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 77 5071I	RISK IN ACCEPTING MATERIEL NOT CONFORING TO EMI RQMT THE EMI RISK ASSESSMENT TECHNIQUE HAS BEEN DOCUMENTED. IT HAS BEEN DETERMINED THAT THIS TECHNIQUE WILL SATISFY APG'S REQUIREMENTS. THE NECESSARY ACTIONS TO USE THIS EMI TECHNIQUE AT APG IS UNDERWAY.	0.0	0.0	0.0		SEP 79
0 77 5071J	TEST OPERATIONS PROCEDURES SEVENTEEN DRAFT TOPS WERE COMPLETED AND SUBMITTED TO HQ TECOM. SEVEN DRAFTS HAVE BEEN REVISED TO ACCOMODATE COMMENTS PRIOR TO PUBLICATION. TWENTY-FOUR PROCEDURES WERE PUBLISHED.	0.0	0.0	0.0		SEP 79
0 77 5071K	COOLING CAPACITY OF AIR CONDITIONERS WORK ON STANDARDIZING THE APG PSYCHROMETRIC CELL IS CONTINUING. IN AN ATTEMPT TO RESOLVE UNEXPLAINED VARIATIONS IN THE DISCHARGE COEFFICIENTS OF THE NOZZLES, THE LAMINAR FLOW ELEMENTS WERE SHIPPED TO THE NBS FOR CALIB.	0.0	0.0	0.0		SEP 79
0 77 5071N	SMOKE-OBSCURANTS THE TEST PLAN, DATA REDUCTION COMPUTER SOFTWARE, EQUIPMENT CALIBRATION, SOPS, HAVE BEEN COMPLETED. THIS TASK IS SCHEDULED TO BE COMPLETED 4TH QTR 78.	0.0	0.0	0.0	DEC 78	SEP 79
0 77 5071Q	SALT FOG TEST PROCEDURES THE LITERATURE SEARCH ON THE FAILURE OF MILITARY EQUIPMENT IN NATURAL SALT ENVIRONMENTS AND IN SALT-FOG TEST CHAMBERS IS CONTINUING. ALSO, A LITERATURE SEARCH IS UNDERWAY TO CORRELATE LABORATORY TESTS AND REAL-WORLD CONDITIONS.	0.0	0.0	0.0	DEC 78	SEP 79
0 77 5071R	GUN AIR DEFENSE SYSTEM TEST AND EVALUATION A CRITICAL REVIEW OF RECENT TESTS OF AIR DEFENSE SYSTEMS HAS BEEN COMPLETED. DOCUMENTATION OF REVISED PROCEDURES AND OPTIMUM ANALYTICAL METHODS ARE BEING COORDINATED WITH PLANNING FOR EVALUATION OF THE NEW DIVISION AIR DEFENSE SYSTEM (DIVADS).	0.0	0.0	0.0	DEC 78	SEP 79
0 77 5071S	EVALUATION OF SPOTTING CHARGES FOR POINT DETONATING FUZES TASK COMPLETED. THE JULY 1977 REPORT RECOMMENDED THAT SPOTTING OR SUPPLEMENTAL CHARGES NOT BE USED IN INERT PROJECTILES FOR THE ASSESSMENT OF POINT DETONATING MODE OF FUZE FUNCTION AGAINST HARD TARGETS. .	0.0	0.0	0.0	DEC 78	JUL 78
0 77 5071T	LOGISTICS DATA STORAGE AND RETRIEVAL (LIGSTAR) SYSTEM TASK TERMINATED. THIS TERMINATION WAS DUE TO DARCOM'S DECISION TO USE THE TAIDS SYSTEM FOR THE UPCOMING SMI AND FVS PQT-C TESTS.	0.0	0.0	0.0	DEC 78	JUL 78
0 77 5071U	IFF SYSTEM THE CONSULTING FIRM SUBMITTED THE DRAFT REPORT FOR REVIEW.	0.0	0.0	0.0	DEC 78	SEP 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

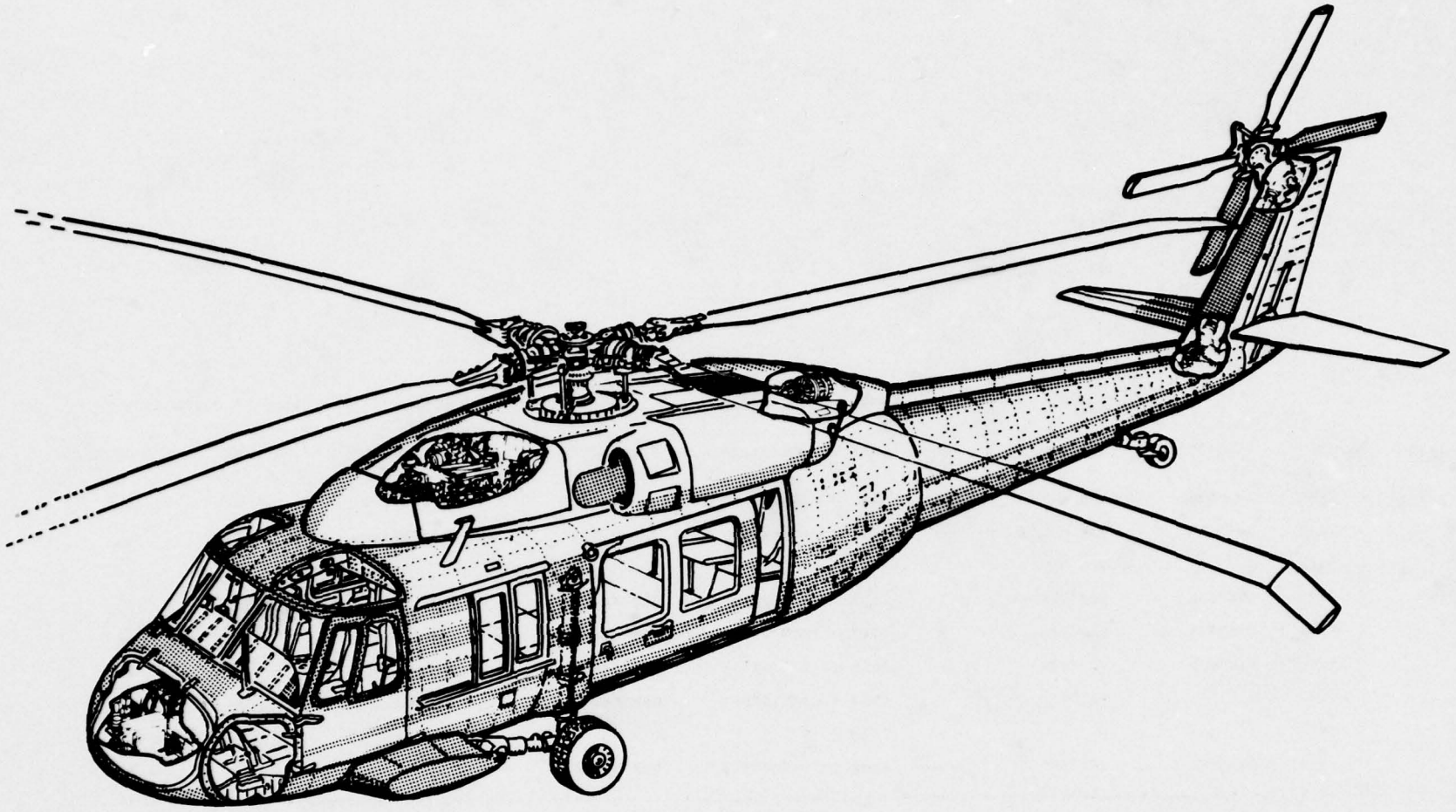
PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 77 5071V	PRODUCTION TEST RANGE THE DATA COLLECTION EFFORT FOR THE FLOW AND ACTIVITY ANALYSIS HAS BEEN COMPLETED, MODELING TECHNIQUES ARE BEING DEVELOPED,	0,0	0,0	0,0	DEC 78	SEP 79
0 77 5071W	EVALUATION OF AMMUNITION CONDITIONING ENVIRONMENTAL CHAMBERS APPROXIMATELY 40% OF THE REQUIRED MEASUREMENTS OF EXISTING TEMPERATURE GRADIENTS AND DISTRIBUTION HAVE BEEN COMPLETED, WORK ON THIS TASK HAS BEEN DELAYED DUE TO LACK OF TECHNICAL PERSONNEL,	0,0	0,0	0,0	DEC 78	SEP 79
0 77 5071Y	APPLICATION OF SIMULATION TECHNOLOGY SOURCES OF TECHNICALLY COMPETENT CONSULTANTS HAVE BEEN IDENTIFIED, ALSO, CANDIDATE APPLICATION AREAS HAVE BEEN IDENTIFIED, THE PRESENT EFFORT IS TO VALIDATE THE FEASIBILITY OF APPLYING SIMULATION TECHNOLOGY TO THE TESTING OF PLRS,	0,0	0,0	0,0	DEC 78	SEP 79
0 78 5071	IMPROVEMENT OF PRODUCTION TEST METHODOLOGY FOR STATUS SEE THE INDIVIDUAL SUBTASKS LISTED BELOW	735,0	111,0	87,0	DEC 79	DEC 79
0 78 5071A	ACCEPTANCE TEST PROCEDURES EIGHT (8) ATPS RELATING TO ARTILLERY AND ARMOR MATERIEL WERE BEING PREPARED AND COORDINATED WITH INTERESTED AGENCIES,	0,0	0,0	0,0		DEC 79
0 78 5071B	GEDAAC AND CONVENTIONAL INSTRUMENTATION DATA CORRELATION THE WORK WAS DELAYED TO PERMIT THE SCOPE TO BE EXPANDED TO INCLUDE THE EVALUATION OF EXISTING SOFTWARE, THIS EXPANSION RESULTED FROM THE DISCOVERY OF SUSPECTED SOFTWARE INADEQUACIES DURING GENERATOR TESTING,	0,0	0,0	0,0		DEC 79
0 78 5071C	ELECTROSTATIC GENERATION AND DISSIPATION THE ELECTROSTATIC POTENTIAL AND MEASUREMENT LITERATURE SEARCH INDICATED THAT THE "FARADAY CAGE" SYSTEM OF MEASUREMENT IS A PROMISING APPROACH, THE NEXT PHASE WILL BE TO CONSTRUCT AN EXPERIMENTAL FARADAY CAGE,	0,0	0,0	0,0		DEC 79
0 78 5071D	SOLID STATE SMEAR CAMERA THE PRELIMINARY DESIGN OF A SOLID STATE SMEAR CAMERA HAS BEEN COMPLETED, A STATE-OF-THE-ART SOLID STATE IMAGE ARRAYS INVESTIGATION IS UNDERWAY, PRELIMINARY FINDINGS INDICATE THAT THE STATE-OF-THE-ART SPEEDS DO NOT APPROACH THE SMEAR CAMERA REQ,	0,0	0,0	0,0		DEC 79
0 78 5071E	GUN AIR DEFENSE SYSTEM LASER TECHNIQUES A PRELIMINARY STUDY INDICATED THAT SIGNIFICANT TESTING IMPROVEMENTS COULD BE REALIZED BY THE USE OF NEW TARGET TRACKING SYSTEMS, THE STUDY RESULTS ARE BEING COORDINATED WITH THE ALL-WEATHER FIRE CONTROL SYS EVALUATION INSTRUMENTATION PROJECT,	0,0	0,0	0,0		DEC 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO,	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 78 5071F	PROJECTILE EDDY CURRENT INSPECTION A PHASE AMPLITUDE EDDY CURRENT INSPECTION UNIT HAS BEEN PLACED ON ORDER, CRACKED M106 PROJECTILES HAVE BEEN OBTAINED FOR THE PROPOSED INSPECTION PROCEDURE EXPERIMENTAL TRIALS,	0,0	0,0	0,0		DEC 79
0 78 5071G	IN-BORE RADIOGRAPHY TECHNIQUE APPLICATION THE X-RAY TRIGGER FEASIBILITY HAS BEEN DEMONSTRATED, THE MAJOR X-RAY TRIGGER COMPONENTS HAVE EITHER BEEN ACQUIRED OR ARE ON ORDER, SECTIONS OF A 105MM GUN TUBE AND TWO INERT ROUNDS HAVE BEEN ACQUIRED,	0,0	0,0	0,0		DEC 79
0 78 5071H	MILITARY VEHICLE ROLL OVER TESTS A SCOPE OF WORK IS BEING PREPARED FOR SOLICITING MILITARY VEHICLES FIELD STABILITY POTENTIAL TEST METHODS, CONTRACTORS WILL BE REQUIRED TO INVESTIGATE PRIVATE INDUSTRY AND OTHER GOV, AGENCIES METHODS,	0,0	0,0	0,0		DEC 79
0 78 5071I	MULTI FUEL SPACE HEATERS CAPACITY TESTING THE WORK COMPLETED TO DATE CONSISTED OF A LITERATURE WHICH INCLUDED MIL-STDS, TECHNICAL PERIODICALS, INDUSTRY STANDARDS AND CODES, APPLICABLE ARTICLES, ETC, ALSO, EXISTING CAPACITY TESTING PROCEDURES PERTAINING TO AIR CONDITIONERS ARE BEING REVIEWED,	0,0	0,0	0,0		DEC 79
0 78 5071J	TRANSDUCER VELOCITY MEASUREMENT INITIAL ACOUSTIC TRANSDUERS EXPERIMENTAL DATA STUDY INDICATED THAT LARGE ERRORS EXISTED DUE TO NONSTANDARD PROJECTILE TRAJECTORIES AND UNKNOWN SHOCK WAVE VELOCITY, TO CORRECT THESE PROBLEMS, ADDITIONAL TRANSDUCERS WERE INCLUDED IN THE MATH, MODEL,	0,0	0,0	0,0		DEC 79
0 78 5071K	DIRECT FIRE WEAPON ADVANCED MUZZLE BORE SIGHT AN ADVANCED BORE SIGHT WAS CONSTRUCTED WITH IMPROVED OPTICAL AND MECHANICAL ADJUSTMENTS, A PROCEDURE IS BEING WRITTEN TO COMPARE THE ACCURACY OF THE NEW INSTRUMENTATION WITH THE PRESENT AND FUTURE BORE SIGHTS,	0,0	0,0	0,0		DEC 79
0 78 5071L	MICROWAVE SKY SCREEN A LITERATURE SEARCH HAS BEEN INITIATED TO ASCERTAIN THE AVAILABILITY OF MICROWAVE HARDWARE SUITABLE FOR APPLICATION IN THE MICROWAVE SKY SCREEN,	0,0	0,0	0,0		DEC 79
0 78 3071M	IMPROVED CRUSHER GAGES THE BALLISTIC RESEARCH LABORTORIES HAVE BEEN REQUESTED TO PERFORM AN ANALYSIS OF US AND FOREIGN GAGES TO EVALUATE EXISTING GAGES USING FINITE ELEMENT TECHNIQUES,	0,0	0,0	0,0		DEC 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
0 78 5071N	TEST AUTOMATION DEVELOPMENT A PLAN OF ACTION WAS PREPARED WHICH INCLUDED THE REQUIREMENTS FOR AUTOMATING THE ANTENNA TEST RANGE, PLANS FOR A DATA ACQUISTION SYSTEM FOR TRI-TAC HAVE BEEN COMPLETED.	0.0	0.0	0.0		DEC 79
0 78 5071O	REAL TIME INTERNAL TUBE PRESSURE NBS CONSULTING SERVICES HAVE BE ACQUIRED DUE TO THE COMPLEXITY OF THE PARAMETERS AND RESTRAINTS INVOLVED.	0.0	0.0	0.0		DEC 79
0 78 5071P	TEST OPERATIONS PROCEDURES EIGHTEEN TOPS WERE SUBMITTED FOR APPROVAL AND PUBLICATION.	0.0	0.0	0.0		DEC 79



AVIATION R&D COMMAND
(AVRADCOM)

AVIATION R+D COMMAND

CURRENT FUNDING STATUS, 1ST FY76

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
71	1	2,276,000	2,206,200	2,200,800 (99%)	69,800	69,000 (98%)
72	0	0	0	0 (0%)	0	0 (0%)
73	1	357,900	354,200	325,300 (91%)	3,700	0 (0%)
74	5	2,111,000	1,225,000	1,119,100 (91%)	886,000	562,200 (63%)
75	9	1,771,500	1,177,600	762,600 (64%)	593,900	516,200 (86%)
76	11	2,895,100	2,344,200	1,342,600 (57%)	550,900	507,000 (92%)
77	0	0	0	0 (0%)	0	0 (0%)
77	13	7,028,600	5,312,000	804,300 (15%)	1,716,600	543,400 (31%)
78	16	3,185,000	1,756,000	26,000 (1%)	1,429,000	262,700 (18%)
TOTAL	56	19,625,100	14,375,200	6,576,700 (45%)	5,249,900	2,460,500 (46%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 73% INHOUSE ALLOCATED 26%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 71 6050	AUTOMATED TAPE LAYUP SYSTEM (ATLAS) ALL REPLIES FROM INDUSTRY TO THE ARMY'S OFFER TO SELL THE ATLAS HAVE BEEN NEGATIVE. TERMINATION OF THIS PROJECT IS AWAITING THE SUBMITTAL OF A FINAL VOUCHER FROM A CONTRACTOR.	2,276.0	2,206.2	69.0	DEC 72	DEC 78
1 73 6673	MM+T PRECISION FORGING OF SPIRAL BEVEL GEARS FINAL REPORT FOR BOEING VERTOL WORK DISTRIBUTED AND A FINAL BRIEFING WAS GIVEN TOINDUSTRY, THE TRW CONTRACT HAS NOT BEEN CLOSED OUT.	357.9	354.2	0.0	SEP 74	AUG 78
1 78 7036	ISOTHERMAL ROLL-FORGING COMPRESSOR BLADE THE FIRST ROLL FORGE DIE SET IS BEING FABRICATED AND THE FORGING MACHINE IS BEING MODIFIED TO INCORPORATE AXIAL FORCE SYSTEM.	270.0	230.0	37.0	JUN 79	JAN 79
1 76 7042	MM+T MICROWAVE CURE OF COMPOSITE ROTOR BLADE SPARS THE 2450 MHZ OVEN HAS BEEN MODIFIED TO YIELD MORE UNIFORM RADIATION, AND IMPROVED VENTILATION. EXPERIMENTS HAVE BEEN CONDUCTED WITH SEVERAL EPOXY RESIN SYSTEMS. A CONTRACTURAL SCOPE OF WORK HAS BEEN PREPARED. THE CONTRACT WITH VANDERBILT IS COMPLETE.	250.0	50.0	170.5	FEB 77	AUG 78
1 76 7046	PRECISION CAST TITANIUM COMPRESSOR CASING SEE STATUS FOR PROJECT 1777046	571.0	518.0	49.9	SEP 78	DEC 78
1 77 7046	PRECISION CAST TITANIUM COMPRESSOR CASING ALL WORK BY PRECISION CASTPARTS, INC, HAS BEEN COMPLETED. TWO ENGINE CASES HAVE BEEN MACHINED AND PREPARED FOR ENGINE TESTS.	571.0	518.0	49.9	SEP 78	DEC 78
1 75 7052	FEAS OF ULTRASONIC ASSISTED FORMATION OF TITANIUM NOSE CAP ***** DELINQUENT STATUS REPORT *****	202.0	164.0	38.0	JUN 76	JUN 78
1 77 7052	FEAS OF ULTRASONIC ASSISTED FORMATION OF TITANIUM NOSE CAP THE PROPOSAL HAS BEEN RECEIVED FROM SONOBOND CORP AND HAS BEEN AUDITED. PROCUREMENT IS REVIEWING THE PROPOSAL PRIOR TO CONTRACT NEGOTIATIONS.	560.0	466.0	77.0	SEP 79	DEC 79
1 76 7054	MM+T DIFFUSION BOND TITANIUM SPAR FABRICATION. TWO SPARS BONDED BY SOLAR ARE BEING TESTED FOR FATIGUE CHARACTERISTICS AND MECH AND METALLURGICAL PROPERTIES. WORK IS PROCEEDING ON SCHEDULE.	313.0	70.0	19.0	JUN 77	SEP 78
1 76 7055	ULTRASONIC WELDING OF HELICOPTER FUSELAGE STRUCTURES ***** DELINQUENT STATUS REPORT *****	180.1	161.0	19.1	FEB 77	JUN 78
1 75 7070	CAST COMPRESSOR COMPONENTS THREE WHEELS FROM THE FIRST BATCH OF PROTOTYPE CASTINGS HAVE BEEN SPUN TESTED TO 120 PERCENT OF RATED SPEED WITH NEGLIGIBLE GROWTH.	195.0	171.3	23.6	OCT 77	JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE & STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 76 7079	MM&T BRAIDING OF REINFORCED PLASTIC STRUCTURAL COMPONENT PLACEMENT OF THE CONTRACT HAS BEEN DELAYED BECAUSE OF LEGAL AND PROCUREMENT PROBLEMS, D A FINAL REPORT IS BEING WRITTEN, THE SIKORSKY PORTION IS BEING R	156.0	136.0	16.4	JAN 78	APR 79
1 78 7086	BARADABLE SEALS FOR COMPRESSOR BLADE TIP APPLICATIONS A REQUEST FOR CONTRACT HAS BEEN PREPARED, AND IS BEING PROCESSED,	91.0	77.0	3.9	FEB 78	JUN 80
1 78 7091	PROCESSING AIRCRAFT COMPONENTS USING PULTRUDED MATERIALS A SCOPE OF WORK FOR THE CONTRACT PORTION OF THE EFFORT HAS BEEN COMPLETED AND SUBMITTED TO PROCUREMENT, IN THE IN-HOUSE EFFORT, THE PULTRUSION EQUIPMENT HAS BEEN MODIFIED TO ACCOMODATE BRAIDED MATERIAL CONTAINING THERMOPLASTIC RESIN,	320.0	150.0	73.7	FEB 78	SEP 80
1 76 7103	IMPROVED MFG-BLISK/ IMPELLER TURBINE ENGINE COMPRESSOR PARTS ***** DELINQUENT STATUS REPORT *****	435.0	417.7	17.3	DEC 77	JUN 78
1 77 7103	IMPROVED MFG-BLISK/ IMPELLER TURBINE ENGINE COMPRESSOR PARTS ***** DELINQUENT STATUS REPORT *****	305.0	277.0	0.0	NOV 78	NOV 78
1 77 7104	T700 TURBINE ENGINE NOZZLE MANUFACTURING PROCESS PROJECT HAS BEEN REDIRECTED TO THAT OF COMPUTER ASSISTED ELECTRICAL DISCHARGE MACHINING OF COOLING HOLES ON STAGE 1 NOZZLE CASTINGS, CONTRACT MODIFICATION WAS FINALIZED IN AUGUST 1978,	36.0	83.4	3.9	JUN 79	MAY 79
1 77 7108	MANUFACTURING TECHNIQUES FOR TRANSMISSN SHAFT SEALS PROPOSALS HAVE BEEN RECEIVED IN RESPONSE TO PROCUREMENT PACKAGE, EVALUATION OF PROPOSALS IS IN PROCESS,	135.0	125.5	0.0	AUG 79	AUG 79
1 77 7112	COMPOSITE IMPROVED MAIN ROTOR BLADES ***** DELINQUENT STATUS REPORT *****	4,146.0	3,450.7	160.0	SEP 78	SEP 78
1 76 7114	IMPROVED MFG TECH FOR INFRARED SUPPRESSION ON AIRCRAFT ***** DELINQUENT STATUS REPORT *****	223.0	141.0	9.0	SEP 77	JUN 78
1 77 7114	MFG TECHNIQUES FOR INFRARED SUPRESSION AIRCRAFT COMPONENTS OV-1 SUPPRESSOR HAD TO BE REDESIGNED, RESULTING IN A 5 MONTH SCHEDULE SLIPPAGE, CONTRACT FOR LASER CUTTING AND SPIN FORMING SHOULD BE LET DURING NEXT REPORTING PERIOD,	510.0	0.0	51.0	APR 78	SEP 78
1 77 7119	NON-DESTRUCTIVE EVALUATION TECH FOR COMPOLSITE STRUCTURES LITERATURE SEARCH OF NDE OF COMPOSITES WAS COMPLETED, WORK WAS BEGUN ON THE USE OF ACOUSTIC EMISSION AS AN IN-PROCESS NDE TECHNIQUE TO MONITOR RESIDUAL STRESSES IN FIBER REINFORCED COMPOSITES DURING CURE,	199.0	18.0	134.0	SEP 80	SEP 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 78 7119	NON-DESTRUCTIVE EVALUATION TECH FOR COMPOSITE STRUCTURES NO WORK ON NDE OF COMPOSITES WAS PERFORMED ON THIS PROJECT DURING THIS PERIOD.	96.0	0.0	0.0	SEP 80	SEP 80
1 78 7121	INTEGRALLY HEATED + PRESSURIZED TOOLING F/UTTAS ROTOR BLADES A CONTRACT FOR COMPETITIVE BIDDING HAS BEEN WRITTEN AND FORWARDED TO AMMRC PROCUREMENT.	260.0	210.0	2.4	JUN 79	JUN 79
1 78 7123	CONTINUOUS BALANCING OF HELICOPTOR SHAFTING RFP AS ISSUED IN MAY. PROPOSALS HAVE BEEN RECEIVED AND ARE CURRENTLY BEING EVALUATED BY THE APPLIED TECHNOLOGY LABORATORY AT FORT EUSTIS, VA.	120.0	90.0	0.0	JUN 79	JUN 79
1 77 7144	T700 ENGINE NOZZLE IN-PROCESS INSPECTION TECHNICAL REPORTS NOS. 2 AND 3 DETAILING WORK ACCOMPLISHED WAS NOT INCLUDED WITH AVRADCOMS SEMIANNUAL REPORT.	74.0	83.4	8.7	MAY 77	MAY 79
1 78 7144	T700 ENGINE NOZZLE IN-PROCESS INSPECTION THE REQUEST TO PROCEED WITH THE FUNDING OF PHASE 2 EFFORTS WAS FORWARDED TO PROCUREMENT.	74.0	0.0	0.0	NOV 79	NOV 79
1 78 7155	MFG METHODS FOR IMPROVED HIGH PERFORMANCE HELICOPTR GEARS A MODEL GEAR FROM THE UH-1 TRANSMISSION HAS BEEN SELECTED AND BLUEPRINTS OBTAINED FROM BELL. EXPLICIT PERMISSION TO USE THIS GEAR IS BEING SOUGHT. AN EVAL TEST PLAN HAS BEEN OBTAINED FROM BELL. PROCUREMENT PKG HAS PASSED THE TEST OF AN UNSOL PROPOSAL	461.0	360.0	55.7	NOV 80	NOV 80
1 78 7156	ULTRSONICALLY ASSISTED MACHINING FOR SUPERALLOYS. RFQ PREPARED AND SENT TO SONOBOND CORP. QUOTE CAME BACK MUCH HIGHER THAN ORIGINAL UNSOLICITED PROPOSAL. DCAA AUDIT COMPLETED IN MARCH. PROCUREMENT IS NEGOTIATING WITH SONOBOND PRESENTLY.	240.0	489.3	5-	-AY 78	JAN 81
1 78 7164	FILAMENT WINDING PRECISION RESIN IMPREGNATION SYSTEM MATERIALS HAVE BEEN RECEIVED AND EQUIPMENT AND PROCESSES HAVE BEEN DETERMINED,PROCESS EVALUATION OF VARIABLES ASSOCIATED WITH WINDING OF S-GLASS HAS BEEN INITIATED. A CONTRACT EXTENSION HAS BEEN REQUESTED AND IS IN THE PROCESS OF BEING GRANTED.	90.0	89.2	0.0	JUN 77	JUN 78
1 78 7183	SEMI-AUTO COMPOSITE MFG SYS- HELICOPTER FUSELAGE STRUCTURES THE CONTRACT WAS AWARDED TO HUGHES HELICOPTER. THE SELECTION OF A SUBCONTRACTOR, TO BE EITHER GRUMMAN OR NORTHRUP, IS IN PROCESS.	245.0	191.0	9.3	MAR 81	JUN 79
1 77 7197	FABRICATION OF INTEGRAL ROTORS BY JOINING CONTRACT MONIES WERE MIPRED TO THE AIR FORCE. THE CONTRACT EFFORT WAS INITIATED ON 1 MAY 78.	300.0	240.0	14.0	DEC 80	AUG 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

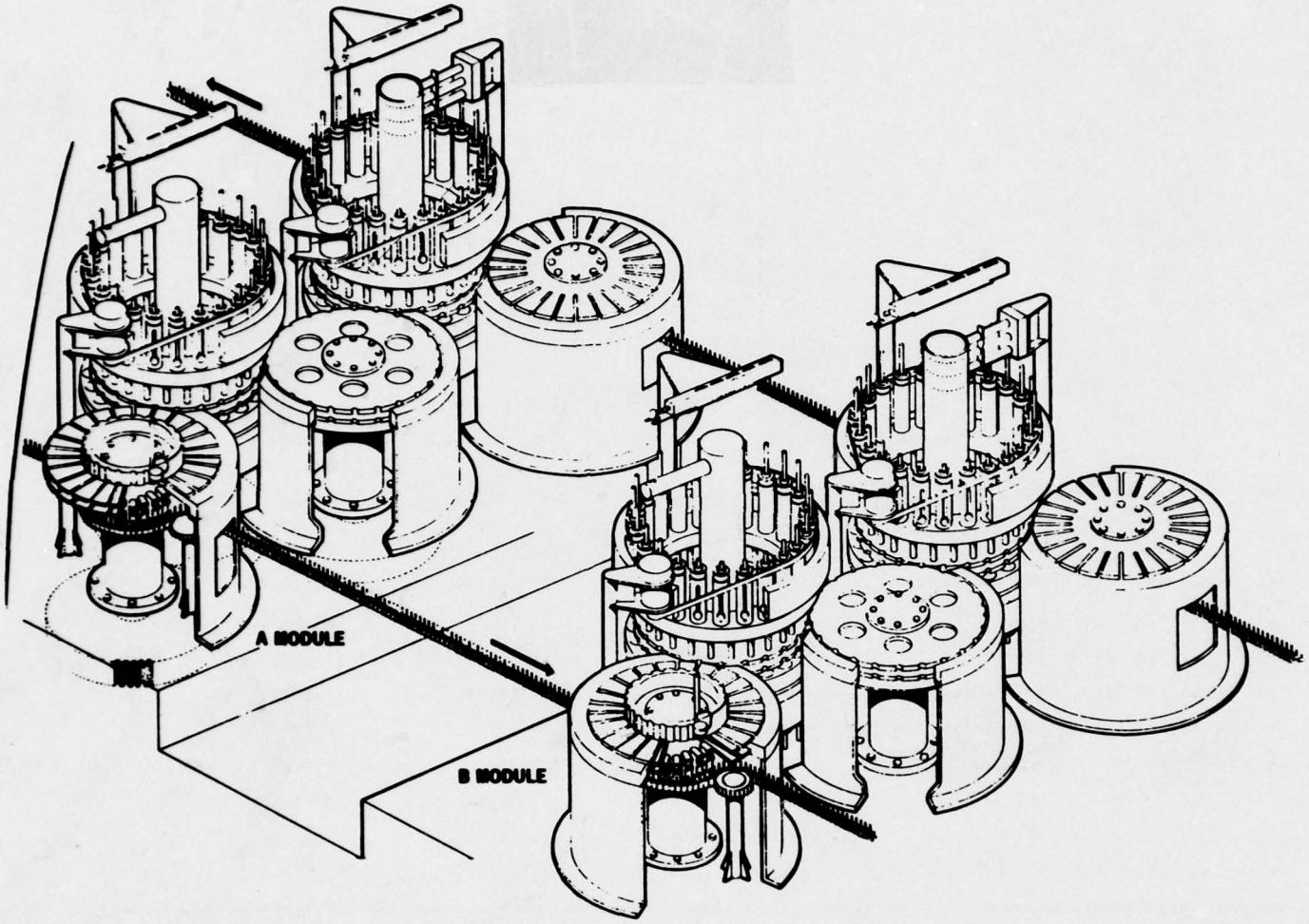
PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 77 7238	PRECISION FORGED ALUMINUM POWDER METALLURGY HELO ARMY FUNDS HAVE BEEN MIPRED TO THE AIR FORCE AND AN RFP FOR HELICOPTER COMPONENTS WAS PREPARED AND ISSUED.	72.6	0.0	11.4	MAR 79	MAR 79
1 78 7240	MACHINING METHODS FOR ESR 4340 STEEL F/HELICOPTERS RFQ SUBMITTED TO HUGHES HELICOPTER AND RETURNED, IT IS BEING PROCESSED AND WILL SOON BE AVAILABLE FOR ACTION, HUGHES WILL WORK WITH METCUT RESEARCH ASSOCIATES INC TO ESTABLISH THE MACHINING PARAMETERS.	117.0	100.0	13.8	SEP 78	MAR 79
1 78 7241	HOT ISOSTATIC PRESSING OF TITANIUM CASTINGS AN RFQ IS BEING PREPARED BASED ON SIKORSKY'S PROPOSAL. INFORMATION WAS SENT TO PROCUREMENT 1 JUNE 78.	126.0	0.0	14.5	MAR 79	MAR 81
1 77 7258	THIN WALL MANTECH FOR RPV SENSOR DOMES A LIBRARY SEARCH OF ALL DOD WORK AND REPORTS ON CLEAR PLASTIC MATERIALS AND COATINGS HAS BEEN PERFORMED AND REPORTS HAVE BEEN ORDERED.	35.0	0.0	2.6	AUG 80	OCT 78
1 77 7261	SURVEY OF COMPOSITE MANTECH F/ARMY AIRCRAFT STRUCTURES FOURTEEN OF THE MAJOR AVIATION CONTRACTORS WERE VISITED TO ASSESS AND COMPARE STATE-OF-THE-ART COMPOSITE MANUFACTURING TECHNOLOGY.	85.0	50.0	20.9	SEP 78	SEP 78
1 78 7284	SUPERPLASTIC FORMING OF TITANIUM FOR HELICOPTER COMPONENTS SURVEY OF HELICOPTER AIRFRAME MFRS CONDUCTED TO DETERMINE THE TYPES OF COMPONENTS THAT HAVE POTENTIAL FOR MFR BY SUPER PLASTIC DIFFUSION BONDING, A MORE IN DEPTH REVIEW WILL BE CONDUCTED BY THE CONTRACTOR, PROPOSAL FROM CONTRACTOR BEING REVIEWED.	120.0	103.0	0.6	DEC 78	FEB 81
1 78 7285	CAST TITANIUM COMPRESSOR IMPELLERS AN RFQ WAS ISSUED, PROPOSALS RECEIVED AND EVALUATION OF THE PROPOSALS IS CURRENTLY UNDERWAY.	150.0	0.0	14.8	JUN 78	AUG 79
1 78 7286	SUPERALLOY POWDER PRODUCTION FOR TURBINE COMPONENTS SCOPE OF WORK HAS BEEN ESTABLISHED, PROPOSALS HAVE BEEN RECIEVED AND ARE BEING EVALUATED.	220.0	0.0	22.8	SEP 78	SEP 80
1 78 7287	PRODUCTION METHODS FOR MULTI-ELEMENT MODULES F/ARRAY ANTENNA A CONTRACTOR WILL AUTOMATE METHODS OF MAKING AND TESTING PHASE SHIFTER MODULES, THEY WILL BE BUILT USING HYBRID TECHNIQUES, THE SOTAS OFFICE DOES NOT KNOW WHETHER THE CONTRACTOR WILL USE DIODE OR FERRITE PHASE SHIFTERS, FOUR FIRMS BID ON THE WORK.	240.0	0.0	4.2	DEC 80	DEC 80
1 74 8008	BROADGOODS LAY UP SYSTEM (CAM RELATED) ***** DELINQUENT STATUS REPORT *****	700.0	102.6	226.7	MAR 75	OCT 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 76 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 75 8017	EROSION RESISTANT LEADING EDGE FOR HELICOP ROTOR BLADES THE HUGHES PORTION OF THE MODIFIED CONTRACT HAS BEEN COMPLETED, AND A FINAL REPORT IS BEING WRITTEN. THE SIKORSKY PORTION IS BEING REEVALUATED IN VIEW OF A COST OVERRUN, AND MAY BE TERMINATED.	200.0	152.0	41.4	MAY 76	SEP 79
1 74 8035	PROD OF TRANSPARENT FORMS OF POLYOLEFIN FOR LTWT ARMOR APPLN NO PROGRESS HAS BEEN MADE DUE TO DIFFICULTIES IN AQUIRING FILMS AND NEGOTIATING AN AMENDED CONTRACT. THE NEGOTIATION HAS BEEN COMPLETED, AND THE REQUIRED FILMS ARE NOW AVAILABLE. CONTRACT WORK WILL BE INITIATED JULY 76.	125.0	128.0	28.0	JUN 75	MAR 79
1 75 8035	PROD OF TRANSPARENT FORMS OF POLYOLEFIN FOR LTWT ARMOR APPLN NO WORK HAS BEEN ACCOMPLISHED. WORK ON THIS PROJECT WILL BE INITIATED UPON THE COMPLETION OF THE 74 EFFORT.	144.0	38.0	83.0	SEP 76	MAY 79
1 76 8045	FIBER-REINFORCE PLASTIC HELICOPTER TAIL ROTOR ASSEMBLY THE CONTRACT EFFORT WAS TERMINATED BECAUSE THE POTENTIAL FOR COST SAVINGS HAS BEEN LOST DUE TO INCREASING DESIGN COMPLEXITY AND EXCESSIVE SCHEDULE SLIPPAGES WHICH HAVE ELIMINATED THE POSSIBILITY OF IMPLEMENTATION.	285.0	238.0	47.0	FEB 78	OCT 78
1 78 8045	FIBER REINFORCED PLASTIC HELICOPTER TAIL ROTOR ASSEMBLY IN VIEW OF THE CANCELLATION OF THE TECHNICAL EFFORT OF THIS PROGRAM, THIS PROJECT WILL BE TERMINATED AS OF THE SAME DATE OF THE TERMINATION OF THE 76 EFFORT. FUNDS WILL BE USED TO SUPPORT THE COMPLETION OF THE IN-HOUSE PORTION OF THE 76 EFFORT.	275.0	225.0	10.0	FEB 78	OCT 78
1 74 8046	*3M COOLED AXIAL TURBINE BLADE DISK/COOLING PLATE FAB(UTTAS) FINAL REPORTS ON PHASE 1 AND 2 ARE AVAILABLE, FIFTY 1ST STAGE BLADES ARE READY FOR ENGINE TESTS, A FINAL REPORT IS IN PRINTING	809.0	741.0	84.0	DEC 75	JUL 78
1 74 8091	ADVANCED ADHESIVES FOR TRANSPARENT ARMOR THE FINAL CONTRACT WAS AWARDED TO GOODYEAR AEROSPACE CORPORATION.	202.0	80.0	122.0	JUN 75	DEC 78
1 74 8120	IMPROVED HCPTR SKIN MATL BY CONTROLLED SOLIDIFICATION+TMT ***** DELINQUENT STATUS REPORT *****	275.0	173.4	101.5	JUN 75	JUN 78
1 75 8120	IMPRVD HCPTR SKIN MATERIAL BY CNTRLLD SOLIDIFICATION + TMT ALUM BELLCRANK DIE FORGINGS WERE MACHINED AND PREPARED WITH THE INSTALLATION OF BUSHING AND BEARING. THE BELLCRANK ASSEMBLIES WERE INSPECTED AND TEST FIXTURE COMPONENTS DESIGNED AND FABRICATED.COMMERCIAL PURITY OF 7075-T73 IS BEING REEVALUATED.	250.0	175.0	42.0	JUN 76	APR 79
1 75 8129	COLUMBIUM ALLOY TURBINE ENGINE COMPONENTS PRELIMINARY THERMAL FATIGUE TESTS HAVE BEEN COMPLETED. THE DEATH OF TWO PERSONS DIRECTLY INVOLVED WITH THIS EFFORT HAVE CAUSED DELAYS AND HAVE NECESSITATED A REDIRECTION OF THE PROGRAM.	250.0	169.4	66.6	APR 76	DEC 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
1 75 8136	MM+T HIGH STRENGTH FLEXIBLE CARGO RESTRAINT DEVICES IMPROVED KEVLAR 29 WEBBINGS WERE TESTED, AND EXHIBITED THE ANTICIPATED AND DESIRED STRUCTURAL EFFICIENCY OF 85 PERCENT, IN ABRASION TESTS THESE WEBBINGS PERFORMED POORLY, SOLUTION COATING WILL BE EXAMINED AS A SOLUTION TO THE ABRASION PROBLEM.	150.0	63.2	86.8	AUG 75	AUG 78
1 75 8148	PROCESSING ADVANCED GEAR MATERIALS FOUR SQUARE GEAR TESTING HAS BEEN INITIATED, BASE LINE PROPERTIES FOR AISI 9210 AND VASCO X-2 HAVE BEEN ESTABLISHED.	195.0	84.0	110.0	OCT 76	SEP 78
1 76 8148	PROCESSING ADVANCED GEAR MATERIALS FOUR SQUARE GEAR TESTING HAS BEEN INITIATED, BASE LINE PROPERTIES FOR AISI 9210 AND VASCO X-2 HAVE BEEN ESTABLISHED.	150.0	34.0	104.0	DEC 78	DEC 78
1 75 8154	*CADAM OF EXTRUSION DIES FOR ALUMINUM, TI AND STEEL PARTS TECH REPORT HAS BEEN REVIEWED AND RETURNED TO CONTRACTOR FOR PRINTING AND DISTRIBUTION. AVRADCOM REPORT NO TR 78-29 AND AMMRC CTR 78-26 HAVE BEEN ASSIGNED TO THE REPORT.	185.5	160.7	24.8	NOV 75	JUN 78



