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REPORT R-1869B

SUPPORTING STUDIES
ON
QDRI PROJECT PLAN

APPENDICES A through L
To
Report No. 2 - CONVERSION PROCEDURES FOR AUTOMATION

by

JAMES G. PEIRCE
JERRY J. SEGAL
PASQUALE F. CIPRESSI

October 1967

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REPORT R-1869E

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AMCMS Code 5700.00.00201.02
DA Project 1S750203M613

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AMC QDRI Program Office
FRANKFORD ARSENAL
Philadelphia, Pa. 19137

October 1967

*System Concepts Incorporated (Contract DAAA25-67-C1061).

ABSTRACT

This report is comprised of Appendices A through L of Report R-1869A. The basic report describes the tasks and related efforts necessary to convert the present QDRI program from a clerical operation into an automated information processing system. A description of the QDRI program is presented therein whereby current operations, files, procedures, etc., are contrasted to planned functions. An implementation plan, covering in detail the activities to be accomplished for the establishment of the QDRI Information Processing System, follows the functional description.

These appendices cover the supporting plans which describe data elements, format requirements, project staffing requirements, estimated project costs, and project schedules.

FOREWORD

Report R-1869A and its accompanying appendices, Reports R-1869B and R-1869C, are the result of almost three months of work by the AMC QDRI Data Files Program Action Officer with the timely assistance of the IDEEA Project Engineer and the Chief, Objectives Analysis Office (all representing Frankford Arsenal S&TI management), and the president of System Concepts Incorporated.

All aspects of the QDRI program were discussed and reviewed for the purpose of developing a comprehensive five-year plan for RODATA. This report is, therefore, a cooperative endeavor. SCI recorded the conclusions, organization, and presentation of data in a manner acceptable to all parties involved. The QDRI Program Officer gratefully acknowledges the analysis and detailed extrapolation efforts which SCI contributed to the manpower and funding data.

The report is being published in three sections. Only the main report (Frankford Arsenal Report R-1869A) and the separate section of Appendices (Report R-1869B) are being released to DDC. The third section (Report R-1869C), a collection of Research Task Summaries (DD Form 1498), will be published separately and, at least during FY's 1968 and 1969, will be circulated only within the U.S. Army Materiel Command.

The RTR's are written at the project and task area planning level, with outline work unit reports completed only where the work unit has actually become ongoing work. This collection of RTR's is a planning document and is to be consulted only for planning purposes. As future actions are taken, formally establishing the QDRI program at the project level, and work unit reporting for category 6.51 is established, these RTR's will gradually be released to the official reporting system. Currently, they do not carry official accession numbers.

This volume (Report R-1869B) contains Appendices A through L to Report R-1869A. Report R-1869C (Appendix M) will follow.

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DISTRIBUTION

APPENDIX A

REGISTERED ORGANIZATION DATA FILE

The Registered Organization Data File will contain the master record covering each commercial, industrial, and educational organization registered in the QDRI Program. As new participants are registered, the AMC registering installation will provide the necessary data to the data bank (RODATA) to permit the creation of master records as well as furnishing data changes to RODATA when such changes occur.

The data elements of this file are presented as follows, however, they are not necessarily presented in the order they may have within the actual data storage medium.

<u>DATA ELEMENT</u>	<u>SIZE</u>
QUALIFIED ORGANIZATION IDENTIFICATION	6 A/N Chars.
NAME OF QUALIFIED ORGANIZATION	34 A/N Chars.
NAME OF PARENT ORGANIZATION	34 A/N Chars.
STREET ADDRESS	33 A/N Chars.
CITY	19 Alpha Chars.
STATE	6 Alpha Chars.
ZIP CODE	6 Numeric Chars.
GEOGRAPHICAL CODE LOCATION	4 Numeric Chars.
TELEPHONE NUMBER	10 A/N Chars.
NAME OF ORGANIZATION CONTACT	20 Alpha Chars.
DATE OF EXECUTION OF POLICY AGREEMENT	6 Numeric Chars.
DATE OF LAST QUALIFICATION REVIEW	6 Numeric Chars.
TYPE OF ORGANIZATION CODE	1 Alpha Char.
CORPORATIVE STATUS CODE	1 Alpha Char.

<u>DATA ELEMENT</u>	<u>SIZE</u>
SMALL BUSINESS CODE	1 Alpha Char.
SECURITY CLEARANCE CODE	1 Alpha Char.
COGNIZANT SECURITY AGENCY CODE	5 Alpha Chars.
STATUS LIST CODE	1 Alpha Char.
REGISTERING INSTALLATION/AGENCY SYMBOL	5 Alpha Chars.
PRIMARY QUALIFICATION COGNIZANCE	5 Alpha Chars.
SECONDARY QUALIFICATION COGNIZANCE	5 Alpha Chars.
ACCESSION NUMBER TO HARD COPY STORAGE	
CARTRIDGE NUMBER	4 Numeric Chars.
FRAME NUMBER	4 Numeric Chars.

APPENDIX B

AMC INSTALLATION/AGENCY DATA FILE

The AMC Installation/Agency Data File will contain records covering all AMC commands, installations, and agencies involved in the AMC QDRI Program. Master records will be established and maintained by the data bank (RODATA) based on data provided by the AMC activities involved. In addition, the records will contain information reported periodically to RODATA concerning briefings to industry and visits by industry which will be utilized in the preparation of reports of QDRI activity as required by AMC.

The data elements of this file are presented as follows, however, they are not necessarily presented in the order they may have within the actual data storage medium.

<u>DATA ELEMENT</u>	<u>SIZE</u>
AMC INSTALLATION/AGENCY SYMBOL	5 Alpha Chars.
AMC INSTALLATION/AGENCY IDENTIFICATION CODE	3 Numeric Chars.
AMC INSTALLATION/AGENCY NAME	40 Alpha Chars.
STREET ADDRESS	25 A/N Chars.
CITY	21 Alpha Chars.
STATE	6 Alpha Chars.
ZIP CODE	6 Numeric Chars.
NAME OF INSTALLATION/AGENCY CONTACT	20 Alpha Chars.
FUNCTIONAL AREA CODE	1 Numeric Char.
FUNCTIONAL AREA RESPONSIBILITY	1 Alpha Char.
ORGANIZATIONAL TITLE	18 Alpha Chars.
ORGANIZATION SUB-SYMBOL	10 A/N Chars.
BUILDING NUMBER	5 A/N Chars.

<u>DATA ELEMENT</u>	<u>SIZE</u>
AUTOVON NUMBER	7 Numeric Chars.
TELEPHONE NUMBER (COMMERCIAL)	10 A/N Chars.
TELEPHONE EXTENSION	6 Numeric Chars.
PROGRAM ELEMENT NUMBER	12 Numeric Chars.
PROGRAM ELEMENT TITLE	56 Alpha Chars.
PROGRAM ELEMENT COORDINATOR NAME	20 Alpha Chars.
ORGANIZATION SUB-SYMBOL OF COORDINATOR	5 A/N Chars.
REPORT MONTH	2 Numeric Chars.
NUMBER OF BRIEFINGS HELD	2 Numeric Chars.
NUMBER OF ORGANIZATIONS REPRESENTED (BRIEF.)	4 Numeric Chars.
TOTAL NUMBER OF ATTENDEES	4 Numeric Chars.
NUMBER OF VISITS OCCURING	3 Numeric Chars.
NUMBER OF ORGANIZATIONS REPRESENTED (VISITS)	4 Numeric Chars.
TOTAL NUMBER OF VISITORS	4 Numeric Chars.

APPENDIX C

FIELD OF INTEREST CATEGORIES FILE

The Field of Interest Categories File will be comprised of data elements identified by field of interest codes and titles which will identify all registered organizations and government installations/agencies associated with each particular field of interest. The primary purpose of this file is to permit ready identification of all organizations and/or installations claiming similar fields of interest, thereby providing the basis for the matching of registered organizations' qualifications to the needs and interests of the AMC installations. The file will also provide the basis for the distribution of QDRI items to properly qualified and interested organizations.

Two key data elements of this file are presented as follows, while the remainder are contained in DD Form 1630 - several sample pages of which are also presented. The data elements, however, are not necessarily presented in the order they may have within the actual data storage medium.

<u>DATA ELEMENTS</u>	<u>SIZE</u>
AMC INSTALLATION/AGENCY IDENTIFICATION CODE	3 Numeric Chars.
QUALIFIED ORGANIZATION IDENTIFICATION	6 A/N Chars.

(Several sample DD Form 1630 pages follow)

RESEARCH AND DEVELOPMENT CAPABILITY INDEX SCIENTIFIC AND TECHNOLOGICAL FIELDS OF INTEREST												
CODE NUMBER				CATEGORY						NAME AND ADDRESS OF APPLICANT		
				RESEARCH	EXPLORATORY DEVELOPMENT	ADVANCED DEVELOPMENT	ENGINEERING DEVELOPMENT	OPERATIONAL DEVELOPMENT	MANAGEMENT AND SUPPORT			
FIELD	GROUP	SECTION	UNIT	1	2	3	4	5	6	SCOPE		
7										CHEMISTRY		
7	1									CHEMICAL ENGINEERING		
7	1	1								TECHNOLOGY (Chemical Engineering)		
7	1	2								MATERIALS HANDLING		
7	1	3								MATERIALS SEPARATION		
7	1	4								PILOT PLANT DESIGN AND OPERATION		
7	2									INORGANIC CHEMISTRY		
7	2	1								ANALYSIS, PREPARATION AND REACTION		
7	2	1	1							HALOGENS		
7	2	1	2							HEAVY METALS		
7	2	1	3							LIGHT METALS		
7	2	1	4							NOBLE GASES		
7	2	1	5							OTHER NON-METALS		
7	2	1	6							RARE EARTH ELEMENTS		
7	2	2								BORON INORGANIC COMPOUNDS		
7	2	3								INERT GAS COMPOUNDS		
7	2	4								SUPERCONDUCTING COMPOUNDS		
7	2	5								CRYSTAL PURIFICATION TECHNIQUES		
7	3									ORGANIC CHEMISTRY		
7	3	1								POLYMER CHEMISTRY		
7	3	2								SURFACE CHEMISTRY		
7	4									PHYSICAL CHEMISTRY		
7	4	1								AEROSOLS		
7	4	2								ATMOSPHERIC OZONE		
7	4	3								COMBUSTION		
7	4	4								ELECTROCHEMISTRY		
7	4	5								MASS SPECTROSCOPY		
7	4	6								METAL-ORGANIC COMPOUNDS		
7	4	7								MOLECULAR SPECTROSCOPY		
7	4	8								PHOTOCHEMISTRY		
7	4	9								RADIATION		
7	4	10								SILICONES		
7	4	11								THERMODYNAMICS		
7	5									RADIO AND RADIATION CHEMISTRY		
7	6									ANALYTICAL CHEMISTRY		

RESEARCH AND DEVELOPMENT CAPABILITY INDEX SCIENTIFIC AND TECHNOLOGICAL FIELDS OF INTEREST

CODE NUMBER				CATEGORY						NAME AND ADDRESS OF APPLICANT
FIELD	GROUP	SECTION	UNIT	RESEARCH	EXPLORATORY	ADVANCED	ENGINEERING	OPERATIONAL	MANAGEMENT	SCOPE
				1	2	3	4	5	6	
11										MATERIALS
11	1									ADHESIVES AND SEALS
11	1	1								ADHESIVE BINDERS
11	1	2								GASKETS
11	1	3								GLUE
11	1	4								SEALANTS
11	2									CERAMICS, REFRACTORIES, AND GLASSES
11	2	1								BRICK
11	2	2								CEMENTS AND CONCRETE
11	2	3								CERAMICS
11	2	4								CERMETS
11	2	5								GLASSES
11	2	6								NONMETALLIC REFRACTORY MATERIALS
11	2	7								PORCELAIN
11	2	8								REFRACTORIES
11	2	9								TILES
11	3									COATINGS, COLORANTS, AND FINISHES
11	3	1								ANTIDETECTION
11	3	2								ANTITOXICANTS
11	3	3								CAMOUFLAGE
11	3	4								DYES
11	3	5								EDIBLE COATINGS
11	3	6								HIGH CONSPICUITY
11	3	7								INFRARED COATINGS
11	3	8								MARKING
11	3	9								METALLIC
11	3	10								ORGANIC
11	3	11								PAINTS
11	3	12								PIGMENTS
11	3	13								PLASTIC COATINGS
11	3	14								PAINT PRIMERS
11	3	15								PROTECTIVE ELECTROCHEMICALS
11	3	16								RUBBER COATINGS
11	3	17								VARNISHES
11	4									COMPOSITE MATERIALS
11	4	1								FOAMS (Composite Materials)
11	4	2								FOIL PLASTIC FILM
11	4	3								OTHER LAMINATES
11	4	4								PLASTIC FILM-PAPER
11	4	5								RADAR ABSORBER MATERIALS
11	4	6								WOOD-METAL COMPOSITES
11	4	7								WOOD-PAPER COMPOSITES
11	5									FIBERS AND TEXTILES
11	5	1								NATURAL FIBERS, THREADS, YARNS
11	5	2								NATURAL TEXTILES
11	5	3								SYNTHETIC FIBERS, THREADS, YARNS
11	5	4								SYNTHETIC TEXTILES
11	6									METALLURGY AND METALLOGRAPHY
11	6	1								CORROSIVE STUDIES

RESEARCH AND DEVELOPMENT CAPABILITY INDEX SCIENTIFIC AND TECHNOLOGICAL FIELDS OF INTEREST

CODE NUMBER				CATEGORY						NAME AND ADDRESS OF APPLICANT
FIELD	GROUP	SECTION	UNIT	RESEARCH	EXPLORATORY DEVELOPMENT	ADVANCED DEVELOPMENT	ENGINEERING DEVELOPMENT	OPERATIONAL DEVELOPMENT	MANAGEMENT AND SUPPORT	
1	2	3	4	5	6	7	8	9	10	
										SCOPE
11	6	2								EXTRACTIVE AND PHYSICAL METALLURGY
11	6	3								HEAT RESISTANT METALS AND ALLOYS
11	6	4								MICROSTRUCTURE
11	6	5								PHYSICAL AND MECHANICAL PROPERTIES
11	6	6								REFINING AND PRODUCTION
11	7									MISCELLANEOUS MATERIALS
11	7	1								ANIMAL PRODUCTS
11	7	2								ENERGY DISSIPATING MATERIALS
11	7	3								MAGNETIC MATERIALS
11	7	4								NON-MAGNETIC MATERIALS
11	7	5								REFRIGERANTS
11	7	6								SOIL STABILIZERS
11	8									OILS, LUBRICANTS, AND HYDRAULIC FLUIDS
11	9									PLASTICS
11	9	1								ABLATIVE PLASTICS COMPOSITES
11	9	2								PLASTIC FORMS
11	9	2	1							BARRIER MATERIALS
11	9	3								PLASTIC QUALITIES
11	9	3	1							FOAMS (Plastic)
11	9	3	2							PRODUCTION PROPERTIES AND PERFORMANCE (Plastic)
11	9	3	3							PLASTICIZERS (Plastics)
11	9	3	4							RESINS
11	9	4								REINFORCED PLASTICS AND LAMINATES
11	10									RUBBERS
11	10	1								ELASTOMERS
11	10	2								NATURAL RUBBERS
11	10	3								PRODUCTION METHODS (Rubbers)
11	10	4								PROPERTIES AND PERFORMANCE (Rubbers)
11	10	5								RUBBER PRODUCTS
11	10	6								SYNTHETIC ELASTOMERS
11	11									SOLVENTS, CLEANERS, AND ABRASIVES
11	12									WOOD AND PAPER PRODUCTS
11	12	1								CONVERTED PRODUCTS
11	12	2								CUSHIONING
11	12	3								ENERGY DISSIPATING MATERIALS AND STRUCTURES (Wood and Paper)
11	12	4								MULTIWALL SYSTEMS
11	12	5								TUBES (Wood and Paper)