ARMAMENT R&D COMMAND
ARMAMENT MATERIEL READINESS COMMAND
(ARRADCOM, ARRCOM)
(AMMUNITION)

A R R C O M • A R R A D C O M (AMMUNITION)

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)		INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)	
70	1	1,252,000	1,217,000	1,214,000	(99%)	35,000	35,000	(100%)
71	1	110,000	90,000	90,000	(100%)	20,000	20,000	(100%)
72	1	2,045,900	445,900	445,900	(100%)	1,600,000	1,600,000	(100%)
73	4	9,133,500	5,410,400	5,388,500	(99%)	3,723,100	1,690,600	(45%)
74	15	15,971,400	8,157,900	7,732,400	(94%)	7,813,500	6,198,900	(79%)
75	27	23,414,200	10,325,300	9,239,200	(89%)	13,088,900	10,433,700	(79%)
76	58	35,386,500	15,684,100	12,605,600	(80%)	19,702,400	15,941,200	(80%)
77	20	6,384,500	3,668,900	2,615,500	(71%)	2,715,600	1,988,000	(73%)
77	50	26,078,400	11,591,600	3,862,700	(33%)	14,486,800	8,058,300	(55%)
78	48	24,843,000	7,732,000	670,900	(8%)	17,111,000	859,300	(5%)
TOTAL	225	144,619,400	64,323,100	43,864,700	(68%)	80,296,300	46,825,000	(58%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 44% INHOUSE ALLOCATED 55%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 75 1248	EVAL EXHAUST FILTER SYSTEM TO ESTABLISH DESIGN CRITERIA A TECHNICAL REPORT ON GAS FILTER PERFORMANCE WAS COMPLETED.	254.8	20.0	234.8	JUN 74	JUL 78
S 75 1250	EVALUATE WHITE PHOSPHORUS LEAK DETECTION PROTOTYDE THE DEVELOPMENTOF A WP LEAKAGE DETECTION SYSTEM WAS COMPLETED. THE SYSTEM UTILIZES INDUCTION HEATING THERMAL STRESSING OF MUNITIONS COUPLED WITH A SENSITIVE FLAME EMISSION DETECTOR. THE SYSTEM USES A MINIMUM AMOUNT OF ENERGY.	325.0	129.9	195.0	JUN 77	JUN 78
S 77 1264	ADV TECH FOR SUPPRESSIVE SHIELD OF HAZARDOUS PROD + SUP UP ADDITIONAL TESTS WITH UP TO 900 LBS OF M10 PROPELLANT WERE CONDUCTED IN THE GROUP 5 SHIELD. SWRI IS ANALYZING THIS DATA. A HANDBOOK COVERING TASK /3 TESTS WAS DISTRIBUTED IN JAN 78.	100.0	0.0	46.0	JUN 77	JUN 77
S 76 1264	ADV TECHNOL FOR SUPPRESSIVE SHIELD OF HAZARD PROD-SUP OPER THE ONLY PROGRESS SHOWN INCLUDES ADDITIONAL TESTS WITH UP TO 900LB OF M10 PROP IN THE GP5 SHIELD AND DATA REDUCTION BY SRI,ALSO THE FINAL HANDBOOK HAS BEEN DISTRIBUTED IN JAN 78. SRI REPT ON GROUP SHIELD DATA ALSO REL IN JAN 78. COPIES OF EA COMING.	1,450.0	170.0	1,219.0	DEC 76	JUL 78
S 76 1274	WHITE PHOSPHORUS DRY FILLING LINE THE ACCEPTANCE TESTING WITH THE 105 MM M60 AND THE 2.75-INCH M156 HAS BEEN COMPLETED. A REQUEST FOR PROVE OUT FUNDING TO RUN THE 60MM ON THE DRY FILL LINE AND ON THE 60MM LAP LINE TO PROVIDE TESTING OF BOTH LINES WAS SUBMITTED TO THE PM-PBM	1,200.0	0.0	1,180.0	DEC 76	JUL 78
S 75 1284	IMPROVEMENT + MOD OF INSP AIDS F/DEF + PROT ITEMS ANALYSIS OF HIGH FLOW RATE PENETROMETERS DRAFT REPORT WAS REVIEWED BY THE GOVERNMENT, THE CONTRACTOR CONTINUED THE DESIGN AND CONSTRUCTION EFFORT FOR THE PROTOTYPE MODEL. TESTING AND EVALUATION PROCEDURES FOR THE PROTOTYPE MODEL ARE BEING PREPARED.	424.0	300.0	74.0	JUN 77	MAR 79
S 77 1295	MODERNIZATION OF CHARCOAL FILTER TEST EQUIPMENT THE RFP WAS PREPARED AND SENT TO VARIOUS INDUSTRIAL ORGANIZATIONS. ONLY ONE RESPONSIVE BID WAS SUBMITTED. THE PROPOSAL WAS REVIEWED BY A TECHNICAL COMMITTEE AND IS CONSIDERED TECHNICALLY SOUND. IT IS EXPECTED THAT A CONTRACT WILL SIGNED BY JUNE 1978.	245.0	175.0	20.0	AUG 78	JAN 79
S 76 1296	*MT FOR CB FILTERS SP2 A VACUUM CONVEYOR SYSTEM WAS ACQUIRED AND PROVEN OUT. SP2 A FILLING PROCESS WAS FINALIZED. SP3 A CONTRACT SCOPE WAS PREARED FOR EVALUATING DEEP BED COMPACTION TECHNIQUES. SP4 PRELIMINARY DATA FOR MOISTURE ADSORPTION BY CHARCOAL.	350.0	0.0	350.0	JUN 77	JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
8 78 1296	MT FOR CB FILTERS SPI CONTRACT SCOPES HAVE BEEN PREPARED FOR EXISTING TECHNIQUES FOR DIAGNOSTIC FILTER TESTING AND HYDROCARBON PULSE TESTING. SPZ DIRECT DISPERSION CONCEPT MODEL WAS BUILT. SP3 CONTRACT SCOPE FOR EVALUATING COMPACTING CHARCOAL IN DEEP BED FILTERS.	654.0	230.0	113.4	MAR 79	MAR 79
5 76 1311	MM+T-M229 REFIL KIT COMPONENT-CHEMICAL AGENT ALARM FABRICATION OF FILTER AND CAPSULE ASSEMBLY MACHINES HAVE BEEN INITIATED. PRELIMINARY LAYOUT OF PRODUCTION FACILITY IS COMPLETE. IMPREGNATION EQUIPMENT IS BEING FABRICATED. MATERIALS FOR CONTINUOUS OPERATION HAVE BEEN PROCURED.	570.0	177.0	269.0	DEC 77	JAN 79
5 77 1312	MM+T FOR PAPER, CHEMICAL AGENT DETECTOR M8 WORK WITH THE DYES HAS BEEN HALTED PENDING THE RESULTS OF TESTS FOR MUTAGENICITY AND CARCINOGENICITY. INITIAL TESTS HAVE CONFIRMED THE POTENTIAL MUTAGENITIC EFFECT OF THE GREEN DYE.	118.0	0.0	37.1	MAR 78	AUG 79
5 76 1313	*ASSESSMENT OF HAZARDS IN PRODUCTION OF PYROTECHNIC COMP. ASSESSMENT COMPLETED. RUPTURE DISC SUPPRESSION REDUCED HAZARD FROM POST IGNITION OR BURN RATE. FRICTION STIMULI MUST BE HIGHER THAN EXPECTED TO ACHIEVE EXPLOSION. WATER IS LESS EFFECTIVE THAN HALON. QTY DIST FACILITY AND SHIPPING COSTS CAN DIMINISH.	550.0	0.0	550.0	OCT 76	JUL 78
5 75 1316	ADVANCED TECHNOLOGY FOR PROCESING SMOKE GRANADES CSL HAS DISTRIBUTED REPORT NO. ARCSL-TR-78009. AT PBA, ALL EQUIPMENT HAS BEEN INSTALLED AND EVALUATION IS IN PROGRESS. EFFORTS TO DATE HAVE PROVEN THE BASIC CONCEPTS TO BE EXTREMELY PROMISING.	500.0	0.0	488.0	DEC 77	JUN 78
5 77 1320	PILOT STATIONS FOR FILLING + CLOSING IMPROVED WP MUNITION A CONTRACT FOR AN INERTIA WELDER WAS AWARDED IN SEP 77. THE DESIGN HAS BEEN APPROVED. THE MACHINE IS TO BE READY FOR TESTING IN DEC 78. A CONTRACT FOR A DRILL AND PIN MACHINE WAS AWARDED IN MAY. ITS DELIVERY IS PLANNED FOR JAN 79.	374.0	240.0	69.0	JUN 77	SEP 79
5 78 1320	PILOT LINE FOR IMPROVEMENT OF WP MUNITIONS PROJECT FUNDS WERE RECEIVED IN MAY 78.	375.0	0.0	0.0	SEP 79	SEP 79
5 77 1327	IMPROVEMENT AND MODERNIZATION OF GAS MASK LEAKAGE TESTING RFQ WAS ISSUED AND FIVE PROPOSALS WERE RECEIVED AND REVIEWED. BASED ON THE TECHNICAL EVALUATION AND BEST BUY ANALYSIS THE CONTRACT WAS AWARDED TO SOUTHERN RESEARCH INSTITUTE.	305.0	195.0	6.3	MAR 79	MAR 79
8 78 1335	MFG TECH FOR NEW PROTECTIVE MASK MANUFACTURING PLAN IDENTIFYING EQUIPMENT AND TOOLING REQUIREMENTS AND PLANT LAYOUT COMPLETED. DIPEC SEARCH UNDERWAY. CONTRACT SCOPES HAVE BEEN DRAFTED.	724.0	614.0	17.1	JUN 79	JUN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE * STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 1336	PRODUCTION FILLING EQUIP TECH FOR WP MUNITIONS CALIBRATION OF THE PRODUCTION CANNISTER WAS COMPLETED. THE FILL TEST PROGRAM WAS INITIATED. A PROBLEM WITH THE ELECTRONIC SENSORS USED TO CONTROL THE WP LEVEL IN THE HEADER TANK FOR THE FILLING SYSTEM WAS RESOLVED. TESTING IS TO BE COMPLETED BY JUN78	800.0	100.0	690.0	SEP 77	JUL 78
S 7T 1337	ENGR STUDY F/ADAPT TRF OF UK TECH-LCHR SYS W/RP/BUTYL GREN HARDWARE AND CHEMICALS FOR GRENADE ASSEMBLY AND TESITNG WERE RECEIVED. ALL EQUIPMENT FOR INITIAL STUDY IS IN BLDG E5265. CONTRACT HAS BEEN AWARDED FOR A KNEADER-EXTRUDER.	250.0	36.0	214.0	MAR 78	SEP 78
S 77 1337	ENGR STUDY F/ADAPT TRF OF UK TECH-LCHR SYS W/RP/BUTYL GREN FIRING TESTS OF GRENADES MADE FROM A NEW RP/BUTYL FORMULATION WERE UNSUCCESSFUL. PROCESS STUDIES WITH GEL AND MIX PREPARATION ARE 50 PER CENT COMPLETE. HAZARDS ENGINEERING STUDIES ARE IN PROGRESS ON THE PLANETARY MIXER USING RP MIX.	354.0	61.0	106.0	JAN 79	APR 79
8 78 1339	MANUFACTURING TECHNOLOGY FOR PREPARATION OF 8-1 DYE PILOT EQUIPMENT HAS BEEN DEFINED AND PURCHASE REQUISITIONS FOR EQPT, MATERIALS, AND CHEMICALS HAVE BEEN RELEASED. PREPARATION OF PILOT PLANT AREA, ACCEPTANCE TEST PLAN, PROTECTIVE REQUIREMENTS, AND SOP'S HAS BEEN INITIATED.	461.0	0.0	99.5	JUN 79	JUN 79
8 78 1345	MM*T FOR BIOLOGICAL WARNING SYSTEM CHEMICALS, CHEMICAL ANALYSIS EQUIPMENT, AND PILOT PLANT EQUIPMENT HAVE BEEN ORDERED. SPECIFICATIONS FOR CHEMICAL AND BIOLOGICAL PURITY AND STERILITY REQUIREMENTS FOR REFILL KIT CHEMICALS ARE BEING ESTABLISHED.	480.0	70.0	13.0	JAN 80	JAN 80
S 75 3062	*PELLET THERMAL POWER SUPPLY TECHNOLOGY BATTERY PERFORMANCE WAS CLOSELY GROUPED WITH RESPECT TO 2.75 ROCKET SPECIFICATIONS HOWEVER EXTREME PERFORMANCE DISPLAYED CONSIDERABLE SPREAD WITH NO CLEAR CORRELATION TO PROCESS OR FABRICATION PARAMETER VARIATIONS. EFFORT CONTINUES UNDER S 76 3062.	150.0	87.0	63.0	JUL 76	SEP 78
S 76 3062	PELLET THERMAL POWER SUPPLY TECHNOLOGY A DECISION WAS MADE TO CONDUCT THE FOLLOW-ON WORK IN HOUSE. EQUIPMENT IS BEING PURCHASED FOR IN-HOUSE PRODUCTION OF DEB POWDERS. SAMPLES OF ON-HAND COMMERCIAL POWDERS WERE RETAINED FOR EVALUATION OF DIFFERENCES IN PHYSICAL CHARACTERISTICS.	150.0	0.0	76.0	JAN 78	MAY 79
S 75 3077	*PRODUCTION METHODOLOGY FOR VALIDATION OF ELECTRONIC FUZES PROJECT COMPLETED. THE RESULTS INDICATED THAT A TEN MODULE VALIDATION FACILITY IS TECHNICALLY AND ECONOMICALLY BENEFICAL. THE FINAL REPORT WHICH CONTAINS THE TEN MODULES DETAIL DESIGN HAS BEEN COMPLETED.	250.0	0.0	250.0	OCT 75	SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 3095	MORTAR-ARTY BLISTIC SIMULATIONS FOR FUZ TESTING THE FUZE TESTER WAS COMPLETED, THE DRAFT OF THE FINAL REPORT AND INSTRUCTION MANUAL WERE COMPLETED, THE DRAWING PACKAGE IS ABOUT 60% COMPLETE.	211.0	0.0	211.0	MAR 77	DEC 78
S 77 3104	*COPPER AMPULES FOR FUZE POWER SUPPLIES UNION CARBIDE DESIGNED A CARTRIDGE AND WEIGHT ASSEMBLY MACHINE FOR THE COPPER AMPULE, THE DRAWING PACKAGE WAS APPROVED FOR FABRICATION UNDER THE IPF EFFORTS 5763096 AND 5776096, WILL MAKE, FILL AND SEAL COPPER AMPULES FOR PSI 15 FOR M732 FUZES.	50.0	33.6	16.4	DEC 77	JUN 78
S 76 3104	*COPPER AMPULES FOR FUZE POWER SUPPLIES UNION CARBIDE DESIGNED AN AMPULE ASSEMBLY MACHINE AND DESIGNED AND BUILT A CUTTER ASSEMBLY MACHINE, THE LATTER WAS BUILT AND WILL BE PLACED IN THE IPF LINE, THE FORMER WILL BE BUILT ON IPF PROJECT 5763096 AND 5773096.	300.0	226.4	73.6	JAN 77	APR 78
S 77 3127	*MINIATURE BEARINGS AND SHAFT MFR FOR THE XM734 FUZE COIL TOOLING AND COIL ASSEMBLY MACHINE DESIGN WERE COMPLETED, FINAL TECHNICAL REPORT WILL BE ISSUED FOLLOWING MMT PROJECT 5773127.	90.0	56.0	31.0	AUG 77	MAY 78
S 77 3127	MINIATURE BEARINGS + SHAFT MFG FOR THE XM734 FUZE. CONTRACT FOR PILOT FACILITY IN FINAL PHASE, PROVE-OUT OF THREE MACHINES IS YET TO BE ACCOMPLISHED, A SINGLE FINAL REPORT WILL BE ISSUED FOR PROJECTS 5763127, 5773127, AND 5773127, ALL OF THESE WERE CARRIED OUT UNDER ONE CONTRACT.	210.0	142.0	46.0	APR 78	AUG 78
S 76 3139	*MANF OF INTERCONNECTIONS FOR FLUIDIC CIRCUITS THE PROJECT HAS BEEN COMPLETED, THE FINAL REPORT HAS BEEN WRITTEN AND DISTRIBUTED.	145.0	18.5	126.5	SEP 76	SEP 77
S 77 3905	PS 127 RESERVE POWER SUPPLY MFR FOR THE XM587 FUZE THE PILOT FACILITY FOR TIG WELDING OF AMPULES WAS COMPLETED, TECHNICAL PROBLEMS WITH THE PS127 PRIOR TO DTII/OTII CAUSE THE PROGRAM TO BE DELAYED WHILE DESIGN CHANGES WERE MADE, THE PROBLEMS APPEAR TO HAVE BEEN CORRECTED.	375.0	57.0	35.0	NOV 78	JUL 79
S 78 3907	MNOS COUNTER-MEMORY CIRCUIT FOR FUZES CONT TO NITRON CORP FOR METAL NITRIDE OXIDE SEMICONDUCTOR MNOS INTEGRATED CIRCUITS FOR FUZES, 100 TEST SPECIMENS ENVIRON TESTED, QA PLAN APPVD BY HDL, NO APPARENT PROBLEMS.	300.0	273.7	2.8	SEP 79	SEP 79
S 77 3947	THICK FILM HYBRID CIRCUITS FOR XM587E2/XM724 FUZES HONEYWELL IS PRODUCTION ENGINEERING A HYBRID OSCILLATOR CIRCUIT FOR THE XM587E2 FUZE, RCA IS PRODUCTION ENGINEERING THE HYRRID INTERFACE AND FIRING CIRCUIT DEVELOPED ON PROJ 2719335, MOLDED PACKAGE IS OK.	150.0	120.0	18.0	SEP 79	SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 78 3947	THICK FILM HYBRID CIRCUITS FOR XM587E2/XM724 FUZES SEE TASKS BELOW.	530.0	487.0	0.0	JUL 79	JUL 79
S 78 3947A	THICK FILM HYBRID CIRCUITS-HONEYWELL HONEYWELL, HOPKINS, MN, EVALUATED MANUFACTURING PROCESSES FOR THE HYBRID OSCILLATOR CIRCUIT. PARTS ARE ON HAND FOR THE NEXT RUN BUT METAL CASES ARE LATE. HONEYWELL IS DOING AUTOMATED WIRE BONDING, TAPE AUTOMATED BONDING AND DYNAMIC LASER TRIMMING.	267.0	245.4	0.0	JUL 79	JUL 79
S 78 3947B	THICK FILM HYBRID CIRCUITS-RCA RCA IS ASSEMBLING ENGINEERING SAMPLES OF THE HYBRID INTERFACE AND FIRING CIRCUIT. SCR FIRING CHIPS HAD TO BE TESTED 100% AT RCA. CIRCUITS WILL BE MOLDED INTO A PACKAGE. TEST EQUIPMENT IS BEING SET UP TO TEST THE CIRCUITS AUTOMATICALLY.	263.0	241.6	0.0	JUL 79	JUL 79
S 74 4000	NON-ELECTRIC DETONATOR PRODUCTION FACILITIES MIXING OF PA-130 (FREE FLOW NOL) WAS SCHEDULED FOR APRIL, BUT A STRIKE PRECLUDED THIS ACTIVITY. A DRAFT REPORT ON IMPROVED LACQUER PROCESS WAS PREPARED.	549.0	55.0	428.9	JUN 75	DEC 79
S 77 4000	AUTOMATED MSS DETONATOR PRODUCTION EQUIPMENT. DESIGN CONTINUED ON EQUIPMENT FOR INSPECTION OF EMPTY DETONATOR CUPS. PROPOSALS WERE RECEIVED AND EVALUATED FOR EQUIPMENT TO AUTOMATICALLY INSPECT FOR ALL DEFECTS. WORK PACKAGES FOR PACKOUT, ULTRASONIC SEALING, AND HAZARD ANALYSIS HAVE BEEN PREPARED.	1,000.0	280.0	113.4	FEB 80	DEC 79
S 78 4000	NONELECTRIC DETONATOR PRODUCTION EQUIPMENT TEST RUN OF MULTI-TOOLED LOADER WAS WITNESSED AT IAAP. A SCOPE OF WORK FOR EQUIP TO INTEGRATE ALL MODULES WAS INITIATED.	1,400.0	68.0	0.0	DEC 79	DEC 79
S 74 4009	AUTO OF EQUIP FOR A/P OF SMALL SHAPED CHARGE ROCKETS SEE PROJECT S 76 4009 FOR STATUS.	1,045.0	829.4	215.6	MAY 75	DEC 78
S 75 4009	AUTO OF EQUIP FOR A/P OF SMALL SHAPED CHARGE ROCKETS SEE PROJECT S 76 4009 FOR STATUS.	650.0	381.9	256.3	SEP 76	DEC 78
S 76 4009	AUTO OF EQUP FOR A/P OF SMALL SHAPED CHARGE ROCKETS THE EQUIPMENT MODULES HAVE BEEN DESIGNED, FABRICATED, AND INTEGRATED INTO THE PACKOUT SYSTEM. CURRENTLY, THE SYSTEM IS BEING PREPARED FOR ACCEPTANCE TESTS AT THE CONTRACTORS PLANT.	780.0	569.5	202.4	MAR 77	DEC 78
S 73 4012	*FINAL ROLL MILL/PAD-MAKEUP MACHINE FOR MORTAR INCREMENTS WORK HAD PREVIOUSLY BEEN COMPLETED. A FINAL STATUS REPORT WAS WRITTEN DURING THIS PERIOD. FOR THIS PROJECT 74% OF THE FUNDING WENT TOWARDS EQUIPMENT PROCUREMENT AND 16% WENT FOR SALARIES AND FRINGES.	1,300.0	1,253.0	47.0	NOV 74	JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 75 4012	FINAL ROLL MILL/PAD-MAKEUP MACHINE FOR MORTAR INCREMENTS THE DEBUG AND INERT PROPELLANT EVALUATION OF THE DIELECTRIC HEATER WAS COMPLETED, TWO-ROLL CALENDAR DEBUGGING AND INERT EVALUATION IS UNDERWAY, THE IMPLEMENTATION OF UCARS AT RADFORD INCREASED THE PROJECT COST BY 150K AND CAUSED 3 MO SLIPPAGE.	700.0	597.0	79.0	JUN 76	JAN 79
S 74 4013	*CONTINUOUS NC MFG BY THE MAG, NITRATE PROCESS THE WORK WAS COMPLETED, PILOT PLANT EQUIPMENT WAS INSTALLED WITH THIS YEARS FUNDS AND DEBUGGED, THE FINAL TECHNICAL REPORT WAS WORKED ON.	683.0	595.0	88.0	DEC 74	MAY 78
S 75 4013	*CONTINUOUS NC MFG BY THE MAG, NITRATE PROCESS METHODS OF PROTECTING THE PILOT PLANT FROM THE EFFECTS OF SULFURIC ACID WERE EXAMINED, THE PILOT PLANT WAS PREPARED FOR PROTECTIVES STORAGE,	113.0	3.0	110.0	JUN 76	MAY 78
S 76 4013	CONTINUOUS NC MFG BY THE MAG NITRATE PROCESS THE PILOT PLANT PROTECTIVE WORK WAS COMPLETED, PREPARATION OF THE FINAL TECHNICAL REPORT IS CONTINUING,	88.0	80.0	5.0	DEC 77	DEC 78
S 75 4015	*SYSTEM FOR THE AUTOMATED PROCESSING OF BENITE-PROTYTYPE A 200BL BATCH OF INGREDIENTS TRANSFERRED SUCCESSFULLY TO ASSY,WATERJET CUTTING OF STRANDS WAS RECOMMENDED,A BENITE PILOT LOT WAS PROCESSED THRU M490 ROUNDS SUCCESSFULLY FIRED THRU 105MM GUN AT APG,SCREW EXTRUSIONAND ACETONE SOLVENT RAISE SYS SAFETY,	190.0	129.8	60.2	JUN 76	JUL 78
S 75 4032	AUTOMATED EQUIP FOR ASSEMBLY OF M572E2 FUZE 14 PROTOTYPE ASSEMBLY MACHINES ON LINE AND ARE CURRENTLY BEING USED IN INITIAL PRODUCTION OF THE M739 PD FUZE, NEW TOOLING IS BEING DEVELOPED FOR MACHINE 12 DUE TO UNACCEPTABLE PERFORMANCE,	750.0	750.0	0.0	MAR 76	AUG 78
S 76 4032	AUTOMATED EQUIP FOR ASSEMBLY OF M572E2 FUZE SEE PROJECT S 75 4032,	615.0	461.7	213.8	MAR 77	AUG 78
S 75 4041	AUTO EQUIPMENT FOR ASSY OF MORTAR COMPONENTS NO WORK WAS ACCOMPLISHED WITH REMAINING FUNDS DURING THIS PERIOD,	426.0	198.6	227.2	FEB 76	JUL 78
S 76 4041	AUTO EQUIP FOR ASSY OF MORTAR COMPONENTS DETAILED DRAWINGS OF ALL STATIONS HAVE BEEN COMPLETED EXCEPT ONE,FABRICATION OF THE POWDER WEIGH AND FILL STATION WILL BE COMPLETED BY 31 JULY 78, THE INTEC SCALES ,FOR EMPTY AND FILLED CONTAINER WEIGH, WAS ACCEPTED AT INTEC,INC,	427.0	201.7	217.0	JAN 77	JUL 78
S 78 4041	AUTO EQUIP FOR ASSY OF MORTAR COMPONENTS INNOVA'S PROPOSAL FOR BUILD AND TEST OF THE REMAINING STATIONS HAS BEEN RECEIVED AND THE CONTRACT AMENDMENT WILL BE NEGOTIATED IN JUNE 78, ALL SAFETY TESTS ON NC AND M10 PROPELLANT HAVE BEEN COMPLETED.	655.0	543.2	28.2	JUL 79	JUL 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 75 4050	AUTOMATED LOADING OF PROPELLANT FLASH REDUCERS INAAP HAS IDENTIFIED LOAD LINE 8B AS SITE FOR INSTALLATION OF PROTOTYPE FLASH-REDUCER MODULE WHICH WILL ALLOW ACCEPTANCE TESTING USING THE BLACK POWDER CONTAINING M3 FLASH REDUCER, FUNDS OF $247,4K HAVE BEEN FORWARDED TO ARRADCOM.	785.0	633.1	138.3	MAR 76	MAR 79
5 74 4054	PROC IMPROVED ENG F/MOD+AUTO OF ARTY PROP CHARGE MFR NO CHANGE IN STATUS	710.0	449.5	256.0	MAR 75	SEP 78
5 76 4073	*PHOTOFLASH COMPOSITIONS DESENSITIZED BY COATANTS A DRAFT OF THE FINAL TECHNICAL REPORT HAS BEEN COMPLETED, THE PHOTOFLASH FORMULATION DEVELOPED PERFORMED AS WELL AS CONVENTIONAL POWDERS AND WITH IMPROVED SAFETY. THE FORMULATION WILL BE PRESENTED IN THE FINAL REPORT.	220.0	0.0	218.0	JUN 77	MAY 78
5 77 4105	*AUTO INCR LDG + ASSY OF PROP CHGS W/ CENT CORE IGN FINAL STATUS REPORT WAS PREPARED DURING THIS PERIOD. THIS FY77 EFFORT PROVIDED IN-HOUSE TECH SUPPORT FOR ADEQUATE REVIEW AND MONITORING OF PHASE 3 (ASSEMBLY MODULE). THE PHASE 3 EFFORT WAS CARRIED OUT WITH FY76 FUNDING.	225.0	0.0	225.0	JUN 77	JUL 78
5 76 4105	AUTO INCREMENT L/A OF PROP CAG WITH CENTRAL CORE IGNITERS DEBUGGING OF THE ASSEMBLY MODULE CONTINUED WITH PROBLEMS BEING ENCOUNTERED IN THE CONTROLS SOFTWARE. THESE PROBLEMS PLUS PROBLEMS ENCOUNTERED WITH THE GFE XM203 PROP BAGS HAS CAUSED FURTHER SLIPPAGE TO DEC, 1978.	685.0	537.4	144.5	NOV 76	DEC 78
5 77 4105	AUTO INCR LDG + ASS OF PROP CHGS W/CENT CORE IGN WORK CONTINUED ON THE DESIGN OF PHASE 4 (PACKOUT MODULE) EQUIPMENT. THIS DESIGN IS 80% COMPLETE, FABRICATION OF AUTOMATIC CHARGE WRAPPER EQUIPMENT WAS STARTED, INTERIM HAZARDS ANALYSIS FOR PHASE 4 EQPT WAS COMPLETED.	1,385.0	935.0	209.1	MAY 78	JUL 78
5 77 4114	POLLUTION ABATEMENT METHODS FOR P+E SEE PROJECT 5 77 4114	500.0	0.0	249.9		NOV 79
5 73 4114	METHODS TO MINIMIZE ENVIRONMENTAL CONTAMINATION SEE PROJECT 5 77 4114.	6,608.5	3,077.0	1,499.0		JUN 79
5 74 4114	METHODS TO MINIMIZE ENVIRONMENTAL CONTAMINATION SEE PROJECT 5 77 4114.	5,117.0	1,843.0	1,592.0		JUN 79
5 75 4114	METHODS TO MINIMIZE ENVIRONMENTAL CONTAMINATION SEE PROJECT 5 77 4114.	5,836.4	2,007.1	1,842.0		JUN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 4114	METHODS TO MINIMIZE ENVIRONMENTAL CONTAMINANATION SEE PROJECT S 77 4114.	5,200.0	1,447.9	1,793.1		NOV 79
S 77 4114	DEVELOPMENT OF POLLUTION ABATEMENT TECHNOLOGY SEE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,007.2	105.6	562.0	NOV 79	JUN 79
S 77 4114E02	ECOLOGICAL SURVEY OF DARCOM INSTALLATIONS DPG COMPLETED THE ECOLOGICAL SURVEYS AT TEAD AND RMA, A DRAFT TECH RPT OF THE SURVEY AT PBA WAS SUBMITTED FOR PUBLICATION, ALL ANALYSES WERE COMPLETED.	0.0	0.0	0.0	NOV 77	AUG 78
S 77 4114E06	MONITORING TOXIC EFFLUENTS WITH BIO SENSORS A CONTRACTOR TECH RPT "THE CONSTRUCTION, INSTALLATION, AND ANALYSIS OF A FISH MONITORING SYSTEM FOR INDUSTRIAL WASTES" WAS CLEARED FOR PUBLICATION, THE BIOMONITORING TRAILER WAS MOVED TO RAAP AND INSTALLED IN THE ROLLED POWDER MANUFACTURING AREA.	104.6	50.6	45.0	APR 79	DEC 78
S 77 4114E08	EDGEWOOD ARSENAL WASTEWATER TREATMENT THE WATER CHARACTERIZATION DATA TO DATE WAS VALIDATED FOR USE ON THE MCA FY80 EDGEWOOD MAIN TREATMENT PLANT, THE BACKGROUND DATA WAS ALSO EVALUATED AND FOUND TO REPRESENT HIGH CONCNS OF MERCURY, TOTAL PHOSPHATE, NITRATE AND ZINC FAIRLY FREQUENTLY.	144.6	0.0	84.0	JUN 77	JUN 79
S 77 4114F01	IDENT + CONTROL OF POLLUTION - PRESENT REQMTS CONSIDERABLE ASSISTANCE HAS BEEN PROVIDED TO MISS AAP, DESIGN OF THE MISS AAP FACILITY ENVIRONMENTAL SYSTEM WAS REVIEWED, CHANGES IN DESIGN WERE MADE AS A RESULT OF THESE REVIEWS, A WASTEWATER INVENTORY AT MISS AAP WAS COMPILED.	59.0	0.0	5.0	SEP 77	JUN 79
S 77 4114F02	CONTROL OF POLLUTION GENERATED BY SURFACE TREAT LINES A CONTRACT WAS AWARDED FOR THE EVALUATION OF ULTRAFILTRATION AS A MEANS OF TREATING THE ALKALINE CLEANER STAGE OF THE PHOSPHATE SYSTEM AT SCRANTON AAP, RESULTS HAVE BEEN EXCELLENT, THE LIFE OF THE ALKALINE CLEANER CAN BE EXTENDED FROM 1 WK TO 6WKS.	0.0	0.0	0.0	FEB 77	SEP 78
S 77 4114F04	IMPROVED TREATMENT FOR PRIMER MIX PLANT SAMPLES WERE TAKEN FROM AN OBSERVATION WELL TO DETERMINE IF THE UNCONFINED GROUND WATER AQUIFER HAD BEEN CONTAMINATED BY PRIMER WASTES DUMPED INTO LEACH BEDS, AEHA ANALYSIS OF THE SAMPLES SHOWED NO CONTAMINATION AT THE TC AAP LOCATION.	0.0	0.0	0.0	APR 77	APR 77
S 77 4114F10	PYROTECHNIC WASTE DISPOSAL THE TOOELE DEACTIVATION FURNACE WAS INSTALLED AND DEBUGGED, A MODIFIED CONTROL SYSTEM IS REQUIRED TO PROVIDE QUICKER RESPONSE TIME TO TEMPERATURE SPIKES, MERCURY COATED LOVE AMMUNITION IS BEING COLLECTED AND STORED UNTIL THE FILTER SYSTEM IS MODIFIED	0.0	0.0	0.0	DEC 76	DEC 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 77 4114F12	POLLUTION CONTROL FOR SCAMP THE CONTRACTOR HAS RECEIVED ALL DRAWINGS AND EFFLUENT SAMPLES REQUESTED FROM LCAAP AND IS PREPARING THE DETAILED FINAL DESIGN. ADDITIONAL TESTING WAS REQUIRED TO DETERMINE WHAT SUPPLEMENTAL REMOVAL TECHNIQUES WILL BE NECESSARY TO KEEP OIL CONTENT DWN	100.0	50.0	16.1	MAR 78	APR 78
5 77 4114F13	MONITOR + CONTROL OF POLLUTANTS A HYDROCARBON ANALYZER/RECORDER AND A TRANSMISSOMETER WERE RECEIVED BY SCRANTON AAP, THE FORMER WILL BE INSTALLED ADJACENT TO A PAINT-SPRAY BOOTH, THE LATTER WILL BE INSTALLED ON A SMOKESTACK OF A FORGING FURNACE TO MONITOR THE OPACITY OF THE GAS.	0.0	0.0	0.0	JUN 77	JUN 77
5 77 4114F14	ELIM OF AIR POLLUTION FROM METAL PARTS MFG A CHARGED DROPLET SCRUBBER PILOT UNIT WAS LEASED AND EVALUATED FOR ITS ABILITY TO REMOVE OIL MISTS AND PARTICULATE MATTER FROM THE STACK GASES OF A HOT FORGING LINE. THE TEST DATA SHOWED VERY GOOD REMOVAL OF PARTICULATES LARGER THAN .3 MICRONS.	0.0	0.0	0.0	JUN 77	JAN 78
5 77 4114F15	DISPOSAL OF MERCURY FROM STRESS CRACK TESTS A MERCURY PYROLYSIS SYSTEM WAS INSTALLED AT LCAAP TO REMOVE MERCURY FROM BRASS CARTRIDGE CASES. MOST PRACTICAL AND ECONOMIC METHOD FOR REMOVING MERCURY FROM LIVE AMMO WERE EXPLORED. A PILOT LINE TO HANDLE MERCURY FROM STRESS CRACKING TESTS WAS BUILT.	0.0	0.0	0.0	DEC 76	DEC 78
5 77 4114P01	PROGRAM CONTROL, COORDINATION AND SUPPORT SAMPLING OF EMISSIONS FROM THE SAR, AFR, AND DSN HAVE BEEN ACCOMPLISHED BY VAAP. THE EVALUATION OF ANTHRAFILT AS A PRETREATMENT MEDIA FOR REMOVAL OF SUSPENDED SOLIDS AND WAXES FROM PINKWATER IS CONTINUING AT THE KAAP.	176.0	20.0	7.2	SEP 78	SEP 78
5 77 4114P04	NO-X ABATEMENT METHODS THE FINAL OPERATING TEST OF THE MDL SIEVE WAS MADE. THE LEVEL OF NOX IN THE INFLUENT STREAM AVERAGED 1320 PPM BUT WAS REDUCED TO AN AVERAGE VALUE OF 33 PPM IN THE EFFLUENT STREAM. HAAP IS PREPARING A FINAL OPERATING REPORT. SEE TASK P33.	0.0	0.0	0.0	NOV 79	NOV 79
5 77 4114P06	PROPELLENT AND EXPLOSIVE WASTE INCINERATION THE ANALYSIS OF THE FLUIDIZED BED INCENERATOR AT PA WAS COMPLETED AND THE FINAL REPORT IS BEING REVIEWED. THE 200 PPM TARGET FOR NOX EMISSIONS WAS MET BY THE MAJORITY OF THE TEST RUNS. THE ROTARY KILN INCEN AT RAAP HAS BEEN MODIFIED TO RECYCLE XHAUST	0.0	0.0	0.0	JUN 77	JUN 78
5 77 4114P08	DISPOSAL OF RED WATER FROM TNT PURIFICATION FURTHER STUDY OF THE AQUEOUS CARBONATE PROCESS WAS CONCLUDED. STUDIES OF THE TAMPELLA RECOVERY PROCESS WERE POSTPONED. EMPHASIS WAS PLACED ON EVALUATING THE SONOCO SULFITE RECOVERY PROCESS WHICH BURNS RED WATER AND COAL OR OIL IN A ROTARY KILN.	0.0	0.0	0.0	JUN 77	SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 77 4114P10	DISPOSAL OF WASTES FROM PROPELLANT MFG A FINAL RPT ON THE REUSE OF SCRAP PROP IS BEING PREPARED, AT BAAP, AN ULTRAFILTRATION UNIT AND A REVERSE OSMOSIS UNIT HAVE BEEN INSTALLED AND TESTED WITH CLEAR WATER, A LIQUOR SAMPLE TEST HAS BEEN RUN AND THE RESULTS ARE BEING EVALUATED.	0.0	0.0	0.0	MAR 79	JUN 79
5 77 4114P12	ELIMINATION OF ORGANIC WASTES SUCH AS SOLVENT A ROUGH DRAFT OF THE FINAL REPORT FOR PHASE 2 OF THIS PROJECT WAS COMPLETED.	0.0	0.0	0.0	AUG 77	OCT 78
5 77 4114P16	PROCESS WATER MANAGEMENT AT GOCO PLANTS STORAGE AND STABILITY TESTS OF PROPELLANT BATCHES MADE FROM MIXED ACID RECYCLE NC HAVE BEEN COMPLETED, COMPARISONS WITH CONVENTIONALY MFGED NC SHOWED EQUIVALENT STABILITY AND STORAGE LIFE, BASED ON VACUUM STABILITY, CONTINUOUS HEAT AND STAB/STOR TEST	377.2	72.1	296.7	NOV 77	SEP 78
5 77 4114P19	METHODS + EQPT TO MONITOR AND CONTROL POLLUTANTS THE EVALUATION OF THE HYDROCARBON INFARED ANALYZER PROVIDED ACCEPTABLE MEASUREMENTS OF SOLVENT VAPOR IN THE EFFLUENT GAS STREAMS, THE NG MONITOR IS BEING REPAIRED, THE REPAIR OF THE SULFIDE MONITOR HAS BEEN COMPLETED.	0.0	0.0	0.0	JAN 79	MAR 80
5 77 4114P27	SOLID WASTE SOIL DISPOSAL TECHNIQUES THE FABRICATION OF TWO SEALED, HEATED TRANSPARENT HOUSINGS FOR THE COMPOSTERS WAS COMPLETED, COMPOSTING MATERIAL FOR THE STUDY HAS BEEN OBTAINED, TNT COMPOSTING WORK AT NWSC WAS TEMPORARILY SUSPENDED TO REEVALUATE THE PROGRAM AND PLAN FUTURE WORK.	0.0	0.0	0.0	MAR 78	DEC 79
5 77 4114P31	FREEZE TECHNOLOGY FOR WATER POLLUTION REVIEW AND TECHNICAL EDITING TO INCLUDE METRIC EQUIVALENTS IS IN PROGRESS ON THE FINAL CONTRACTOR REPORT PRIOR TO PUBLICATION.	0.0	0.0	0.0	SEP 77	SEP 78
5 77 4114P33	REMOVAL OF NO-X AND TNM FROM NITRATION FUMES THE DESIGN OF THE SYSTEM USING SULFURIC ACID SCRUBBING FOR NOX ABATEMENT FOR TNT MANUFACTURING AT RAAP HAS BEEN COMPLETED AND FINAL ENGINEERING DRAWINGS ARE BEING PREPARED, A CONTRACT SOLICITATION PACKAGE IS BEING COMPLETED. SEE TASK P4.	0.0	0.0	0.0	NOV 79	NOV 79
5 77 4114P34	OXIDATION OF NITROBODIES THE REMOVAL OF DISSOLVED TNT IN WASTEWATER USING SOLVENT EXTRACTION (WHITE OIL), SAMPLES OF WASTEWATER CONTAINING DIFFERENT LEVELS OF TNT WERE SCANNED IN THE UV REGION AT TWO TEMPERATURE LEVELS AND THE SCANS WERE FOUND TO BE IDENTICAL.	176.5	13.5	156.9	MAY 78	AUG 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 4122	PRODUCTION LINE MODERNIZATION FOR CBU WEAPONS TDP COMPLETED FOR CBU 52 PRODUCTION LINES AT MILAN AAP AND FOR CBU 58/71 PRODUCTION LINES AT KANSAS AAP, CONCEPT COMPLETED FOR CBU 58/71 PRODUCTION LINES AT KANSAS AAP,	721,0	0,0	477,0	MAR 77	SEP 78
S 75 4136	DEVELOPMENT OF A GENERALIZED MATH MODEL SEE PROJECT S 76 4136 FOR A DESCRIPTION OF WORK,	283,0	86,0	197,0	JAN 76	DEC 78
S 76 4136	DEVELOPMENT OF A GENERALIZED MATH MODEL A COMPUTERIZED RAM DATA BANK IS BEING MODIFIED AND EXPANDED, A CONTRACT IS BEING LET TO EXPAND THE PREVIOUS GENERALIZED MODEL TO COVER NEW MISSION ITEMS AND RAM ENGINEERING,	150,0	0,0	98,0	JUN 77	MAY 79
S 77 4139	*APPL OF RADAR TO BALLISTIC ACCEPT TEST OF AMMO, FINAL REPORT FOR FY77 EFFORT HAS BEEN SUBMITTED, FOR STATUS OF PROJECT 4139 SEE S 78 4139 BELOW,	190,0	190,0	0,0	DEC 77	JUL 78
S 78 4139	APPLICATION OF RADAR TO BALLISTIC ACCEPTANCE TEST OF AMMO ANTENNA PEDESTAL + SERVO CONTROL BOX HAVE BEEN MOUNTED + CHECKED, A SPECIAL PURPOSE PROCESSOR HAS BEEN TESTED, THE PHASE-FREQUENCY SCAN ANTENNA WAS INSTALLED, SYSTEM INTEGRATION AND CHECKOUT WAS STARTED, SOFTWARE IS 65% COMPLETE,	1,500,0	881,2	63,2	FEB 79	FEB 79
S 70 4147	COMPUTER CONTROL APPLICATION TO CONTINUOUS TNT MANUFACTURE PREPARATIONS FOR TESTING THE UPDATED BATCH LOGIC PROGRAM CONTINUED, PLANS WERE MADE TO TEST THE PROGRAM ON LINE 1 USING INERT MATERIAL AND SIMULATION EQUIPMENT TO CREATE REQUIRED SIGNALS FROM THE PROCESS, CONTINUED PREPARATION OF TECHNICAL REPORT,	1,252,0	1,217,0	35,0	MAY 73	AUG 78
S 74 4147	COMPUTER CONTROL APPLICATION TO CONTINUOUS TNT MANUFACTURE DETAILED SYSTEM DESIGN AND HARDWARE FABRICATION FOR THE ANALOG CONTROL SYSTEM AT RAAP WAS INITIATED,DESIGN REVIEWS WERE HELD WITH FOXBORO, ABOUT 50% OF THE FIELD EQUIPMENT WAS DELIVERED TO RAAP, FABRICATION AND ASSEMBLY OF CNTRL RM EQUIP WAS STARTED,	795,0	765,0	30,0	NOV 75	NOV 79
S 78 4148	REDUCED WEIGHT FORGING FOR THE 8 INCH MOTOR BODY, XM650 BECAUSE OF A DELAY IN FUNDING NO WORK HAS BEEN ACCOMPLISHED,	80,0	79,0	0,0	NOV 78	NOV 78
S 78 4149	LOADING OF 30MM ADEN/DEFA HEDP AMMUNITION THE PROCUREMENT REQUEST HAS BEEN SUBMITTED TO THE PROCUREMENT DIRECTORATE,	500,0	0,0	0,0	MAY 79	MAY 79
S 78 4150	NEW MANUFACTURING PROCESSES FOR SAWS AMMUNITION ASSEMBLY PLANS FOR BULLETS AND CARTRIDGES HAVE BEEN DISCUSSED WITH PROSPECTIVE BIDDERS AND LCAAP, A PRELIMINARY COST ESTIMATE FOR ALTERNATE PENETRATOR MANUFACTURING PROCESSES WAS DEVELOPED,	50,0	0,0	50,0	SEP 80	SEP 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 78 4153	INERTIA WELDER FOR THE M509 AND M483 PROJECTILES SCOPE OF WORK HAS BEEN PREPARED, THE PROCUREMENT PACKAGE IS CURRENTLY BEING COMPLETED.	350.0	0.0	0.0	AUG 80	AUG 80
S 72 4162	*AUTO LINE FOR THE MELT-POUR PROCESSING OF HIGH EXPLOSIVES THE FINAL REPORT HAS BEEN PREPARED AND SUBMITTED.	2,045.9	445.9	1,600.0	JUN 73	JUL 78
S 74 4162	*AUTO LINE FOR THE MELT-POUR PROCESSING OF HIGH EXPLOSIVES THE FINAL REPORT HAS BEEN PREPARED AND SUBMITTED.	1,759.4	366.1	1,393.3	DEC 74	JUL 78
S 7T 4165	PROT FAC FOR HMX RECOVERY FROM RDX/HMX ADMIXTURES FINAL ENGINEERING REPORT HAS BEEN ISSUED BY HAAP ON 1 FEB 78. ARRADCOM HAS PREPARED A POSITION PAPER FOR REVIEW. REMAINING FUNDS WILL BE USED BY HAAP TO DECONTAMINATE BLDGS D-5 AND E-4.	400.0	400.0	0.0	JAN 78	AUG 78
S 74 4165	*PROTOTYPE FACILITY FOR RECOVERY OF HMX FROM RDX/HMX ADMIX THIS IS THE FINAL REPORT, SIMMER TANKS, SLURRY PUMPS AND CONTROL PANEL WERE INSTALLED IN BLDG D-5 AT HAAP, CYCLONES, HOLD-UP TANKS AND PUMPS WERE INSTALLED IN BLDG E-4 AT HAAP.	1,198.0	1,080.0	118.0	DEC 75	JUL 78
S 75 4165	*PROTOTYPE FACILITY FOR RECOVERY OF HMX FROM RDX/HMX ADMIX THIS IS THE FINAL REPORT, EQUIPMENT INSTALLED BY PRIOR YEAR PROJECT IN BLDGS D-5 AND E-4 AT HAAP WERE WATER TESTED AND CALIBRATED. TESTING AND DEBUGGING OF THE PILOT PLANT WAS INITIATED.	495.0	450.0	45.0	JUL 77	JUL 78
S 76 4165	*PROTOTYPE FACILITY FOR RECOVERY OF HMX FROM RDX/HMX ADMIX THIS IS THE FINAL REPORT, DEBUGGING OF THE PILOT PLANT WAS COMPLETED AND A PARAMETER STUDY TO OPTIMIZE OPERATION RUN. MODIFICATIONS WERE MADE IN THE CYCLONES. AMOUNT OF HMX RECOVERED VARIED FROM 34 TO 58 LBS AND YIELD VARIED FROM 32-64 PER CENT OF HM	475.0	475.0	0.0	JAN 78	JUL 78
S 74 4169	*ESTABLISHMENT OF IMPROV PROC TO MANUFACTURE NITROGUANIDINE A COLORIMETRIC METHOD OF ANALYSIS OFR GUANIDINE WAS DEFINED WHICH GIVES BOTH PERCENTAGE GUANIDINIUM ION AND NITROGUANIDINE IN THE SAMPLE. A METHOD FOR ON-STREAM PARTICLE SIZE ANALYSIS OF FEED TO THE CALCIUM CYANAMIDE KILN WAS DEFINED ALSO.	403.0	43.6	359.4	NOV 74	APR 78
S 74 4201	SAFETY ENGINEERING IN SUPPORT OF AMMUNITION PLANTS. EFFECTS OF SHIELDED TOTE BINS PUBLISHED, WATER DELUGE EXTINGUISHMENT AND MI DUST EXPLOSIBILITY REPORTS SUBMITTED FOR PUB. BLAST LOADING FROM BLAST LEAKAGE REPT BEING REVIEWED. THE LATTER DELAYED BY MATERIAL SHORTAGES FROM NON ARRADCOM ACQYS.	1,237.0	973.5	363.5	JUN 75	SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 7T 4202	*PROTO EQ FOR CONT, AUTO PDN OF SOLVENT TYPE MULTI-BASE PROP PROCESSING OF M26 ON DEMY SYSTEM CONTINUED, 20 M26E1 RUNS WERE MADE THRU PRE-MIXER + MIXER, WORK ON CUTTING M26E1 RESULTED IN POOR QUALITY GRANULES, CORRECTIVE ACTION IS BEING TAKEN, DEMY, PRE-MIXER, MIXER, EXTRUDER + CUTTER WERE CONVERTED F/M30A1,	282,0	219,0	63,0	DEC 76	JUL 78
5 73 4202	*PROTO EQ F/CONT AUTO PROD OF SOLVENT- TYPE MULTI-BASE PROP THIS PROJECT IS COMPLETE, THE FINAL REPORT WAS PREPARED,	1,005,0	945,0	60,0	DEC 74	JUL 78
5 75 4202	*PROTO EQ F/CONT AUTO PROD OF SOLVENT- TYPE MULTI-BASE PROP M30 NC PRODUCTION RUNS THRU THE THERMAL DEMY WERE COMPLETED, 74 M30 RUNS WERE MADE ON THE PREMIXER, WORK WASCONTINUED ON ELIMINATING POROSITY IN THE MIXER PRODUCT, 1100 LBS OF M30 PROP WAS SUCCESSFULLY TESTED IN GUN FIRINGS AND CLOSED BOMB TESTS,	342,0	272,0	70,0	MAR 76	JUL 78
5 76 4202	*PROTO EQ F/CONT AUTO PROD OF SOLVENT- TYPE MULTI-BASE PROP WORK WAS STARTED IN PROCESSING M26 NC THRU THE THERMAL DEMY, 29 RUNS OF M26E1 PROP WAS MADE THRU THE PRE-MIXER AND MIXER, INITIAL RUNS OF M26E1 PROP WERE MADE THRU THE EXTRUDER, FEED PROBLEMS WERE ENCOUNTERED, WORK ON M26E1 WILL CONTINUE IN FY7T AND	140,0	100,0	40,0	DEC 76	JUL 78
5 77 4202	PROTO EQ F/CONT AUTO PROD OF SOLVENT- TYPE MULTI-BASE PROP BECAUSE OF NG EXPLOSION AT RAAP, WORK ON CAMBL PROTOTYPE HAD TO BE STOPPED, NG RESTORATION WILL NOT BE UNTIL APR, 1980, THE ONLY WORK DONE ON THIS PROJECT NOW IS BALLISTIC TESTING AND GUN FIRINGS OF M30A1 PROPELLANT AND WRITING OF THE FINAL REPORT,	505,0	318,0	95,6	MAR 78	JAN 79
5 71 4205	*PROC SPENT ACID FR RDX/HMX FR RECOV OF EXPLOSIVE + ACID THIS IS THE FINAL REPORT, AMMONIA AND CALCIUM HYDROXIDE CAN REPLACE SODIUM HYDROXIDE AS NEUTRALIZER AND CAUSTICIZER, GRANULAR ACTIVATED CARBON CAN BE USED TO ADSORB RESIDUAL EXPLOSIVES FROM PROCESS, N-PROPYL ACETATE IS EFFECTIVE FOR RDX/HMX EXTRACT,	110,0	90,0	20,0	DEC 72	JUL 78
5 74 4205	*PROC SPENT ACID FR RDX/HMX FR RECOV OF EXPLOSIVE + ACID THIS IS THE FINAL REPORT, INSTALLATION OF A HEATING AND CIRCULATING LOOP HAS RESULTED IN REDUCTION OF EXPLOSIVE PRECIPITATION IN THE PRIMARY EVAPORATOR FEED TANK THEREBY REDUCING THE EXPLOSIVE LOAD LIMIT IN THE HAAP SPENT ACID AREA (8-LINE)	70,7	40,7	30,0	JUN 75	JUL 78
5 76 4211	MOD OF PROCESS CONTROL OF EXPLOSIVE COMPOSITIONS CONTRACT FOR DESIGN, CONSTRUCTION AND TESTING OF ON-LINE RDX/TNT A NALYZER AWARDED TO SCIENCE APPLICATIONS, PRELIMINARY DESIGN REVIEW CONDUCTED IN APRIL, REVIEW OF ORGANIC SIMULANTS CONDUCTED AND CONCEPT FOR CALIBRATION OF SIMULANTS STUDIED,	175,0	1,5	161,0	MAY 77	DEC 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 77 4211	MOD OF PROCESS CONTROL OF EXPLOSIVE COMPOSITIONS DESIGN DRAWINGS BY CONTRACTOR CONTAINING REVISION ON SAMPLING CHAMBER, DETECTOR, SOURCE HOLDER GEOMETRY WERE COMPLETED AND SUBMITTED TO ARRADCOM.	267.0	99.5	57.9	AUG 78	DEC 79
S 78 4214	POLLUTION ENGINEERING FOR 1983-85 REQUIREMENTS SEE FOLLOWING INDIVIDUAL TASKS FOR WORK STATUS.	1,180.0	460.0	113.5	SEP 79	JUL 79
S 78 4214P1	TECHNOLOGY REQUIREMENTS A MTG WAS HELD AT LSAAP TO DETERMINE THE POLLUTION ABATEMENT PROBLEM AT THE DETONATOR LINE FACILITY. LAB TESTING WAS PERFORMED TO DETERMINE THE EFFICIENCY OF HEAVY METALS REMOVAL. FOUR MCA PROGRAMS WERE REVIEWED FOR TECHNICAL CONTENT RELATING TO PA.	212.0	0.0	7.9	SEP 79	SEP 79
S 78 4214P2	IN-PLANT REUSE OF POLLUTION ABATED WATERS SURVEYS OF TREATED WATER CHARACTERISTICS AND WATER QUALITY REQUIREMENTS AT RAAP WERE INITIATED. CONTRACT NEGOTIATIONS AT HAAP HAVE BEEN COMPLETED AND FUNDING BY MID JUNE IS PLANNED.	378.0	130.0	51.6	JUL 79	JUL 79
S 78 4214P3	LOW COST SYSTEM TO ABATE NITROBODY POLLUTION STUDIES HAVE BEEN CONDUCTED ON THE UV-OZONOLYSIS METHOD FOR TREATMENT OF PINK WASTEWATER. THIS METHOD IS EFFECTIVE IN REDUCING NITRO-BODY LEVELS FROM 140-160 MG/A TO A LEVEL LESS THAN ONE MG/A.	354.0	180.0	31.9	JUL 79	JUL 79
S 78 4214P4	NG-NITRATE ESTER REMOVAL BY ADSORPTION/RECYCLE REVIEWED PAST WORK IN REMOVAL OF NG WITH ADSORBANTS AND THEIR REGENERATION, MATERIAL VENDOR CONTACTS AND FEASIBILITY STUDY OF RECOVERING THE NITRATE ESTERS AND SOLVENTS FROM THE REGENERATION RESIDUES.	236.0	150.0	22.1	JUL 78	JUL 78
S 74 4215	AUTO THE CONTINUOUS TNT PROD FACILITY PROCESS CONTROLS INVESTIGATIONS WERE CONDUCTED TO DETERMINE THE BEST ANALYTICAL COLUMNS SUITABLE FOR PERFORMING MIXED ACID ANALYSES. FLOW RATES AND OPTIMUM SEPARATION OF SULFURIC AND NITRIC ACID WERE STUDIED. THE SEALS IN THE ON-LINE TNT FREEZING-PT ANALYZER LEAKED.	523.8	264.6	99.2	MAY 75	DEC 78
S 74 4223	APPLICATION OF ULTRASONIC ENERGY TO DOUBLE-BASE PROP PROC MODIFICATIONS TO THE MALFUNCTIONING FREQUENCY GENERATOR ARE UNDERWAY. THIS INCLUDES AN IMPROVED UNIJUNCTION OSCILLATOR CIRCUIT, THE REDESIGN AND PROVE-OUT OF THE PAIRED TRANSFORMER CIRCUITRY AND THE REFINEMENT OF THE ELECTRICAL CABINET CIRCUITRY.	397.0	224.2	169.8	MAR 75	OCT 78
S 77 4223	APPLICATION OF ULTRASONIC ENERGY TO DOUBLE-BASE PROP PROC A MORE COMPLETE SCOPE OF WORK WAS PREPARED COVERING THE MARK 43 PROPELLANT GRAIN MACHINING, INHIBITING, GAUGING, LOADING AND STATIC TESTING TO BE ACCOMPLISHED AT RADFORD AAP.	330.0	47.9	194.5	SEP 78	JAN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 4228	AUTOMATED BAG LOADING/CHARGE ASSEMBLY + PACKOUT-155MM/8IN LINE CONTINUES TO BE DEBUGGED, BINDING ELIMINATED IN CAROUSEL TRACK, SEWING AND THREAD CUTTER MODULES WERE FABRICATED, INTERFACED AND PROVEN OUT, AUTO SPEED CONTROL ON CONVEYOR FINISHED, SAFETY SWITCHES AND EMERGENCY CORD ADDED, CONTROL PANEL COMPLET	1,260.0	82.0	1,148.5	JUN 76	JUN 78
S 77 4228	AUTOMATED BAG LOADING/CHARGE ASSEMBLY + PACKOUT-155MM/8IN AUTO BAG LOADING LINE CONTINUES TO BE IMPROVED, INCLINE AND BUFFER CONVEYOR WIDENED, PEDESTALS MADE ADJUSTABLE, AIR ACTUATED INCREMENT STATION INSTALLED, PACKOUT LINE OPERATED IN AUTO MODE AFTER INSTALL OF FLAGS AND AIR LOGIC CHANGES,	1,400.0	147.0	1,200.2	MAY 78	JUN 78
S 78 4228	AUTOMATED BAG LOADING/CHARGE ASSEMBLY + PACKOUT-155MM/8IN FY78 S.O.W. HAS NOT BEEN INITIATED,	795.0	0.0	0.0	AUG 78	AUG 78
S 76 4237	CONTINUOUS TNT PROCESS ENGINEERING INSTALLATION OF THE TNT PILOT PLANT PROCESS EQUIPMENT WAS COMPLETED, INSULATION OF THE VESSELS AND PIPING IS ABOUT 90% COMPLETED, FIELD INSTRUMENTATION WAS INSTALLED AND IS BEING READIED FOR WATER TESTING, DAMAGED COMPONENTS OF THE RCS ARE IN F REPAI	950.0	662.0	287.0	JUN 78	APR 78
S 77 4237	CONTINUOUS TNT PROCESS ENGINEERING THE SOP FOR WATER TESTING WAS REVIEWED AND WORK COMMENCED TO DEVELOP OPERATION SOPS FOR THE PROCESS, A SCOPE FOR ADDITIONAL CONTRACTOR EFFORT WAS PREPARED TO COMPLETE THE PREPARATIONS FOR WATER TESTING,	265.0	8.0	192.0	FEB 78	SEP 78
S 78 4237	CONTINUOUS TNT PROCESS ENGINEERING NO STATUS REPORTED UNDER THIS YEAR OF FUNDING, FUNDS ARE BEING WITHHELD,	300.0	0.0	0.0	FEB 79	FEB 79
S 75 4240	INVESTIGATION OF LOADING AMATEX-20 FUNDS ORIGINALLY AT LAP PLANT WERE DEOBLIGATED AND REISSUED TO ARRADCOM TO FINALIZE WORK EFFORT,	3,270.0	667.8	2,589.9	JUN 76	AUG 78
S 76 4240	INVESTIGATION OF LOADING AMATEX-20 FINAL REPORT IS BEING PREPARED ON VARIOUS AMATEX 20 PRODUCTION LAYOUTS BY THE CONTRACTOR, FINAL REPORT IS BEING PREPARED ON THE TOTAL PROJECT EFFORT,	750.0	112.7	634.3	JUN 76	AUG 78
S 77 4249	SEPARATION OF FINE EXPLO FROM ACID, WATER SLURRIES THE INSTALLATION DRAWING PACKAGE FOR THE BIRD-PANNEVIS FILTER AT BLDG E-4 HAS BEEN REVISED, BIRD-PANNEVIS FILTER IS NEARLY COMPLETED, COST GROWTHS IN THE PROJECT HAVE RESULTED IN MILESTONE SLIPPAGES,	350.0	280.0	70.0	DEC 77	OCT 7[illegible]