RESEARCH AND DEVELOPMENT CAPABILITY INDEX SCIENTIFIC AND TECHNOLOGICAL FIELDS OF INTEREST

CODE NUMBER				CATEGORY						NAME AND ADDRESS OF APPLICANT
FIELD	GROUP	SECTION	UNIT	RESEARCH	EXPLORATORY DEVELOPMENT	ADVANCED DEVELOPMENT	ENGINEERING DEVELOPMENT	OPERATIONAL DEVELOPMENT	MANAGEMENT AND SUPPORT	SCOPE
				1	2	3	4	5	6	
15										MILITARY SCIENCES
15	1									ANTISUBMARINE WARFARE
15	1	1								COUNTERMEASURES
15	1	1	1							AMPLIFIERS, CONVERTERS AND DETECTORS
15	1	2								MINE COUNTERMEASURES
15	1	3								NAVAL ARCHITECTURE - SUBMARINES
15	1	4								NAVAL ARCHITECTURE - SURFACE SHIPS
15	1	5								NAVIGATION (Antisubmarine warfare)
15	1	6								OCEANOGRAPHY
15	1	6	1							ARCTIC OCEANOGRAPHY
15	1	6	2							TROPIC OCEANOGRAPHY
15	1	7								RADAR AND RADIO FOR ANTISUBMARINE WARFARE
15	1	7	1							TRACKING EQUIPMENT
15	1	7	2							RADAR DISPLAY
15	1	7	3							RADAR TECHNIQUES (Antisubmarine warfare)
15	1	8								TORPEDO COUNTERMEASURES
15	1	9								VULNERABILITY STUDIES (Antisubmarine warfare)
15	2									CHEMICAL, BIOLOGICAL, AND RADIOLOGICAL WARFARE
15	2	1								BW - CW AGENTS
15	2	1	1							BIOLOGICAL AGENTS
15	2	2								CBR ORDNANCE
15	2	3								CHEMICAL WARFARE EQUIPMENT AND MATERIALS
15	2	3	1							FLAMETHROWERS
15	2	3	2							INCENDIARIES
15	2	3	3							PROTECTION AND DECONTAMINATION
15	2	3	4							PYROTECHNICS (Chemical warfare)
15	2	3	5							TOXIC CHEMICAL AGENTS
15	2	3	6							ANTIMATERIAL AGENTS
15	2	4								COUNTERMEASURES
15	2	5								OPERATIONS AND SYSTEM REQUIREMENTS
15	2	6								RADIOLOGICAL DEFENSE
15	2	6	1							ATOMIC RADIATION EFFECTS ON MATERIALS AND COMPONENTS
15	2	7								RADIOLOGICAL WEAPONS
15	3									DEFENSE
15	3	1								ANTIAIRCRAFT DEFENSE SYSTEMS
15	3	1	1							ACTIVE AND PASSIVE DEFENSE SYSTEMS
15	3	1	2							ANTIAIRCRAFT INSTRUMENTATION
15	3	1	3							HUMAN PILOT CONTROL AND TRACKING CAPABILITIES
15	3	1	4							MAPPING SYSTEMS, AIRBORNE
15	3	1	5							RADAR AND RADIO FOR ANTIAIRCRAFT SYSTEMS
15	3	1	6							SURVEILLANCE SYSTEMS, AIRBORNE
15	3	2								ANTI-MISSILE DEFENSE SYSTEMS
15	3	2	1							METEOROLOGY (Anti-missile)
15	3	2	2							NUCLEAR BURSTS
15	3	2	3							NUCLEAR PROPULSION (Antimissile)
15	3	2	4							NUCLEAR RADAR
15	3	3								ANTISATELLITE DEFENSE SYSTEMS
15	3	3	1							SPACECRAFT AND SPACE EQUIPMENT

RESEARCH AND DEVELOPMENT CAPABILITY INDEX SCIENTIFIC AND TECHNOLOGICAL FIELDS OF INTEREST

CODE NUMBER				CATEGORY						NAME AND ADDRESS OF APPLICANT	
FIELD	GROUP	SECTION	SUB-SECTION	RESEARCH	EXPLORATORY DEVELOPMENT	ADVANCED DEVELOPMENT	ENVIRONMENTAL DEVELOPMENT	OPERATIONAL DEVELOPMENT	MANAGEMENT AND SUPPORT		
				1	2	3	4	5	6		
SCOPE											
15	3	3	2								SPACECRAFT DESIGN AND FLIGHT
15	3	3	3								SPACECRAFT STRUCTURES (<i>Antisatellite system</i>)
15	4										INTELLIGENCE
15	4	1									AUTOMATED INTELLIGENCE SENSORS
15	4	1	1								ACOUSTIC SENSORS
15	4	1	2								CHEMICAL INTELLIGENCE
15	4	1	3								ELECTRO-OPTICAL IMAGING SENSORS
15	4	1	4								IR IMAGING SENSORS
15	4	1	5								PHOTOGRAPHIC SENSORS
15	4	1	6								SEISMIC SENSORS
15	4	1	7								SENSOR SUBSYSTEM CONTROL AND DATA RECORDING
15	4	2									DATA HANDLING AND DISPLAY
15	4	2	1								CONVERSION, PHOTOGRAPHIC, ELECTRONIC, ELECTRO-OPTICAL
15	4	2	2								DISSEMINATION AND REPRODUCTION ELECTRONIC AND GRAPHICAL
15	4	2	3								PRESENTATION-AUTOMATED DATA
15	4	2	4								STORAGE AND RETRIEVAL-AUTOMATED DATA
15	4	3									IMAGE DATA RECORDING MEDIA
15	4	3	1								E-O AND UV TARGET ACQUISITION + TRACKING
15	4	3	2								IR RADIATION DETECTORS
15	4	3	3								PHOTOGRAPHIC PRINTING AND REPRODUCTION
15	4	3	4								UV RADIATION DETECTORS
15	4	3	5								VIDEO RECORDING DISPLAY READOUT
15	4	3	6								VISIBLE RADIATION DETECTORS
15	4	4									OPERATIONS (<i>Intelligence</i>)
15	4	4	1								INTELLIGENCE PARAMETER STUDIES
15	4	4	2								INTELLIGENCE SYSTEMS STUDIES
15	4	5									PSYCHOLOGICAL WARFARE (<i>Intelligence</i>)
15	4	6									RECONNAISSANCE AND SURVEILLANCE TECHNOLOGY
15	4	6	1								ATMOSPHERIC EFFECTS ON PHOTOGRAPHY
15	4	6	2								ILLUMINATION TECHNIQUES FOR NIGHT PHOTOGRAPHY
15	4	6	3								IMAGE EVALUATION AND INTERPRETATION
15	4	6	4								PHOTOGRAPHIC PROCESSING TECHNIQUES
15	5										LOGISTICS
15	5	1									AIRCRAFT SYSTEMS
15	5	1	1								SUPPLY TRANSPORT
15	5	1	2								SUPPLY STORAGE
15	5	1	3								TURN AROUND TIME
15	5	2									AIRDROP SYSTEMS (<i>Logistics</i>)
15	5	3									CONSUMPTION DATA
15	5	4									ENVIRONMENTAL EXPOSURE PROFILE
15	5	5									GROUND TRANSPORTATION EQUIPMENT (<i>Logistics</i>)
15	5	5	1								AUTOMOTIVE PARTS AND ACCESSORIES
15	5	5	2								RAILROAD EQUIPMENT LOGISTICS
15	5	5	3								SPECIAL PURPOSE VEHICLES
15	5	5	4								TRUCKS
15	5	6									ORGANIZATIONAL REQUIREMENTS COMPUTATION
15	5	7									PERSONAL EQUIPMENT DESIGN, TEST
15	5	8									REQUISITION AND ISSUE PATTERN
15	5	9									SPECIFICATIONS