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 78 4249	SEPARATION OF EXPLOSIVES FROM SPENT ACID / WATER SLURRIES THERE IS A SLIPPAGE IN THE MILESTONES DUE TO COST GROWTH IN THE 7T EFFORT.	250.0	220.0	0.1	DEC 78	SEP 79
5 77 4252	IMPROVE PRESENT PROCESSES FOR MFG RDX AND HMX EVALUATION OF CRUDE ACETIC ANHYDRIDE FOR PRODUCTION OF RDX/HMX WAS COMPLETED. FINAL ENGINEERING REPORT HAS BEEN ISSUED BY HAAP.	388.5	334.9	48.5	JUN 77	JUL 78
5 75 4252	IMPROVE PRESENT PROCESSES FOR THE MANUFACTURE OF RDX + HMX ALL EQUIPMENT FOR THE RDX/HMX PILOT PLANT HAS BEEN RECEIVED AND INSTALLED AT ARRADCOM. SCHEDULES WERE PREPARED FOR COMPLETING THE EVALUATION OF THE USE OF REDUCED AMOUNTS OF AMMONIUM NITRATE IN THE PRODUCTION OF RDX.	550.0	536.4	13.6	DEC 75	AUG 78
5 77 4252	IMPROVE PRESENT PROCESSES FOR THE MANUFACTURE OF RDX + HMX LACQUER PREPARATION STUDIES WERE PERFORMED ON USE OF N-OCTANE IN LIEU OF TOLUENE FOR COMPC4. COATING DRY RDX WAS UNSUCCESSFUL FOR COMPS A3 A4. SOLVENT/WAX SOLUTIONS WITH NOCTANE AND NAPTHA WERE SUCCESSFUL WITH A3. TWO REACTION PROMOTERS WERE FOUND.	884.2	623.2	45.5	DEC 77	OCT 79
5 78 4252	IMPROVE PRESENT PROCESSES FOR THE MANUFACTURE OF RDX + HMX NO WORK ACCOMPLISHED BECAUSE FY77 EFFORT SLIPPED SIX MONTHS.	548.0	97.0	0.0	MAY 80	MAY 80
5 74 4263	*AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ PROJECT EFFORT HAS BEEN COMPLETED AND FINAL REPORT SUBMITTED.	713.5	116.3	597.2	JAN 75	JUL 78
5 75 4263	*AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ PROJECT EFFORT HAS BEEN COMPLETED AND FINAL REPORT SUBMITTED.	1,300.0	595.3	704.7	JAN 75	JUL 78
5 76 4263	AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ THE GROUND LEVEL CONVEYOR SYSTEM HAS BEEN INSTALLED AND INTERFACED WITH THE PLC SYSTEM. THIS SYSTEM IS UNDERGOING DEBUG AND RAM TESTING. THE WATER RECIRCULATION SYSTEM AND PROJ CARRIER WERE INSTALLED AND INTERFACED. POST HEAT SHROUD WAS INSTALLED.	1,145.0	778.7	359.3	JUN 77	OCT 78
5 77 4263	AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ THE PLC WAS TEMPORARILY INSTALLED TO FACILITATE TESTING. FORCED AIR SYSTEM HAS INSTALLED AND INTERFACED WITH THE MPTS PREHEAT ENCLOSURE AND PLC. ALL PROJ WORK STATION MACHINES HAVE BEEN INSTALLED AND ARE UNDERGOING DEBUG AND RAM TESTING.	900.0	147.6	646.0	SEP 78	OCT 78
5 78 4263	AUTO PILOT LINE FOR CONTROLLED COOL/PROCESSING HE LOAD PROJ SYSTEMATIC DEBUG AND TESTING OF GROUND LEVEL CONVEYOR SYSTEM, TRANSFER GANTRY, CONTROLLED COOLING SYSTEM, AND SUPPORT HARDWARE WAS INITIATED.	287.0	30.0	55.6	OCT 78	OCT 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 77 4267	CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B INERT TEST RUNS WERE RESCHEDULED AT NIRO ATOMIZER TO STUDY THE PRESSURE NOZZLE AND TWO FLUID NOZZLE, A WET PRILLING TECHNIQUE WAS INVESTIGATED, DROP/IMPACT TESTS WERE PERFORMED ON CAST COMP B CHARGES IMPACTING A STEEL PLATE, 31 DROPS WITH NO INCIDENT	500.0	429.3	10.8	SEP 79	AUG 80
5 78 4267	CONTINUOUS PROCESS FOR GRANULAR COMPOSITION B NO WORK ACCOMPLISHED.	425.0	171.0	0.0	MAR 81	MAR 81
5 75 4271	*IMPROVED PROCESSES TO POLISH, DRY, AND GLAZE BLACK POWDER BENCH SCALE STUDIES WERE SUCCESSFULLY COMPLETED INDICATING THAT A PILOT PLANT STUDY SHOULD BE UNDERTAKEN AS PHASE 2. POLISHING WAS ACHIEVED IN 3 MINUTES AND GLAZING IN 15 MINUTES COMPARED TO THE NORMAL 2 MINUTES FOR POLISHING AND 2-4 HRS FOR GLAZING.	160.0	141.0	19.0	DEC 75	JUN 78
5 76 4271	IMPROVED PROCESSES TO POLISH, DRY, AND GLAZE BLACK POWDER PRELIMINARY DESIGN DRAWING OF THE HARPERIZER POLISHING AND GLAZING MACHINE WERE COMPLETED. A HAZ ANAL OF THE FLUIDIZED BED DRYER LACKED A CONCLUSIVE RESULT CONCERNING ELECTOSTATIC BUILDUP HOWEVER, NO SERIOUS SAFETY HAZARD IS BELEIVED TO BE PRESENT.	248.0	132.0	89.0	APR 76	FEB 81
5 76 4280	M577 FUZE AUTOMATIC PROCESS CONTROL PROTOTYPE EQUIPMENT ULTRASONICALLY STAKED COUNTER HOUSING SAMPLES HAVE BEEN PREPARED FOR TESTING. TESTING AND EVALUATION TO BE COMPLETED WITHIN THE NEXT REPORTING PERIOD. SLIPPAGES ARE ATTRIBUTED TO INCREASED SCOPE OF WORK AND UNANTICIPATED VENDOR LEAD TIMES.	208.0	147.9	41.4	AUG 76	AUG 78
5 77 4280	M577 FUZE AUTOMATIC PROCESS CONTROL PROTOTYPE EQUIPMENT THE REGULATION AND POISING MACHINES HAVE BEEN COMPLETED AND DEBUGGED. ACCEPTANCE TESTING IS SCHEDULED FOR JUNE. FUZE TIMER SAMPLES ARE BEING PREPARED FOR USE IN BALLISTIC TESTS TO EVALUATE MODIFIED PARTS AND MACHINE PERFORMANCE.	900.0	625.0	32.2	MAR 77	AUG 78
5 76 4281	ENERGY SAVING AT ARMY AMMO PLANTS SEE SUBTASKS.	875.0	203.3	405.2	OCT 78	MAR 81
5 76 4281A01	PROCESS ENERGY INVENTORY NO PROGRESS REPORTED ON SUBPROJECT 1 FOR PROCESS ENERGY INVENTORY.	375.0	129.0	250.1	OCT 77	SEP 79
5 76 4281A04	WASTE HEAT FROM CHEMICAL REACTIONS SCOPE OF WORK WRITTEN FOR RECOVERY OF WASTE HEAT FROM NITRO POACHING TUBS AT RADFORD AAP FY78 78. 2 TESTS WERE RUN WITH HEAT RECOVERY FROM FORCED AIR DRY FAD HOUSE EA WITH 2500 LB OF SOLVENT WET M30PROP. THE RESULTS SHOW 965K SAVINGS PER YEAR AT RAAP	375.0	212.6	155.1	OCT 77	MAY 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 4281B01	PROCESS ENERGY INVENTORY FOR METAL PARTS ALL 76 EVENTS COMPL INCLUDING SAAP ENERGY INVENTORY IN FEB 77.	60.0	44.0	11.1	OCT 78	JUL 78
S 76 4281B02	REDUCED FORGING TEMPERATURE FINAL REPT FROM SAAP INDICATED FEASIBILITY OF REDUCING FORG TEMP FROM 2200 TO 2000 F. PROD TESTS TO BE ACCOMPLISHED ON FOLLOWON PGM.	65.0	0.0	63.0	JUN 77	JUL 78
S 77 4281	ENERGY SAVING AT ARMY AMMO PLANTS SEE SUBTASKS.	1,000.0	482.6	195.8	SEP 79	MAR 81
S 77 4281A01	PROCESS ENERGY INVENTORY STEAM USE AT RAAP IS 2X THRORETICAL DUE TO AGITATION LEAKAGE AND REGULATION AND IS BEING QUANTIFIED, OPEN AND FORKED AIR DRY SYS BEING MONITORED AT RAAP TO QUANT EFFECENCIES, HAAP INVENTORY SHOWS POTENTIAL OF 4,7K SAV AT MOB RT NOT INCL CAP OUTLAY.	348.0	0.0	224.4	JUN 79	SEP 79
S 77 4281A04	WASTE HEAT FROM CHEMICAL REACTIONS NO PROGRESS SHOWN FOR THIS TASK DURING FY77. 83K MAINLY SPENT ON THE GRUMMAN DEMO FOR MONITORING INSTALLATION AND CHECK OUT ACTIVITIES. ABOVE DATA ACCUM BY FOLLOWUP 13 SEP 78.	193.8	65.2	92.0	AUG 79	MAR 81
S 77 4281A08	CAVITATIONAL REMOVAL OF EXPLOSIVES 1 PART OF THE 4 PART EFFORT COMPL. IAAP PILOT PLANT SITE SELECTED.	301.2	152.3	77.1	SEP 79	JUL 78
S 77 4281B01	PROCESS ENERGY INVENTORY FOR METAL PARTS FINAL REPT PUBL 10 APR 78. ALTHOUGH ALREADY REVISED THIS REPT WILL BE SUBJ OF REVIEW MTG WITH AUTHORS DUR NEXT PERIOD.	59.0	36.0	8.0	FEB 78	JUL 78
S 77 4281B02	REDUCED FORGING TEMPERATURE SCRANTON HAS PILOT TEST OF 10K PROJOS AT REDUCED FORGE TEMP OF 2KF. PURCH ORDERS FOR INSTRUMENTATION PLACED.	98.0	0.0	46.0	FEB 78	MAR 79
S 78 4281	ENERGY SAVING AT ARMY AMMO PLANTS SEE SUBTASKS.	1,062.0	0.0	4.1	MAR 80	MAR 80
S 78 4281A01	PROCESS ENERGY INVENTORY NO PROGRESS REPORTED. FUND RECEIVED LATE, MONEY SPENT ON LIT SEARCH BY LIBRARY FUNCTION.	177.0	0.0	4.1		MAR 80
S 78 4281A04	ENERGY RECOVERY FROM WASTE HEAT IMPLEMENTATION OF A STUDY FOR NITROCELLULOSE POACHING TUB WASTE HEAT RECOVERY SHOULD BEGIN RESULTING FROM THE SCOPE OF WORK WRITTEN FOR RAAP IN 76.	324.0	0.0	0.0		MAR 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 78 4281A05	ENERGY RECOVERY FROM WOOD WASTE SIX CONTRACTORS RESPONSES BEING FINALLY EVALUATED FOR AWARD OF CONT TO STUDY USE OF WOOD WASTE AS FUEL SOURCE.	75.0	75.0	0.0		MAR 79
S 78 4281A08	CAVITATIONAL REMOVAL OF EXPLOSIVES NO FY78 PROGRESS IS SHOWN IN THIS REPORT. FUNDS RECEIVED LATE CAUSING DELAY.	295.0	207.0	0.0		JAN 80
S 78 4281801	PROCESS ENERGY INVENTORY FOR METAL PARTS REVIEW OF PREVIOUSLY REVISED FINAL REPORT IS ONLY PROGRESS SCHEDULED.	72.0	80.0	3.7		OCT 78
S 78 4281804	WASTE HEAT RECOVERY SBA SELECTED A CONTRACTOR, REPORT DOESNT STATE THAT CONT LET, A MEETING WAS REQUESTED BETWEEN ARMY AND CONTRACTOR, NO DATES GIVEN AND CONTRACTOR NOT IDENTIFIED. PER 5 SEP INPUT COTRACT TO AMAF LET ON 26 JUL 78.	117.0	78.6	38.0		FEB 79
S 77 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING FINAL REPORT ON TESTING RESULTS OF SMALL AND LARGE SCALE TESTS ON N-5 WAS PUBLISHED.	81.0	0.0	81.0	NOV 77	JUL 78
S 76 4285	TNT EQUAL TESTING IN SUPPORT OF SAFETY ENGNG FOR AMMO PLANTS FINAL REPORT ON TNT EQUIVALENCY OF COMP A5 COMPLETE. PRELIMINARY REPORT ON TNT EQUIVALENCY OF LARGE SCALE TESTS OF IN-PROCESS NITROBODIES HAS BEEN SUBMITTED FOR SAFETY COMMENTS.	325.0	130.3	193.4	FEB 77	JUL 78
S 77 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING. TESTS WERE CONDUCTED ON BALL POWDER, BENITE, M-6 PROPELLANT, R284 TRACER COMPOSITION AND 1560 AND 1559 IGNITER COMPOSITIONS. TEST RESULTS ARE BEING COMPUTED FOR INCORPORATION INTO A TEST REPORT.	380.0	87.9	258.5	APR 78	JUL 78
S 78 4285	TNT EQUIVALENCY TESTING FOR SAFETY ENGINEERING TEST PLANS HAVE BEEN SUBMITTED AND ACCEPTED FOR DARCOM SAFETY CONCURRENCE ON COMP C-4 AND NITROCELLULOSE. TEST PLANS WILL BE DELAYED FOR LX-14, OCTOL 75/25 AND COMP A-3 SINCE HAZARD CLASSIFICATION STUDIES HAVE NOT BEEN CONDUCTED.	47.0	0.0	0.0	JUL 79	JUL 79
S 77 4288	*EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA NO ACTION ON INDIVIDUAL TEST PROGRAMS AS TOTAL FUNDING WAS UTILIZED FOR MONITORING AND COORDINATING PROGRAM EFFORTS.	140.0	0.0	139.3	JAN 77	JUL 78
S 76 4288	*EXPLOSIVE IN PLANT SAFE SEPARATION AND SENSITIVITY CRITERIA ALL 9 FINAL TASK REPORTS WERE COMPLETED.	579.9	167.1	400.5	DEC 76	JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 77 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA SINGLE M549 TSTG COMPL, CBU TSTG STARTED, COMP A5 TSTG COMPL FINAL REPT IN REVIEW, COMP A7 FINAL REPT BEING PUBLISHED, COMP B RISER SCRAP FINAL REPT PUBLISHED DURING APR 78.	600.0	337.8	185.4	OCT 78	OCT 78
S 78 4288	EXPLOSIVE SAFE SEPARATION AND SENSITIVITY CRITERIA 155MM M483 TEST UNDERWAY AT YPG, 155MM M549 SHIELD AND PALLET TEST CONTINUING, SEPARATION DATA ON M42 GRENADE INDIVIDUAL TRAYS AND WITH 12 TRAYS COLLECTED, PRIMARY AND SECONDARY FRAG IMPACT TEST CONTRACTS BOTH INTO 120 DAY ARRADCOM PROCUREMENT CYCLES	826.0	0.0	0.0	FEB 79	FEB 79
S 77 4289	HAZARD CLASSIFICATION OF PROPELLANTS AND EXPLOSIVES TESTS WERE CONDUCTED WITH MULTI PERF PROPELLANT IN ONE-THIRD SCALE MULTI-BASE DRYER, RESULTS INDICATE THAT A MULTI-BASE DRYER WITH VENT RATIO BELOW 650 CAN BE CLASSIFIED AS CL-2 WHEN DRYING M26 E1 PROPELLANT.	65.0	13.8	51.2	APR 78	JUL 78
S 76 4289	STUDIES OF HAZARD CLASSIFICATION OF EXPLOSIVES AND PRPLLNT WORK HAS BEEN COMPLETED, TECHNICAL REPORT HAS BEEN ISSUED.	250.0	196.0	54.0	JAN 78	JUL 78
S 77 4289	STUDIES OF HAZARD CLASSIFICATION OF EXPLOSIVES AND PRPLLNT A NEW PROPAGATION TEST WAS DEVELOPED AND RUN ON M1 AND M30 PROPELLANTS, A DENSITY STUDY AND TESTS WERE CONDUCTED TO ESTABLISH STANDARD LOADING PROCEDURES FOR IN-PROCESS MATLS, A MODIFIED CRITICAL DIAMETER TEST AND CRITICAL LENGTH EXP DESIGN DEVELOPE	306.0	187.6	77.6	AUG 78	NOV 78
S 76 4291	BLAST EFFECTS IN MUNITION PLANT ENVIRONMENT TEST OF PREENGINEERED BLDG SUBJ TO BLAST LOAD IS COMPL, FOLLOW-ON TSTG IS SCHED FOR NOV 78 TO LOOK AT STRENGTHENED BLDG EFFECTS AT DUGWAY PG, REPORT BEING COMPL ON PRIOR, BLAST CAP EVAL OF GLASS WINDOWS AND ALUM FRAMES READY FOR RELEASE.	700.0	336.1	364.0	DEC 76	DEC 78
S 77 4291	BLAST EFFECTS IN MUNITION PLANT ENVIRONMENT FINAL REPT ON PREENG BLDG SUBJ TO BLAST BEING PREPARED, DESIGN OF HARDENED STEEL STRUCTURE COMPLETED AND SWGS PREPARED AND BID FOR CONSTRUCTION RECD.	350.0	176.1	909.2	JUN 78	MAY 79
S 76 4300	PRODUCT ASSURANCE IN SUPPORT OF AMMUNITION PLANT MODZATION ***** DELINQUENT STATUS REPORT *****	353.0	0.0	306.4	NOV 76	FEB 78
S 77 4301	ACCEPT PLAN FOR CONTINUOUSLY PROD MULTIBASE CANNON PROP-CAM WORK ON DIMENSION ANALYSIS OF MULTI-PERF PROPELLANT GRAINS USING THE IMAGE ANALYZER WAS COMPLETED, THE METHOD WAS REVIEWED AT ARRADCCOM AND WILL BE INCLUDED IN MIL-STD-286.	110.0	15.0	95.0	JUN 77	OCT 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 76 4301	ACCEPT PLAN=CONT PRODUC MULTI=BASE CANNON PROPELLANT FINAL REPORT ON 'PRINCETON'S STUDY OF PROPELLANT POROSITY AND BURNING RATE VIA ACOUSTIC EMISSION DETECTION WAS RECEIVED, WORK WAS STOPPED ON CHEMILUMINSCENT RAPID STABILITY ANALYSIS OF MB PROPELLANTS, NO ADVANTAGE WAS FOUND OVER CURRENT TECHNIQUES.	395.0	180.0	215.0	OCT 76	OCT 78
S 77 4301	ACCEPT PLAN=CONT PRODUCTION MULTI=BASE CANNON PROPELLANTS PROCUREMENT ACTION WAS CONTINUED TO AWARD CONTRACT F/DESIGN AND FABRICATION OF ADVANCED DYNAGUN BALLISTIC SIMULATOR, PROJECT IS UNDERGOING REVISION TO REPLACE DOUBLE=BASE STUDY WITH AN ADDITIONAL TRIPLE BASE FORMULATION.	500.0	170.0	231.0	MAY 78	OCT 78
S 77 4302	ACCEPTANCE CRITERIA FOR CONTINUOUS SINGLE BASE PROPELLANT A RAPID METHOD FOR STABILITY ANALYSIS OF SINGLE BASE PROPELLANTS HAS BEEN DEVELOPED IS UNDERGOING REVIEW PRIOR TO INCLUSION IN MIL=STD=286. DATA ANALYSIS OF PROPELLANT CAN=TO=CAN VARIATIONS IS CONTINUING AT ARRADCOM.	75.0	8.0	67.0	SEP 77	JUL 78
S 76 4302	ACCEPTANCE CRITERIA FOR CONTINUOUS SINGLE BASE PROPELLANT THE DYNAGUN TEST PROGRAM FOR THIS PROJECT WAS COMPLETED, A FINAL REPORT IS BEING PREPARED.	440.0	317.0	123.0	JUN 77	JUL 78
S 76 4303	ACCEPTANCE OF CONTINUOUSLY PRODUCED BLACK POWDER TESTING OF DEVIANT LOTS OF BLACK POWDER WAS PERFORMED USING THE STATIC TEST FIXTURES, THESE FIXTURES SIMULATE THE ART'Y PRIMER, THE CENTER CORE CHARGE AND THE BASE PAD CHARGE.	337.0	157.7	145.0	APR 77	AUG 78
S 77 4303	ACCEPTANCE OF CONTINUOUSLY PRODUCED BLACK POWDER PRINCETON COMPLETED FABRICATION OF FLAME SPREAD DEVICE, DEVIANT SAMPLES WERE TESTED IN THIS DEVICE, IAAP COMPLETED TESTING OF DEVIANT SAMPLES USING CLOSED BOMB AND CHEMICAL ANALYSIS, RESULTS WERE FURNISHED TO ARRADCOM FOR COMPARISON.	60.0	60.0	0.0	JUN 78	APR 79
S 77 4304	SPIN TEST FOR ACCEPTANCE OF ROCKET GRAINS=STARG WORK ON THIS PROJECT HAS BEEN DISCONTINUED DUE TO THE ACCURACY REQIREMENTS OF THE M549 ROCKET, THIS SYSTEM WAS BEING DESIGNED TO AN ACCURACY REQUI REMENT OF 1%, THE M549 ACCURACY REQUIREMENT IS 0.2%, THE DESIGN CAN NOT ACHEIVE THIS ACCURACY.	300.0	84.9	41.0	JUN 79	JUN 79
S 75 4310	*RECRYSTALLIZATION AND GROWTH OF HMX + RDX THIS IS THE FINAL REPORT, A PILOT PLANT WAS DESIGNED CONSISTING OF AN EVAPORATOR, CRYSTALLIZER AND EXPLOSIVES/SOLVENT SEPARATION SYSTEMS, EQUIPMENT WAS PROCURED AND BLDG C=6 AT MAAP MODIFIED TO ACCOMMODATE THE PILOT PLANT.	461.0	294.1	166.9	MAR 76	JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 76 4310	*DMSO RECRYSTALLIZATION OF HMX-RDX, THIS IS THE FINAL REPORT, INSTALLATION OF THE DMSO PILOT PLANT EQUIPMENT WAS PERFORMED, HAZARD ANALYSIS OF THE SYSTEM WAS INITIATED.	400.0	310.0	90.0	APR 77	JUL 78
5 77 4310	*DMSO RECRYSTALLIZATION OF HMX/RDX THIS IS THE FINAL REPORT, INSTALLATION OF THE DMSO PILOT PLANT EQUIPMENT AND HAZARD ANALYSIS IS COMPLETED, A LATE START FY78 PROJECT WILL BE SUBMITTED TO COMPLETE THERMAL INSULATION OF PROCESS AND SERVICE PIPING AND TO PROVE-OUT/OPTIMIZE PROCESS.	200.0	200.0	0.0	JUN 78	JUL 78
5 76 4311	AUTO PROD EQUIP FOR LAP OF XM 692 MINE DISPENSING SYSTEM OVER 90% OF ALLPURCHASED COMPONENTS AND MACHINED PARTS NECESSARY FOR TOOLING HAVEBEEN OBTAINED, ASSEMBLY OPERATIONS ARE 40% COMPLETE	1,230.0	1,044.8	175.6	OCT 77	AUG 78
5 77 4311	DEVELOP AUTOMATED PRODUCTION EQUIPMENT FOR XM 692 ALL PHASE 3 SYSTEM COMPONENTS HAVE BEEN PURCHASED AND MOST SYSTEM HARDWARE FABRICATED, ASSEMBLY OF ANCILLARY EQUIPMENT IS UNDERWAY.	1,073.0	645.1	116.8	AUG 78	JAN 79
5 76 4327	AUTOMATIC X-RAY INSPECTION SYSTEM-AXIS FOR STATUS SEE PROJECT 5 77 4327	160.0	95.0	60.9	SEP 78	JAN 80
5 77 4327	AUTOMATIC X-RAY INSPECTION SYSTEM-AXIS BENCH MODEL ASSEMBLY WAS COMPLETED BY THE CONTRACTOR, THE DEVELOPMENT OF THE FILM INTERPRETATION ALGORITHMS WERE COMPLETED, THE BENCH MODEL DEMONSTRATION WAS CONDUCTED, THE PROTOTYPE PROCUREMENT SPECIFICATION WAS SUBMITTED TO PROCUREMENT.	100.0	99.4	0.0	JUL 79	JAN 80
5 76 4337	ALTERNATE MATERIALS FOR CURING/MOLDING PROCESS F/AP MINES TESTS TO PROVE-OUT THE ACCELEVATOR ATC-3 CONTINUED, AND A TEST PROGRAM TO DETERMINE THE FEASIBILITY OF/UV HIGH INTENSITY LIGHT CURING OF PUTTING COMPOUNDS WAS INITIATED, TWO OF THE CONTRACT EFFORTS WERE CANCELLED AT THE DIRECTION OF THE PM.	504.0	110.0	112.6	AUG 78	MAR 79
5 76 4338	DEV AUTO PROCESS + PROTO EQUIP FOR LAP OF M483 155MM PROJO THE DESIGN OF THE TAPE STIFFENER ASSEMBLY MACHINE HAS PROCEEDED WELL, SUBMISSION OF FINAL DESIGN DRAWINGS HAS SLIPPED TWO WEEK BECAUSE THE DESIGN MUST CONSIDER SPACE AVAILABITY FOR THE MACHINES AT TWO LOCATION, I.E., LSAAP AND KAAP.	758.6	532.0	57.0	MAR 79	MAY 80
5 77 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS AN ECONOMIC ANALYSIS COMPARING VARIOUS APPROACHES TO IMPROVE NC PURIFICATION FACILITIES WAS COMPLETED, THE ANALYSIS SHOWED THE ECONOMIC SUPERIORITY OF THE CONTINUOUS CONICELL TYPE SYSTEM, A SMALL AUTOCLAVE IS BEING USED FOR BENCH SCALE STUDIES.	165.0	95.0	70.0	DEC 77	FEB 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 78 4341	IMPROVED NITROCELLULOSE PURIFICATION PROCESS FUNDS WERE TRANSFERRED TO RAAP.	529.0	439.0	0.0	APR 79	APR 79
S 77 4343	IMPROVED NITROCELLULOSE PROCESS CONTROL LITERATURE REVIEW CONTINUED. CHARACTERIZATION OF WOOD PULP CELLULOSE WAS STARTED IN THE LAB. PHYSICAL AND CHEMICAL PROPERTIES OF 10 TYPES OF PULP FROM 5 SUPPLIERS WERE DETERMINED. NITRATION OF THE VARIOUS PULPS WAS STARTED.	302.0	117.0	134.4	JUL 78	DEC 78
S 78 4349	MODERNIZATION OF PRESS LOADING FOR HEP PROJECTILES FUNDING WAS JUST RECEIVED IN JUNE. NOW WORK HAS BEEN ACCOMPLISHED.	250.0	0.0	0.0	JUN 80	JUN 80
S 77 4362	REHEAT OF LARGE CAL PROJECTILES TO ELIMINATE BASE SEPARATN CONTROLLED COOLING SYSTEM HAS BEEN INSTALLED, TESTED, AND DEBUGGED. PROCESS DEVELOPMENT TEST WERE INITIATED FOR THE 155MM M549, SATISFACTORY RESULTS WERE USED TO DEVELOP A CONTROLLED COOLING PROCEDURE FOR TNT LOADING 155MM M549 PROJECTILES.	400.0	28.8	275.6	APR 78	DEC 78
S 77 4410	MFG TUNGSTEN PENETRATORS TO SHAPE BY TAPER SWAGING THE TWO STEP SWAGED PENETRATORS PASSED BALLISTIC TESTS, THE VARIED DIE SWAGED PENETRATORS PASSED BALLISTIC TESTS, HOWEVER MORE THAN NORMAL VARIABILITY WAS NOTED.	397.0	249.0	6.5	MAR 78	MAR 78
S 77 4416	*ALTERNATE MFG PROCESS FOR S+A-GEMSS FINAL TESTS WERE CONDUCTED ON THE PEP S+A. BASED UPON RESULTS OF THESE TESTS AND TESTS BY THE XM75 CONTRACTOR, THE PEP S+A HAS BEEN INCLUDED IN DT II TESTS AND IS ANTICIPATED TO BE TYPE CLASSIFIED IN THE XM74 + XM75 MINES.	120.0	118.4	1.6	SEP 77	JUL 78
S 77 4431	AUTOMATED EQUIPMNET FOR MORTAR IGNITION CARTRIDGES A CONTRACT WAS AWARDED TO FMC CORP FOR DESIGN AND FABRICATION. THE CONTRACTOR HAS SUBMITTED CONCEPT DESIGNS AND WERE REVIEWED AND APPROVED FOR DETAILED DESIGN.	850.0	653.8	103.6	DEC 78	DEC 78
S 78 4431	AUTOMATED EQUIPMENT FOR MORTAR IGNITION CARTRIDGES CHANGES WERE MADE TO PHASES 3 AND 4 OF THE SCOPE OF WORK. PLANS ARE TO AWARD A CONTRACT FOR THIS WORK IN LATE JUNE 1978	658.0	598.0	0.0	JUL 79	JUL 79
S 77 4435	OPR PROTYP SYS FOR 105MM M67 PROP CHG MOD PERFORMANCE SPECS WERE CONTINUED FOR PROCUREMENT PACKAGES IN SUPPORT OF PROJ S 78 2500. INCLEMENT WEATHER AND POWER CUTBACK HAS DELAYED PROJECT. AIR COMPRESSOR HAS BEEN RETURNED TO THE PROTOTYPE BOOTH BUILDING.	500.0	375.0	118.0	DEC 77	OCT 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 77 4444	BODY FOR M42/M46 GRENADE THREE OF THE FOUR CONTRACTORS HAVE SUBMITTED PARTS. THESE PARTS HAVE BEEN INSPECTED AND FORWARDED TO LONE STAR FOR LOADING.	536.0	446.8	85.3	SEP 77	AUG 78
S 78 4444	BODY FOR M42/M46 GRENADE WORK WILL BE INITIATED WHEN PRIOR PROJECT IS COMPLETE.	626.0	0.0	8.2	JUN 79	JUN 79
S 78 4447	NITROGUANIDINE PROCESS CONTROL ANALYTICAL SYSTEMS THE NG PROCESSES WERE REVIEWED TO DETERMINE IN WHICH STREAMS ANALYTICAL METHODS REQUIRED FURTHER DEVELOPMENT. THE DECISION WAS MADE TO DEVELOP RAPID METHODS FOR THE ANALYSIS OF CYANIMIDE AND SULFATE IONS. LITERATURE SEARCHES WERE MADE.	220.0	20.0	49.2	JUL 79	JUL 79
S 78 4449	PROCESS IMPROVEMENT FOR COMPOSITION C-4 NO WORK WAS OR WILL BE DONE UNTIL THE PRELIMINARY WORK NOW IN PROGRESS UNDER PROJECT S 77 4252 IS COMPLETED. ESTIMATED TIME OF TRANSFER OF WORK TO THIS PROJECT IS DEC, 1978.	1,000.0	0.0	0.4	OCT 79	JUL 80
S 78 4454	AUTO INSPECTION DEVICE OF EXPLOSIVE CHG IN SHELL-AIDEC THE ENGINEER MODEL GENERAL PERFORMANCE REQUIREMENTS HAVE BEEN DEFINED. THE CONTRACTOR FOR THIS MODEL HAS VERIFIED THE REQUIREMENTS, THE PRODUCIBILTY DIFFICULTIES ASSOCIATED WITH THE ENGR. MODEL DETECTOR ROLLIMATOR HAS BEEN RESOLVED.	1,348.0	0.0	55.6	JUL 80	JUL 80
S 76 4456	MATERIALS PROPERTY DATA INFORMATION SYSTEM CONVERSION OF THE SOFTWARE TO THE CDC SYSTEM WAS COMPLETED. THE INTERACTIVE SYSTEMS OPERATIONS (GRAPHICS) PACKAGE WAS INSTALLED.	100.0	70.0	28.5	DEC 78	JUN 78
S 77 4457	MULTI-TOOLED IOWA DETONATOR LOADING MACHINE ALL MECHANICAL AND CONTROL ASPECTS OF THE LOADER HAVE BEEN TESTED UNDER INERT CONDITIONS. ALL FUNCTIONS ARE CONSIDERED TO BE ACCEPTABLE EXCEPT THE RDX FEEDER WHICH HAS BEEN REDESIGNED.	642.0	617.0	25.0	NOV 76	NOV 78
S 77 4462	MODERNIZED PAD FOR MULTI-BASE PROPELLANTS FORTY SOLVENT ABSORPTION TESTS WERE CONDUCTED. PARAMETERS SUCH AS TEMPERATURE, SOLVENT STRENGTH, AND NUMBER OF SCRUBBERS WERE VARIED. SCRUBBER AND DISTILLATION EQPT MFGRS WERE CONTACTED AND THE TEST DATA WAS DISCUSSED WITH THEM.	163.0	133.0	10.0	JAN 78	AUG 78
S 78 4466	EVAL TNT, CYLLOTOL, AMATEX, OCTOL WITH PA MELT POUR FACIL DATA WAS COLLECTED AND STUDIED ON PREVIOUS WORK IN TNT MELT-LOADING. INFORMATION WAS OBTAINED ON INSTRUMENTATION TESTED BY THE NAVY. THE MOST PROMISING SEEMS TO BE THE DENSITOMETER OR THE ELECTRONIC TORQUE METER FOR DETECTING AND CONTROLLING DENSITY.	200.0	0.0	27.8	DEC 78	DEC 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 78 4469	AUTOMATED INSERTION OF GRENADE LAYERS. A SCOPE OF WORK FOR THE DEVELOPMENT OF AUTOMATED EQUIPMENT WAS PREPARED AND FORWARDED TO PROSPECTIVE BIDDERS. EVALUATION OF FIVE BIDS WAS BEGUN.	502.0	11.0	21.3	APR 79	APR 79
S 78 4472	DEV EQUIP/ PROC FOR AUTO/MECH FAB OF CENTER CORE PROP BAG PROCUREMENT PROCESS WAS INITIATED.	215.0	148.0	14.2	JAN 79	JAN 79
S 77 4481	PYROLYSIS OF ARMY AMMUNITION PLANT SOLID WASTE A DATA BASE IS BEING ESTABLISHED TO IDENTIFY ALL OF THE COMPANIES INVOLVED IN PYROLYSIS TECHNOLOGY. A STUDY CONTRACT WAS AWARDED TO TRW TO INVESTIGATE THE APPLICATION OF PYROLYSIS TECHNOLOGY TO AAP SOLID WASTE. IAAP IS QUANTIFYING SOLID WASTE MADE.	100.0	11.0	42.2	DEC 77	MAR 81
S 78 4498	DEVELOP CONCEPTS FR CONSOL + AUTO ASSY OF SMALL MINES INITIAL STUDY TO DEFINE WHICH TASK TO PROCEED WITH HAS BEEN COMPLETED. SCOPE OF WORK HAS BEEN FORWARDED TO ARRCOM.	325.0	0.0	9.6	DEC 80	MAY 80
S 76 4500	*MOD TEST TECH FOR IMMED DATA ACQ,REDUC,ANALY,DISSEM,CAM REL THIS PROJECT IS COMPLETE. FINAL REPORT PRESENTED MAY 76. ACTION IS BEING TAKEN TO IMPLEMENT THE INFORMATION GENERATED IN THE COURSE OF THIS PROGRAM.	190.0	183.3	6.7	OCT 76	JUL 78
S 78 4508	PROCESS IMPROVEMENT OF PRESSABLE RDX COMPOSITIONS NO WORK WAS OR WILL BE DONE UNTIL THE PRELIMINARY WORK NOW IN PROGRESS UNDER S 77 4252 IS COMPLETED. ESTIMATED TIME OF TRANSFER OF WORK TO THIS PROJECT IS DEC, 1978.	300.0	241.0	0.0	NOV 78	DEC 79
S 76 6200	SMALL CALIBER AMMO PROCESS IMPROVEMENT PROGRAM THE PHASE 3 INTEGRATION CONTRACT WAS PLACED WITH REMINGTON ARMS. A SCOPE OF WORK FOR ONE FOLLOW-ON SLUG FEEDER WAS PREPARED. ACCEPTANCE OF THE SUBMODULE AT LCAAP IS IN PROGRESS.	1,300.0	239.0	864.0	AUG 76	NOV 78
S 77 6200	SMALL CALIBER AMMO PROCESS IMPROVEMENT PROGRAM A CONTRACT WAS LET TO GULF + WESTERN TO INVESTIGATE A NEW PROCESS FOR THE 2 DRAW 5.56 CUPS. WATERBURY FERREL WILL BE AWARDED A SIMILAR CONTRACT WITH EMPHASIS ON THE CONVENTIONAL PROCESS. IMPROVED DIMENSIONAL CHARACTERISTICS IS THE MAJOR EMPHASIS.	950.0	920.0	6.0	FEB 77	JUL 79
S 75 6211	SINTERED STEEL PREFORMS FOR WORKING INTO FRAG SHELL BODIES SEVERAL SUCCESSFULLY FORMED BODIES WERE TESTED FOR LETHALITY. FINAL REPORT WILL BE PREPARED.	230.0	10.4	170.2	DEC 77	SEP 78
S 76 6472	APPLN OF ALT PROCES FOR FAB OF PRECIS METAL PARTS FOR MTFUZE 41688 PINION STOCK WAS EXTRUDED AT AMBIENT TEMPERATURE USING A COPPER COATING AS A LUBRICANT. WORK WAS DONE ON THE DESIGN OF THE DIES TO DRAW EXTRUDED PINION STOCK DOWN TO FINAL SIZE.	400.0	335.6	0.9	FEB 78	SEP 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 77 6494	NEW CONCEPTS FOR MFR AND INSPECT OF 20MM 25MM 30MM AMMO SEE PROJECT S 76 6494 FOR WORK STATUS.	1,300.0	748.9	321.4	AUG 79	FEB 79
S 75 6494	MANUFACTURE AND INSPECTION OF CAL.50, 20MM, AND 30MM AMMO A TECHNICAL EVALUATION OF THE AAI PROPOSAL WAS COMPLETED, CONTRACT NEGOTIATIONS ARE IN PROGRESS TO RESOLVE DIFFERENCES, THE FINAL REPORT FOR PHASE I WAS SUBMITTED.	3,760.0	1,746.3	1,869.9	DEC 76	DEC 78
S 76 6494	MANUFACTURE AND INSPECTION OF CAL.50, 20MM, AND 30MM AMMO FABRICATION OF THE TRACE DETECTING EQUIPMENT WAS COMPLETED, REMINGTON HAS COMPLETED FABRICATION OF THE TWO AUTOMATIC FIRING CONTROL BOXES AND INTEGRATION INTO THE COMPUTER SYSTEM, ADDITIONAL FUNDS WERE REQUESTED FOR COMPLETION OF THE LCAAP EFFORT.	1,200.0	921.0	259.0	DEC 77	FEB 79
S 77 6494	NEW CONCEPTS FOR MFR AND INSPECT OF 20MM 25MM 30MM AMMO THE FEASIBILITY STUDY FOR LOADING THE SM533 PROJECTILE IS 70% COMPLETE, THE STUDY WAS DELAYED BY LATE RECEIPT OF GFE AND A FIRE ON THE NO. 6 LOAD LINE AT RAVENNA.	2,220.0	0.0	656.7	JUN 79	FEB 79
S 77 6553	*ADAPT ACOUS ANALY-INSPECT OF WELDED OVERLAY BAND-ARTY SHELL TASK COMPLETED, THE PRODUCTION LINE TEST OF THE WELDED OVERLAY BAND INSPECTION ENGINEERING MODEL AND FINAL REPORT WAS COMPLETED APR. 78.	100.0	10.7	89.3	JAN 78	APR 78
S 76 6557	CONTINUOUS PROPELLANT DRYING SALT COATING AND GLAZING, ALL MAJOR EQUIPMENT COMPONENTS AND PIPING HAVE BEEN INSTALLED, A FIRE PROTECTION SYSTEM CONSISTING OF UV DETECTORS AND DELUGE NOZZLES WAS DESIGNED,THE SURFACE COATING SUBTASK WAS DELETED, A COST OVERRUN HAS OCCURRED.	734.0	683.0	51.0	DEC 76	MAR 80
S 75 6558	CAM-ADAPTATION OF AUTOMATIC DYNAMIC/STATIC FUZE REGULATION THIS PROJECT IS COMPLETE, THE EVALUATION REPORT REVEALED DESIGN REFINEMENTS ARE NECESSARY BEFORE THE EQUIP CAN BE UTILIZED IN PRODUCTION, THE CONTRACTOR IS PROCEEDING TO ACCOMPLISH THE REQUIRED WORK WITHIN THE REMAINING CONTRACT FUNDS.	315.0	68.6	210.7	MAR 76	NOV 78
S 75 6562	CONTINUOUSLY CAST STEEL FOR AMMO METAL PARTS MFG, FINAL REPORT BEING PREPARED.	150.0	0.0	150.0	NOV 75	AUG 78
S 74 6571	ENGR SUPPORT OF MORTAR AMMO MPTS MODERNIZATION 60MM LETHALITY PROGRAM WAS COMPLETED AND THE 4 CANDIDATES TESTED WERE EQUIVALENT, 81MM MICROSTRUCTURE AND MECHANICAL PROPERTY STUDIES WERE COMPLETED, 60 MM PIT FRAGMENTATION TESTS ARE CONTINUING.	970.0	512.0	458.0	DEC 76	OCT 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 73 6580	*INDUCTION HEAT TREATING OF PROJECTILE SHAPES BOTH SCAN AND STATIC METHODS FOR INDUCTION HEAT TREATING OF 8INCH M509 AND 155MM M483 PROJECTILE BODIES WERE INVESTIGATED. BOTH METHODS WERE DETERMINED TO BE UNECONOMICAL WHEN COMPARED TO CONVENTIONAL HEAT TREATING SYSTEMS.	220.0	135.4	84.6	DEC 74	JUL 78
5 76 6596	BALL PROPELLANT PILOT PLANT STUDIES THE AVERAGE DIAMETER OF THE BALL PROP PRODUCED IN THE 10-GAL STILL WAS LOWER THAN EXPECTED. SCALE-UP FACTORS BASED ON TIP SPEEDS WERE NOT VALID. THE 10-GAL STILL WAS EVALUATED FOR EFFECTIVENESS AS A MIXER BY REPLACING THE TYPE OF AGITATOR.	1,230.0	1,130.0	97.0	OCT 78	JUL 78
5 77 6596	BALL PROPELLANT PILOT PLANT STUDIES THE DESIGN AND FABRICATION OF AN EXTERNAL LACQUER MIXER WAS CONTRACTED FOR WITH GROEN. THE PRINT OF THE DESIGN HAS BEEN RECEIVED FOR REVIEW AND APPROVAL. SCHEDULE DELAYS HAVE OCCURRED AND MORE ARE EXPECTED BECAUSE THE CONTRACTOR IS BUSY WITH OTHER WO	1,095.0	894.0	50.0	JUL 78	JUL 78
5 78 6596	BALL PROPELLANT PILOT PLANT STUDIES NO FY78 FUNDS WERE EXPENDED.	1,084.0	984.0	0.0	JAN 79	JAN 79
5 76 6599	2ND GENER ELEC-OPTC PROJO CAVITY INS EQ FOR 155-175MM PROJOS THE CONTRACTOR IS FINAL TESTING THE SYSTEM AND SHOULD BE AVALIBLE IN ADD. FOR DEMONSTRATION. THE GFE TV CAMERA INTERM ITTENT OPERATION HAS CREATED CHECKOUT DIFFICULTIES. ACTION HAS BEEN TAKEN TO ACQUIRE A NEW GFE TV CAMERA.	133.0	125.5	7.5	SEP 77	JUN 79
5 76 6625	*AUTO ASSY+INSPECT LINE FOR BEEHIVE FUZE MOVEMENTS. WORK COMPLETED. THIS PROJECT ESTABLISHED THE MACHINE AND TOOL DESIGN FOR FACILITIES PROJECT NO. 5786652. FIVE OF THE DESIGNS COMPLETED WILL BE UTILIZED TO UPDATE PRIOR BUILT MACHINE. FACILITIES PROJECT NO. 5786652	750.0	721.0	22.0	JUN 77	DEC 77
5 76 6628	AUTOMATED INSPECT. OF M.T. FUZE COMPONENTS-MOVE. PLATES- NO WORK ACCOMPLISHED DURING THIS REPORT PERIOD.	250.0	189.6	42.6	JAN 77	SEP 78
5 76 6632	AUTO INSPECTION DEVICES FOR ART PROJECTILES IN MOD PLANTS HOT FORGING DIMENSIONAL EQUIP. CONTRACT IS 80% COMPLETE. THE FLASH HOLE DETECTOR/MORTAR FINS CONTRACT IS 85%COMPLETE. ULTRASONIC BILLET INSPECTION SYSTEM WAS INSTALLED FOR EVALUATION. THE CONTRACTOR IS IN THE PROCESS OF DEBUGGING THE SYSTEM.	367.0	283.1	71.8	SEP 77	SEP 78
5 77 6632	AUTO INSPECTION DEVICES FOR ART PROJECTILES IN MOD PLANTS 155MM, M483 PROJECTILE EDDY CURRENT INSP. SYSTEM SUPPLY CONTRACT WAS AWARDED 17 MAY 1978.155MM LEAK TESTER PROCUREMENT ACTION WAS CANCELLED PER DRCPM-PBM-M INSTRUCTIONS.	569.0	291.0	34.0	SEP 78	MAY 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