RESEARCH AND DEVELOPMENT CAPABILITY INDEX SCIENTIFIC AND TECHNOLOGICAL FIELDS OF INTEREST

CODE NUMBER				CATEGORY						NAME AND ADDRESS OF APPLICANT
FIELD	GROUP	SECTION	UNIT	RESEARCH	EXPLORATORY DEVELOPMENT	ADVANCED DEVELOPMENT	ENGINEERING DEVELOPMENT	OPERATIONAL DEVELOPMENT	MANAGEMENT AND SUPPORT	
				1	2	3	4	5	6	SCOPE
10										ORDNANCE
10	1									AMMUNITION, EXPLOSIVES, AND PYROTECHNICS
10	1	1								AIR-SURFACE PYROTECHNICS
10	1	2								AMMUNITION TYPES
10	1	2	1							AIRCRAFT AMMUNITION
10	1	2	2							ANTI-AIRCRAFT ORDNANCE
10	1	2	3							ANTI-ARMOR
10	1	2	4							ANTI-PERSONNEL AMMUNITION
10	1	2	5							ANTI-SHIP AMMUNITION
10	1	2	6							ANTI-SUBMARINE AMMUNITION
10	1	2	7							ANTI-TANK AMMUNITION
10	1	2	8							ARMOR PIERCING
10	1	2	9							FIN STABILIZED
10	1	2	10							FRAGMENTATION AMMUNITION
10	1	2	11							GRENADES
10	1	2	12							HIGH EXPLOSIVE AMMUNITION
10	1	2	13							INCENDIARY AMMUNITION
10	1	2	14							MORTAR AMMUNITION
10	1	2	15							SMALL ARMS AMMUNITION
10	1	2	16							SPIN-STABILIZED AMMUNITION
10	1	2	17							SPOTTING ROUNDS
10	1	2	18							TRACERS (Ordnance)
10	1	2	19							TRAINING AMMUNITION
10	1	3								AMMUNITION COMPONENTS
10	1	3	1							AIMING DEVICES
10	1	3	2							AMMUNITION BOOSTERS
10	1	3	3							AMMUNITION FIRING MECHANISMS
10	1	3	4							AMMUNITION IGNITERS
10	1	3	5							AMMUNITION PRIMERS
10	1	3	6							CARTRIDGE CASES
10	1	3	7							CAVITY LINERS
10	1	3	8							DELAY MECHANISMS
10	1	3	9							PROJECTILE CAPS
10	1	3	10							PROJECTILE CASES
10	1	3	11							ROTATING BANDS
10	1	4								AMMUNITION PROPELLANTS
10	1	4	1							LIQUID PROPELLANTS (Ammunition)
10	1	4	2							SOLID PROPELLANTS
10	1	5								CHEMICAL KINETICS IN EXPLOSIVES AND PYROTECHNICS
10	1	6								EXPLOSIVE MATERIALS
10	1	6	1							DEMOLITIONS
10	1	6	2							DESTRUCTORS
10	1	6	3							DETONATORS
10	1	6	4							MODERATE HEAT RESISTANT EXPLOSIVES
10	1	7								FLAMETHROWER FUELS
10	1	8								FLARES
10	1	8	1							AIRCRAFT FLARES
10	1	8	2							COLOR FLARES
10	1	8	3							FLOAT FLARES

APPENDIX D

AMC QDRI STATEMENTS FILE

The AMC QDRI Statements File will contain a record of each document (colloquially called QDRI's) which states a need of the Army in the research and development phase of the materiel cycle. Based upon the capabilities of the registered organizations as expressed by the field of interest codes maintained within RODATA, QDRI items are distributed for the purpose of seeking solutions to the problems documented therein.

A sample, completed, AMC QDRI Statement is presented to illustrate its utilization of the Research and Technology Resume (DD Form 1498) as a hard copy source data capture document. At the present, the incorporation of text into this file will be deferred until the nature, volume, and searching procedures become more definitive.

The data elements of this file are presented as follows, however, they are not necessarily presented in the order they may have within the actual data storage medium.

<u>DATA ELEMENTS</u>	<u>SIZE</u>
QDRI ITEM NUMBER	15 A/N Chars.
QDRI ITEM TITLE	54 A/N Chars.
AGENCY ACCESSION (CODE, SERIAL NUMBER)	8 A/N Chars.
DATE OF RESUME	6 Numeric Chars.
KIND OF RESUME	1 Alpha Char.
DATE OF MOST RECENT PRIOR RESUME	6 Numeric Chars.
SECURITY CLASSIFICATION	
REPORT	1 Alpha Char.
WORK	1 Alpha Char.
TITLE	1 Alpha Char.
CUT-OFF DATE	6 Numeric Chars.

<u>DATA ELEMENTS</u>	<u>SIZE</u>
REGRADING CODE	1 Numeric Char.
RELEASE LIMITATIONS	6 Numeric Chars.
LEVEL OF RESUME	1 Alpha Char.
PRIOR NUMBER (LOCAL NUMBER)	10 A/N Chars.
MISSION OBJECTIVE	18 A/N Chars.
OSD CODE	2 Alpha Chars.
AMC INSTALLATION/AGENCY SYMBOL	5 Alpha Chars.
NAME OF RESPONSIBLE INDIVIDUAL (QDRI)	20 Alpha Chars.
ADDRESS	25 A/N Chars.
CITY	21 Alpha Chars.
STATE	6 Alpha Chars.
ZIP CODE	6 Numeric Chars.
TELEPHONE NUMBER	10 Numeric Chars.
TELEPHONE EXTENSION	6 Numeric Chars.
TECHNOLOGY UTILIZATION	28 Alpha Chars.
KEY WORD CODE	72 Alpha Chars.
UNSOLICITED PROPOSAL IDENTIFICATION NO.	10 A/N Chars.
REQUESTER SYMBOL	10 A/N Chars.
INQUIRY CODE	3 Numeric Chars.
REQUESTER INQUIRY SERIAL NUMBER	4 Numeric Chars.

RESEARCH AND TECHNOLOGY RESUME		1.	2. GOVT ACCESSION	3. AGENCY ACCESSION AMC-U-0013	REPORT CONTROL SYMBOL
4. DATE OF RESUME 30-06-65	5. KIND OF RESUME A New	6. SECURITY U RPT WRK	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF RESUME Q. QDRI
10. CURRENT NUMBER/CODE QW4-23801-C-538			109. PRIOR NUMBER/CODE SMUFA-23		
11. TITLE (U) Weapon Noise Reduction.					
12. SCIENTIFIC OR TECH. AREA Ordnance, Ammunition, Gun			13. START DATE N/A	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY N/A
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT a. DATE b. NUMBER N/A c. TYPE d. AMOUNT		18. RESOURCES EST. PRIOR FY N/A CURRENT FY	19. PROFESSIONAL MAN-YEARS N/A	20. FUNDS (in thousands) N/A
19. GOVT LAB. INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS Armm Dev & Engr Labs SMUFA-J8100 Philadelphia, Pennsylvania 19137 RESP. INDV. Fulton, C. TEL. 215 JE5-2900 X 6245			20. PERFORMING ORGANIZATION NAME ADDRESS INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE		
21. TECHNOLOGY UTILIZATION			22. COORDINATION		
23. KEYWORDS Weapons, Ammunition, Interior Ballistics, Noise Reduction					
24. (U) <u>Objective</u> : There is a need for a blast or noise suppression device to enhance the physical effectiveness of the soldier using conventional weapons.					
25. (U) <u>Approach</u> : To develop a device or weapon which would attain the objective but which would not affect the velocity, range or accuracy of the projectile fired or reduce the reliability of weapon operation. Such weapon device should consider the firing mechanism, cartridge, projectile and interior ballistic system.					
26. (U) <u>Background</u> : The discharge of high pressure gas from the muzzle of all calibers of weapons produce blast waves which not only "spot" the weapon location but may actually be injurious to the user or others located nearby. Repeated impact noises greater than 140 dbs can cause permanent ear damage and even temporary deafness will reduce a soldier's effectiveness.					
27. COMMUNICATIONS SECURITY ☐ A COMSEC OR COMSEC RELATED ☒ A NOT RELATED		28. N/A	29. OSD CODE N/A	30. BUDGET CODE N/A	
31. MISSION OBJECTIVE 212a			32. PARTICIPATION N/A		
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A			
35. EST. FUNDS (in thousands) N/A		36. N/A			