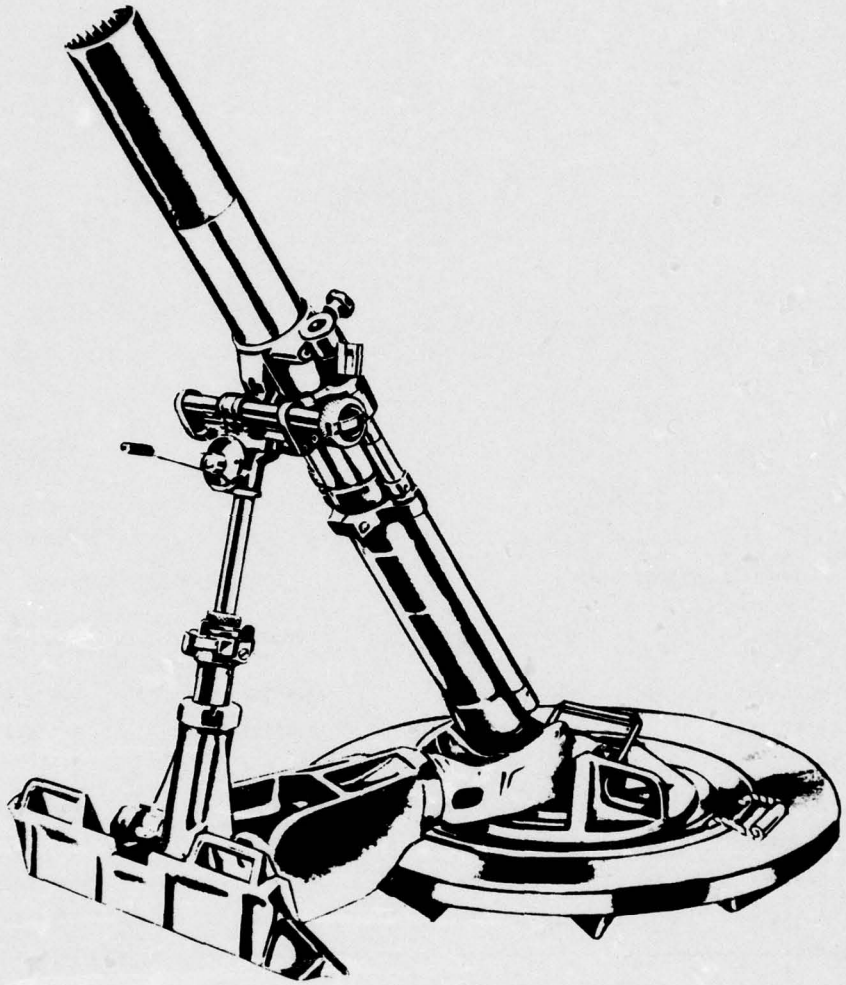
PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 76 6634	MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJOS NICKEL BOATS HAVE BEEN FABRICATED AND RECYCLING STUDIES HAVE BEEN RE-INITIATED.	500.0	0.0	500.0	AUG 77	SEP 78
5 77 6634	MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJOS A CONTRACT WITH NETCO HAS BEEN PLACED FOR MECHANICALLY FORMING THE THREADS.	707.0	245.0	412.8	JAN 78	JAN 79
5 78 6634	MFG DU ALLOYS FOR LARGE CALIBER ARMOR DEFEATING PROJECTILE WORK TO EVALUATE VARIOUS HEAT TREAT PROCESSES HAS BEGUN AT NATIONAL LEAD OF OHIO.	400.0	0.0	6.4	FEB 79	FEB 79
5 76 6640	PROD CONTROL/QA OF SHAPED CHG LINERS BY AUTO X-RAY ANAL EXAMINATION OF THE FLASH RADIOGRAPHS IS CONTINUING WITH SPECIAL EMPHASIS ON EXAMINING THE DUCTILE-BRITTLE TRANSITION REGION.	133.0	55.8	77.2	DEC 76	OCT 78
5 77 6640	PROD CONTROL/QA OF SHAPED CHG LINERS BY AUTO X-RAY ANAL ATTEMPTS ARE BEING MADE TO PRODUCE SYMMETRICALLY ROUND CONE USING CROSS ROLLED MATL. THE TOOLING FOR THIS CROSS ROLLED CONE HAS BEEN FABRICATED, THE CROSS ROLLED MATL IS EXPECTED TO BE DELIVERED IN THE NEAR FUTURE WHEREUPON PRODUCTION WILL START.	165.0	71.5	64.7	JUN 78	SEP 78
5 76 6642	INERTIA WELDED ROTATING BANDS FOR PROJECTILE BODIES. CONTRACTOR IS AWAITING YPG FIRING REPORT TO COMPLETE FINAL REPORT.	447.0	275.0	172.0	FEB 77	JUN 78
5 75 6654	*NDT METHODS OF QC IN MFG OF ADVANCED FRAG, STEEL SHELLS TASK COMPLETE. ULTRASONIC MULTI-TRANSDUCER STUDY INDICATED THAT CYLINDRICAL PORTIONS OF THE 155MM PROJECTILE COULD BE AUTOMATED. THE INSPECTION OF THE BASE WAS NOT SUCCESSFULLY ACCOMPLISHED. MAGNETIC INSP. EQUIP.HAS BEEN SUCCESSFULLY DEV. AND TESTED.	744.0	220.0	209.0	DEC 75	APR 78
5 78 6654	NDT FOR QC IN MFGR OF ADVANCED FRAGMENTING STEEL SHELLS A SCOPE OR WORK FOR CONTRACT SERVICES TO CONDUCT THE FY78 EFFORT HAS BEEN COMPLETED, THE PROCUREMENT ACTION HAS BEEN INITIATED AND THE CONTRACT IS EXPECTED TO BE PLACED BY SEPT. 78.	590.0	540.0	9.3	JAN 80	JAN 80
5 77 6678	EVALUATION OF ACQUAQUENCH UNDER PRODUCTION CONDITIONS A CONTRACT WAS AWARDED TO SCRANTON AAP FOR STUDIES ON 155MM M107 AND M483 SHELLS. THE FIRST 1000 M483I5 HAVE BEEN QUENCHED AT CHAMBERLAIN USING AQUA QUENCY 251. QUENCH BATH HAS BEEN CHANGED TO QUALIFY TENAXOL.	200.0	176.0	10.6	MAR 78	FEB 79
5 78 6681	PROCESS PARAMETERS FOR PRODUCTION FORMING OF PROJECTILES BENET LAB HAS INITIATED WORK ON ROTARY FORGING THE 155MM M483. A PROCUREMENT PACKAGE HAS BEEN ISSUED TO PROCUREMENT FOR SQUEEZE CASTING.	600.0	9.8	7.8	JUN 79	JUN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 77 6683	PRODUCTION OF TUNGSTEN BASE ALLOY PENETRATORS FOR AP MUNIT FY 78 FUNDS WILL BE TRANSFERED TO DOE IN JULY 78.	527.0	0.0	0.0	APR 78	AUG 80
S 78 6683	PRODUCTION OF TUNGSTEN BASE ALLOY PENETRATORS FOR AP MUNIT TO EXPEDITE WORK ON THE LARGE CALIBER CORES, DOE'S Y-12 FACILITY WAS CONTRACTED TO PERFORM VARIOUS TASKS.	527.0	0.0	0.0	AUG 79	AUG 78
S 78 6693	BALL PROPELLANT DETERRENT COATING-CAM RELATED PLANS WERE DEVELOPED FOR A STUDY OF THE RELATIVE SIGNIFICANCE OF THE VARIOUS PROCESS VARIABLES, ALSO, AN ANALYTICAL METHOD TO DETERMINE THE CONCENTRATION OF DIBUTYLPHTHALATE (DBP) IN THE WATER PHASEIS PLANNED.	167.0	40.0	0.0	AUG 80	AUG 80
S 76 6716	*DEV MATH MODEL- FORMING OPER FOR CURR/FUTURE ARTY MP DESIGN PROJECT IS COMPLETE, A COMPUTER PROGRAM HAS BEEN WRITTEN FOR ESTABLISHING OPTIMUM NOSING PARAMETERS.	250.0	94.0	156.0	APR 77	MAY 78
S 77 6716	MATH MODEL-FORM OPERATIONS- CURRENT + FUTURE ARTY MP DESIGN A NEW SCOPE OF WORK HAS BEEN IMPLEMENTED FOR CONFIRMATION TESTS OF THE COMPUTER MODELING OF THE FORMING OPERATION.	295.0	137.0	78.5	MAR 78	NOV 78
S 78 6725	AUTOMATED INERTIA BANDING MACHINE FOR ARTILLERY MUNITIONS CONTRACT ACTIONS HAVE BEEN INITIATED FOR SOLE AWARD TO CHAMBERLAIN MANUF, CO.	325.0	0.0	0.0	APR 80	APR 80
S 78 6736	TECHNOL READINESS ACCEL THRU COMPUTER INTEGRATED MFG CAD/CAM CRITICAL PARTS HAVE BEEN REVIEWED AND EVALUATED. THE METAL PARTS DATA IS CURRENTLY BEING CLASSIFIED AND CODED IN THE GROUP TECHNOLOGY DATA BASE.	100.0	24.1	15.9	NOV 78	NOV 78
S 78 6748	SCAMP POLLUTION ABATEMENT A CONTRACT WAS LET FOR THE DESIGN OF THE WASTE WATER SYSTEM FOR THE SCAMP. SUPPLEMENTAL REMOVAL TECHNIQUES WILL BE NECESSARY TO INSURE THAT THE OIL CONTENT IS BELOW ALLOWABLE LIMITS. DESIGN IS TO BE COMPLETED BY 30 JUN 78.	310.0	10.0	28.3	JAN 81	JAN 81
S 78 6753	METHODS F ORIENTING AND FEEDING SMALL CAL AMMO A CONTRACT WAS NEGOTIATED AND AWARDED TO STUDY THE FEASIBILITY OF PROCESSING THE 7.62MM CARTRIDGE CASE ON SCAMP TYPE EQUIPMENT.	400.0	333.0	6.6	MAR 79	MAR 79
S 76 6759	FEAS F/AUTO TRANSFER-HOT FORMING PRESSES F/MORTAR AMMO A CONTRACT HAS BEEN AWARDED TO NORRIS INDUSTRIES TO PURCHASE TOOLING AND MANUFACTURING TIME ON A HOT FORMING PRESS.	132.0	117.0	8.0	MAY 77	OCT 78
S 78 6760	DRYING OF LOW DENSITY BALL PROPELLANT LITERATURE WAS SEARCHED IN AN ATTEMPT TO IDENTIFY SATISFACTORY DRYING METHODS, VENDOR LITERATURE WAS REVIEWED, MICROWAVE AND FLUID BED DRYING ARE BEING CONSIDERED, A PURCHASE ORDER FOR BALL PROPELLANT WAS INITIATED.	118.0	0.0	0.0	AUG 81	AUG 81

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
5 78 6774	MFG METHOD FOR APDS PROJECTILE (25MM) INITIATED PRELIM CONTRACT FOR DEVELOPMENT OF 25MM PROJECTILE, S.O.W. DEVELOPED FOR PLASTIC SABOT.	500.0	150.0	38.2	NOV 79	NOV 79
5 77 6777	DEVELOPMENT OF PROD PROC- 105MM XM710E1 PROJECTILE METAL PTS CONTRACTOR HAS SUBMITTED A DRAFT FINAL REPORT.	500.0	49.8	340.9	MAR 78	JUN 78



ARMAMENT R&D COMMAND

ARMAMENT MATERIEL READINESS COMMAND

(ARRADCOM, ARRCOM)

(WEAPONS)

A R R C O M - A R R A D C O M (WEAPONS)