APPENDIX E

UNSOLICITED PROPOSALS FILE

The Unsolicited Proposals File will contain information on all research and development proposals submitted by organizations or individuals both in response to the release of a QDRI item or independent of such release. This file will maintain the history of the proposal with regard to evaluation, acceptance or rejection, programming, funding, and ultimate execution of the contractual agreement by the Army.

The data elements of this file are presented as follows, however, they are not necessarily presented in the order they may have in the actual data storage medium.

<u>DATA ELEMENTS</u>	<u>SIZE</u>
PROPOSAL IDENTIFICATION NUMBER	10 Numeric Chars.
PROPOSAL REVISION NUMBER	2 Numeric Chars.
DATE OF PROPOSAL	6 Numeric Chars.
TITLE OF PROPOSAL	60 Alpha Chars.
NAME OF SUBMITTING ORGANIZATION	34 A/N Chars.
STREET ADDRESS	33 A/N Chars.
CITY	19 Alpha Chars.
STATE	6 Alpha Chars.
ZIP CODE	6 Numeric Chars.
TELEPHONE NUMBER	10 A/N Chars.
NAME OF ORGANIZATION CONTACT	20 Alpha Chars.
SUBMISSION DATE	6 Numeric Chars.
CUT-OFF DATE	6 Numeric Chars.

<u>DATA ELEMENTS</u>	<u>SIZE</u>
AMC INSTALLATION/AGENCY RECEIVING PROPOSAL	5 Alpha Chars.
PROPONENT IDENTIFICATION NUMBER	6 A/N Chars.
RELATED QDRI ITEM NUMBER (OR ASSIGNED PROGRAM NUMBER OF PROPOSAL IF NOT IN RESPONSE TO QDRI ITEM)	15 A/N Chars.
KEY WORDS	120 A/N Chars.
MEMO OF UNDERSTANDING	1 Numeric Char.
DATE OF MEMO OF UNDERSTANDING	6 Numeric Chars.
DISTRIBUTION FOR EVALUATION	150 Alpha Chars.
EVALUATION RESULTS	
FAVORABLE	1 Alpha Char.
REJECTED	1 Alpha Char.
FUNDING/PROGRAM ELEMENT	6 A/N Chars.
CONTRACT NUMBER	12 A/N Chars.
CONTRACT DATE	6 Numeric Chars.
CONTRACT PRICE	7 Numeric Chars.

APPENDIX F

INDUSTRY LISTS

This group of output reports, evolving a and Industry Lists, provides a comprehensive listing of all registered organizations in the QDRI Program. Variations in the output data elements can provide mailing lists - in the form of labels - either of the entire file of registered organizations or selected ones, for use by the various QDRI Offices. These mailing lists can be used for the distribution of pertinent QDRI Statements to registered organizations; for dissemination of information to selected organizations; for distribution of invitations for industry briefings to qualified organizations, etc.

The various outputs are the results of a basic matching of registered organizations capabilities and interests to Army needs. This will provide QDRI Offices with a rapid and economical means for setting-up useful briefings, directing industry visitors to properly related technical areas, etc.

A segment of a mailing list is presented as an example of the outputs related to industry lists. The mailing list features one registered organization which is then further reflected in additional samples of industry lists. One such example is a portion of the entire listing of the registered organizations, and the other is a listing of the fields of interest selected by the particular organization in the sample.

Shown below are several address labels taken from a mailing list which has been prepared as one of the typical outputs from the Industry List.

12705

ELECTRO-OPTICAL SYSTEMS INC
300 NORTH HALSTEAD
PASADENA CALIF 91107
ATTN W CONN

12813

MAGNAVEX CO
MAGNAVEX RESEARCH LABS
2825 MARICOPA ST
TORRANCE CALIF 90503
ATTN F BURMAN

12949

CURTISS-WRIGHT CORP
REDEL INC
2500 EAST KATELLA AVE
ANAHEIM CALIF 92803
ATTN W DE DAPPER

13126

MARSHALL LABORATORIES
3530 TORRANCE BOULEVARD
TORRANCE CALIF 90503
ATTN F V A BABITS

13326

LING TEMCO Vought INC
LTV RESEARCH CENTER WESTERN DIV
1859 S MANCHESTER AVENUE
ANAHEIM CALIF 92803
ATTN A BRIGGS

Shown below is a sample of a portion of the comprehensive listing of the registered organizations. This particular list is sequenced by the registered organization identification number. Also shown, in addition to other data are the AMC Installations/Agencies where the organization is registered. The sample presented herein has been vertically compressed in order to show all of the data elements utilized in the list.

12780	RESEARCH COTTRELL INC				A2
	PO BOX 750	BOUND BROOK NJ	0880528		B
	A C WIEGAND	3562600	AMXNY		C
		SMUPA			D 3
	SMUFA	C	I		D 5

12813	MAGNAVOX RESEARCH LABS	MAGNAVOX CO			A
	2829 MARICOPA ST	TORRANCE CALIF	9050304		B 3
	H S BROWN	2133280770	AMXLAAMXSP		C3
		SMUPA			D 3
	SMUFA	B	I	OP	D52

12855	TRAK MICROWAVE CORP				A
	5006 N COOLIDGE AVE	TAMPA	FLOR	3361408	B
	QDRI MANAGER			AMXBI	C
	AMXDO				D12

12949	REDEL INC	CURTISS-WRIGHT CORP			A
	2300 EAST KATELLA AVE	ANAHEIM CALIF	9280304		B
	J W DE DAPPER	7145322586113066	AMXSPAMXSP		C
		SMUPA			D13
	SMUFA	A	CD	G J M P UV	D 5

12963	PROPELLENTS DIVISION	AMOCO CHEMICALS CORP			A3
	BOX 1000	SEYMOUR IND	4727412		E
	R H OSSYRA				C
		SMUPA			D13

Shown below is a sample of a portion of the comprehensive listing of the Fields of Interest of the registered organizations. This particular list is also sequenced by the registered organization identification number and then further sequenced by the sequential numbering within the data elements of the DD Form 1630. In the particular sample shown there is no breakdown below the SECTION level of the fields of interest. This particular sample represents the fields of interest chosen by the registered organization highlighted in the previous samples, however, it is based on DD Form 558-2.

Q D R I PARTICIPANT F.O.I.							PAGE	801
ORGN.NO.	DIV.	SEC.	UNIT	SUB.U.	SOI	DST		
12813	01				BC	AB		
12813	01	01			BC	AB		
12813	05				BCD	AB		
12813	05	01			BCD	AB		
12813	05	02			BCD	AB		
12813	05	03			BCD	AB		
12813	05	04			BCD	AB		
12813	05	05			BCD	AB		
12813	05	06			BCD	AB		
12813	06				BC	AB		
12813	06	01			BC	AB		
12813	06	02			BC	AB		
12813	06	04			BC	AB		
12813	06	05			BC	AB		
12813	06	06			BC	AB		
12813	06	09			BC	AB		
12813	06	10			BC	AB		

ORGN.NO.	DIV.	SEC.	UNIT	SUB.U.	SOI	DST
12813	06	11			BC	AB
12813	06	12			BC	AB
12813	07				BC	AB
12813	07	02			BC	AB
12813	08				BC	AB
12813	08	01			BC	AB
12813	08	02			BC	AB
12813	08	04			BC	AB
12813	08	05			BC	AB
12813	08	06			BC	AB
12813	08	07			BC	AB
12813	08	08			BC	AB
12813	08	09			BC	AB
12813	08	12			BC	AB
12813	12				BC	AB
12813	12	02			BC	AB
12813	12	05			BC	AB
12813	15				ABC	AB
12813	18				BC	AB
12813	18	01			BC	AB
12813	18	02			BC	AB
12813	18	03			BC	AB
12813	19				BC	AB

APPENDIX G

QDRI STATEMENTS

This report, which in actuality may also be called a document, is generated periodically by the scientific and technical staffs of the AMC installations/agencies under the coordination of the QDRI Offices. The result of this activity is the creation of a document containing QDRI Statements for each AMC installation/agency. These QDRI's are then selectively made available to registered organizations based on the QDRI Information Processing System's matching of capabilities and interests to the Army's needs as stated on the QDRIs.

As previously mentioned in APPENDIX D, the format utilized for the presentation of the QDRI Statements is based on the Research and Technology Resume - DD Form 1498. The QDRI Information Processing System utilizes this form in a dual capacity - as a source data capture form and as an output document. A partial collection of the QDRI Statements of Frankford Arsenal is presented as an example of this output document.

Format requirements for QDRI Statements are published in Annex 7, QDRI Volume I, QDRI Manager's Guide.

RESEARCH AND TECHNOLOGY RESUME		1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME	5. KIND OF RESUME	6. SECURITY	7. REGRADING	8. RELEASE LIMITATION	9. LEVEL OF RESUME
30-06-65	A New	U RPT U RRK	N/A	OD	Q. QDRI
10a. CURRENT NUMBER/CODE		10b. PRIOR NUMBER/CODE			
QW4-23801-C-533		SMUFA-3			
11. TITLE:					
(U) Timing Mechanism for Missile Fuzing and Programming					
12. SCIENTIFIC OR TECH. AREA			13. START DATE	14. CRIT. COMPL. DATE	15. FUNDING AGENCY
Missile Warheads and Fuzes			N/A	N/A	N/A
16. PROCURE. METHOD	17. CONTRACT/GRANT	18. DATE	19. RESOURCES EST.	20. PROFESSIONAL MAN-YEARS	21. FUNDS (In thousands)
N/A	N/A		N/A	N/A	
19. GOVT LAB/INSTALLATION/ACTIVITY			20. PERFORMING ORGANIZATION		
NAME Frankford Arsenal			NAME		
ADDRESS SMUFA-J6100			ADDRESS		
Philadelphia, Pennsylvania 19137			N/A		
RESP. INDIV. Nabreski, B.D.			INVESTIGATOR		
TEL. 215 535-2900 X 3202			PRINCIPAL		
			ASSOCIATE		
21. TECHNOLOGY UTILIZATION			22. COORDINATION		
Clock and Watch Industry, Instrumentation					
23. KEYWORDS					
Fuzes, Arming Devices, Programmers, Escapements.					
24.					
(U) <u>Objective</u> : Special problems are encountered in timing mechanisms employed in rockets and missiles. The device must operate accurately and reliably in a missile vibration environment and during sustained accelerations as high as 100 G's. In some applications spin may be present and the mechanism may be mounted off the spin axis, thereby increasing loads and reducing efficiency of conventional systems.					
25.					
(U) <u>Approach</u> : An analysis of reliability, including mathematical models is required to obtain optimum combinations of variables to eliminate the effects of tolerance, finish, temperature, vibration, shock and acceleration on performance and reliability. A new system is desired.					
26.					
(U) <u>Background</u> : N.A.					
27. COMMUNICATIONS SECURITY		28.	29. OSD CODE	30. BUDGET CODE	
A. CONSEC OR COMSEC RELATED		N/A	N/A	N/A	
31. MISSION OBJECTIVE		32. PARTICIPATION			
412b (1)		N/A			
33. REQUESTING AGENCY		34. SPECIAL EQUIPMENT			
N/A		N/A			
35. EST. FUNDS (In thousands)		36.			
N/A		N/A			

RESEARCH AND TECHNOLOGY RESUME		1.	2. GOVT ACCESSION	3. AGENCY ACCESSION AMC-U-0010	REPORT CONTROL SYMBOL
4. DATE OF RESUME 30-06-65	5. KIND OF RESUME A New	6. SECURITY U RPT U WRK	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF REVIEW Q. QDRI
10. CURRENT NUMBER/CODE QW4 - 23801-C-534			10A. PRIOR NUMBER/CODE SMUFA-4		
11. TITLE: (U) Timing Mechanism for High Spin Application					
12. SCIENTIFIC OR TECH. AREA Ammunition, Explosives and Pyrotechnics			13. START DATE N/A	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY N/A
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT a. DATE b. NUMBER N/A c. TYPE d. AMOUNT	18. RESOURCES EST. PRIOR FY N/A CURRENT FY		19. PROFESSIONAL MAN-YEARS N/A	20. FUNDS (in thousands) N/A
19. GOVT LAB/INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS SMUFA-J6100 Philadelphia, Pennsylvania 19137 RESP. INDIV. Nabreski, B.D. TEL. 215 535-2900 X 3202			20. PERFORMING ORGANIZATION NAME ADDRESS INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE		
21. TECHNOLOGY UTILIZATION Clock and Watch Industry, Instrumentation			22. COORDINATION		
23. KEYWORDS Fuze, Escapements, Gear Trains, Delay Mechanisms, Programmers					
24. (U) Objective: Special problems are encountered in timing mechanisms employed in spin stabilized projectiles. Current trends in gun design indicate that spins of approximately 40,000 rpm will be imposed upon artillery fuzes in the immediate future. The centrifugal forces generated at these high spins magnify the problems of bearing loads, power supply efficiency, output loading and escapement accuracy. The majority of these problems are further complicated by the facts that the spin is not constant throughout projectile flight and flight times are being increased.					
25. (U) Approach: An analysis of reliability, including mathematical models, is required to obtain optimum combination of variables to eliminate the effect of tolerance, finish, temperature, vibration, shock and acceleration on performance and reliability. A new system is desired.					
26. (U) Background: N.A.					
27. COMMUNICATIONS SECURITY a. COMSEC OR COMSEC RELATED ☒ b. NOT RELATED		28. DDC CODE N/A		29. BUDGET CODE N/A	
31. MISSION OBJECTIVE 412b (1)		32. PARTICIPATION N/A			
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A			
35. EST FUNDS (in thousands) N/A		36. SPECIAL EQUIPMENT N/A			