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
73	2	570,000	369,900	369,900 (100%)	200,100	199,900 (79%)
74	3	385,000	162,400	162,400 (100%)	222,600	214,400 (96%)
75	9	1,355,000	637,900	393,700 (61%)	717,500	662,000 (92%)
76	9	1,695,000	524,200	395,700 (75%)	1,170,800	1,108,800 (94%)
7T	0	0	0	0 (0%)	0	0 (0%)
77	29	4,329,200	1,531,900	277,900 (18%)	2,797,300	1,561,000 (55%)
78	16	2,272,000	974,300	0 (0%)	1,297,700	160,400 (12%)
TOTAL	68	10,606,200	4,200,200	1,399,600 (38%)	6,406,000	3,866,500 (60%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 40% INHOUSE ALLOCATED 60%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 78 3901	MANUFACTURE OF FLUIDIC AMPLIFIERS BY COLD FORMING PRELIMINARY PROCESS EVALUATION HAS BEEN COMPLETED AND DRAWINGS HAVE BEEN MADE FOR ALL HARDWARE/PARTS TO BE FABRICATED FOR THE PROJECT. TECHNICAL PACKAGES HAVE BEEN PREPARED FOR TWO SEPARATE CONTRACTS. ONE FOR TOOLING AND ONE FOR PARTS FABRICATION.	290.0	170.0	52.0	SEP 79	SEP 79
6 74 6771	DESIGN AND CONSTRUCTREFINED STEP THREAD MACHINE WORK HOLDING FIXTURE HAS BEEN MODIFIED FOR THE 8INCH BREECH RING. THE NEW INDICATING SYSTEM HAS BEEN INSTALLED. ONE PRODUCTION RING HAS BEEN THREADED. A NEW CHIP SEAL IS BEING DESIGNED. A 3 MONTH DELAY HAS OCCURED.	195.0	93.3	96.7	MAR 76	SEP 78
6 73 7067	APPL. OF HIGH FREQ. INDUCTION HEATING FOR HOT COIL SPRINGS THE SPRING COILING EQUIPMENT HAS BEEN INSTALLED. PROBLEMS WITH LOOSED PINCH ROLLERS WILL DELAY THE START-UP TWO MONTHS.	486.0	369.9	78.3	JUL 75	SEP 78
6 75 7111	*COMPUTER ASSISTED GRAPHICAL TECHNIQUE FOR PROD OF WEA SYS THIS PROJECT IS COMPLETE. THE SOFTWARE IS NOT PERFORMING PROPERLY THUS THE SYSTEM DOES NOT HAVE THE ABILITY TO PROGRAM THE NECESSARY VARIETY AND COMPLEXITIES OF PARTS.	120.0	2.5	117.5	JUN 75	SEP 78
6 76 7201	ARTILLERY WEAPON FIRING TEST SIMULATOR TESTS OF THE IMPULSE PROGRAMMER WERE CONDUCTED WITH THE M60A2, M551, M127, AND M140 GUN MOUNTS. A SPECIAL IMPACT PAD HAS DESIGNED AND IS BEING BUILT FOR THE M140 GUN MOUNT. TESTING OF THE IMPULSE PROGRAMMER WILL BE COMPLETED IN THE NEAR FUTURE.	365.0	131.0	233.6	AUG 77	OCT 78
6 77 7201	ARTILLERY WEAPON FIRING TEST SIMULATOR A PROPOSAL WAS RECEIVED AND EVALUATED, COVERING THE ACQUISITION OF A SECOND SIMULATOR. NEGOTIATIONS ARE IN PROGRESS WITH THE PROSPECTIVE CONTRACTOR.	570.0	440.0	0.9	OCT 78	OCT 79
6 76 7203	APPL OF LEAST COST TOLERANCES AND FINISHES TO PROD OF GUN ALL TOOLING AND MACHINING TESTS TO ESTABLISH SURFACE FINISH AND FINAL PART SPECIFICATION TOLERANCING HAVE BEEN COMPLETED. ALL DATA HAS BEEN EVALUATED. A GUIDE FOR TOLERANCE BUILD-UP RELATIONSHIPS IS BEING DEVELOPED. 95 PERCENT OF THE WORK IS COMPLETE	92.0	0.0	47.0	SEP 76	JUL 78
6 77 7213	HIGH SPEED CHROME PLATING TECHNIQUE FEASIBILITY OF HI-SPEED PLATING TECHNIQUE PROVEN. SLIPPAGE HAS BEEN DUE TO LATE ARRIVAL OF FUNDS AND PROBLEMS IN OBTAINING SUITABLE HIGH SPEED PUMP.	127.0	100.0	18.0	DEC 77	DEC 78
6 76 7236	RAPID HEAT TREATING FOR CANNON TUBES MECHANICAL PROPERTY DATA HAS BEEN DEVELOPED FOR THE SHORTER HEAT TREAT SOAK TIMES. THE FINAL REPORT IS BEING PREPARED.	190.0	25.5	192.7	DEC 76	JUN 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 76 7241	IMPROVEMENT= HONING EQUIPMENT AND PROCEDURES. EQUIP IMPROVEMENTS HAVE BEEN COMPLETED. TESTS INDICATE OVER A 40 PERCENT REDUCTION IN HONING TIME. DRIVE HEAD PROBLEMS HAVE PREVENTED TESTING OF NEW STONES. MICROMATIC IS EXPECTED TO VISIT WATERVLIET IN THE NEAR FUTURE TO CORRECT THE PROBLEM.	178.0	55.3	111.2	MAR 77	NOV 78
6 75 7248	IMPROVED MFG CONTRL THROUGH DATA AUTOMATION=CAM RELATED. MANUALS DOCUMENTING USE OF THE SDC SYSTEM HAVE BEEN COMPLETED. TESTING OF THE SDC SYSTEM, HARDWARE AND IN=HOUSE PROGRAMS WERE COMPLETED. TRAININGAND IMPLEMENTATION OF THE SDC SYSTEM WAS INITIATED IN THREE MANUFACTURING BRANCHES.	172.0	109.0	59.8	APR 77	DEC 78
6 77 7313	SIMULATOR FOR PRODUCTION TESTS OF WEAPONS= CAM REVISED GAIN SETTINGS FOR THE ADAPTIVE SPRING RATE CONTROL SYSTEM WERE DETERMINED AND SET INTO THE SYSTEM. ON GOING TEST PROGRAMS ON THE SIMULATOR HAS DELAYED IMPLEMENTATION.	205.0	85.0	85.4	DEC 77	JUN 79
6 74 7332	MFG DATA FOR OPT ELEMENTS, TOOLS + MATERIALS=CAM RELATED THIS PROJECT IS APPROX 95 PERCENT COMPLETE. FINAL IMPLEMENTATION IS AWAITING RENOVATION OF FACILITIES AT FORT DIX WHERE HARDWARE SUPPORT WILL BE PROVIDED.	90.0	0.0	90.0	DEC 74	MAR 79
6 73 7340	DETERMINATION/CERT OF IN=HOUSE ARMOR STEEL CASTING PROC TEST PLATES AT APG ARE AWAITING BALISTIC TESTING.	84.0	0.0	81.6	AUG 74	SEP 78
6 74 7410	FINE BLANKING OF PRECISION SMALL CAL. WEAPON PART PERSONNEL SHORTAGES AND TURNOVERS HAVE PREVENTED COMPLETION OF THE ECONOMIC ANALYSIS AND FINAL REPORT FOR THIS PROJECT.	100.0	69.1	27.7	JUL 75	SEP 78
6 75 7419	RECIPROCATING SCREW MOLDING OF THERMOSETTING PLASTIC FABRICATION OF THE MOLD IS IN PROGRESS. TRANSPARENT MOLDING PLASTIC HAS BEEN ORDERED FOR USE IN POLARISCOPIC EXAMINATION OF THE PROTOTYPE HANDGUARDS. THIS METHOD IS EFFECTIVE IN STRESS CONCENTRATIONS AND IN EVALUATING PLASTIC FLOW PATTERNS.	45.0	0.0	40.5	JUN 76	DEC 78
6 75 7430	FIRE CONTROL MANUFACTURE MODERNIZATION PLAN TNO, AN INDUSTRIAL RESEARCH FIRM, CONTRACTED TO STUDY WAYS TO IMPROVE THE EFFICENCY OF SMALL BATCH MANUFACTURE OF PRECISION OPTICS ELEMENTS THRU THE USE OF GROUP TECHNOLOGY. ARRCOM PERSONNEL WERE TRAINED IN THE 12=18 DIGIT CODING SYSTEM.	300.0	125.0	168.5	JAN 76	MAY 79
6 76 7455	COMPUTER GENERATED MASTERS FOR GRAPHICAL FIRING TABLES ALL MASTERS FORGRAPHICAL FIRING TABLES HAVE BEEN GENERATED COMPLETING THE SET OF 8. A DRAFT OF THE FINAL REPORT HAS BEEN WRITTEN.	60.0	0.0	60.0	DEC 76	SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHO-RIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 75 7460	*ELECTROCHEMICAL MACHINING APPLIED TO DEBURRING + SHAPING AN ELECTROCHEMICAL MACHING SYSTEM FOR THE FABRICATION OF HOWITZER RECOIL MECHANISMS WAS DESIGNED, BUILT, TESTED, AND DELIVERED TO ROCK ISLAND ARSENAL.	100.0	55.9	44.1	FEB 76	JUN 78
6 77 7485	APPLICATION OF CHEMICAL PROCESSES TO IMPROVE SURFACE FINISH HOLDING-PROCESSING FIXTURE FOR 105MM 5INCH SPECIMEN WAS COMPLETED. SEVERAL SPECIMENS WERE MACHINED. SOLUTION FEED SYS WILL BE MODIFIED DUE TO FLOW PROBLEMS. EXCELLENT RESULTS WERE OBTAINED IN MODIFYING THE LAND CONFIGURATION TO A ROUNDED CORNER.	147.0	0.0	121.4	FEB 78	OCT 78
6 75 7532	SINGLE DT CUTTING FOR METAL + PLASTIC OPTICS PNEUMO PRECISION IS FAB AN ULTRA PRECISION MILLING MACH. THE MACH IS DESIGNED FOR SINGLE POINT DIAMOND TOOL CUTTING.	140.0	94.1	36.8	JUN 76	JUL 80
6 75 7550	*PROTOTYPE OF PRODUCTION ELECTRO-SLAG REFINING FACILITIES PROJECT IS COMPLETE. IT RECOMMENDS THAT HOLLOW PREFORMS BE INCORPORATED INTO THE NEXT 105MM M68 PREFORM RFQ.	250.0	110.5	139.8	JUN 76	JUN 78
6 75 7555	DYNAMIC PRESSURE STAND, SLIDE BLOCK BREECH MECHANISMS GYMNASTICATOR HAS BEEN INSTALLED AND DEBUGGED. DYNAMIC PRESSURIZATION STAND IS NEARLY COMPLETE, WITH REMAINDER OF STAND TO BE PURCHASED UNDER FOLLOW ON PROJECT 6 79 7555.	98.0	49.5	28.6	NOV 76	AUG 78
6 76 7560	PILOT AUTO SHOP LOADING AND CONTROL SYSTEM- CAM DESIGN SPECIFICATIONS WERE DEVELOPED FOR ALL PRIORITY PLANNING, CAPACITY PLANNING, CAPACITY CONTROL, AND SHOP FLOOR CONTROL INPUTS AND OUTPUTS. PROGRAMMING WAS INITIATED ON MANY OF THE SHOP FLOOR APPLICATIONS.	280.0	230.5	26.0	SEP 78	SEP 79
6 76 7562	*PROCESS FOR FABRICATING BI-DENSITY RUBBER WPN COMPONENTS NO STATUS REPORT WAS RECEIVED. PAST REPORTS HAVE SHOWN THAT ALL THE FUNDS HAVE BEEN SPENT BUT PROJECT FOLLOW-UP AND FINAL 301 IS DELINQUENT BCAUSE OF THE ARRCOM-ARRADCOM FORMATION. IN THE ARMCOM SPLIT THIS PROJECT DID NOT MAKE AN ORDERLY TRANSITION.	50.0	0.0	50.0	JUL 77	SEP 78
6 76 7568	*ROTARY FORGE INTEGRATED PROD TECHNOLOGY A FINAL REPORT HAS BEEN DRAFTED.	420.0	81.9	328.3	JUN 77	JUL 78
6 77 7588	ROTARY FORGE INTEGRATED PRODUCTION TECHNOLOGY A TECHNIQUE TO MINIMIZE QUENCH CRACKING HAS BEEN ESTABLISHED.	160.0	5.1	109.1	DEC 78	DEC 78
6 75 7589	AUTO TARGETING SYS FOR PRODUCTION TEST OF AUTO WPN + AMMO EQUIP ON CONTR EXPECTED IN ON 11/01/78. CONTR EXTENDED THRU DEC 78 TO ASSURE SERVICE DUR INSTALLATION AND CHECKOUT. TRANDUCER SIGNAL CORRELATION WITH TRUE IMPACT POSN IS STILL PROBLEMATIC. PROJECT DID NOT CONSIDER ELECTROMAG APPROACH TO SOLVE PROBLEM	130.0	95.0	26.4	SEP 76	MAR 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 77 7614	APPLN OF RAPID PLATING BY ABRASIVE PARTICLE FLOW. NEW METHODS OF INDUCING RAPID PARTICE FLOW WERE STUDIED. A CONTRACT WITH BATTELLE HAS BEEN AWARDED TO CONTINUE THE WORK.	115.0	45.2	50.5	APR 78	APR 79
6 77 7644	APPLICATION OF INTEGRAL COLOR ANODIZE FOR ALUMINUM EVALUATION OF WEARABILITY, CORROSION RESISTANCE, COLOR, AND COLOR RETENTION CONTINUED. PROCUREMENT ACTION IS IN PROCESS TO OBTAIN HARDCOATING APPARATUS FOR FURTHER EVALUATIONS. ALUM ALLOYS HAVE BEEN EVALUATED AND M-16 UPPER RECEIVER EVAL HAS BEGUN.	75.0	0.0	25.4	APR 78	JAN 79
6 76 7647	*PROCESS FOR MANUFACTURING SWAGING MANDRELS FOR GUN BARRELS VARIOUS EQUIP DESIGNS AND MODELS WERE TESTED AND A SYSTEM SELECTED FOR THE MANUFACTURING OF GUN-BARREL SWAGING MANDRELS.	100.0	0.0	100.0	DEC 76	JUN 78
6 77 7649	COMPUTERIZED POWDER METALLURGY FORGING DESIGN-CAM COMPUTER PROGRAMING IS CONTINUING AS WELL AS EXPERIMENTAL DATA COLLECTION.	100.0	57.8	17.0	MAY 78	AUG 78
6 78 7649	COMPUTERIZED POWDER METALLURGY FORGING DESIGN-CAM INITIATION OF THE SECOND YEAR'S EFFORT IS AWAITING COMPLETION OF THE FIRST YEAR'S EFFORT.	102.0	0.0	0.6	AUG 79	AUG 79
6 77 7650	FAB-RUBBER END ITEM USING MICROWAVE EQPT THE MICROWAVE OVEN WAS EXAMINED AND WAS SHOWN TO BE SAFE. TEST RESULTS ON TEST SPECIMENS INDICATE A NONLINEAR RELATIONSHIP BETWEEN COMPONENT THICKNESS AND CURE TIME TO 290 DEGREES F. DIMENSIONAL EXAMINATIONS ARE IN PROGRESS.	50.0	0.0	30.8	JUN 78	FEB 79
6 77 7652	COOLANT-CHIP EJECTOR, MULTI-OPERATION TOLLING TOOLING HAS BEEN REQUISITIONED.	65.0	40.0	15.5	AUG 78	FEB 79
6 77 7655	APPLICATION - THERMOARC SPRAY WEAR COATINGS WORK HAS BEEN COMPLETED ON BOND STRENGTH DETERMINATION OF ARC SPRAYED AND THERMO SPRAYED ALUMINUM BRONZE.	70.0	49.9	17.9	MAR 78	JUL 78
6 78 7655	APPLICATION - THERMOARC SPRAY WEAR COATINGS SEE S777655.	62.0	0.0	0.0	AUG 78	AUG 78
6 77 7707	AUTOMATED PROCESS CONTROL FOR MACHINING -CAM! A CONTRACT WAS NEGOTIATED AND MACHINABILITY TEST STARTED. THE MATRICES FOR HANDLING DATA WERE DESIGNED. THE MACHINING TESTS WILL CONTINUE WITH THE RESULTS BEING APPLIED.	109.0	44.7	20.9	OCT 78	FEB 79
6 78 7710	INJECTION MOLDING OF RUBBER OBTURATOR PADS EQUIPMENT ASSESSMENTS WERE CONDUCTED, AND RESULTED IN THE ORDERING OF 2 PROCESS CONTROLS FOR A 48-OUNCE LEWIS INJECTION MACHINE. A FEASIBILITY STUDY WAS INITIATED TO DETERMINE WHETHER A SPARE COMPRESSION MOLD CAN BE CONVERTED TO AN INJECTION MOLD.	77.0	0.0	2.8	JUL 78	JUL 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 77 7711	ELECTROPOLISHING PROCESS MODELS FOR SMALL BORE WEAPONS ELECTROPOLISHING EVALUATIONS MADE ON SMOOTH BORE H-11 STEEL TUBES INDICATED THE IMPORTANCE OF TUBE POSITIONING IN ESTABLISHING THE DESIRED TAPER.	75.0	0.0	44.1	FEB 78	AUG 78
6 77 7714	MULTI-MODE WEAPON- MOUNT IMPEDANCE SIMULATOR (CAM) A CONTRACT WILL BE AWARDED IN AUG 78, AFTER APPROVAL OF CONTRACTOR DESIGN. THE SIMULATOR WILL BE FABRICATED AND INSTALLED.	285.0	230.0	22.5	OCT 79	JUL 80
6 77 7715	APPLICATION OF CONTROLLED-FORCE MACHINING THE ASSEMBLY OF THE ADAPTIVE CONTROL UNIT WAS COMPLETED BY MACOTECH. CONTROL UNIT WAS INSTALLED ON HYDROTEL MILLING MACHINE AT RIA. SOFTWARE ROUTINE WAS PUT INTO RIA N/C COMPUTER AND VERIFIED.	64.0	30.5	21.9	JUN 78	DEC 78
6 77 7716	PROTOTYPE PROD LINE FOR PRESSURE PHOSPHATE COATINGS EFFORTS ARE BEING MADE TO PROCURE SYSTEM HARDWARE. PLANS FOR MODIFYING THE CHEMISTRY OF THE MANGANESE PHOSPHATE TO REDUCE SLUDGE AND INCREASE PROCESSING RATES ARE BEING MADE.	115.0	70.0	34.8	APR 78	DEC 79
6 78 7716	PROTOTYPE PROD LINE FOR PRESSURE PHOSPHATE COATINGS SEE 6777716.	77.0	0.0	0.0	DEC 79	DEC 79
6 77 7720	FABRICATION METHODS FOR 2 AND 3 WIRE MESH SPRINGS STAINLESS STEEL MESH SPRINGS WERE DESIGNED AND FABRICATED. DRAFT REPORT OF PROCEDURES WAS INITIATED. PROGRESS ON PROJECT DELAYED DUE TO RELOCATION OF SPRING TEST EQUIP FROM RIA TO ARRADCOM.	50.0	0.0	42.0	JAN 78	MAR 79
6 77 7722	IMPLEMENTATION OF THE 8 INCH XM201 ON ROTARY FORGE LINE THE NC PROGRAM FOR FORGING WAS DEVELOPED. THE HEAT TREAT PARAMETERS WERE FINALIZED.	248.0	41.3	99.2	MAY 78	OCT 78
6 77 7726	ROT FORGE INTGR PDN TECH BY COLD + WARM FORG W/NEW PREFORMS ADDITIONAL PREFORMS FOR WARM ROTARY FORGING ARE BEING PROCURED.	592.0	177.4	218.3	MAY 79	MAY 79
6 77 7727	RECYCLING OF SCRAP GUN TUBES BY ROTARY FORGING TWO 155MM M185 AND TWO 105MM M68 ROTARY FORGE PREFORMS WERE MACHINED FROM THREE SCRAPPED 8 INCH M2A2 TUBES.	224.0	9.2	91.8	AUG 78	AUG 78
6 77 7733	ELIMINATION OF EXTERIOR TUBE MACHINING PRIOR TO SWAGE AUTO. STRESS ANALYSIS WORK COMPLETED. MUZZLE CLAMPS HAVE BEEN DESIGNED AND FABRICATED. DELAY HAS BEEN ENCOUNTERED DUE TO PRODUCTION SCHEDULING.	47.0	1.8	37.7	MAR 78	DEC 78

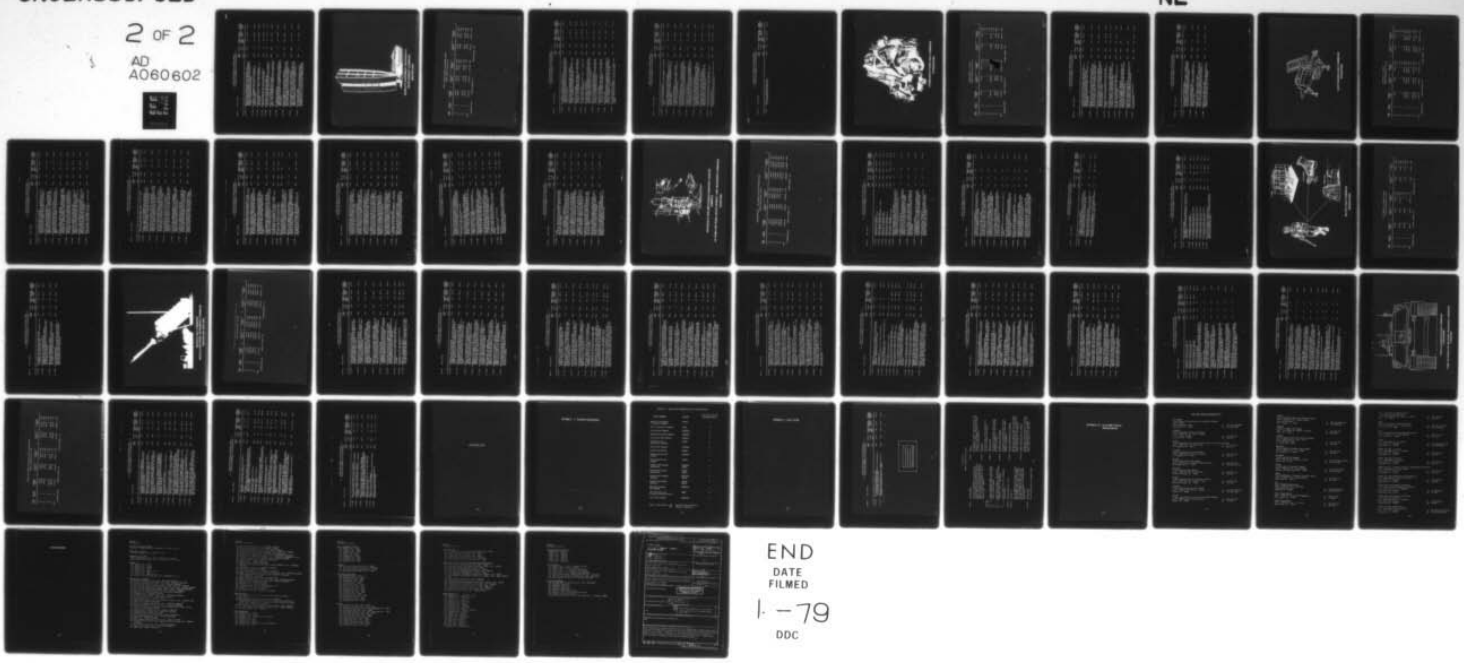
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
6 77 7741	IMPR INST/INSPECT ANGLE + LINEARITY OF F C INSTS DECILOG INC. SUBMITTED PRELIMINARY INSTRUCTIONSFOR ASSEMBLY, ALIGNMENT AND TESTING OF THE BIREFRINGENT ANGULAR ALIGNMENT SENSOR. REVIEW OF INSTRUCTIONS AND EVALUATION OF DESIGN FOR PROTOTYPE ALIGNMENT/CALIBRATION FIXTURE WAS BEGUN.	130.0	58.0	39.0	APR 78	APR 79
6 78 7741	IMPR INST/INSPECT ANGLE + LINEARITY OF F C INSTS A BREADBOARD TEST SETUP WILL BE ASSEMBLED TO ACCUMULATE DATA TO SEE WHETHER A CONTINUATION WILL BE USEFUL.	54.0	0.0	10.2	DEC 79	DEC 79
6 77 7742	SPOT CURING PRECISION OPTICAL ASSEMBLIES ARRADCOM OPTICS SHOP BONDED DOUBLETS USING TWO COMMERCIAL UV-CURING CEMENTS. THEY REQUIRE ONLY TWO MINUTE CURE IN THE FIXTURE AND TWO MINUTES OUT. THEY WITHSTOOD -65 DEG FOR FIVE HOURS OK.	60.0	0.0	60.0	APR 78	JUL 78
6 78 7743	APPLICATION OF ANTI-FOG CONDUCTIVE FILMS COATINGS WERE SELECTED AND DEPOSITED BY ELECTRON BEAM EVAPORATION.SATISFACTORY RESULTS WERE OBTAINED USING OXIDES OF TIN AND INDIUM.RF SPUTTERING AND ION PLATING ARE BEING STUDIED. COATINGS MUST BE CONDUCTIVE AND TRANSPARENT.	70.0	0.0	36.2	FEB 79	FEB 79
6 77 7744	IMPROVED MFG PARAMETERS FOR OPTICS ARRADCOM OPTICS SHOP REVIEWED MIL SPEC O-13830 TO IDENTIFY PARAGRAPHS NEEDING REVISION. THE SPEC IS NOT UP TO DATE. OUTSIDE FIRMS WILL WORK ON SCRATCH AND DIG STANDARDS AND MODULATION TRANSFER FUNCTION TESTERS.	165.0	0.0	112.6	APR 78	JUL 78
6 77 7745	DIAMOND TOOL FABRICATION CAPABILITY A DIAMOND PELLET TOOL HAS BEEN DESIGNED, THREE LENSES HAVE BEEN SELECTED FOR TOOL EVALUATION, SINCE SHOP FACILITIES NECESSARY FOR THE ACCOMPLISHMENT OF THIS PROJECT HAVE NOT BEEN RELOCATED FROM FRANKFORD ARSENAL, IT MAY BE NECESSARY TO USE CONTRACTOR	112.0	0.0	36.3	MAR 78	MAR 79
6 77 7746	IMPRV DURABILITY HIGH EFFICIENCY REFLECT FILMS ADHERENCE OF SILVER FILM TO GLASS WAS IMPROVED, HIGHLY REFLECTIVE METAL ALLOYS WERE EVALUATED, ENHANCED ALUMINUM COATINGS WERE PRODUCED AND EVALUATED, DIELECTRIC MIRRORS WERE PRODUCED MORE EFFICIENTLY USING FEWER COATING LAYERS.	89.0	0.0	56.4	MAY 78	DEC 78
6 77 7747	INJECTION MOLDED PLASTIC FOAMS FOR SMALL ARMS APPL ***** DELINQUENT STATUS REPORT *****	70.0	0.0	0.0		SEP 78
6 78 7802	ESTABLISH MCM TOOL PERFORMANCE SPECS PRESENT PROCEDURES WERE REVIEWED AND GOALS WERE ESTABLISHED.	195.0	145.0	13.6	DEC 79	DEC 79

AD-A060 602 ARMY INDUSTRIAL BASE ENGINEERING ACTIVITY ROCK ISLAND IL F/G 5/2
MANUFACTURING METHODS AND TECHNOLOGY PROGRAM PROJECT STATUS REP--ETC(U)
OCT 78 H E WEIDNER, L S HANCOCK

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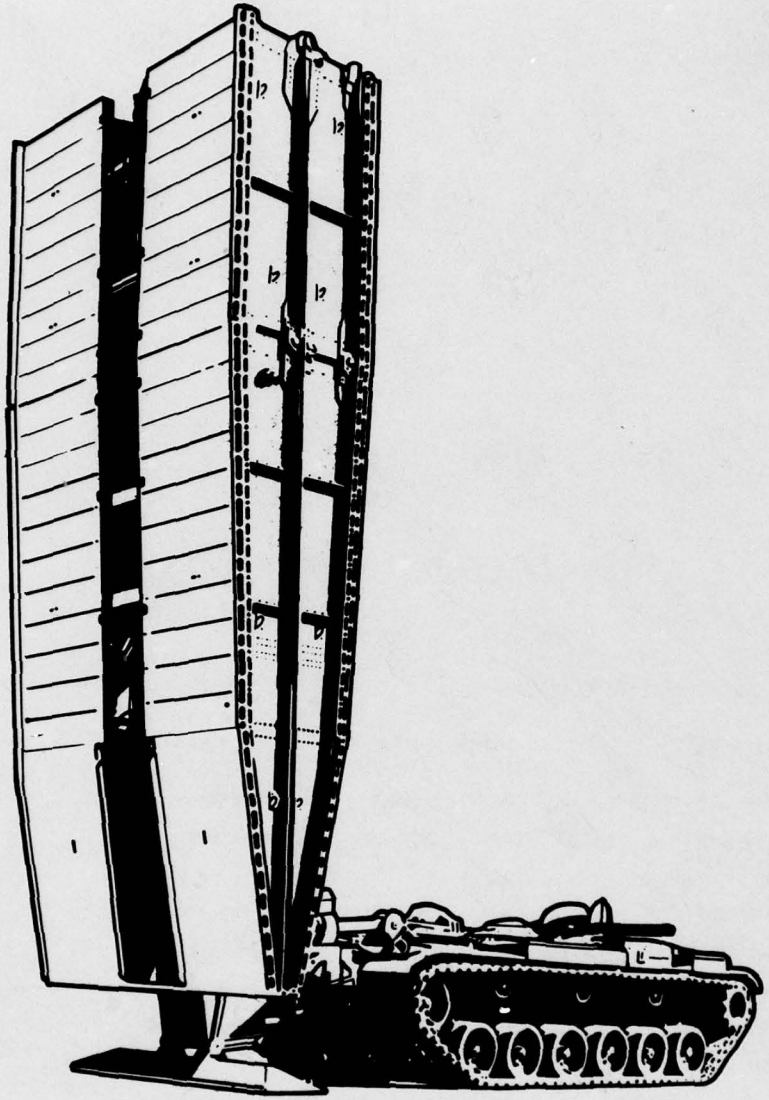
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MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

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6 78 7807	PROGRAMMED OPTICAL SURFACING EQUIP AND METHODOLOGY (CAM) RECENT INNOVATIONS FOR DIAMOND MILLING AND GERATING TECHNIQUES HAVE BEEN REVIEWEDTO DETERMINE THE BEST TECHNIQUE FOR PRODUCING SPHERICAL OPTICS, A SPECIFICATION DELINEATING THE CHAR AND PERFORMANCE REQUIREMENT IS BEING PREPARED.	134.0	100.0	10.8	DEC 79	DEC 79
6 78 7808	LEAK DETECTION TECHNIQUES FOR SMALL SEALED FIRE CON ASSM A TEST PLAN HAS DEVELOPED, AVAILABILITY OF COMMERCIAL LEAK DETECTORS HAS BEGUN.	86.0	0.0	12.0	APR 79	APR 79
6 77 7814	SYNTHETIC QUENCHANT FOR HEAT TREATING WEAPON COMPONENTS A LAB QUENCHING FACILITY IS BEING PLANNED, SOME EQUIPMENT HAS BEEN RECEIVED.	67.0	0.0	37.4	FEB 78	SEP 78
6 78 7814	SYNTHETIC QUENCHANT FOR HEAT TREATING WEAPON COMPONENTS PRELIMINARY QUENCHING TRIALS HAVE BEEN INITIATED.	51.0	0.0	1.8	JUN 79	JUN 79
6 78 7825	ELIMINATION OF FACILITATING HONING OPERATIONS WORK ORDERS HAVE BEEN PREPARED COVERING MACHINE AND DESIGN TIME WHICH WILL BE NEEDED ONCE A BORING MACHINE IS MADE AVAILABLE.	133.0	0.0	2.0	JUN 79	JUN 79
6 78 7840	PORTABLE MULTI-DEGREE-OF-FREEDOM SIMULATOR WORK HAS BEGUN ON PREPARING THE SCOPE-OF-WORK FOR THE CONTRACTUAL EFFORT, IT IS ANTICIPATED THAT A CONTRACT CAN BE AWARDED BY DEC 78.	389.0	330.0	12.0	JUN 80	JUN 80
6 78 7844	ROOM TEMPERATURE PHOSPHATING A LITERATURE SURVEY HAS BEEN COMPLETED REVEALING A PROBLEM OF EXCESS SLUDGING, FUTURE WORK WILL ADDRESS THE CONTROL OF SLUDGING CAUSED BY NITRITE ADDITIONS TO THE BATH, A LAB SCALE OPERATION IS BEING PREPARED.	37.0	0.0	3.4	SEP 78	SEP 78
6 77 7943	ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS CONTRACT AWARDED TO A T KEARNEY, PHASE I APPVL EXPECTED IN JUL 78,IN HOUSE EFFORT INCL MFG WORKLOAD AND IPE CONDITION ANALYSIS, PRIOR ANALYSIS IS USING 15 TO 30 POTENTIAL END ITEMS AND WILL BE USED FOR COND ASSESSMENT, PGM TIME HAS BEEN COMPRESSED.	147.2	46.0	94.2	FEB 78	NOV 78
6 78 7941	ANALYSIS FOR MODERNIZATION OF INDUSTRIAL OPERATIONS CONTRACT AWARDED A T KEARNEY, SYSTEMS AND PROCEDURES INPUT WILL IMPACT EQUIPMENT AND FACILITIES PLAN AND VICE VERSA DURING THE CURRENCY EFFORT ALSO VIEWED AS A SYSTEMS INTEGRATION FXN AND FOR CHECKING AND CORRECTING OR FINE TUNING THE PRIOR 2 PLANS.	433.0	229.3	3.0	JUN 79	JUN 79
6 78 8017	POLLUTION ABATEMENT PROGRAM CML AVALYSIS OF DERUSTING AND PLATING SOLNS USED AT RIA WAS CONDUCTED, SOURCES OF NON-CYANIDE CMLS CAPABLE OF PRODUCING COATINGS EQUAL TO THAT OF CYANIDE PLATING PROCESSES, SUPPLIERS HAVE BEEN CONTACTED, NEW PLATING EQUIPMENT IS BEING INSTALLED.	82.0	0.0	0.0	APR 79	APR 79



MOBILITY EQUIPMENT RESEARCH &
DEVELOPMENT COMMAND
(MERADCOM)

MOBILITY EQUIPMENT RESEARCH AND DEVELOPMENT COMMAND

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
75	2	305,000	233,000	233,000 (100%)	72,000	72,000 (100%)
76	5	1,488,000	1,130,200	1,130,200 (100%)	358,000	184,400 (51%)
77	0	0	0	0 (0%)	0	0 (0%)
77	4	786,000	540,300	347,200 (64%)	245,700	45,800 (18%)
78	8	1,737,000	1,127,800	67,000 (5%)	609,200	84,900 (13%)
TOTAL	19	4,313,000	3,031,300	1,777,400 (58%)	1,281,700	387,100 (30%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 70% INHOUSE ALLOCATED 29%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

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7 75 3508	*DRY COMPOSITE MEMBRANE FOR REVERSE OSMOSIS THIS PROJECT DEVELOPED TECHNIQUES AND EQUIPMENT FOR THE QUANTITY PRODUCTION OF WET/DRY REVERSIBLE DRY CELLULOSIC-TYPE RO MEMBRANE MODULES SUITABLE FOR USE IN THE MILITARY MULTI-PURPOSE WATER PURIFICATION EQUIPMENT,	140,0	83,0	57,0	JUN 76	SEP 78
7 76 3509	PRODUCTION TECHNOLOGY FOR SELF-LUMINOS LIGHT SOURCES SELF-LUMINOUS LIGHT SOURCES ARE BEING EVALUATED FOR LIFE EXPECTANCY, THE PRODUCTION EQUIPMENT LOCATED AT TOOELE ARMY DEPOT IS BEING TRANSFERRED TO LETTERKENNEY ARMY DEPOT,	100,0	15,0	6,9	DEC 77	DEC 78
7 76 3532	*MOLTEN SALT LI/CL BATTERY PROJECT WORK WAS COMPLETED DURING FIRST CY 76, FINAL REPORT WAS WRITTEN BUT NEVER SUBMITTED, FINAL REPORT HAS NOW BEEN RECEIVED AND PROJECT WILL BE REPORTED AS COMPLETED,	700,0	700,0	0,0	APR 77	SEP 78
E 78 3532	MOLTEN SALT LI/CL BATTERY ONE CELL OF MORE THAN 340 AH HAS BEEN CYCLED AT A CURRENT DRAIN 1,5 TIMES THE ARMY REQUIREMENT,	120,0	105,0	3,0	SEP 78	DEC 78
7 76 3551	THIN FILM COMPOSITE REINFORCEMENT, COMPOSITE FILMS OF TITANIUM/ALUMINUM, SILICON CARBIDE/ALUMINUM, AND ALUMINA/ALUMINUM WERE FABRICATED, THE TITANIUM/ALUMINUM FILM EXHIBITED A TENSILE STRENGTH OF 540K PSI, THE MODULI OF THE FILMS WERE NOT MEASURED, FILM ISOLATION IS A PROBLEM,	200,0	151,4	4,3	JUL 77	DEC 78
7 75 3552	*IMPROVED ALUMINUM ALLOY WELDING FILLER METALS PROJECT WORK WAS COMPLETED DURING FIRST CY 76, FINAL REPORT WAS WRITTEN BUT NEVER SUBMITTED, FINAL REPORT HAS NOW BEEN RECEIVED AND PROJECT WILL BE REPORTED AS COMPLETED,	165,0	150,0	15,0	MAR 76	JUN 76
7 76 3580	*FUEL CELL STACK PRODUCTION PROJECT WORK WAS COMPLETED DURING FIRST CY 77, FINAL REPORT WAS WRITTEN BUT NEVER SUBMITTED, FINAL REPORT HAS NOW BEEN RECEIVED AND PROJECT WILL BE REPORTED AS COMPLETED,	235,0	193,8	41,2	SEP 76	JUN 77
E 78 3587	SLUFAE ROCKET MOTOR SMALL EXPERIMENTAL BATCHES OF THE PROPELLANT MIX WERE TESTED AND VISCOSITY-TIME-TEMPERATURE MEASUREMENTS MADE WHILE OBSERVING THE PROPELLANT GEL BEHAVIOUR, ITS SUSPECTED THAT POT LIFE VARABILITY OF THE MIX IS CAUSED BY IMPURITIES IN THE ALUM, OXIDE,	210,0	200,0	6,2	AUG 79	AUG 79
E 77 3588	SLUFAE MINE NEUTRALIZER LAUNCHER ALCOA HAS SUCCESSFULLY DEMONSTRATED A METHOD FOR PRODUCING CLOSE TOLERANCE LARGE DIAMETER TUBES BY A DRAWING, COLD WORKED, PROCESS,	50,0	41,7	8,3	OCT 77	OCT 77

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO,	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
E 78 3588	SLUFAE MINE NEUTRALIZER LAUNCHER THE CONTRACTOR IS PREPARING TEST FIXTURES NECESSARY TO BURST TEST TUBES.	109.0	30.0	3.7	APR 79	APR 79
E 77 3589	*MAN PORT MTL RERADN RADAR ANTENNAS AND FILTERS PROJECT WAS TERMINATED AND 140K WAS REPROGRAMMED TO MACI PROJECT E 79 3579, TERMINATION WAS DUE TO THE CANCELLATION OF THE DEVELOPMENT EFFORT OF THE PORTABLE LONG RANGE DETECTOR OF METAL OBJECTS (PLORMODS).	30.0	0.0	30.0	SEP 79	JUN 78
E 77 3592	IMPROVED GRAPHITE REINFORCEMENT AN ARC-PLASMA HEATING FACILITY WAS BUILT, FIBERS HAVE BEEN PREPARED HAVING TENSILE STRENGTHS IN THE REGION OF 473K PSI AND MODULI IN THE 63 MILLION PSI REGION.	206.0	137.3	7.5	SEP 78	DEC 78
E 78 3604	SOLID STATE POWER SWTICH DELTA ELECTRONICS IS ESTABLISHING A CAPABILITY FOR ASSEMBLING SEVERAL POWER TRANSISTOR CHIPS ON A COMMON HEAT SINK, AND FOR DRIVE AND CONTROL CIRCUITS IN A HERMETIC PACKAGE, THESE SWITCHES ARE FOR POWER CONDITIONERS AND INVERTERS FOR SILENT USE.	350.0	295.0	32.0	JUN 80	JUN 80
E 78 3605	TRANSCALENT-HIGH POWER-TRANSISTOR A CONTRACT WILL BE AWARDED IN MARCH 1979 TO ALIGN SPOKE-LIKE EMITTER AND BALLAST WAFERS FOR HIGH POWER TRANSISTORS, WILL SOLVE MFG, PROBLEMS RELATED TO INTERDIGITATED WAFER STRUCTERS, THIS SHOULD HAVE BEEN FUNDED IN FY79, NOT FY78.	50.0	30.0	14.0	MAR 82	MAR 82
E 78 3606	250 AMP TRANSCALENT (HIGH POWER) RECTIFIER RCA LANCASTER IS DEVELOPING A METHOD FOR PLATING VARIABLE THICKNESS METAL OVER A SEMICONDUCTOR WAFER SURFACE, THIS GIVES UNIFORM CURRENT DISTRIBUTION, EACH WAFER FORMS ONE RECTIFIER, ASSEMBLY PROCESSES AND TESTING ARE ALSO BEING ADDRESSED.	360.0	305.0	16.0	JUN 80	JUN 80
E 78 3613	VEHICLE-MOUNTED ROAD MINE DETECTOR SYSTEM ANTENNAS A CONTRACT HAS BEEN LET TO INVESTIGATE TECHNIQUES FOR MANUFACTURING ANTENNA MODULES, NEW TECHNIQUES ENHANCE MORE REPEATABLE ANTENNAS AT LOWER LABOR AND MATERIAL COSTS, THE INITIAL TECHNICAL MEETING HAS BEEN HELD.	195.0	162.8	10.0	JUN 80	JUN 80
E 78 3717	HIGH TEMPERATURE TURBINE NOZZLE FOR 10 Kw POWER UNIT FUNDING JUST RECEIVED, NO WORK ACCOMPLISHMENT YET REPORTED.	303.0	0.0	0.0	SEP 81	SEP 81
E 77 3749	HYDRAULIC ROTOR ACTUATORS CONTRACTOR SUBMITTED TECHNICAL DRAWINGS FOR REVIEW, ALSO, ROTARY ACTUATORS ARE BEING FABRICATED FOR TESTING.	500.0	361.3	0.0	MAY 79	JUN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 HCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
7 76 5504	PRODUCTION OF PHOSPHAZENE ELASTOMERS ***** DELINQUENT STATUS REPORT *****	250.0	70.0	132.0	SEP 77	DEC 78



COMMUNICATIONS R&D COMMAND

(CORADCOM)

COMMUNICATIONS R + D COMMAND

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
72	1	130,000	114,400	54,400 (47%)	15,600	16,000 (102%)
73	0	0	0	0 (0%)	0	0 (0%)
74	0	0	0	0 (0%)	0	0 (0%)
75	0	0	0	0 (0%)	0	0 (0%)
76	5	2,391,300	2,202,500	1,358,200 [illegible]	188,800	187,900 (99%)
77	0	0	0	[illegible]	0	0 (0%)
77	1	448,800	398,800	7[illegible]	50,000	27,500 (55%)
78	2	1,100,000	453,400	[illegible]	646,600	24,000 (3%)
TOTAL	9	4,070,100	3,169,100	1,490,700 (47%)	901,000	255,400 (28%)

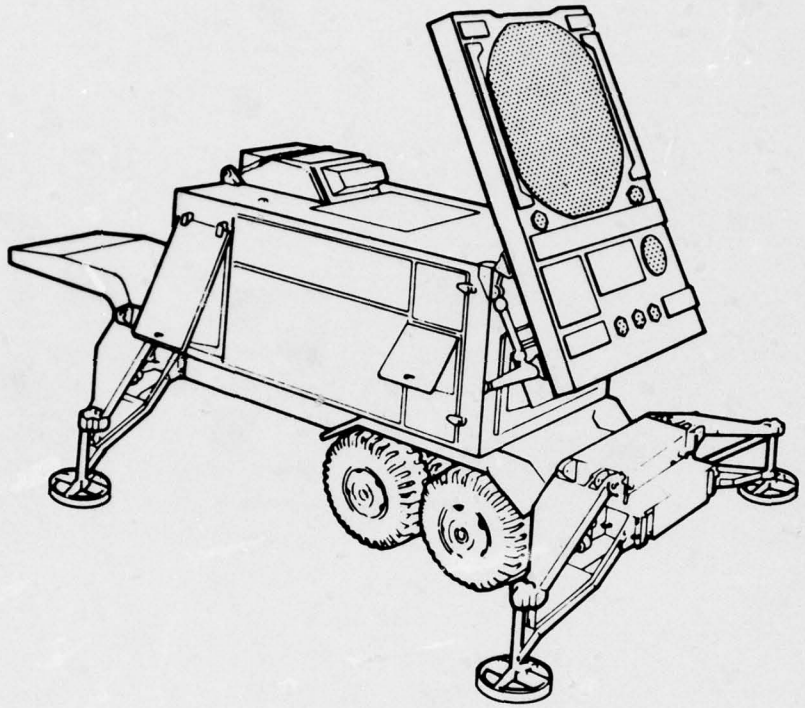
AUTHORIZED FUNDING CONTRACT ALLOCATED 78% INHOUSE ALLOCATED 22%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-501

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 72 9025	MM+T FOR TEMP COMPENSATED MICROCIRCUIT CRYSTAL OSCILLATORS THE CONTRACT WITH CTS KNIGHT IS BEING TERMINATED IN JULY 1978 BECAUSE OF TECHNICAL AND ADMINISTRATIVE PROBLEMS, NEW TECHNOLOGY--CERAMIC ENCLOSED CRYSTALS AND NEW HYBRID TECHNIQUES--HAVE OBSOLETED THIS PROJECT WHICH IS 6 YEARS OLD, ALL WORK HAS STOPPE	130.0	114.4	16.0	APR 74	NOV 79
2 76 9758	PROCESSES FOR METAL NITRIDE OXIDE SEMICONDUCTORS FOR BORAM WESTINGHOUSE ADVANCED TECHNOLOGY LAB WROTE A PROGRAM TO PROBE TEST THE CHIPS WHILE ON THE WAFER, WILL TEST 6000 CHIPS WITH A MACRODOT 501 TESTER, ANOTHER PROGRAM CHECKS 16 CHIPS MOUNTED IN A DUAL IN-LINE PACKAGE, WETS, BUILT 3 DEDICATED TEST STATIONS	724.0	674.0	50.0	AUG 78	NOV 78
2 76 9773	*COMPUTER AID F/PREP OF AUTO ANALOG CIRCUIT PROD TEST PROG THIS PROJECT IS COMPLETE, THE VARIOUS COMPUTER PROGRAMS DEVELOPED HAVE BEEN DEMONSTRATED, A FOLLOW ON CONTRACT HAS BEEN AWARDED TO EXTEND THE TECHNIQUES TO ADDITIONAL AND MORE COMPLICATED CIRCUITS, SEE PROJECT 2 78 9773,	193.0	175.3	18.0	APR 78	JUL 78
2 78 9773	COMPUTER AID F/PREP OF AUOT ANALOG CIRCUIT PROD TEST PROG A CONTRACT FOR THE ADDITIONAL EFFORT WAS AWARDED, SEE PROJECT 2 76 9773,	500.0	453.4	0.0	NOV 79	MAR 80
2 76 9776	FAB METHODS FOR LOW COST HYBRID SILICON PHOTODETECTOR MODULE RCA CANADA COMBINED AN AVALANCHE PHOTO DIODE WITH MODULAR CIRCUITRY TO PRODUCE A DETECTOR-PREAMPLIFIER, THE PHOTO DETECTOR IS APPLIED TO THE FIBER OPTIC CABLE WITH EPOXY,	446.5	411.4	35.0	AUG 78	JUN 79
2 76 9778	PM FOR LONG LIFE LIGHT EMITTERS FOR FIBER OPTICS LONG LIFE LIGHT EMITTERS FOR FIBRE OPTIC COMMUNICATIONS, SEE INDIVIDUAL TASKS FOR STATUS,	437.8	392.8	45.0	AUG 78	NOV 80
2 76 9778A	LONG LIFE LIGHT EMITTER FOR FIBER OPTICS LASER DIODE LABS DESIGNED, CONSTRUCTED AND TESTED BURN-IN RACKS AND OTHER TEST EQUIPMENT FOR INJECTION LASER DIODE DESIGN OF TRIPLE STRIPE, INJECTION LASERS ARE FOR USE IN FIBER OPTIC CABLES TO REPLACE 26 PAIR TELEPHONE CABLE,	437.8	193.9	25.0		JUL 80
2 76 9778B	LONG LIFE LIGHT EMITTER FOR FIBER OPTICS LASER DIODE LABS STARTED PRODUCTION OF BURRIS TYPE LIGHT EMITTING DIODES WITH A SMALLER, STRONGER PICTAIL, THE SPECIFICATION ON THE CONTRACT WAS EXTENDED 6 MONTHS WITHOUT ADDED COST,	437.8	198.9	20.0		NOV 80
2 76 9781	THIN FILM TRASISTOR ADDRESSED DISPLAY SEE SUBTASKS BELOW,	590.0	549.0	39.9	AUG 78	JUL 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 76 9781A	THIN FILM TRANSISTOR-ADDRESS DISPLAY WESTINGHOUSE RAN ITS VACUUM DEPOSITION SYSTEM AND PRODUCED 4 THIN FILM TRANSISTOR ADDRESSED DISPLAYS PER PUMPDOWN, AN ENGINEERING CHANGE TO USE THIN FILM PHOSPHORS + INTEGRATED SCANNING CIRCUITRY WAS AWARDED. MASK AND FUZZINESS PROBLEMS WERE SOLVED.	590.0	310.0	35.0		JUL 79
2 76 9781B	THIN FILM TRANSISTOR-ADDRESS DISPLAY WESTINGHOUSE RECEIVED ADDITIONAL FUNDING TO INCORPORATE HIGH CONTRAST THIN FILM PHOSPHORS AND INTEGRATED SCANNING CIRCUITRY ON THIS DISPLAY PANEL.	590.0	239.0	4.9		JUL 79
2 77 9835	INT CONTL CRCIT FOR THIN FILM TRANSISTR DISPLAY AEROJECT ELECTRO SYSTEMS COMPLETED 40 PHOTO MASKS FOR THE ACTIVE MATRIX DISPLAY, A TESTER IS ALSO BEING BUILT. A SEALING METHOD FOR THE THIN FILM DISPLAY IS NEEDED FOR LONGER LIFE. DRIVE CIRCUITRY AND ELECTROLUMINESCENT ELEMENTS WILL BE MADE ON 1 WAF	448.8	398.8	27.5	MAR 79	DEC 79
2 78 9898	RUGGEDIZED TACTICAL FIBER OPTIC CABLES FIBRE OPTIC CABLES OFFER ADVANTAGES OVER CONVENTIONAL METALLIC CABLES IN WEIGHT, SPACE NEEDS, REPEATER NUMBER, IMMUNITY TO EMI AND CROSSTALK. CONTRACT SOLICITATION IS IN PROGRESS.	600.0	0.0	24.0	NOV 79	AUG 80



ELECTRONICS R&D COMMAND
(ERADCOM)

ELECTRONICS R + D COMMAMD

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
70	1	99,000	96,800	96,800 (100%)	2,200	2,200 (100%)
71	0	0	0	0 (0%)	0	0 (0%)
72	0	0	0	0 (0%)	0	0 (0%)
73	0	0	0	0 (0%)	0	0 (0%)
74	1	771,500	685,000	534,800 (82%)	126,500	126,500 (100%)
75	6	2,124,900	1,906,600	1,726,700 (90%)	218,300	192,200 (88%)
76	14	5,514,100	4,421,200	2,360,400 (53%)	1,092,900	435,500 (39%)
77	0	0	0	0 (0%)	0	0 (0%)
77	17	9,954,800	8,051,000	2,977,000 (36%)	1,903,800	630,700 (33%)
78	6	2,706,400	317,500	4,900 (1%)	2,388,900	7,900 (0%)
TOTAL	45	21,170,700	15,438,100	7,700,600 (49%)	5,732,600	1,395,000 (24%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 73% INHOUSE ALLOCATED 27%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
H 76 3126	WHITE STARTER FOR THERMAL BATTERIES ALL STATIONS EXCEPT THE FINAL STATION ARE ASSEMBLED AND WORKING AND NOW REQUIRE ONLY MINOR MECHANICAL MODIFICATIONS PLUS INSTALLATION OF CONTROL SYSTEMS FOR COMPLETION, LATE DELIVERY OF A GFE CENTRIFUGE HAS CAUSED A 120 DAY DELAY IN THE CONTRACT.	150.0	90.0	46.0	OCT 77	NOV 78
2 70 9217	*MMT-FERRITE SOLID STATE RECEIVER PROTECTOR VARIAN AT BEVERLY MASS HAS PRODUCED A LONG LIFE SOLID STATE FERRITE DIODE RECEIVER PROTECTOR, TEN VFX-9500 LIMITERS WERE PRODUCED AND HALF OF THEM WERE SENT TO HUGHES FOR USE IN THE TPQ-36 MORTAR LOCATING RADAR, CONTRACT WAS EXTENDED FOR TESTING.	99.0	96.8	2.2	JUL 74	SEP 78
2 75 9371	*AUTOMATING ELECTROD PRODUCTION OF LITHIUM CELLS THIS EFFORT COULD NOT BE COMPLETED WITH THE REMAINING FUNDS, SINCE OTHER COMPANYS ARE CAPABLE OF PRODUCING THE CELLS AT THE DESIRED RATE OF 5000 CELLS PERMONTH IT WAS DECIDED TO CANCEL THIS PROJ.	379.4	331.4	45.7	JUL 77	SEP 78
2 75 9441	*ARC PLASMA SPRAYED PHASE SHIFT ELEMENTS PROJECT COMPLETED, THE ARC PLASMA SPRAY PROCESS WAS SHOWN TO BE AN EFFECTIVE TECHNIQUE FOR FABRICATING DIELECTRIC-LOADED FERRITE PHASE SHIFTERS, HOWEVER, IMPROVED MATERIALS AND PROCESS TO ASSURE REPRODUCIBILITY ARE NEEDED BEFORE IT CAN BE COMPETITIVE	280.0	253.0	27.0	AUG 77	MAR 78
2 75 9525	HOT PRESSING OF PIE-ZO CERAMIC ELEMENTS FOR HV TRANSFORMERS. TESTING WAS COMPLETED ON THE CONFIRMATORY SAMPLES AND ALL MET SPECIFICATION, ALL PARTS HAVE BEEN ORDERED FOR THE PILOT PHASE WITH ASSEMBLY TESTING AND DELIVERY TO BE COMPLETED BY JULY.	229.4	192.9	36.5	OCT 77	SEP 78
2 76 9631	IC FABRICATION USINGELECTRON BEAM TECHNOLOGY TEXAS INSTRUMENTS USED ITS PROPRITARY RESIST TO OVERCOME PINHOLE PROBLEMS, 117 RANDOM ACCESS MEMORIES WERE MADE ON 6 WAFERS WITHOUT MASKS, TYPE OF MEMORY WAS CHANGED TO ONE HAVING A TRI-STATE OUTPUT INSTEAD OF BI-STATE, UNITS PASSED MIL STD 883,	782.9	674.0	25.0	AUG 77	DEC 78
2 75 9665	MEASUREMENT OF ELECTCOMPONENTS UNDER DYNAMIC STRESS LOCKHEED FABRICATED APPROXIMATELY 2900 AMPLIFIER PRINTED CIRCUIT BOARDS FOR TEST AND LASER TRIMMING OF RESISTORS, A STUDY OF THE EFFECT LASER TRIMMING HAS ON THE RESISTOR AND A STATISTICAL EVALUATION OF THE AMPLIFIER ARE IN PROCESS,	735.1	697.6	33.0	SEP 77	OCT 78
2 76 9679	NUMERICAL CONTROL LATHE LANGUAGE EVALUATION ***** DELINQUENT STATUS REPORT ***** THIS IS AN ERADCOM PROJECT HOWEVER THE WORK IS BEING DONE BY CORADCOM,	305.0	175.1	8.0	OCT 79	JUN 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 76 9732	FABRICATION + ATTACHMENT OF HEAT PIPES TO THYRISTER WAFERS. ***** DELINQUENT STATUS REPORT *****	365.0	340.0	21.0	AUG 78	JAN 79
2 76 9738	EPITAXIAL + METALLIZATION PROCESSES F/GAAS IMPATT DIODES MICROWAVE ASSOCIATES IS OBTAINING REPRODUCIBLE RESULTS WITHIN 8% OF DOPING DENSITY USING AUTOMATIC CONTROL OF DOPANT GAS, THEY ALSO AUTOMATED THE GROWTH OF EPITAXIAL LAYERS, FEEDBACK CONTROL REGULATES GAS QUANTITIES IN ACCORDANCE WITH CONDITIONS.	248.8	248.8	0.0	JUN 77	JAN 79
2 75 9739	PHOTOLITHOGRAPHIC TECHNIQUES FOR SURFACE WAVE ACCOUSTICS HUGHES USED GLASS MASKS AND FINE LINE PHOTOLITHOGRAPHY TO PROCESS SURFACE ACOUSTIC WAVE FILTERS,WELDED GOLD PLATED KOVAR AND NICKEL PLATED STEEL PACKAGES CHEAPER AND BETTER THAN SOLDERED TIN PLATED PACKAGES, FLUXLESS SOLDERING BETTER THAN STANDARD	225.0	185.7	20.0	AUG 77	SEP 78
2 76 9746	THIN MILM AL OXIDE ION BARRIER FOR 18MM MICROCHANNEL PLATES. ITT ELECTRO OPTICAL DIVISION DEPOSITED A THIN FILM OF ALUMINUM OXIDE OVER A LAQUER LAID ON THE MICROCHANNEL PLATE, THE LAQUER IS THEN BURNED OFF, THE RESULTING FILM BARS POSITIVE IONS FROM THE MCP FROM DAMAGING THE PHOTOCATHODE, TESTING IS A PROBLEM.	480.0	432.0	30.0	JUL 79	JUL 79
2 76 9749	THICK FILM PROCESSING OF MICROWAVE INTEGRATED CIRCUITS. COLLINS RADIO IS ATTEMPTING TO CONVERT A THIN FILM MODULATOR/TRANSMITTER TO THICK FILM, THICK FILM WAS SHOWN TO BE SATISFACTORY FOR HIGH FREQUENCY =2 GHZ= BUT COLLINS HAD PROBLEMS WITH HIGHER INSERTION LOSS AND THUS LINEARITY,WORK SHOULD BE TERMINATE	360.0	300.0	50.0	JUN 78	JUL 79
2 74 9750	FAB OF 18MM IMAGE INTENSIFIER TUBES BY BATCH PROCESSING LITTON HAS APPLIED BATCH PROCESSING TO TUBE MANUFACTURE, THEY DO TUBE EVACUATION, PHOTOCATHODE FORMATION, MCP OUTGASSING, PHOSPHOR SCREEN OUTGASSING, AND SEALING OF THE TUBE ALL IN ONE VACUUM CHAMBER, THE CONTRACT SHOULD BE TERMINATED NOW.	771.5	645.0	126.5	FEB 76	DEC 78
2 77 9751	MFR METHODS FOR FABRICATION OF YAG LASER RODS LITTON BUILT A SECOND POLISHING FIXTURE AND AN INEXPERIENCED OPERATOR OBTAINED 100% YIELD WHEN POLISHING 26 YAG RODS, BUT RCA CAN USE ONLY BETTER-THAN-SPEC RODS IN THE GVS-5 LASER RANGE FINDER,THE SPEC SHOULD BE UPGRADED AND THE CONTRACT REVISED.	142.0	64.5	24.0	JAN 79	JUN 79
2 76 9754	CONTIN CYCLE PROC OF SHOCK RESISTANT QUARTZ CRYSTAL UNITS THE IN-LINE ULTRAHIGH VACUUM FABRICATION FACILITY HAS BEEN DESIGNED AND CONTRUCTED,AND ASSEMBLY IS PARTIALLY COMPLETE. ELECTRONIC CONTROL CIRCUITRY HAS BEEN DESIGNED AND CONSTRUCTED.	826.7	786.7	35.0	AUG 78	DEC 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 77 9754	CONTIN CYCLE PROC OF SHOCK RESISTANT QUARTZ CRYSTAL UNITS FUNDS WERE TRANSFERRED TO THE DEPT.OF ENERGY IN MAY 1978, WORK AT THE GENERAL ELECTRIC NEUTRAN DEVICES DEPT.WILL COMMENCE 1 JUL 78.	1,426.4	1,363.4	34.0	DEC 79	JUN 80
2 76 9766	DEPOSITION OF A HIGHVOLTAGE INSULATING LAYER FOR THICK FILM ERIE TECH IS AUTOMATING THE ASSEMBLY AND POTTING OF SERIES RECTIFIERS AND CAPICITORS TO FORM DISC-SHAPED VOLTAGE MULTIPLIERS FOR IMAGE INTENSIFIERS, THIS IS PRODUCTION ENGINEERING OF A FAMILY OF VOLTAGE MULTIPLIERS.	182.9	128.5	27.0	AUG 78	MAY 79
2 76 9767	MM+T MEAS FOR DEPOSITION OF THICK FILM CIRCUITS F/CRYST OSC RAYTHEON RECONFIGURED THE COMPLEX OSCILLATOR CIRCUIT TO PERMIT ITS MANUFACTURE BY THICK FILM TECHNIQUES, THERE WERE $97K AND $92K OVERRUNS AND $250K IS NEEDED TO FINISH THE WORK, THE CONTRACT SHOULD BE TERMINATED, PROPOSAL 2769767 IS FOR A FOLLOWON.	392.8	269.1	30.2	AUG 78	JUN 79
2 76 9771	LOW TEMP PROCESS OF BULK SEMICONDUCTOR SWITCHES + LIMITERS MICROWAVE ASSOCIATES IS PROCESSING HIGH PURITY 18000 OHM-CM SILICON INTO LIMITERS, SAMPLE PRODUCTION WAS DELAYED TWO MONTHS TO ALLOW MA TO BUILD ADDITIONAL HARDWARE, WORK IS HIGHLY END ITEM ORIENTED, FOR TPQ-36 AND 37 RADARS.	380.0	347.5	30.0	AUG 78	DEC 78
2 76 9774	IMP PLATED-THRU HLS BY ALTERING DRILL GEOMETRY + FINISH ***** DELINQUENT STATUS REPORT ***** THIS IS AN ERADCOM PROJECT HOWEVER THE WORK IS BEING DONE BY CORADCOM.	125.0	65.8	60.0	JUN 77	JAN 78
2 76 9783	PRODUCTION OF HIGH RESISTIVITY SILICON MATERIAL SEE SUBTASKS BELOW, WORK IS JOINT WITH AFML.	501.0	275.0	40.0	AUG 78	JUL 78
2 76 9783A	PRODUCTION OF HIGH RESISTIVITY SILICON MATERIAL HUGHES AIRCRAFT CO BUILT A DIFFUSION CAPABILITY TO PURIFY SILANE AND A BOULE-GROWING CAPABILITY TO GROW HIGH PURITY SILICON, A DEMONSTRATION WAS RUN FOR INDUSTRY, WAFERS WERE SUPPLIED TO RCA CANADA FOR USE IN DETECTORS, RESISTIVITY IS A HIGH 20K OHM.	501.0	275.0	40.0		JUL 78
2 76 9783B	PRODUCTION OF HIGH RESISTIVITY SILICON MATERIAL UNIV. OF DAYTON RESEARCH INST, IMPROVED MEASURING TECHNIQUES FOR CHARACTERIZING HIGH RESISTIVITY SILICON, WAFERS WERE SUPPLIED TO ARMY AND RCA CANADA, FOR COPPERHEAD AND HELLFIRE MISSILES, HUGHES PROPOSED MULTIPLE DRAWS TO REDUCE BOULE COST.	0.0	0.0	0.0		JUL 78
2 76 9788	FAB OF LOW VOLTAGE START SEALED BEAM ARC LAMPS, THE CONTRACTOR HAD TECHNICAL DIFFICULTIESPRODUCING THE THIRD ENGINEERING SAMPLES TO MEET SPECIFICATIONS, THE CONTRACT IS BEHIND SCHEDULE AND WILL BE TERMINATED.	324.0	290.7	33.3	AUG 78	JUL 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

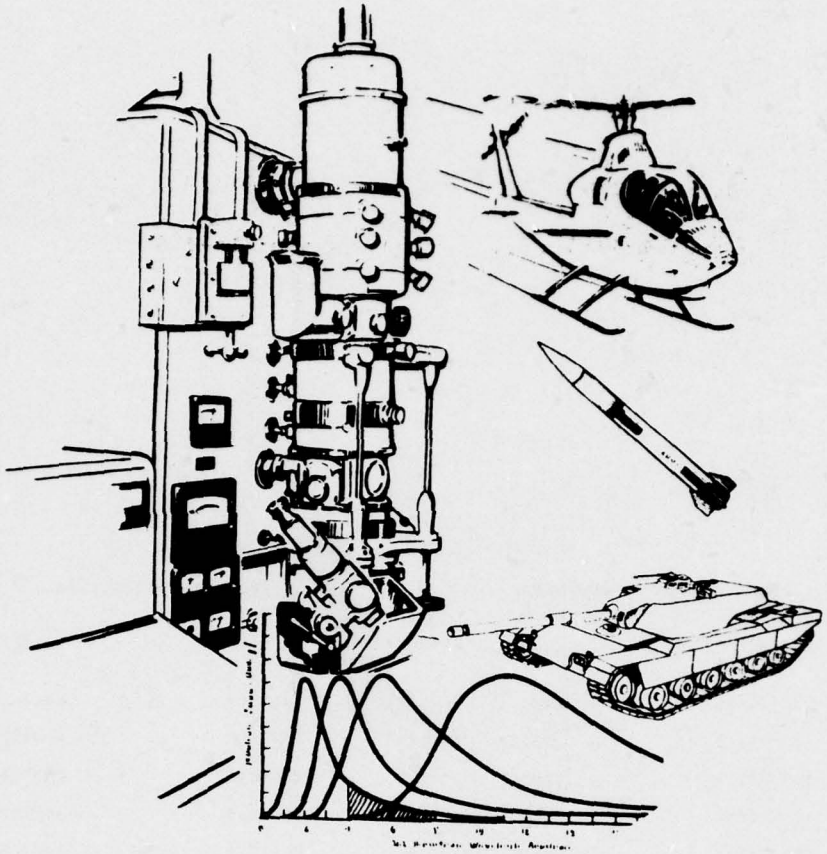
PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 77 9792	PDN OF FUNNELLED MCPS WITH HIGH SECONDARY EMITTING COATNG GALILEO CORP DREW FINER FIBERS TO ACHIEVE 10 MICRON SPACING OF CHANNELS. ALSO WORKED ON ETCHING TO OBTAIN A FUNNEL EFFECT, IMPROVED ALUMINUM OXIDE FILM INTEGRITY OVER LARGER FUNNELED AREA. SAMPLE MCPS WERE MADE WITH THE NEW FIXTURES.	600.0	471.7	13.0	MAR 80	DEC 79
M 78 9793	PDN OF INTAGLIATED FIBER OPTIC PHOSPHR SCREEN A CONTRACT WAS LET TO ITT ELECTRO OPTICS PRODUCTS DIVISION TO ESTABLISH METHODS FOR ETCHING OUT FIBER OPTIC CORE GLASS, METALLIZING THE HOLE WALLS, AND DEPOSITING PHOSPHOR AND ALUMINUM COATINGS. THIS PREVENTS LIGHT FEEDBACK AND LENGTHENS SCREEN LIFE.	200.0	177.1	0.9	DEC 79	APR 80
2 77 9805	AUTO MICROCIRCUIT BRIDGE PDN MEASURE OF QUARTZ CRSYTALS A TECHNICALLY ACCEPTABLE BIDDER WAS IDENTIFIED BUT THE BID WAS HIGHER THAN EXPECTED, INCREASED FUNDING WAS REQUESTED. THE OBJECTIVE IS A FASTER, MORE ACCURATE METHOD FOR TESTING CRYSTALS THAN USING THE CRYSTAL IMPEDANCE CI METER. WILL TEST 200 PER DAY.	400.0	0.0	75.0	JAN 79	AUG 80
2 77 9808	AUTO INPROCESS EVAL OF THICK FILM PRINT + HYBRID CKT ASSY RCA WORKED ON THE CONTROL/DISPLAY STATION AND THE INSPECTION STATION. THE FIRST INCLUDES A VIDIO AND A CONTROL SUBSYSTEM. THE SECOND INCLUDES THE RETURN BEAM VIDICON CAMERA AND LIGHTS. SOFTWARE WAS WRITTEN TO CHECK INKED SUBSTRATES AND FULL HYRIDS.	515.0	470.0	32.0	AUG 78	OCT 78
2 77 9809	MEAS TECHNIQ FOR CHMICALS IN MPG PROC FOR SOLID ST MOCROWV SPECTROGRAPHIC ANALYSIS SYSTEMS COMPUTER INTERFACE, DATA COLLECTION AND TRANSMISSION EQUIPMENT HAVE BEEN INSTALLED AND OPERATED. TRIAL PIN DIODE RUNS HAVE BEEN INITIATED WITH VARIATIONS IN CONTAMINANT LEVELS DETERMINED.	553.8	553.8	0.0	NOV 78	NOV 78
2 77 9811	REDUC MFG COSTS FOR MICROWAVE POWER TRANSISTORS-IN PROC TUNR TRW IS BUILDING INDUCTORS AND CAPACITORS ON THE WAFER TO PERMIT EASIER MATCHING OF HIGH-POWER, HIGH-FREQUENCY TRANSISTORS. OPERATOR ERROR CAUSED PROBLEMS WITH THE FIRST RUN. USE HIGH RESISTIVETY SILICON WAFERS; COULD BE ANOTHER USER OF HUGHES SI.	597.4	529.4	25.6	JUL 79	JUL 79
2 77 9812	MM+T FOR SPLIT CYCL STIRLING COOLER. AN ENGINEERING COOLER WAS TESTED SUCCESSFULLY. A HYBRID MOTOR CIRCUIT REQD FOR THIS PROJECT WILL BE OBTAINED AT A LATER DATE.	795.0	439.9	65.0	JAN 80	JAN 80
2 77 9813	RUGGEDIZED LOW COST QUADRANT DETECTOR FOR CLGP. TEXAS INSTRUMENTS IS IN PROCESS OF ESTABLISHING AUTOMATED PRODUCTION PROCESSES FOR RUGGEDIZED, LOW COST SILICON QUADRANT PHOTODETECTORS FOR THE CANNON LAUNCHED GUIDED PROJECTILE. THE CONTRACTOR IS BEHIND SCHEDULE WITH SECOND ENGINEERING SAMPLES.	375.0	159.0	40.0	JAN 80	JAN 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 77 9827	PROCESSING XP ARMOR FOR RADAR HARDENING APPLICATIONS WORK CONSISTED OF PROVIDING FILM FOR THE CONTRACT EFFORT, ACQUIRING FILM STRETCHING EQUIPMENT FOR THE PURPOSES OF ASSURING ADDITIONAL FILM FOR THE PROJECT AND A POST-PROJECT PRODUCTION CAPABILITY, MODIFYING TOOLING, AND ARRANGING FOR PANEL TESTING.	500.0	233.1	127.7	JUL 79	JAN 80
M 78 9829	*PROCESS F/BURIED CHANNEL CCD F/INFRARED IMAGES THIS PROJECT HAS BEEN CANCELLED.	0.0	0.0	0.0	JUL 78	JUL 78
2 77 9831	PILOT MFG RUGGED L-BAND CRYSTAL CONTLD TELEMETRY TRANSMITER JOHNS HOPKINS APPLIED PHYSICS LABS HAD TO RECONFIGURE THE TRANSMITTER CIRCUIT TO PREVENT CROSSTALK. APL DELAYED THE WORK BECAUSE OF HIGHER PRIORITY JOBS. BREADBOARD DESIGN MUST BE CONVERTED TO STRIPLINE. EXTENDED SUPPORT USED UP PILOT RUN FUNDS.	79.0	182.0	15.0	OCT 78	OCT 78
2 77 9832	*AUTO WIREWRAP VERIFIER,CAM RELATED PROJECT COMPLETED. THE HDL ALGORITHM HAS BEEN SUCCESSFULLY INTEGRETED WITH AUTOMATIC WIREWRAP MACHINE SOFTWARE. THE CLASS I TECHNICAL REPORT IS BEING PREPARED.	30.0	0.0	30.0	SEP 77	SEP 78
2 77 9834	FABRICATION- SERIES TRANSDUCER ACOUSTIC DELAY LINES WESTINGHOUSE PRODUCED TWO TRANSDUCER DESIGNS USING A COMPUTER AND PHOTOLITHOGRAPHIC TECHNIQUES. TEST RESULTS WERE FAVORABLE. TEST PROCEDURES WERE DESIGNED AND IMPLEMENTED. THIN FILM DEPOSITED INDUCTOR TUNING ELEMENTS WERE MADE USING METAL MASKS.	270.6	222.6	11.6	MAR 79	SEP 79
2 75 9836	*QC TECH FOR FABR OF 18MM + 25MM ETCHED CORE MICROCHAN PLATS VARIAN ASSOCIATES CONCENTRATED ON FORMALIZING ITS QUALITY CONTROL PROCEDURES FOR MICROCHANNEL PLATES. MCPS ARE NOW BETTER, CHEAPER, AND MORE AVAILABLE. YIELD WAS IMPROVED FROM 16% TO 30%. NITECH ALSO USES THESE PROCEDURES TO REDUCE REJECTION RATE.	276.0	246.0	30.0	MAR 77	MAY 78
M 78 9841	ZINC SELENIDE WINDOWS AND OPTICAL ELEMENTS A CONTRACT HAS BEEN NEGOTIATED WITH RATHEON FOR THIS EFFORT. THE CONTRACT WAS ABOVE AVAILABLE FUNDS AND DELAY OF AWARD WAS DELAYED.	156.4	140.4	2.0	DEC 79	JUN 80
2 77 9842	THIRD GENERATION .9 MICRON PHOTOCATHODE SEE SUBTASKS A AND B.	1,893.0	1,771.1	19.4	DEC 79	SEP 79
2 77 9842A	VARIAN WORK VARIAN LSE DEVELOPED A PUSH-PULL EPITAXIAL GROWTH SYSTEM FOR GROWING GALLIUM ARSENIDE ON GALLIUM ARSENIDE WAFERS. ALSO WORKED ON GLASS SEALING AND ANTI-REFLECTIVE COATING. WILL RESULT IN HIGH PERFORMANCE PHOTO CATHODES.	0.0	963.0	0.0	DEC 79	SEP 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
2 77 9842B	ITT WORK ITT CORP HAD PROBLEMS WITH THE ANTI-REFLECTIVE COATING PROCESS AND IS LATE ON DELIVERY OF SAMPLES, SPUTTER DEPOSITION IS BEING USED TO APPLY THE ANTI-REFLECTIVE COATING, WORK IS AT TWO FIRMS TO PROVIDE A SECOND SOURCE.	0.0	808.1	0.0	DEC 79	SEP 79
2 77 9845	NUMERICALLY CONTROLLED OPTICAL FABRICATION HONEYWELL MADE SEVERAL FLAT GERMANIUM BLANKS BY COMPACTION, CASTING AND DIAMOND TURNING, THEY DID NOT KEEP DATA ON OPTICAL PROPERTIES BEFORE PROCESSING + PART OF THE WORK WILL HAVE TO BE REPEATED.HONEYWELL IS DIAMOND TURNING GERMANIUM ASPHERICS.	333.3	304.3	1.0	OCT 77	DEC 79
2 77 9857	AUTO SEPARATION, CARRIER MOUNTING + TESTING OF SEMI-CDT DICE HONEYWELL WILL SUBCONTRACT OUT FOR A LEAD FRAME PLATER, WIRE BONDER, EPOXY DISPENSER AND DIE PLACER, AND WAFER INSPECTION EQUIPMENT. MACRODOT 150 AND FIARCHILD 5000 TESTERS WERE BOUGHT, MECHANICAL + AIR SUBSTRATE HANDLERS ARE BEING BUILT FOR 6 DEVICE	901.9	770.8	100.4	OCT 79	OCT 79
M 78 9860	PDN TECHQE-GALLIUM ARSENIDE MIWAV FIED EFFECT TRANSISTORS A CONTRACTOR WILL IDENTIFY YIELD-LIMITING STEPS AND THEN DEVELOP A PROCESS AND CONTROLS FOR MAKING GALLIUM ARSENIDE MICROWAVE FIELD EFFECT TRANSISTORS, (GASFETS) WILL WORK ON EPITAXIAL LAYER GROWTH, ION IMPLANTATION, CONTACTS, TESTING PACKAGING.	600.0	0.0	0.0	NOV 80	OCT 80
M 78 9871	*AUTO PRODUCTION OF MILITARY INTEGRATED CIRCUITS PROJECT WAS CANCELLED BECAUSE THE OBJECTIVE DISAPPEARED, $500K WENT TO 9738 PULSED GAAS IMPATT DIODES AND $250K WENT TO 9767 AUTO ASSY OF TEMPERATURE COMPENSATED VOLTAGE CONTROLLED CRYSTAL OSCILLATORS (TCVCXO).	750.0	0.0	0.0	NOV 79	NOV 79
2 77 9873	ANTENNA PATTERN MEASUREMENTS USING NEARFIELD TECHNIQUES COMPUTER EQUIP HAS BEEN PURCHASED AND SOFTWARE IS BEING WRITTEN, THE TESTING EQUIPMENT HAS ALSO BEEN PURCHASED AND INSTALLED. DELAYS IN OBTAINING ANTENNAS FOR TESTING WILL REQUIRE AN EXTENSION OF TIME AND MONEY FOR THIS PROJECT.	542.4	515.4	17.0	OCT 79	NOV 78
M 78 9889	THIRD GENERATION 0.9 MICRON WAFER INTENSIFIER TUBE A CONTRACTOR WILL ESTABLISH CAPABILITY FOR MANUFACTURING THIRD GENERATION IMAGE TUBES, PROCESS AND TEST EQUIPMENT WILL BE DESIGNED FOR AUTOMATED OPERATION BY LOW SKILLED PERSONNEL. TUBES ARE NEEDED FOR NIGHT AIRBORNE OPERATIONS.	1,000.0	0.0	5.0	DEC 79	DEC 79



MATERIALS AND MECHANICS RESEARCH CENTER
(AMMRC)

US ARMY MATERIEL DEVELOPMENT AND READINESS COMMAND

(DARCOM)

HEADQUARTERS-DARCOM * ARMY MATERIALS AND MECHANICS RESEARCH CENTER

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	*	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	*	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)	*
74	2	431,000		68,500	68,500 (100%)		362,500	360,500 (99%)	
75	2	3,840,000		695,200	695,200 (100%)		3,144,800	3,055,500 (97%)	
76	3	4,597,000		599,500	599,500 (100%)		3,997,500	3,491,700 (87%)	
7T	2	883,000		113,400	113,400 (100%)		769,600	451,600 (58%)	
77	3	4,321,000		916,600	916,600 (100%)		3,404,400	2,717,600 (79%)	
78	2	5,050,000		163,000	0 (0%)		4,887,000	280,900 (5%)	
TOTAL	14	19,122,000		2,556,200	2,393,200 (93%)		16,565,800	10,357,800 (62%)	

AUTHORIZED FUNDING CONTRACT ALLOCATED 13% INHOUSE ALLOCATED 86%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 77 6350	MATERIALS TESTING TECHNOLOGY SEE PROJECT M 78 6350 FOR STATUS.	500.0	113.4	386.6	SEP 77	JUN 78
M 75 6350	MATERIALS TESTING TECHNOLOGY (MTT) NO STATUS REPORT RECEIVED. SEE PROJECT M 78 6350.	3,500.0	695.2	2,750.5	DEC 75	JUN 78
M 76 6350	MATERIALS TESTING TECHNOLOGY (MTT) SEE PROJECT M 78 6350 FOR STATUS.	4,083.0	599.5	3,431.7	DEC 76	JUN 78
M 77 6350	MATERIALS TESTING TECHNOLOGY SEE PROJECT M 78 6350 FOR STATUS.	4,000.0	916.6	2,709.1	MAY 78	JUN 79
M 78 6350	MATERIALS TESTING TECHNOLOGY SEE INDIVIDUAL TASKS BELOW FOR STATUS.	4,500.0	163.0	280.9	JUN 79	JUN 79
M 78 6350A	INSPECTION DEVICE FOR EXPLOSIVE CHARGE IN SHELL SIGNIFICANT PROGRESS HAS BEEN ACCOMPLISHED, THE SHELL SCANNER WAS ASSEMBLED, POWER DRIVE CONNECTED TO THE COMPUTER AND TESTS RUN ON THE SCANNING MOTION. THE LIFT MOTION WAS FOUND TO BE TOO SLOW, THEPROBLEM WILL BE CORRECTED BY CHANGING THE PULLEYS.	0.0	0.0	0.0		JUN 79
M 78 6350B	COMPUTERIZED COLOR MATCHING SYSTEM THE CONTRACTOR HAS INDICATED THAT THE STABILITY AND REPEATABILITY OF BOTH THE MS-2000 AND D-54 SPECTROPHOTOMETERS FAR EXCEEDS THEIR PREDECESSORS, THE LATEST SPCETROPHOTOMETER WHICH IS BEING INFORMALLY EVALUATED HAS BEEN INTERFACED WITH A COMPUTER.	0.0	0.0	0.0		JUN 79
M 78 6350C	FABRIC LOAD ELONGATION AND SHEAR TESTING DEVICE THE BIAXIAL TENSILE AND SHEAR TESTING MACHINE IS OPERATIONAL AND APPEARS ADAQUATE FOR TESTING MOST ARMY FABRICS, THE DIFFICULTIES BEING EXPERIENCED WITH THE CLAMPING OF HEAVY-WEIGHT FABRICS WILL SOON BE RESOLVED.	0.0	0.0	0.0		JUN 79
M 78 6350D	NDT FOR E-BEAM FOIL WINDOWS IN HOUSE TESTS, USING AN OPTICAL SCANNING, DID NOT SHOW ANY HOT SPOTS CORRESPONDING TO A TEMP. GRADIENT OF 30 DEGREES CENTIGRADE, A TEMPERATURE GRADIENT OF 300 DEGREES CENTIGRADE IS ALLOWABLE WITHOUT DAMAGING THE FOIL, THE TEST SHOW UNIFORMTHICKNESS.	0.0	0.0	0.0		JUN 79
M 78 6350E	IR TESTING OF PCB'S AND MICROCIRCUITS THE TWO SENSOR SYSTEM, LCP 200T AND TO-5, PROVED TO BE ACCEPTABLE WHEN FUNCTIONAL TESTED IN A PRODUCTION ENVIRONMENT USING PRODUCTION PERSONNEL, RESULTS INDICATED OVER 90% CONFIDENCE LEVELS IN LOCATING THE FAILURE SOURCE.	0.0	0.0	0.0		JUN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