DD FORM 1498

Form 1 to 30 identical to NATO Form 1122. REPLACES FORMS 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 2681, 2682, 2683, 2684, 2685, 2686, 2687, 2688, 2689, 2690, 2691, 2692, 2693, 2694, 2695, 2696, 2697, 2698, 2699, 2700, 2701, 2702, 2703, 2704, 2705, 2706, 2707, 2708, 2709, 2710, 2711, 2712, 2713, 2714, 2715, 2716, 2717, 2718, 2719, 2720, 2721, 2722, 2723, 2724, 2725, 2726, 2727, 2728, 2729, 2730, 2731, 2732, 2733, 2734, 2735, 2736, 2737, 2738, 2739, 2740, 2741, 2742, 2743, 2744, 2745, 2746, 2747, 2748, 2749, 2750, 2751, 2752, 2753, 2754, 2755, 2756, 2757, 2758, 2759, 2760, 2761, 2762, 2763, 2764, 2765, 2766, 2767, 2768, 2769, 2770, 2771, 2772, 2773, 2774, 2775, 2776, 2777, 2778, 2779, 2780, 2781, 2782, 2783, 2784, 2785, 2786, 2787, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, 2797, 2798, 2799, 2800, 2801, 2802, 2803, 2804, 2805, 2806, 2807, 2808, 2809, 2810, 2811, 2812, 2813, 2814, 2815, 2816, 2817, 2818, 2819, 2820, 2821, 2822, 2823, 2824, 2825, 2826, 2827, 2828, 2829, 2830, 2831, 2832, 2833, 2834, 2835, 2836, 2837, 2838, 2839, 2840, 2841, 2842, 2843, 2844, 2845, 2846, 2847, 2848, 2849, 2850, 2851, 2852, 2853, 2854, 2855, 2856, 2857, 2858, 2859, 2860, 2861, 2862, 2863, 2864, 2865, 2866, 2867, 2868, 2869, 2870, 2871, 2872, 2873, 2874, 2875, 2876, 2877, 2878, 2879, 2880, 2881, 2882, 2883, 2884, 2885, 2886, 2887, 2888, 2889, 2890, 2891, 2892, 2893, 2894, 2895, 2896, 2897, 2898, 2899, 2900, 2901, 2902, 2903, 2904, 2905, 2906, 2907, 2908, 2909, 2910, 2911, 2912, 2913, 2914, 2915, 2916, 2917, 2918, 2919, 2920, 2921, 2922, 2923, 2924, 2925, 2926, 2927, 2928, 2929, 2930, 2931, 2932, 2933, 2934, 2935, 2936, 2937, 2938, 2939, 2940, 2941, 2942, 2943, 2944, 2945, 2946, 2947, 2948, 2949, 2950, 2951, 2952, 2953, 2954, 2955, 2956, 2957, 2958, 2959, 2960, 2961, 2962, 296

RESEARCH AND TECHNOLOGY RESUME			1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 16-03-67	5. KIND OF RESUME A New	6. SECURITY RPT WRK	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF RESUME Q. QDRI	
10a. CURRENT NUMBER/CODE QC4-24401-C-034			10b. PRIOR NUMBER/CODE SMUFA-30			
11. TITLE (U) Improved Materials for Escapement Springs						
12. SCIENTIFIC OR TECH. AREA Ammunition, Explosives and Pyrotechnics			13. START DATE N/A	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY N/A	
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT a. NUMBER N/A b. DATE c. TYPE d. AMOUNT		18. RESOURCES EST. PRIOR FY N/A CURRENT FY	19. PROFESSIONAL MAN-YEARS N/A		20. FUNDS (in thousands) N/A
19. GOVT LAB/INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS SMUFA-J6100 Philadelphia, Pennsylvania 19137 RESP. INDIV. Nabreski, B.D. TEL. 215 535-2900 X 3202			20. PERFORMING ORGANIZATION NAME ADDRESS INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE			
21. TECHNOLOGY UTILIZATION Clock and Watch Industry, Instrumentation			22. COORDINATION			
23. KEYWORDS Fuze, Escapements						
24. (U) <u>Objective</u> : To develop a new alloy with the following target properties (or the best possible compromise): Tensile Strength - 350,000 psi; Yield Point - 250,000 psi; Modulus of Elasticity - 25,000,000 psi; Thermoelastic Modulus (absolute value) - 40 X 10 minus 6/°F; Density - .4 lbs/cu. in.						
25. (U) <u>Approach</u> : Basic research efforts into ferrous and non-ferrous metalurgy to develop an alloy which will satisfy the physical properties cited in the Objective.						
26. (U) <u>Background</u> : The ideal escapement spring material for artillery fuze movements should have high strength, low thermoelastic modulus, high modulus of elasticity, and low to moderate density. Materials currently used have only moderate strength. If high strength alloy were available with moderately low thermoelastic moduli, different spring configuration (especially the round cross-section) could readily be utilized to give movements with low spin sensitivity and low temperature sensitivity.						
27. COMMUNICATIONS SECURITY ☐ a. COMSEC OR COMSEC RELATED ☒ b. NOT RELATED		28. N/A		29. OSD CODE N/A		30. BUDGET CODE N/A
31. MISSION OBJECTIVE			32. PARTICIPATION N/A			
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A				
35. EST. FUNDS (in thousands) N/A		36. N/A				

DD FORM 1498

RESEARCH AND TECHNOLOGY RESUME		1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 16-03-67	5. KIND OF RESUME A New	6. SECURITY U RPT U WRK	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF RESUME Q. QDRI
10. CURRENT NUMBER/CODE QW4-42703-C-632		10. PRIOR NUMBER/CODE SMUFA-31			
11. TITLE (U) Electronic Gaging Small Caliber Cartridges					
12. SCIENTIFIC OR TECH. AREA Ordnance, Ammunition		13. START DATE N/A	14. CRIT COMPL. DATE N/A	15. FUNDING AGENCY N/A	
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT A. NUMBER N/A C. TYPE D. AMOUNT	18. RESOURCES EST. PRIOR FY N/A CURRENT FY	19. PROFESSIONAL MAN-YEARS N/A	20. FUNDS (in thousands) N/A	
19. GOVT LAB. INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS Industrial Services Directorate SMUFA-X2000 Philadelphia, Pennsylvania 19137 RESP. INDIV. Gatter, E.R. TEL. 215 JE 5-2900 X 3120		20. PERFORMING ORGANIZATION NAME ADDRESS N/A INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE			
21. TECHNOLOGY UTILIZATION Applied Research or Development		22. COORDINATION			
23. KEYWORDS Ammunition, Electronic sensing and measuring devices, Small caliber ammunition					
24. (U) Objective: To conduct feasibility studies in the applicability of utilizing electronic sensing and measuring devices as a substitute for the mechanical and human mode of inspection and machine adjustment in small caliber ammunition manufacture.					
25. (U) Approach: A need exists for a system in small caliber ammunition production that will reduce and/or eliminate the human error potential in machine adjustment and component inspection. It is believed that electronics presents the means for reducing and or eliminating this error potential. The investigator will design and develop a prototype system utilizing the necessary electronic devices to attain the desired objective.					
26. (U) Background: N.A.					
27. COMMUNICATIONS SECURITY ☐ A. COMSEC OR COMSEC RELATED ☒ B. NOT RELATED		28. N/A	29. OSD CODE N/A	30. BUDGET CODE N/A	
31. MISSION OBJECTIVE		32. PARTICIPATION N/A			
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A			
35. EST. FUNDS (in thousands) N/A		36. N/A			

DD FORM 1498

(Replaces DD FORM 1498, 1-64, and DD FORM 1498, 1-64, which are obsolete.)