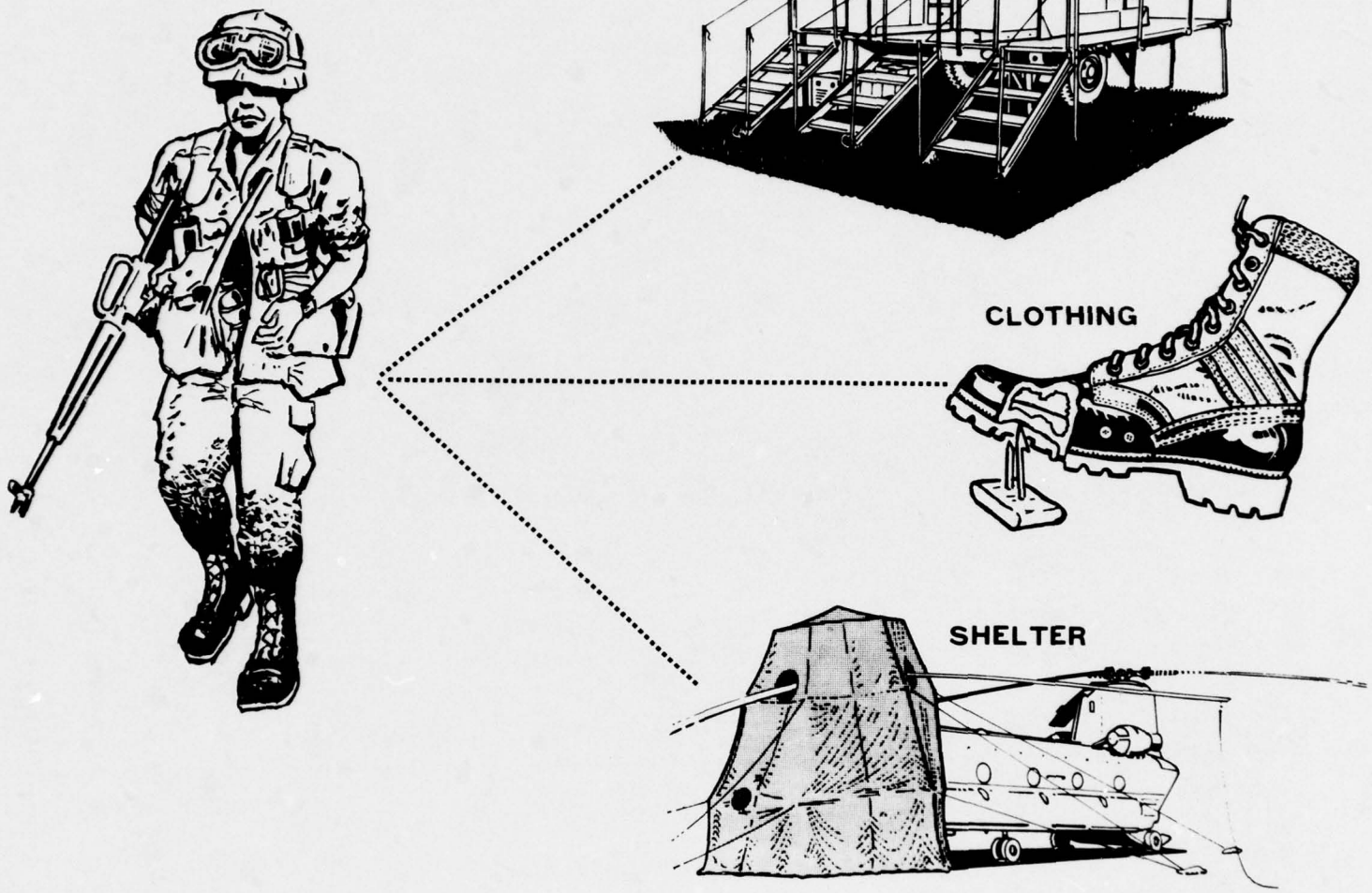
PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 78 6350F	AUTOMATED ANTENNA PATTERN MEASUREMENT THE EQUIPMENT FOR THIS PROJECT HAS BEEN PROCURED, THE SYSTEM HARDWARE TEST MEASUREMENTS IS SCHEDULED TO BE COMPLETE 31 AUGUST 1978, NO MAJOR PROBLEMS ARE ANTICIPATED.	0.0	0.0	0.0		JUN 79
M 78 6350G	SET-BACK DRAG TESTER FOR S+A DEVICES THIS TASK WAS ONLY RECENTLY INITIATED, THE TESTER TO BE DEVELOPED UNDER THIS PROJECT IS INTENDED TO OPTIMIZE THE DESIGN FOR THE BULOVA PRODUCTION LINE, THEREBY GREATLY REDUCING THE TEST TIME, THE TESTER IS SCHEDULED TO BE EVALUATED 15 OCT, 1978.	0.0	0.0	0.0		JUN 79
M 78 6350H	GAS CHROMATOGRAPHIC/MASS SPECTROMETRIC ANALYSIS OF CARBORANE AN OPTIMUM GAS - LIQUID CHROMATOGRAPHIC PROCEDURE HAS BEEN DEVELOPED FOR ASSAYING N-HEXYLCARBORANE, ACTUAL GC/MC ANALYSIS OF IMPURTIES HAS NOT BEEN INITIATED DUE TO INSTR.PROBLEMS, THE COMPUTER PROGRAM FOR THESE EVALUATIONS HAVE BEEN IMPROVED.	0.0	0.0	0.0		JUN 79
M 78 6350I	NDT EQPT FOR RESIDUAL STRESS MEASUREMENTS THE EQUIPMENT FABRICATION FOR THIS PROJECT HAS BEEN COMPLETED, THE PHASE II EFFORT IS ESSENTIALLY COMPLETE WITH THE EXCEPTION OF THE FINAL REPORT, AN EQUIPMENT REVIEW WAS CONDUCTED AT THE CONTRACTORS FACILITIES MARCH 1-3.	0.0	0.0	0.0		JUN 79
M 78 6350J	LASER SCAN SYSTEM THE AUTOMATED INSPECTION SYSTEM HAS BEEN INSTALLED, TESTED, AND ACCEPTED.	0.0	0.0	0.0		JUN 79
M 78 6350K	OPTICAL INSPECTION OF M42 GRENADES THE FINAL PHOTO DETECTOR ARRAY CONFIGURATION HAS BEEN BREADBOARDED AND WIRED INTO AN ELECTRONIC THRESHOLDING DEVICE, THE SYSTEM HAS BEEN TESTED AND FOUND CAPABLE OF MONITORING THE RIBBON AND THE SLIDE.	0.0	0.0	0.0		JUN 78
M 78 6350L	ACCEPTANCE TESTING OF CHEMICAL ALARM COMPONENTS NO DIFFICULTIES HAVE BEEN EXPERIENCED TO DATE IN ESTABLISHING TESTS FOR ANY OF THE COMPONENTS.	0.0	0.0	0.0		JUN 78
M 78 6350M	HOLOGRAPHIC DEFECT DETECTION BY PRESSURE STRESSING AN BREADBOARD HOLOGRAPHIC SYSTEM ASSEMBLY CONTRACT HAS BEEN AWARDED, THIS BREADBOARD SYSTEM WILL BE USED TO EVALUATE THE EFFECTIVENESS OF HOLOGRAPHIC PROJECTILE INSPECTION, THIS EVALUATION IS SCHEDULED FOR JULY OR AUGUST.	0.0	0.0	0.0		JUN 79
M 78 6350N	RADAR METHOD FOR SENSING AND OUTPUT TESTING OF DETONATORS A CONTRACT HAS BEEN AWARDED FOR THE DESIGN AND FAB. OF A BENCH MODEL NON-ELECTRIC DETONATOR TEST SYSTEM, THE CONTRACT IS 90% COMPLETE, A FIRING BOX MOCK-UP, 70GHZ RADAR AND THE BREADBOARD ELECTRONICS HAVE BEEN FAB. AND ASSEMBLIED THIS ENGR. MODEL.	0.0	0.0	0.0		JUN 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
M 78 63500	HOT FORGED WALL VARIATION MEASUREMENT THE DESIGN OF THE INSPECTION APPARATUS AND THE SPECIAL HIGH TEMPERATURE TRANSDUCER HAS BEEN COMPLETED. FROM THE TRIAL TESTS IT WAS DETERMINED THAT PRESSURE COUPLING SHOULD BE ADAQUATE. TO BE SURE, A GRAPHITE INJECTION BACKUP IS BEING DESIGNED.	0.0	0.0	0.0		JUN 78
M 77 6370	OPTIMIZATION OF MMT PROGRAM EFFECTIVENESS $8500 WERE TRANSFERED TO THE DOD METALS AND CERAMICS INFORMATION ANALYSIS CENTER. NO PURPOSE FOR THIS TRANSFER WAS STATED.	16.0	0.0	8.5	JUN 79	JUN 79
M 76 6382	*HEALTH/SAFETY PROCS PROCEDURES-MFR OF DEPLETED URANIUM COMP CAMERA READY COPY IN PREPARATION. ALL WORK COMPLETED. LETTERKENNY ARMY DEPOT WILL PRINT AND ISSUE AS DARCOM HNDBK.	60.0	0.0	60.0	DEC 76	SEP 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
A 74 100M	*UNIAPT EVALUATION- NC/CAM THIS PROJECT IS COMPLETE AND DEMONSTRATED THAT THE BEST METHOD FOR OPERATING AN NC TAPE PREPARATION SYSTEM IS THE USE OF A TIME SHARE SYSTEM.	100.0	68.5	31.5	DEC 74	SEP 78
A 77 5052	ARMY ENGINEERING DESIGN HANDBOOKS ***** DELINQUENT STATUS REPORT *****	383.0	0.0	65.0	JUN 78	DEC 78
A 74 5052	ARMY ENG DESIGN HANDBOOKS FOR PRODUCTN SUPPORT ***** DELINQUENT STATUS REPORT *****	331.0	0.0	329.0	JUN 76	DEC 78
A 75 5052	ARMY ENG DESIGN HANDBOOKS FOR PRODUCTN SUPPORT. ***** DELINQUENT STATUS REPORT *****	340.0	0.0	305.0	JUN 77	DEC 78
A 76 5052	ARMY ENG DESIGN HANDBOOKS FOR PRODUCTN SUPPORT ***** DELINQUENT STATUS REPORT *****	454.0	0.0	0.0	JUN 78	DEC 78
A 77 5052	ARMY ENG DESIGN HANDBOOKS FOR PRODUCTN SUPPORT ***** DELINQUENT STATUS REPORT *****	305.0	0.0	0.0	SEP 79	SEP 79
D 78 5052	ARMY ENG DESIGN HANDBOOKS FOR PRODUCTN SUPPORT NO STATUS REPORT RECEIVED. THERE NEVER HAS BEEN A STATUS REPORT RECEIVED ON THIS SERIES OF PROJECTS. THE CONTRACTOR REPORTS ARE SENT IN LETTER FORM TO HQ.DARCOM.	550.0	0.0	0.0	NOV 79	NOV 78



NATICK R&D COMMAND
(NARADCOM)

NATICK RESEARCH AND DEVELOPMENT COMMAND

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
74	1	110,400	77,200	77,200 (100%)	33,200	33,200 (100%)
75	0	0	0	0 (0%)	0	0 (0%)
76	2	527,700	404,800	320,500 (79%)	122,900	106,200 (86%)
TT	0	0	0	0 (0%)	0	0 (0%)
77	1	215,000	160,900	0 (0%)	54,100	27,600 (51%)
78	0	0	0	0 (0%)	0	0 (0%)
TOTAL	4	853,100	642,900	397,700 (61%)	210,200	167,000 (79%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 75% INHOUSE ALLOCATED 24%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
A 74 200N	MFG OF TURNING SHOE LASTS USING NUMERICAL CONTROL. THE PROBLEMS WITH THE CONTRACTOR HAVE CONTINUED, NECESSARY ACTION TO TERMINATE THE CONTRACT ARE PLANNED.	110.4	77.2	53.2	MAR 76	SEP 78
T 76 8035	AUTOMATED PRODUCTION OF INSULATED FOOTWEAR COMPOUND TRIALS ON THE DESMA INJECTOR WERE COMPLETED SUCCESSFULLY, FOUR BOOT MOLDING STATIONS WERE FABRICATED, DESIGN WORK FOR AUTOMATING THE OPERATION OF THE INJECTOR AND THE FOUR UNIT STATIONS WAS COMPLETED.	390.0	320.5	63.9	OCT 78	SEP 79
T 76 8036	NUMERICALLY CONTROLLED HELMET DIE SINKING WORK IS BEING PERFORMED UNDER CONTRACT TO PICATINNY, PICATINNY HAD PROVIDED A FIRM DELIVERY DATE FOR THE MOLDS WHICH WAS NOT MET, AS OF 22 JUN 78, NO WORK WAS BEING DONE.	137.7	84.3	42.3	SEP 77	SEP 78
Q 77 8053	CADAM OF PARACHUTE HARDWARE THE CONTRACTOR HAS STARTED THE INFORMATION GATHERING EFFORT, AN OPERATIONAL FORGING ACTIVITY WAS SET UP, COMPUTER GRAPHICS DISPLAY EQUIPMENT HAS BEEN RECEIVED, PRELIMINARY SOFTWARE TO DRIVE THE GRAPHICS SYSTEM WAS GENERATED.	215.0	160.9	27.6	MAR 78	SEP 80



MISSILE R&D COMMAND
MISSILE MATERIEL READINESS COMMAND
(MIRADCOM, MIRCOM)

MISSILE MATERIEL READINESS COMMAND

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
75	1	175,000	132,400	132,400 (100%)	42,600	42,600 (100%)
76	12	5,087,100	2,666,800	2,264,100 (84%)	2,420,300	854,900 (35%)
77	6	1,537,000	595,100	534,100 (89%)	941,900	563,000 (59%)
77	19	7,158,700	5,686,900	3,932,200 (69%)	1,471,800	917,000 (62%)
78	32	13,143,700	5,759,400	1,324,700 (23%)	7,384,300	653,400 (8%)
TOTAL	70	27,101,500	14,840,600	8,187,500 (55%)	12,260,900	3,030,900 (24%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 55% INHOUSE ALLOCATED 45%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 76 3073	MANUFACT TECHNIQUES FOR STATIC SWITCHES (CAM) FMC CORPORATION ASSEMBLED 16 PIN DUAL-IN-LINE PACKAGES USING TEXAS INSTRUMENTS DARLINGTON TRANSISTOR ARRAY CHIPS. THE UNITS SUCCESSFULLY PASSED TESTS AT -55C, 25C AND 80 DEGREES C. SWITCH IS FOR A MULTI-TUBE ROCKET LAUNCHER.	125.0	69.8	51.5	JUL 76	OCT 78
R 78 3075	INFRARED TESTING OF PC BOARDS AND MICROCIRCUITS THE CONTRACT RFP HAS BEEN PREPARED AND WILL BE MAILED ON JUNE 29. THE OBJECTIVE OF THIS PROJECT IS TO ESTABLISH A LOW COST EFFICIENT SYSTEM FOR INFRARED TESTING OF PRINTED CIRCUIT BOARDS AND HYBRID MICROELECTRONIC MODULES.	335.0	0.0	27.0	AUG 79	AUG 79
R 77 3076	QTY PROD TECH FOR COMPOSITE ROCKET MOTOR COMPONENTS 100 CASES HAVE BEEN SUCCESSFULLY TESTED. THIS PROJECT HAS ESTABLISHED IMPROVEMENTS IN FILAMENT WINDING, WINDING SPEED, RESIN CONTROL, AND CENTER PULL DEPLOYMENT OF THE 36 END ROVING TECHNIQUES HAVE BEEN DEMONSTRATED. A DRAFT FINAL REPORT WAS FINISHED	90.0	69.6	20.4	SEP 77	JUL 77
R 77 3091	APPLICATION OF CAM TO AFFIXING ELEC CONNECTORS TO CABLES MARTIN MARIETTA COMPLETED 95% OF THE MECHANICAL ASSEMBLY AND 90% OF THE CONTROL SYSTEM. A TRANSFER CONVEYOR IS BEING DESIGNED AND BUILT. EXTENSION IS NEEDED FOR X-Y TABLE MODIFICATION AND ADDITION OF A SLACK-PULLER. EXTENSION AT NO COST IS RECOMMENDE	140.0	137.2	2.8	AUG 77	DEC 78
R 77 3112	MFG MULTILAYER RIGID-FLEX HARNESS A CONTRACTOR TO BE SELECTED WILL INTEGRATE FLAT CABLE INTERCONNECTS WITH MULTILAYER PRINTED WIRING BOARDS TO REDUCE USE OF CONNECTORS.PROCUREMENT PACKAGES WERE COMPLETED. THE RIGID-FLEX ASSEMBLY WILL IMPROVE RELIABILITY AND CUT COST.	350.0	0.0	20.0	SEP 78	SEP 78
R 78 3116	IMP PROD METHOD FOR ROSETTE AIR DEF SEEKER OPTICS AND DETECT THE CONTRACT HAS NOT YET BEEN AWARDED. THE TASK WILL BE TO ESTABLISH IMPROVED PRODUCTION METHODS FOR GYRO OPTICS AND DETECTOR ASSEMBLIES FOR THE STINGER AIR-DEFENSE SEEKER. WILL WORK ON THE ROSETTE OPTICS, DETECTOR AND ELECTRONICS.	500.0	0.0	0.0	SEP 79	SEP 80
R 77 3121	APPLICATION AND NDT OF LINE PIPE FOR MOTOR COMPONENTS FIVE PHASES OF THIS 10 PHASE PROGRAM HAVE BEEN COMPLETED WHICH INCLUDES	325.0	254.1	70.9	NOV 78	SEP 79
R 78 3121	APPLICATION AND NDT OF LINE PIPE FOR MOTOR COMPONENTS SEE PROJECT NO. R 77 3121 FOR STATUS.	300.0	240.0	25.0	SEP 79	SEP 79
R 77 3126	*PROCESSING OF LASER OPTICAL CERAMICS AMMRC GREW LARGE NEODINIUM DOPED YITTRIUM-ALUMINA-GARNET INGOTS IN AN ELECTRIC RESISTANCE FURNACE. THE INGOTS WERE CUT INTO 3MM X 30MM RODS, POLISHED, AND TESTED IN A LASER AT ECOM. THEY LASED.	132.0	132.0	0.0	JUL 78	JUN 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 78 3126	PROCESSING OF LASER OPTICAL CERAMICS AMMRC INSTALLED AN IMPROVED HEATER IN ITS ZONE-CONTROLLED FURNACE TO PRODUCE THE CORRECT GRADIENT TOP-TO-BOTTOM. A STEEP UPWARD GRADIENT IS NEEDED. A SLOW COOLING RATE MUST ALSO BE USED TO PROVIDE CORRECT CHEMISTRY AT THE DIFFUSSION FRONT.	122.0	78.8	10.0	AUG 79	AUG 79
R 77 3133	PROD OF LITHIUM FERRITE PH SHIFTER FOR PHASED ARRAY RADARS RAYTHEON RESEARCH IS DOING MATERIALS R+D ON 12 POWDERS AND EXPERIMENTING WITH CO-FIRING CONDITIONS. THIS IS MATERIALS R+D AND NOT PROCESS SCALE-UP. MATERIALS ARE LI,ZN,TI,AL,GA,IN,CR. CO-FIRING WILL BE USED TO MAKE LI-FE TORROIDS FOR PHASE ARRAY RADARS	215.0	133.3	36.0	SEP 78	SEP 78
R 78 3133	PROD OF LITHIUM FERRITE PH SHIFTER FOR PHASED ARRAY RADAR MIRADCOM WILL HAVE THE OPTION OF EXTENDING RAYTHEON'S BASIC CONTRACT FOR ANOTHER YEAR, AS A FOLLOW-ON TO THE FY77 EFFORT. ADDITIONAL MATERIALS R+D SHOULD BE DONE WITH R+D FUNDS TO ESTABLISH SUITABLE MATERIALS BEFORE EXERCISING THIS OPTION.	325.0	0.0	0.0	SEP 79	SEP 79
3 75 3134	*PRODUCTION OF FIELD EFFECT ELECTRON EMITTERS PROCEDURES WERE DEVELOPED FOR GROWING COMPOSITES OF URANIUM AND TUNGSTEN SUCH THAT APPROX 10 MILLION UNIFORMLY SPACED TUNGSTEN FIBERS WERE CONTAINED IN EACH SQUARE CENTIMETER OF SURFACE AREA. TEN PATENTS WERE ISSUED COVERING OPER OF MATL AS FIELD EMI	175.0	132.4	42.6	MAY 77	AUG 78
R 77 3134	*MFG METHODS FOR PRO OF FIELD EFFECT ELECTRON EMITTERS THE PRIMARY OBJECTIVE OF THIS PROJECT WAS TO DEVELOP PROCEDURES FOR PLATING CLOSELY SPACE CONTROL GRIDS ON OXIDE-METAL COMPOSITES. A COMPUTER PROGRAM HAS BEEN DEV TO ASSIST IN DETERMINING PROPER PIN HEIGHT AND SPACING.	99.7	99.7	0.0	OCT 78	AUG 78
3 77 3135	PROCESS DEVELOPMENT FOR CARBORANE MFG NHC PREPARED FROM THE DECABORANE PRODUCED BY THE PYROLYSIS PROCESS IN THE 4-INCH LOOP REACTOR WAS EVALUATED IN THE VIPER PROPELLANT FORMULATION AND WAS FOUND TO BE ENTIRELY SATISFACTORY. WASHOUT OF THE BZ AND BIO REACTORS WILL BE REQUIRED EVERY 24 HR	800.0	0.0	453.0	SEP 78	SEP 78
3 76 3135	PROCESS DEVELOPMENT FOR CARBORANE MANUFACTURE N-PROPYLETHER WAS EVALUATED AS A REPLACEMENT FOR DIOXANE. THE NHC PRODUCED WITH THIS CHEMICAL MET SPECS BUT EXCESSIVE GASSING OCCURED WHEN IT WAS USED IN THE VIPER PROPELLANT COMPOSITION. FURTHER PURIFICATION OF THE NHC WOULD BE REQUIRED.	2,000.0	347.0	541.0	SEP 78	SEP 78
R 77 3135	PROCESS DEVELOPMENT FOR CARBORANE MANUFACTURE ALL THE MAJOR EQUIPMENT REQUIRED HAS BEEN ORDERED. DELIVERY OF THE INCINERATOR AND WASTE DISPOSAL SYSTEM DELIVERIES WERE DELAYED. MINOR CHANGES WERE REQUIRED BY THE PENN STATE DEPT OF ENVIRONMENTAL RESOURCES.	2,000.0	2,000.0	0.0	SEP 78	OCT 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 78 3136	IMP. MANUFACTURING PROCESSES FOR COMPLIANT BEARING GYROS THIS EFFORT WILL DEVELOP IMPROVED PROCEDURES FOR FABRICATING COMPLIANT BEARING GYROS. A PROCUREMENT PACKAGE HAS BEEN DEVELOPED. PROBLEMS WERE ENCOUNTERED WITH AR 5-5.	450.0	0.0	20.0	DEC 79	DEC 79
R 77 3138	*ACCOUSTICAL HOLOGRAPHIC PASSIVE NOT-CERAMIC RADOME PROJECT COMPLETED. THE FAB. OF THE ACOUSTICAL IMAGINING SYSTEM SCANNER CONTROL AND PROCESSING UNIT WAS COMPLETED. THE HOLOSCAL 200 SYSTEM WAS MODIFIED TO PROVIDE B-SCAN CAPABILITIES. ALSO, 3-D PACKAGE WAS DESIGNED AND FAB.	90.0	45.0	45.0	NOV 77	AUG 78
R 78 3140	IMP MANUFACTURING PROCESSES FOR SILICON VIDICONS ONE OF THE MM+T SILICON TARGET VIDICONS MADE BY RDA WAS INSTALLED IN THE ADVANCED TELEVISION SEEKER FOR THE HELLFIRE MISSILE. MARTIN MARIETTA WILL MAKE THE EVALUATION. SIX TUBES ARE BEING EVALUATED BY NIGHT VISION LABS (NVL).	149.0	8.0	102.0	MAR 78	SEP 78
3 76 3141	FLUIDICS MANUFACTURING AND ASSEMBLY PROCESSIS ON INSPECTION OF THE SUPPLY PRESSURE DROPPING ORIFICES SHOWED OUT OF TOLERANCE BY AS MUCH AS 75%. BOND QUALITY IS DEPENDENT ON THE PERCENTAGE OF LCN IN THE FINAL DEOXIDIZING STEP. WITH PRESENT PROCESS A 50% YIELD CAN BE EXPECTED.	270.0	208.2	30.0	JUN 77	SEP 78
R 77 3145	*COMPUTER AIDED SPECKLE HOLOGRAPHIC COMP VOID DET SYS(CAM) THIS PROJECT IS COMPLETE. THE FINAL REPORT HAS BEEN PUBLISHED. THE RESULTING SYSTEM HAS THE CAPABILITY OF ANALYZING SPECKLE INTERFEROGRAMS OF FLAWED CYLINDERS.	150.0	75.0	75.0	OCT 78	AUG 78
3 76 3147	ADDITIVE PROCESSES FOR FABRICATION OF PRINT CIRCUIT BOARDS ACCOMPLISHMENTS WERE NOT UPDATED FROM LAST REPORT PERIOD.	500.0	337.3	0.0	JUN 77	JUN 78
R 78 3147	ADDITIVE PROCESSES FOR FABRICATION OF PRINT CIRCUIT BOARDS TWO FORMS OF THIN CLADS AND THREE TYPES OF BARE BOARDS WERE SHOWN TO MEET ALL PHYSICAL TESTS REQUIRED. ALL OBJECTIVES OF THE TECHNICAL REQUIREMENTS HAVE BEEN MET. THE INDUSTRY-WIDE DEMONSTRATION ON 25-26 OCT 78 WILL CONCLUDE THE EFFORT.	250.0	171.1	0.0	JUN 78	OCT 78
R 78 3150	DEVEL METHOD FOR UTILIZING UV CURED CONFORMAL COATINGS THE PROCUREMENT PACKAGE REACHED PURCHASING 1 JUNE 77.	126.0	0.0	0.0	SEP 78	AUG 78
R 77 3160	PROD CLEANLINESS CRITERIA AND PROCESSES FOR PRINT WIRING BRD A CONTRACT WAS AWARDED TO MARTIN MARIETTA CORP. ON 24 APRIL 78 AND NO WORK WAS REPORTED. THE TASKS ARE TO IDENTIFY CONTAMINANTS FOUND ON PRODUCTION BOARDS, DEVELOP METHODS TO REMOVE THEM, AND DEVISE TESTS TO DETERMINE LEVELS OF RESIDUAL CONTAMINANTS.	150.0	156.7	0.0	SEP 78	MAR 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 77 3165	PRODN PROCESS + TECHNIQUES FOR SEALING HYBRID MIC-CIR PACK THE PHASE I EFFORT (INDUSTRY SURVEY) IS COMPLETE, A CONTRACT WAS LET FOR THE FINE LEAK TESTER, A CONTRACT FOR THE ENCLOSURES IS IN PROCESS, THE GROSS LEAK TESTER WAS FABRICATED, CAROUSEL AND OVEN DESIGNS WERE COMPLETED.	210.0	0.0	189.0	SEP 79	JAN 79
R 78 3165	PRODN PROCESS + TECHNIQUES FOR SEALING HYBRID MIC-CIR PACK THE PURPOSE OF THIS PROJECT IS TO IMPROVE THE YIELD AND PRODUCTION RATE OF HYBRID MICROELECTRONIC PACKAGE SEALING OPERATIONS.	220.0	9.5	0.0	NOV 79	NOV 79
R 78 3167	PROD CONTROLS TO PREVENT PLATED-THROUGH HOLE CRACKING THE CONTRACT HAS NOT YET BEEN AWARDED, THE WORK WILL ESTABLISH TECHNIQUES FOR PLATING MULTILAYER CIRCUIT BOARDS TO MEET THE THERMAL STRESS REQUIREMENTS OF MIL SPEC MIL-P-55640.	223.0	0.0	20.0	MAR 79	MAR 79
R 77 3168	PRODUCTION OF CIRCUIT BOARD HEAT PIPE HUGHES AIRCRAFT IS STAMPING HEAT PIPE SHELLS, BRAZING METAL WICKS TO THE TUBULAR SHELL, AND WORKING WITH EVACUATION AND PINCHOFF, A 3-WAY VACUUM VALVE CUT EVAC. TIME FROM 15 TO 5 MINUTES, EQUIPMENT WAS BUILT AT HUGHES RATHER THAN PURCHASED, WORK IS OK	172.0	147.1	20.0	SEP 78	SEP 78
R 77 3169	AUTO OPTICAL INSPECTION OF PC BOARDS AND COMPONENTS(CAM) SCI HAS PROCURED A CLOSED CIRCUIT TV SYS AND INTERFACED IT WITH THE COMPUTER IN PREPARATION TO SCAN PRINTED WIRING BOARDS. CHRYSLER WORKS HAS PROGRESSED TO A POINT ALLOWING SIMPLE TASKS, SUCH AS SOLDER BRIDGING, COMP. LEAD DIRECTION TO BE DETECTED.	275.0	268.6	0.0	SEP 78	NOV 78
R 77 3170	REPLACEMENT OF TPH-8156 AND TPH-8159 PROPELLANT LABORATORY SIZE MIXES OF THE REPLACEMENT PROPELLANTS HAVE BEEN SCALED UP TO 300 GALLON MIX SIZE, MECHANICAL PROPERTIES EXCEED, AND BALLISTIC PROPERTIES DUPLICATE, THE PROPERTIES OF THE OLD PROPELLANTS.	185.0	125.0	60.0	SEP 79	SEP 78
R 78 3170	REPLACEMENT OF TPH-8156 AND TPH-8159 PROPELLANT ***** NO WORK ACCOMPLISHMENTS OR FUNDING STATUS RECEIVED BECAUSE REPORT ON 78 EFFORT NOT RECEIVED AS SEPARATE ENTITY *****	190.0	0.0	0.0	SEP 78	SEP 78
R 78 3171	AUTO MONITOR AND CONTROL FOR WAVE SOLDERING MACHINES A CONTRACTOR WILL DEVELOP AN AUTOMATIC CONTROLLER FOR A WAVE SOLDERING MACHINE, IT WILL CONTROL ALL VARIABLES WITHIN PRESET LIMITS, THE WORK SHOULD HAVE SUBSTANTIAL COMMERCIAL INTEREST.	454.0	0.0	20.0	SEP 80	SEP 80
R 77 3183	IMPROVED PROCESSES FOR INERTIAL GRADE Q-FLEX ACCELEROMETER FINAL QUARTZ ACCELEROMETER CONFIGURATION IS SET, IT USES THE MOST COST EFFECTIVE COMBINATION OF PROCESSES DEVELOPED BY SUNDSTRAND TO IMPROVE BIAS STABILITY, SCREENING TESTS ON PILOT RUN WERE COMPLETED, BIAS PERFORMANCE TEST AND ANALYSIS ARE IN PROCES	165.0	114.4	9.3	DEC 78	JUL 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 78 3183	IMPROVED PROCESSES FOR INERTIAL GRADE Q-FLEX ACCELEROMETER A CONTRACT IS BEING NEGOTIATED WITH SUNDSTRAND, IT IS EXPECTED TO BE SIGNED BY 15 AUG 1978, THE CONTRACTOR WILL FOLLOW THE PRODUCTION METHODS SPECIFIED BY THE FY77 CONTRACT AT SUNDSTRAND.	185.0	0.0	0.0	JUL 80	JUL 80
R 77 3188	*INFRARED IMAGING SEEKERS FOR THERMAL HOMING MISSILES TEXAS INSTRUMENTS MADE A STUDY OF DIFFERENT MATERIALS AND PRODUCTION METHODS FOR LOW COST INFRARED SEEKER HEADS, WILL INCLUDE DIAMOND TURNED AND ASPHERIC LENSES, AND AUTOMATIC METHODS FOR BUILDING AND ALIGNING THE DETECTOR, OPTICS, AND SCANNER.	450.0	446.4	3.6	MAR 79	MAR 79
R 78 3188	INFRARED IMAGING SEEKERS FOR TEHRMAL HOMING MISSILES TEXAS INSTRUMENTS STARTED THE SECOND HALF OF ITS WORK ON SIMPLIFYING THE MANUFACTURE OF THE HELLFIRE SEEKER, 301 REPORT *DOES NOT ADEQUATELY DESCRIBE TI'S WORK OR PROGRESS.*	500.0	450.0	5.0	MAR 79	MAR 79
R 78 3204	INTERNAL SHEAR FORGING PROCESSES FOR MISSILE PRIME STRUCT A PROCUREMENT PACKAGE HAS BEEN FINALIZED AND A CONTRACT IS EXPECTED TO BE AWARDED DURING SEP 1978.	350.0	275.0	0.0	OCT 80	OCT 80
R 77 3217	AUTOMATED PROD. OF TRAVELING WAVE TUBES LITTON SUCCESSFULLY COMPLETED THE 6 MONTH BASIC CONTRACT, THEY FABRICATED A RING LOOP TWT WHICH MET PATRIOT PERFORMANCE SPECIFICATIONS, A SCALED DOWN PILOT LINE WILL BE BUILT, TEN TUBES WILL BE BUILT.	498.0	316.8	25.0	FEB 79	MAR 80
R 78 3218	REDUCE THE FINISHING COST OF FUSED SILICA RADOMES PROCUREMENT ACTIVITIES AND FABRICATION OF KILN AND CASTING FACILITY HAS BEEN COMPLETED, THREE PLASTER MOLDS HAVE BEEN POURED AND ONE SILICA RADOME WAS CAST, PROCESSING PARAMETERS OF IMPORTANCE ARE RELATIVE DRYNESS OF THE MOLD AND MANDRAL REMOVAL.	312.7	12.7	56.4	OCT 79	OCT 79
3 76 3224	*MM+T PROGRAM ON SCREENING OF ELECTRONIC COMPONENTS THE MOISTURE ANALYSIS TEST(MIL-STD-883 METHOD 1008) HAS BEEN IMPLEMENTED IN MIL-STD-883 METHOD 5004 AND 5008 FOR MICROCIRCUITS AND HYBRID MICROCIRCUITS RESPECTIVELY, MOBILE ION DETECTION TESTS AND NITRIDE STABILITY TEST WILL BE IMPLE IN LSI DESIGNS.	224.4	224.4	0.0	MAY 77	AUG 78
3 76 3225	PROD METH FOR MOUNTING NON-AXIAL LEAD COMPONENTS MARTIN MARIETTA DEVELOPED A PANTOGRAPH INSERTION MACHINE FOR APPLYING DIPS AND TO-5 PACKAGES TO PRINTED CIRCUIT BOARDS,BUT IT REQUIRES PACKAGE TO BE INSERTED INTO A CARRIER BY HAND,ANOTHER MACHINE IS NEEDED TO INSERT THE DIP + TO5 INTO THE LUCASERT.	200.0	195.0	1.0	JUL 77	JUN 78
3 76 3227	LOW COST PROD METH FOR HAND HYBRID CHIP W/TAPE CAR LEAD FR SEE SUBTASKS BELOW.	550.0	332.9	20.0	NOV 77	OCT 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 76 3227A	HONEYWELL WORK HONEYWELL HAS COMPLETED WORK ON ADAPTION OF TAPE CARRIER LEAD FRAMES FOR ATTACHMENT OF CHIP COMPONENTS TO THICK FILM HYBRID SUBSTRATES. PROCESS SPECS ARE BEING FINALIZED.	169.9	149.9	20.0		OCT 78
3 76 3227B	DETEX SYSTEMS WORK DETEX SYSTEMS IS PROCEEDING WITH UTILIZATION TECHNIQUES.	33.0	32.0	0.0		OCT 78
3 76 3227C	HONEYWELL MODIFICATION HONEYWELL WILL BUILD SEVERAL TYPES OF MISSILE HYBRID CIRCUITS TO OBTAIN COST AND RELIABILITY DATA.	56.0	55.0	0.0		OCT 78
3 76 3227D	HONEYWELL OPTION HONEYWELL RELEASED PROCESS SPECS ON 8 AREAS	339.6	196.0	0.0		OCT 78
3 7T 3228	*PRODUCTION METHODS FOR EXTRUDABLE HTPB PROPELLANTS ACCOMPLISHMENTS WERE NOT UPDATED FROM LAST REPORT PERIOD.	25.0	0.0	25.0	SEP 78	SEP 78
3 76 3228	*PRODUCTION METHODS FOR EXTRUDABLE HTPB PROPELLANT ACCOMPLISHMENTS WERE NOT UPDATED FROM LAST REPORT PERIOD.	70.0	57.5	11.4	SEP 78	SEP 78
R 78 3228	PRODUCTION METHODS FOR EXTRUDABLE HTPB PROPELLANT VOIDS IN THE PROPELLANT DURING THE BASIC EFFORT WAS DUE TO ENTRAINED AIR SINCE THE INJECTOR CHAMBER WAS NOT EVACUATED. BALLISTIC DATA SHOWS GOOD BATCH-TO-BATCH REPRODUCIBILITY AS WELL AS MOTOR-TO MOTOR REPRODUCIBILITY. BURN RATES EXCEEDED PREDICTIONS	200.0	150.0	8.4	SEP 79	SEP 79
3 7T 3229	*METHODOLOGY FOR PRODUCING LOW COST,DISPOSABLE MANDRELS THE EFFORT IS BEING CONTINUED UNDER R78 3229.	30.0	0.0	30.0	OCT 78	JUN 78
3 76 3229	*METHODOLOGY FOR PRODUCING LOW COST/ DISPOSABLE MANDRELS THE EFFORT IS NOW BEING CONDUCTED UNDER R 78 3229.	153.5	153.5	0.0	OCT 78	OCT 78
R 78 3229	METHODOLOGY FOR PRODUCING LOW COST/ DISPOSABLE MANDRELS PROCESSING EVALUATION OF CANDIDATE MANDREL MATERIALS HAS BEEN COMPLETED. BALLISTIC BATCH CHECK MOTORS WERE LOADED WITH MANDRELS UNDER CONSIDERATION. COST ANALYSIS FOR REUSABLE VS. DISPOSABLE MANDRELS HAS BEEN COMPLETED. THE CONTRACT HAS BEEN CHANGED.	275.0	153.5	22.2	SEP 79	SEP 79
3 76 3230	*MANUFACTURE METHODS FOR HIGH SPEED MACH OF ALUMINUM METHODS AND TECHNOLOGY FOR HIGH-SPEED MACHINING OF ALUMINUM MISSILE STRUCTURES WERE SUCCESSFULLY DEVELOPED BY THIS PROJ AND ARE CURRENTLY SCHED FOR IMPLEMENTATION IN THE PROD OF CRUISE AND GSRS MISSILE SYS AT GENERAL DYNAMICS AND VOUGHT RESPECTIVELY.	242.0	227.0	0.0	NOV 77	AUG 78

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 76 3231	METHODS FOR THE PRODUCTION OF SQUEEZE CASTINGS SQUEEZE CASTINGS FOR TWO COMPONENTS WERE MADE AND THE INFLUENCE OF VARIOUS TOOLING MODIFICATIONS WERE ESTABLISHED. PRELIMINARY PROCESS SPECS WERE DRAWN.	195.2	145.2	0.0	JAN 78	OCT 78
3 77 3232	COMPUTERIZED PRODUCTION PROCESS PLANNING THE FINAL PROGRAM REVIEW FOR CPPP WAS PRESENTED TO GOVERNMENT AND INDUSTRY REPRESENTATIVES. EFFORTS CONTINUED ON THE COST DRIVERS ANALYSIS. THIS SHOULD RESULT IN A COST DRIVERS BASE-LINE AND FORMAT.	275.0	243.1	0.0	JUL 77	AUG 78
R 78 3242	DIGITAL FAULT ISOLATION OF PRINTED CIRCUIT BOARD REQUESTS FOR PROPOSALS WERE MAILED OUT 29 JUNE 78. A CONTRACTOR WILL DEVELOP THE METHODOLOGY FOR ISOLATING FAULTS ON DIGITAL CIRCUIT BOARDS IN A MANUFACTURING ENVIRONMENT.	425.0	0.0	13.4	SEP 79	JUN 80
R 78 3253	HIGH CURRENT DENSITY CATHODES SPERRY UNIVAC RECEIVED A COST PLUS FIXED FEE CONTRACT ON 7 JULY 78. SPERRY WILL WORK ON PROCESSES FOR MAKING THIN FILM FIELD EMISSION CATHODES FOR ELECTRON TUBES. TUBES ARE FOR MISSLE GUIDANCE AND RADAR.	160.0	125.8	5.0	JUN 80	JUN 80
R 78 3254	SEMI-FLEXIBLE THIN FILM SEMICONDUCTORS A PROCUREMENT PACKAGE IS BEING ASSEMBLED. A CONTRACTOR WILL USE OR DEVELOP A COMPUTER CONTROLLED VACUUM METALLIZATION SYSTEM TO DEPOSIT THIN FILM TRANSISTORS AND CONDUCTORS. ONLY FIRMS HAVING/BUYING THE VACUUM EQUIPMENT SHOULD BE CONSIDERED.	400.0	0.0	0.0	JUN 79	JUN 79
R 78 3268	AUTOMATIC CONTROL OF PLATING THIS PROJECT WILL OPTIMIZE THE ELECTROPLATING PROCESS USED IN MANUFACTURE OF PRINTED WIRING BOARDS BY COMPUTER CONTROL OF THE PROCESS.	450.0	396.0	54.0	OCT 79	SEP 79
3 77 3287	PRODUCTION METHODS FOR LOW COST STRIP LAMINATE MOTOR CASES PHASE 4, THE APPLICATION OF REALISTIC NDT METHODS FOR SCREENING CRITICAL DEFECTS, IS NEARING COMPLETION. COMPLETION OF THIS PHASE WILL TERMINATE THIS PROJECT.	275.0	220.0	55.0	DEC 78	MAY 79
R 78 3372	MANUFACTURING METH. FOR MAGNETIC COMPONENTS A CONTRACT FOR THIS EFFORT IS BEING NEGOTIATED. THE OBJECTIVE OF THIS PROJECT IS TO PROVIDE THE MANUFACTURING TECHNIQUES FOR ELECTROMAGNETIC DEVICES OF SIGNIFICANTLY REDUCED SIZE AND WEIGHT AT A REDUCED COST.	410.0	0.0	0.0	OCT 79	OCT 79
R 78 3376	TESTING ELECTRO-OPTICAL COMPONENTS AND SUBSYSTEMS THE PROCUREMENT PACKAGE HAS BEEN FINALIZED AND THE CONTRACT IS SCHEDULED TO BE AWARDED BY 30 DEC 1978.	375.0	325.0	10.0	DEC 80	DEC 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

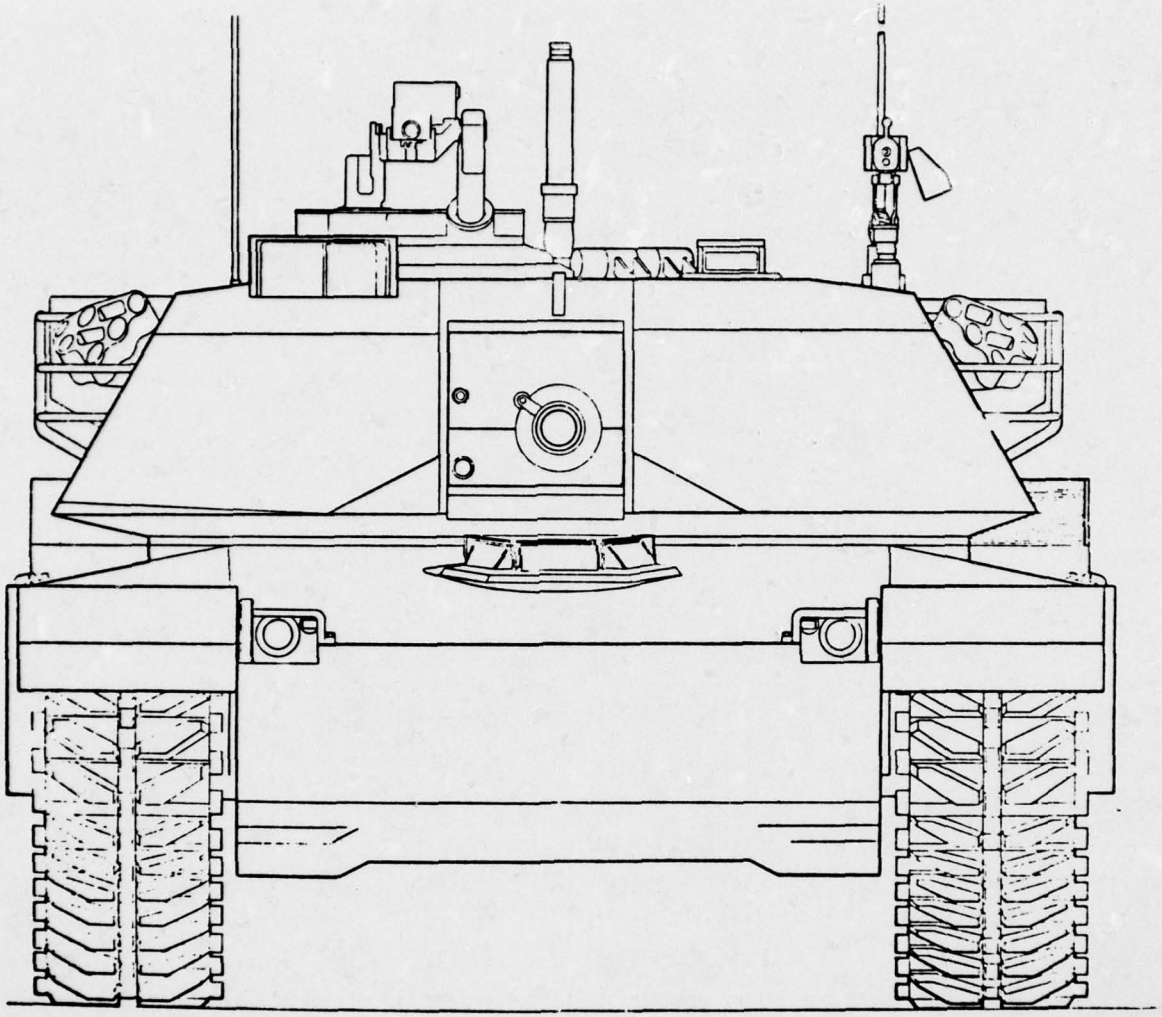
PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
R 78 3436	DEVELOPMENT OF CERAMIC CIRCUIT BOARDS AND LARGE AREA HYBRIDS THE MAJOR OBJECTIVES ARE TO IMPROVE COMPONENT DENSITY AND REDUCE COSTS BY MEANS OF LARGE AREA HYBRIDS AND CERAMIC CIRCUIT BOARDS. CONTRACT AWARD IS EXPECTED BY 30 SEPT 78.	325.0	0.0	0.0	DEC 79	DEC 79
R 78 3440	PRODUCTION TESTING OF CONTROL SYSTEMS FOR GUIDED WEAPONS THE TECHNICAL REQUIREMENTS HAVE BEEN ESTABLISHED AND THE PROCUREMENT PACKAGE IS IN THE PROCESS OF BEING PREPARED. THE CONTRACT IS SCHEDULED TO BE AWARDED IN OCT 1978.	550.0	0.0	0.0	APR 80	MAR 80
R 78 3441	APPLICATION OF HIGH ENERGY LASER MANUFACTURING PROCESSES MODIFICATIONS REQUIRED TO LASER WELD MISSILE CONTAINERS ARE ALMOST COMPLETE. WELDING TESTS HAVE BEEN INITIATED.	490.0	140.0	228.0	SEP 79	SEP 79
R 77 3452	*LOW COST QUANTITY PRODUCTION TECHNIQUES FOR LASER SEEKERS THE CONTRACTOR MADE A FORMAL PHASE I PRESENTATION INCLUDING PHASE I MM T PROCESS ANALYSES, MANUFACTURING FACILITIES, ASSEMBLY AND TEST PLANS, AND A DEDICATED ASSEMBLY AREA DESIGN. THE PHASE I INTERIM REPORT WAS APPROVED.	1,000.0	910.0	90.0	SEP 79	AUG 78
R 78 3452	LOW COST QUANTITY PRODUCTION TECHNIQUE FOR LASER SEEKERS MARTIN MARIETTA WILL PRODUCTION ENGINEER AND TOOL THE ALTERNATE HELLFIRE SEEKER HEAD AND THE COPPERHEAD ELECTRONICS PACKAGES. ALIGNMENT FIXTURING WAS DEVELOPED FOR THE SEEKER HEAD GIMBAL. TEST EQUIPMENT WAS BUILT AND CERTIFIED.	3,000.0	2,990.0	0.0	AUG 79	OCT 79
R 78 3453	GROUND LASER LOCATOR DESIGNATOR PRODUCTION IMPROVEMENTS A CONTRACTOR WILL BE SELECTED TO PRODUCTION ENGINEER A LASER DESIGNATOR FOR CLGP. HE WILL DEVELOP PRODUCTION PROCESSES AND PROCEDURES FOR THE ELECTRONICS SECTION.	211.0	0.0	0.0	DEC 80	DEC 80
R 78 3454	LO COST - HI VOLUME RADIOGRAPHIC INSPECTION THE PROCUREMENT PACKAGE WAS FINALIZED AND THE CONTRACT IS SCHEDULED TO BE AWARDED 30 AUGUST 1978.	200.0	0.0	0.0	FEB 80	FEB 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 76 3115	ENGINEERING FOR METROLOGY AND CALIBRATION SEE PROJECT 3 78 3115 FOR STATUS.	557.0	369.0	200.0	SEP 77	DEC 79
3 77 3115	ENGINEERING FOR METROLOGY AND CALIBRATION SEE PROJECT 3 78 3115 FOR STATUS.	594.0	388.0	250.0	SEP 78	MAR 79
3 78 3115	ENGINEERING FOR METROLOGY AND CALIBRATION SEE INDIVIDUAL SUBTASK BELOW FOR STATUS	681.0	234.0	27.0	SEP 79	SEP 79
3 78 3115A	JOSEPHSON EFFECT VOLTAGE STANDARD A PROTOTYPE SYSTEM WAS COMPLETED AND SUBSEQUENTLY DEMONSTRATED, THE CONTRACT FOR PURCHASING FOUR UNITS HAS BEEN FINALIZED AND THE FABRICATION OF THESE UNITS IS UNDERWAY, DELIVERY IS SCHEDULED FOR THE 1ST QUARTER FY 79.	0.0	0.0	0.0		SEP 79
3 78 3115C	LOW FREQUENCY RMS VOLTMETER THE CONSTRUCTION OF THE PROTOTYPE HARDWARE HAS BEEN COMPLETED, A SPECIAL WAVEFORM GENERATOR WAS CALIBRATED AND USED TO TEST THIS VOLTMETER. THE TEST RESULTS INDICATED A MAXIMUM ERROR OF =0.09% FOR THE RMS WELL WITHING THE MEASUREMENT UNCERTAINTY.	0.0	0.0	0.0		SEP 78
3 78 3115D	AUTOMATIC AC/DC THERMAL VOLTAGE MEASUREMENT SYSTEM A SEMI=AUTOMATIC SYSTEM HAS BEEN DEVELOPED UTILIZING A 16 BIT MINICOMPUTER, MIDAS INTERFACE MODULES, LOW THERMAL SWITCHING, A DIGITAL LINEAR AMPLIFIER AND NBS DEVELOPED THERMOELEMENT COMPARATOR.	0.0	0.0	0.0		JAN 79
3 78 3115E1	PRESSURE TRANSDUCER SYSTEMS HVD, PRESSURE STD,= ALL WORK ON A DIELECTRIC TRANSDUCER HAS BEEN HALTED, AN EVALUATION OF LOWER PRESSURE TRANSDUCER HAS SHOWN THE FORCE BALANCE QUARTZ BOURDON TUBE PRINCIPLE, A PROTOTYPE INSTRUMENT IS BEING PURCHASED FOR TESTING.	0.0	0.0	0.0		JUN 80
3 78 3115E2	PRESSURE TRANSDUCER SYSTEMS PNEUMATIC PRESSURE STD=TOW PROTOTYPE INSTR, HAVE BEEN DEVELOPED AND ARE AVALIABLEFOR EVALUATION, ONE PROTOTYPE HAS CAPABILITY TO MEASURE BAROMETRIC PRESSURE,ALT,AND ALT, RATE OF CHAGE(ROC) AND PRESSURE UP TO 250PSIA, THE OTHER DOES NOT MEASURE ROC.	0.0	0.0	0.0		SEP 80
3 78 3115F	MICROPROCESSOR TECHNOLOGY APPLY STATE=OF=THE ART MICROPROCESSOR TECH TO ARMY CALIBRATION PROGRAM, FLOATING POINT MATH ROUTINES(24 BIT)HAVE BEEN PERFECTED, THE EXORCISER HAS BEEN RECEIVED, A HIGH SPEED TERMINAL AND HIGHER LEVEL LANGUAGE FOR PROGRAMMING IS BEING PURSUED.	0.0	0.0	0.0		JUN 80

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
3 78 3115G	REPEATABILITY STUDY OF LOW FLOW TURBINE METERS EVALUATE 3/8 INCH TURBINE FLOWMETERS REPEATABILITY IN JP-4 OR MIL-F-7024B(RANGE 0.001-0.5GPM). THE EVALUATION OF 12 FLOWMETERS IS APPROXIMATELY ONE-THIRD COMPLETE. THIS EVALUATION WILL BE COMPLETED DURING THE NEXT 6 MONTHS.	0.0	0.0	0.0		DEC 78
3 78 3115H	MODULAR EQUIPMENT CONFIGURATION FOR CALIBRATION + ANALYSIS THE ROTEK MODEL 600/650 CALBRATOR AND AMPLIFIER HAS BEEN TESTED SUCCESSFULLY FOR LONG TERM STABILITY AND IS CURRENTLY BEING TESTED FOR PRODUCTIVITY CAPABILITIES. THE 4TH QTR, 1979 DELIVERY OF THE NAVY SIGNAL GEN. WILL DELAY THE PROJECT COMPLETION.	0.0	0.0	0.0		SEP 79
3 78 3115I	INSTRUMENT CONTROLLER SYSTEM ALL EQUIP. HAS BEEN RECEIVED EXCEPT THE CRT TERMINALS. THE LIMITED USE OF THE SYSTEM HAS DEMONSTATED THAT THE CONCEPT OF USING A TIME-SHARED INSTR. CONTROLLER TO CONTROL PROGRAMMABLE INSTR. VIA THE IEEE-48 ISAFEASIBLE AND PRACTICAL ALTERNATIVE.	0.0	0.0	0.0		SEP 78
3 78 3115J	ELECTRO-OPTICAL (E-O) AND LASER SYSTEM STANDARDS EFFORT WAS INITIATED TO ACQUIRE A MEASUREMENT CAPABILITY IN THE 8-14 MICROMETER(VM)INFRARED SPECTRAL REGION WITH EMPHASIS ON 10.6 UM(CO2 LASER). THE DATA REDUCTION USING AN ON-LINE COMPUTER FOR LOW LEVEL-LUMINOUS STANDARD DATA REDUCTION WAS COMPLETED	0.0	0.0	0.0		SEP 78
3 78 3115K	MODERN ELECTRO OPTICAL TECHNOLOGY NBS DELIVERED A HIGH ACCURACY RADIOMETER AND A LASER STABILIZER TO USAMC. ALL THE PLANNED FY77 GOALS WERE ACCOMPLISHED.	0.0	0.0	0.0		SEP 78
3 78 3115L	INTERLAB COMPARISONS OF ELECTRO OPTICAL STANDARDS SEE SUBTASK J FOR STATUS.	0.0	0.0	0.0		SEP 78
3 78 3115M	RF AND MW MEASUREMENTS STANDARDS NBS FABRICATED A STRUDY HOUDING FOR THE SIX PORT DEVICE. A NEW 7MM AIRLINE IS BEING USED AS THE REFERENCE PLANES. THE CALIBRATION AND MEASUREMENT PROGRAM ARE NOW ON FLOPPY DISK. A NEW CALIB. TECH HAS BEEN DEVISED THAT EXPLOITS SIX-PORT REDUNDANCY.	0.0	0.0	0.0		SEP 78
3 78 3115O	TURBINE FLOWMETER DATA HANDLING UNIT THE PROJECT SCOPE OF WORK HAS BEEN PREPARED AND THE PROCUREMENT ACTION HAS BEEN INITIATED.	0.0	0.0	0.0		SEP 79
3 78 3115P	DYNAMIC MEASUREMENT AND STIMULI IDENTIFY ARMY TEST EQUIPL TO CALIBRATE HIGH SPEED ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG, NBS INITIATED DESIGN, FAB,, AND TEST WORK ON NUMEROUS ITEMS INCLUDING	0.0	0.0	0.0		SEP 78



TANK-AUTOMOTIVE R&D COMMAND
(TARADCOM)

TANK-AUTOMOTIVE MATERIEL READINESS COMMAND
(TARCOM)

TANK-AUTO R&D COMMAND AND TANK-AUTO MATERIEL READINESS COMMAND

CURRENT FUNDING STATUS, 1ST FY78

FISCAL YEAR	NO. OF PROJECTS	AUTHORIZED FUNDS ($)	CONTRACT FUNDING ALLOCATED ($)	CONTRACT FUNDING EXPENDED ($)	INHOUSE FUNDING ALLOCATED ($)	INHOUSE FUNDING EXPENDED ($)
74	1	690,000	188,600	188,600 (100%)	501,400	491,400 (98%)
75	3	370,000	98,000	8,000 (8%)	272,000	272,000 (100%)
76	4	675,000	185,800	34,000 (18%)	489,200	289,100 (59%)
77	0	0	0	0 (0%)	0	0 (0%)
77	8	1,901,000	1,024,400	321,500 (31%)	876,600	423,000 (48%)
78	11	2,235,000	220,000	20,000 (9%)	2,015,000	29,900 (1%)
TOTAL	27	5,871,000	1,716,800	572,100 (33%)	4,154,200	1,505,400 (36%)

AUTHORIZED FUNDING CONTRACT ALLOCATED 29% INHOUSE ALLOCATED 70%

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 78 4264	TRACK INSERTS AND FILLERS FOR TRACK RUBBER PADS A TEST PLAN HAS BEEN DEVELOPED, A PURCHASE REQUEST HAS BEEN DISTRIBUTED TO THE APPROPRIATE INDUSTRIES FOR BIDDING ON THE FABRICATION OF SAMPLE PADS.	200.0	60.0	13.5	AUG 78	OCT 80
A 75 4330	FABRICATION OF ARMORED VEHICLES BY ELECTRON BEAM WELDING GRUMMAN AEROSPACE COMPLETED FABRICATION OF THE SIMULATED M113 HULL. THE FINAL REPORT HAS BEEN DISTRIBUTED.	100.0	90.0	10.0	NOV 75	JUN 78
A 76 4330	FABRICATION OF ARMORED VEHICLES BY ELECTRON BEAM WELDING GRUMMANS AEROSPACE HAS COMPLETED FABRICATION OF THE SIMULATED M113 HULL AND DELIVERED IT TO TARADCOM. THE FINAL REPORT WAS DISTRIBUTED.	100.0	58.8	38.1	JUL 77	JUN 78
A 75 4391	*ISOTHERM HEAT TREAT F/HIGH STRENGTH DUCTILE IRON CAST-PH 2 ALL WORK COMPLETED, THE DURABILITY OF THE AUSTEMPERED CAST DUCTILE IRON COMPONENTS ARE INFERIOR TO STANDARD FORGED COMPONENTS, THE CAST COMPONENTS ARE NOT RECOMMENDED FOR LOW TEMPERATURE APPLICATION.	150.0	8.0	142.0	JUN 76	JUN 78
A 76 4392	JOINING DISSIMILAR METALS-PHASE 2- WELD SPECIMENS ARE BEING WELDED AND SHOULD BE COMPLETED IN AUGUST.	125.0	0.0	77.0	SEP 77	MAR 79
A 76 4395	*IMPROVED SEATS FOR MILITARY VEHICLES ALL DATA WAS EVALUATED AND THE FINAL REPORT WAS PREPARED, D AND CONTRUCTED, AND ASSEMBLY IS PARTIALLY COMPLETE. ELECTRONIC CO	125.0	0.0	115.0	APR 78	JUN 78
A 75 4512	*AUTOMATED WELDING OF HULL STRUCTURES- MORE THAN ONE AXIS ALL WORK IS COMPLETED, A FINAL REPORT IS BEING COMPLETED BY TARADCOM. AN AUTOMATIC GAS METAL ARC WELDING MACHINE USING STANDARD COMPONENTRY WAS DESIGNED AND FABRICATED, AN EDDY CURRENT SENSING PROBE WAS COUPLED TO A MINICOMPUTER TO DIRECT THE EQUIP.	120.0	0.0	120.0	AUG 76	JUL 78
A 74 4548	*PROC ESR STEEL F/IMPROVED HOMOGENEOUS ARMOR-PH 1 + 2 ALL WORK COMPLETED, A FINAL REPORT IS BEING PREPARED, TECHNIQUES TO PRODUCE IMPROVED ESR ARMOR HAVE BEEN DEVELOPED.	690.0	188.6	491.4	FEB 75	JUN 78
T 77 4557	PROD METHOD FOR HI EFFICIENCY JOINING OF ESR ARMOR-PHASE 2 THE TEST M-PLATES HAVE BEEN WELDED AND SHIPPED TO APG FOR FIRING, FIRING IS SCHEDULED FOR SEPTEMBER.	150.0	0.0	111.0	DEC 78	AUG 78
A 76 4563	ROTATIONAL MOLDING OF LARGE CAPACITY FUEL TANKS. CONTRACT WAS AWARDED, MOLDS AND INSERTS WERE COMPLETED FOR THE M551 TANK, AND PRODUCTION WAS INITIATED, TOOLING FOR THE MOLDS FOR THE M88 FUEL TANKS IS IN PROGRESS, COST ANALYSIS FOR CURRENT FUEL TANKS IS ALSO IN PROGRESS.	325.0	127.0	59.0	APR 76	SEP 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 78 4575	LASER WELDING TECHNIQUES FOR MILITARY VEHICLES(PHASE I) PROCUREMENT ACTION HAS BEEN INITIATED.	175.0	0.0	0.0	MAY 79	MAY 79
T 77 4589	METRICATION A TARCOM/TARADCOM METRIC CHANGEOVER PLAN IS BEING REVISED. THE WORK ON THE METRICATION MANUAL WAS DISCONTINUED DUE TO LACK OF FUNDS. THE PROGRESS OF INDUSTRY'S CHANGEOVER IS CONTINUING TO BE ACTIVELY MONITORED.	271.0	166.8	74.0	MAY 78	SEP 78
T 77 5014	IMPROVED FOUNDRY CASTINGS UTILIZING CAM RFP HAS BEEN ISSUED.	250.0	0.0	36.0	SEP 79	NOV 79
T 78 5014	IMPROVED FOUNDRY CASTING UTILIZING CAM RFP HAS BEEN ISSUED.	225.0	0.0	0.0	JAN 81	JAN 81
T 77 5017	AUTO GAS METAL ARC WELDING OF ALUMINUM HULL STRUCTURE WELDING PARAMETER DEVELOPMENT IS PRESENTLY UNDERWAY. THE SCHEDULE WAS REVISED. A PERMANENT PROJECT ENGINEER WILL BE ASSIGNED TO THE PROJECT.	100.0	0.0	33.0	AUG 79	SEP 80
T 78 5017	AUTO GAS METAL ARC WELDING OF ALUMINUM HULL STRUCTURE WELDING PARAMETERS ARE BEING DEVELOPED.	100.0	0.0	0.0	SEP 78	SEP 80
4 77 5019	MAINTENANCE FREE STORAGE BATTERY-PH 1 COMPONENT PARTS OF THE BATTERY HAVE BEEN FABRICATED AND TESTED SUCCESSFULLY. ASSEMBLY OF THE BATTERIES IS IN PROGRESS.	140.0	75.5	43.0	OCT 78	AUG 78
4 78 5019	PLASTIC CONTAINER FOR LOW MAINTENANCE DRY CHARGED BATTERY PREPARATIONS ARE BEING MADE FOR TESTING BATTERY COMPONENTS AND ASSEMBLED BATTERIES RESULTING FROM PHASE 1 (4-77-5019) OF THE PROGRAM.	160.0	0.0	3.0	JUL 78	SEP 79
T 78 5024	CAM GEAR DIE DESIGN AND MANUFACTURING PHASE I. THE PROCUREMENT REQUEST IS BEING PREPARED.	200.0	0.0	1.0	JUN 80	JUN 80
T 78 5062	PRODUCTION OF ARMORED VEHICLE VISION BLOCKS TARADCOM AND AMMRC SET THE THREAT LEVEL FOR MISSION BLOCKS IN ARMORED VEHICLES. THEY ALSO SELECTED THE BEST COMBINATION OF TRANSPARENCIES FOR THIS BALLISTIC THREAT. HARD GLASS, POLYCARBONATE,SAPPHIRE AND ANNEALED GLASS WERE CONSIDERED.	130.0	110.0	4.7	SEP 79	SEP 79
T 78 5064	LIGHT WEIGHT SADDLE TANK PROCUREMENT PACKAGE HAS BEEN COMPLETED, AND SUBMITTED TO PROCUREMENT FOR EXECUTION.	90.0	50.0	5.0	JUL 78	AUG 79

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
SUMMARY PROJECT STATUS REPORT
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
T 77 5083	UPSCALING OF ADVANCED POWDER METALLURGY PROCESSES A DIE FOR ISOTHERMALLY FORGING TEST COUPONS HAS BEEN ASSEMBLED.	215.0	140.0	66.0	MAY 79	MAY 79
T 78 5083	UPSCALING OF ADVANCED POWDER METALLURGY PROCESSES A PROCUREMENT REQUEST WAS PREPARED AND SUBMITTED TO PROCUREMENT FOR ACTION.	325.0	0.0	1.5	MAR 79	MAR 79
T 77 5085	PRODUCTION TECHNIQUES F/FABRICATION OF TURBINE RECUPERATOR A CONTRACT HAS BEEN AWARDED TO AVCO LYCOMING, A PROTOTYPE WELD STATION HAS BEEN DESIGNED AND ASSEMBLED. PROBLEMS IN PROGRAMMING WELDING PATH FOR THE LASER HAVE RESULTED IN A 5 MONTH DELAY.	400.0	300.0	30.0	NOV 78	JAN 79
T 78 5085	PRODUCTION TECHNIQUES FOR FABRICATION OF TURBINE RECUPERATOR SEE STATUS FOR T 77 5085.	380.0	0.0	1.0	JAN 80	JAN 80
T 77 5097	INTEGRALLY CAST LOW COST COMPRESSOR A CONTRACT WAS LET, INITIAL REDESIGN OF THE IMPELLER WAS BEGUN.	375.0	324.1	30.0	JUN 79	JUN 79
T 78 5097	INTEGRALLY CAST LOW COST COMPRESSOR (PHASE II) PROCUREMENT REQUEST WAS COMPLETED.	250.0	0.0	0.2	JUN 80	JUN 80

APPENDICES

APPENDIX I: Command Identification

APPENDIX I: ARMY ACTION COMMAND/ACTIVITY IDENTIFICATION

Action Command	Acronym	First Digit of MMT Project Number
Materiel Development & Readiness Command	DARCOM	D
Test & Evaluation Command	TECOM	0
Aviation R&D Command	AVRADCOM	1
Communications R&D Command	CORADCOM	F
Electronics R&D Command	ERADCOM	H
Communications & Electronics Command	CERCOM	2
Missile R&D Command	MIRADCOM	R
Missile MR Command	MIRCOM	3
Tank-Automotive R&D Command	TARADCOM	T
Tank-Automotive MR Command	TARCOM	4
Armament R&D Command (Munitions)	ARRADCOM (Ammo)	8
Armament MR Command (Munitions)	ARRCOM (Ammo)	5
Armament R&D Command (Weapons)	ARRADCOM (Wpns)	9
Armament MR Command (Weapons)	ARRCOM (Wpns)	6
Mobility Equipment R&D Command	MERADCOM	E
Army Materials and Mechanics Research Center	AMMRC	M
Natick R&D Command	NARADCOM	Q

NOTE: Abbreviation: R&D Research and Development
MR Materiel Readiness

APENDIX II: User's Guide

MANUFACTURING METHODS AND TECHNOLOGY PROGRAM
S U M M A R Y P R O J E C T S T A T U S R E P O R T
1ST SEMIANNUAL SUBMISSION CY 78 RCS DRCMT-301

PROJ NO.	TITLE + STATUS	AUTHORIZED ($000)	CONTRACT VALUES ($000)	EXPENDED LABOR AND MATERIAL ($000)	ORIGINAL PROJECTED COMPLETE DATE	PRESENT PROJECTED COMPLETE DATE
S 78 6774	MFG METHOD FOR APDS PROJECTILE (25MM) INITIATED PRELIM CONTRACT FOR DEVELOPMENT OF 25MM PROJECTILE, S.O.W. DEVELOPED FOR PLASTIC SABOT.	300.0	150.0	38.2	NOV 79	NOV 79
S 77 6777	DEVELOPMENT OF PROD PROC- 105MM XM710E1 PROJECTILE METAL PTS CONTRACTOR HAS SUBMITTED A DRAFT FINAL REPORT.	500.0	49.8	340.9	MAR 78	JUN 78
(1) (2) (3) (4) (5)		(6)	(7)	(8)	(9)	(10)

THIS FORM IS USED FOR SUMMARIZING THE MMT PROGRAM PROJECTS STATUS. USER'S GUIDE BELOW EXPLAINS THE SIGNIFICANCE OF EACH COLUMN HEREIN.

USER'S GUIDE
to
SUMMARY PROJECT STATUS REPORT

COLUMN 1. PROJECT NUMBER

A project is identified by the first and last four digits which corresponds to the project title for the life of its execution. However, for accounting and reporting purposes, a project is recognized by the totality of its seven-digit numeral or alphanumeric number. Example:



Project identifying number, which corresponds to the project title and is designated by action command.

Fiscal year of funding - the only two digits that may vary according to funding frequency (7T for FY transition).

Action command (see list accompanying Introduction).

COLUMN 2. Subtask identifier, if any.

COLUMN 3. Asterisk (*)

When it appears in this column, the star mark signifies that a properly labeled Final Project Status Report, RCS DRCMT-301, was received at IBEA. Such a project may be final for any fiscal year, and will not appear in subsequent Semiannual Report.

COLUMN 4. PROJECT TITLE

The title descriptive of project effort.

COLUMN 5. STATUS

An abstract of project status taken from the RCS DRCMT-301 report. Whenever possible, the technical accomplishments during the reporting period were summarized.

COLUMN 6. AUTHORIZED

The total amount of funds authorized in dollars, to complete the project.

COLUMN 7. CONTRACT VALUES

The portion of authorized funds acutally expended or obligated for work performed by private industry.

COLUMN 8. EXPENDED LABOR AND MATERIAL

The portion of authorized funds actually expended or obligated in-house, manely within the Government.

COLUMN 9. ORIGINAL PROJECTED DATE OF COMPLETE

Calendar date clearly given in, or the nearest calendar month and year as could be read from the Milestone Chart of, the very first Project Status Report, RCS DRCMT-301.

COLUMN 10. PRESENT PROJECTED DATE OF COMPLETE

Calendar date clearly given in, or the nearest calendar month and year as could be read from the Milestone Chart of, the latest Project Status Report, RCS DRCMT-301.

APPENDIX III: Army MMT Program Representatives

ARMY MM&T PROGRAM REPRESENTATIVES

HQ, DARCOM
US Army Materiel Development and Readiness Command
ATTN: DRCMT
5001 Eisenhower Avenue — C: 202 274-8284/8298
Alexandria, VA 22333 — AV: 284-8284/8298

AVRADCOM
US Army Aviation Systems R&D Command
ATTN: DRDAV-EXT, Mr. Robert Vollmer
12th & Spruce Streets — C: 314 268-6476
St. Louis, MO 63166 — AV: 698-6476

CERCOM
US Army Communications & Electronics Materiel Readiness Command
ATTN: DRSEL-LE-R, Mr. Martin Ides — C: 201 532-4752
Ft. Monmouth, NJ 07703 — AV: 992-4752

CORADCOM
US Army Communications R&D Command
ATTN: DRDCO-PPA-TP, Mr. Sam Esposito — C: 201 532-2418
Ft. Monmouth, NJ 07703 — AV: 995-2418

ERADCOM
US Army Electronics R&D Command
ATTN: DELET-DS, Mr. Joseph Key/Bernie Reich — C: 202 394-3330
Fort Monmouth, NJ 07703 — AV: 290-3300/1/2/3/4

MIRADCOM
US Army Missile R&D Command
ATTN: DRDMI-EAT, Mr. Ray Farrison — C: 205 876-1835
Redstone Arsenal, AL 35809 — AV: 746-1835

MIRCOM
US Army Missile Materiel Readiness Command
ATTN: DRSMI-NSS, Mr. Alfred H. James — C: 205 876-3025
Redstone Arsenal, AL 35809 — AV: 746-3025

TARADCOM
US Army Tank-Automotive R&D Command
ATTN: DRDTA-R, COL Warren T. Palmer — C: 313 573-2387/2548
Warren, MI 48090 — AV: 273-2387/2548

TARCOM
US Army Tank-Automotive Materiel Readiness Command
ATTN: DRSTA-EB, Mr. Basel Armstead — C: 313 573-2485
Warren, MI 48090 — AV: 273-2485

ARRCOM
US Army Armament Materiel Readiness Command
ATTN: DRSAR-IRB, Mr. August Zahatko
Rock Island Arsenal — C: 309 794-4485/3730
Rock Island, IL 61299 — AV: 793-4485/3730

ARRADCOM
US Army Armament R&D Command
ATTN: DRDAR-PML, Mr. Donald J. Fischer — C: 201 328-6714
Dover, NJ 07801 — AV: 880-6714

TSARCOM
US Army Troop Support and Aviation Command
ATTN: DRSTS-PLE, Mr. Don G. Doll
4300 Goodfellow Blvd. — C: 314 263-3040
St. Louis, MO 63120 — AV: 693-3040

MERADCOM
US Army Mobility Equipment R&D Command
ATTN: DRDME-U, Mr. S. O. Newman — C: 703 664-4221
Ft. Belvoir, VA 22060 — AV: 354-4221

NARADCOM
US Army Natick R&D Command
ATTN: DRDNA-Z, Mr. Edward F. Levell — C: 617 653-1000, x2793/4
Natick, MA 01760 — AV: 955-2349/2351

TECOM
US Army Test & Evaluation Command
ATTN: DRSTE-ME, Mr. Grover Shelton — C: 301 278-2170/3677
Aberdeen Proving Ground, MD 21005 — AV: 283-2170/3677

AMMRC
US Army Materials & Mechanics Research Center
ATTN: DRXMR-PT, Mr. Raymond Farrow — C: 617 923-3523
Watertown, MA 02172 — AV: 955-3523

HDL
Harry Diamond Laboratories
ATTN: DELHD-PP, Mr. Julius Hoke
2800 Powder Mill Road — C: 202 394-2755/1551
Adelphi, MD 20783 — AV: 290-2755/1551

Rock Island Arsenal
ATTN: SARRI-EN, Mr. Joseph DiBenedetto — C: 309 794-4627
Rock Island, IL 61299 — AV: 793-4627

Watervliet Arsenal
ATTN: SARWV-PPI, Mr. L. A. Jette — C: 518 266-5318
Watervliet, NY 12189 — AV: 794-5318

PM for Ammunition Production Base
Modernization and Expansion
ATTN: DRCPM-PBM-DP, Mr. Darold L. Griffin — C: 201 328-6708
Dover, NJ 07801 — AV: 880-6708

AMRDL
US Army Air Mobility R&D Laboratories
ATTN: SAVDL-TAS, Mr. L. Thomas Mazza — C: 804 878-5732/4304
Ft. Eustis, VA 23604 — AV: 927-5732/4304

IBEA
US Army Industrial Base Engineering Activity
ATTN: DRXIB-MT, Mr. James Carstens — C: 309 794-5113
Rock Island, IL 61299 — AV: 793-5113

DCSRDA
ATTN: DAMA-CSM, Mr. Rod Vawter
Room 3C400, The Pentagon — C: 202 695-0506/07/08
Washington, DC 20310 — AV: 225-0506/07/08

DCSRDA (PA 1497, Aircraft)
ATTN: DAMA-WSA, LTC R. W. Waddell
Room 3B454, The Pentagon — C: 202 695-1362
Washington, DC 20310 — AV: 225-1362

DCSRDA (PA 2597, Missiles)
ATTN: DAMA-WSM-A, LTC Horton
Room 3B485, The Pentagon — C: 202 697-6412
Washington, DC 20310 — AV: 227-6412

DCSRDA (PA 3297, Weapons; PA 3197, Tracked Combat Vehicles)
ATTN: DAMA-WSW, MAJ Gordon Winder
Room 3D455, The Pentagon — C: 202 697-0106
Washington, DC 20310 — AV: 227-0106

DCSRDA (PA 5297, Communications/Electronics)
ATTN: DAMA-CSC-BU, LTC D. L. Chilcote
Room 3D440, The Pentagon — C: 202 695-1881
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PM, STINGER, Attn: DRCPM-MP (MIRADCOM)
PM, TOW-DRAGON, Attn: DRCPM-DT (MIRCOM)
PM, Training Devices, Attn: DRCPM-TND (Orlando, FL)
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PM, VIPER, Attn: DRCPM-VI (MIRADCOM)
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PO, SLUFAE/SLUMINE, Surface Launch Unit Fuel Air Explosive (SLUFAE) Mine Neutralization System/Surface Launched Unit Mine (SLUMINE) Dispensing System, Attn: DRDME-NS (Ft. Belvoir)
PO, Stand-Off Target Acquisition/Attack System (SOTAS), Attn: DRSEL-CT
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3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) MANUFACTURING METHODS & TECHNOLOGY SEMIANNUAL REPORT	5. TYPE OF REPORT & PERIOD COVERED (9) Semiannual Report 1 Jan 78 - 30 Jun 78
	6. PERFORMING ORG. REPORT NUMBER NONE
7. AUTHOR(s) (10) Mr. H. E. Weidner; Ms. L. S. Hancock	8. CONTRACT OR GRANT NUMBER(s) N/A
9. PERFORMING ORGANIZATION NAME AND ADDRESS US Army Industrial Base Engineering Activity ATTN: DRXIB-MT Rock Island, IL 61299 41073	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS N/A
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Industrial Base Engineering Activity ATTN: DRXIB-MT Rock Island, IL 61299	12. REPORT DATE (11) October 1978 13. NUMBER OF PAGES 168
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Materiel Development & Readiness Command ATTN: DRCMT, Office of Manufacturing Technology 5001 Eisenhower Avenue Alexandria, VA 22333	15. SECURITY CLASS. (of this report) UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A

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DISTRIBUTION STATEMENT A
Approved for public release;
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17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

DISTRIBUTION UNLIMITED (12) 158 p.

18. SUPPLEMENTARY NOTES

N/A

(6) Manufacturing Methods and Technology Program Project Status Report, First Half CY78.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Manufacturing Methods and Technology
MMT

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This document is a summary compilation of the MANTECH/MMT Program Project Status Reports (RCS DRCMT-301) submitted to IBEA from DARCOM major subordinate commands and project managers. Each page of the computerized section lists project number, title, status, funding, and projected completion date. Summary pages give information relating to the overall DARCOM program.

78 10 26 010

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