RESEARCH AND TECHNOLOGY RESUME				1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME	5. KIND OF RESUME	6. SECURITY	7. REGRADING	8. RELEASE LIMITATION	9. LEVEL OF RESUME		
15-08-67	A New	II II	N/A	OD	Q. QDRI		
104. CURRENT NUMBER CODE				105. PRIOR NUMBER/CODE			
QW4-23801-C-540				SMUFA-33			
11. TITLE							
(U) Decreasing Weight and Size of Ammunition							
12. SCIENTIFIC OR TECH. AREA				13. START DATE	14. CRIT. COMPL. DATE	15. FUNDING AGENCY	
Ordnance, Ammunition				N/A	N/A	N/A	
16. PROCEDURE METHOD	17. CONTRACT/GRANT	a. DATE	18. RESOURCES EST.	c. PROFESSIONAL MAN-YEARS		d. FUNDS (in thousands)	
N/A	b. NUMBER N/A		PRIOR FY N/A	N/A		N/A	
	c. TYPE	d. AMOUNT	CURRENT FY				
19. GOVT LAB. INSTALLATION/ACTIVITY				20. PERFORMING ORGANIZATION			
NAME Frankford Arsenal ADDRESS Amm Dev & Engr Labs SMUFA-J7000 Philadelphia, Pennsylvania 19137				NAME ADDRESS INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE			
RESP. INDV. Regan, John E. TEL. 215 535-2900 X 21107				N/A			
21. TECHNOLOGY UTILIZATION				22. COORDINATION			
23. KEYWORDS							
Small arms ammunition size, Small arms ammunition weight.							
24.							
(U) Objective: There is a need to decrease the weight and size of small caliber ammunition in order to lessen the load carried by each soldier and to facilitate logistics, especially in regard to air transport.							
25.							
(U) Approach: One method is to increase the ballistic efficiency of the ammunition. Another is to eliminate the ammunition casing or use a lighter weight case.							
26.							
(U) Background: The recent development in caseless ammunition has made weight reduction possible. After a number of years of exploratory development, two major development projects are underway.							
27. COMMUNICATIONS SECURITY				28.	29. OSD CODE	30. BUDGET CODE	
a. COMSEC OR COMINT RELATED ☒ b. NOT RELATED				N/A	N/A	N/A	
31. MISSION OBJECTIVE				32. PARTICIPATION			
				N/A			
33. REQUESTING AGENCY				34. SPECIAL EQUIPMENT			
N/A				N/A			
35. EST. FUNDS (in thousands)				36.			
N/A				N/A			

RESEARCH AND TECHNOLOGY RESUME		1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 15-08-67	5. KIND OF RESUME A New	6. SECURITY U U	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF RESUME Q. QDRI
10. CURRENT NUMBER/CODE QW4-23801-C-549			10. PRIOR NUMBER/CODE SMUFA-41		
11. TITLE (U) Improving Combustible Ignition Systems for Caseless Ammunition					
12. SCIENTIFIC OR TECH. AREA Ordnance, Ammunition, Guns			13. START DATE N/A	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY N/A
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT A. NUMBER N/A C. TYPE D. AMOUNT	18. RESOURCES EST. PRIOR FY N/A CURRENT FY	19. PROFESSIONAL MAN-YEARS N/A		20. FUNDS (in thousands) N/A
19. GOVT LAB/INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS Ammo Dev & Engr Labs SMUFA-J1000 Philadelphia, Pennsylvania 19137 RESP. INDIV. Bornheim, George TEL. 215 535-2900 X 5105			20. PERFORMING ORGANIZATION NAME ADDRESS N/A INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE		
21. TECHNOLOGY UTILIZATION			22. COORDINATION		
23. KEYWORDS Percussion ignition, Electric ignition, Sensitivity, Erosion, Reaction time					
24. (U) <u>Objective</u> : Develop new combustible percussion and electric ignition systems and percussion primer compositions in Calibers 5.56mm and 20-30mm to provide reliable ignition, handling safety, sensitivity and reaction time of the molded propellant caseless ammunition. Ignition systems should have no corrosive or erosive effect on the weapon and leave little or no residue in the gun chamber.					
25. (U) <u>Approach</u> : Studies have been initiated to develop combustible percussion and electric ignition systems to ignite the caseless molded propellant ammunition for both telescoped and conventional projectiles locations, and to develop percussion primer compositions which produce all gaseous products or which leave only a small amount of ash. These compositions should not be reactive with metallic weapon components.					
26. (U) <u>Background</u> : Combustible percussion primers have been made for the 5.56mm and 7.62mm ammunition which provide reliable ignition, handling safety, sensitivity and reaction time, but these primers have a severe erosive effect on the weapon and leave slag or residue in the chamber. In larger caliber caseless weapons a need exists for both combustible percussion and electric ignition systems to provide reliable ignition, handling safety, sensitivity and reaction time of the larger molded propellant charge and provide flexibility of applications.					
27. COMMUNICATIONS SECURITY ☐ A COMSEC OR COMSEC RELATED ☒ A NOT RELATED		28. N/A	29. OSD CODE N/A	30. BUDGET CODE N/A	
31. MISSION OBJECTIVE			32. PARTICIPATION N/A		
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A			
35. EST. FUNDS (in thousands) N/A		36. N/A			

RESEARCH AND TECHNOLOGY RESUME				1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 15-08-67	5. KIND OF RESUME A New	6. SECURITY RPT WRK	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF RESUME Q. QDRI		
10A. CURRENT NUMBER/CODE QW4-23801-C-552				10B. PRIOR NUMBER/CODE SMUFA-44			
11. TITLE: (U) Reduce Erosion and Fouling in Caseless Weapon Systems							
12. SCIENTIFIC OR TECH. AREA Ordnance, Ammunition, Guns				13. START DATE N/A	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY N/A	
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT A. DATE B. NUMBER N/A C. TYPE D. AMOUNT		18. RESOURCES EST. PRIOR FY N/A CURRENT FY	19. PROFESSIONAL MAN-YEARS N/A		20. FUNDS (in thousands) N/A	
19. GOVT LAB/INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS Ammo Dev & Engr Labs SMUFA-J1000 Philadelphia, Pennsylvania 19137 RESP. INDIV. Bornheim, George TEL. 215 535-2900 X 5135				20. PERFORMING ORGANIZATION NAME Rock Island Arsenal ADDRESS Research & Engineering Division SWERI-RDR Rock Island, Illinois 61201 INVESTIGATORS PRINCIPAL R. Spratt ASSOCIATE TEL. 209-794-6001 X 5554 TYPE			
21. TECHNOLOGY UTILIZATION				22. COORDINATION			
23. KEYWORDS Heat transfer coefficient, Thermal capacity, Thermal conductivity							
24. (U) Objective: Reduce erosion and fouling in the chamber, obturator and firing pin areas of the weapon.							
25. (U) Approach: Improved chamber, barrel and ignition system designs to minimize erosion and fouling effects. Reduce heat transfer to the weapon. Test and evaluate new materials and coatings/platings that promise resistance to heat and erosive high pressure gas flow.							
26. (U) Background: The erosion problem using caseless ammunition is caused by the increased heat transfer to the breech of the weapon and the fouling problem is caused by the erosive effects of present combustible primers. Materials that resist melting and erosion e.g. tungsten coatings/liners, tantalum, ceramics, cermets and new primer designs and compositions are being investigated.							
27. COMMUNICATIONS SECURITY ☐ A. COMSEC OR COMSEC RELATED ☒ B. NOT RELATED		28. N/A		29. OSD CODE N/A		30. BUDGET CODE N/A	
31. MISSION OBJECTIVE				32. PARTICIPATION N/A			
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A					
35. EST. FUNDS (in thousands) N/A		36. N/A					

DD FORM 1498

(Items 1 to 32 identical to NASA Form 1122) REPLACES DD FORMS 613 & 613C WHICH ARE OBSOLETE.

RESEARCH AND TECHNOLOGY RESUME			1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME 15-08-67	5. KIND OF RESUME A New	6. SECURITY U UNK	7. REGRADING N/A	8. RELEASE LIMITATION OD	9. LEVEL OF RESUME Q. QDRI	
104. CURRENT NUMBER/CODE QC4-24401-C-037			105. PRIOR NUMBER/CODE SMUFA-50			
11. TITLE (U) Improved Materials for Propellant Actuated Devices (PAD)						
12. SCIENTIFIC OR TECH. AREA			13. START DATE N/A	14. CRIT. COMPL. DATE N/A	15. FUNDING AGENCY N/A	
16. PROCURE. METHOD N/A	17. CONTRACT/GRANT A. NUMBER N/A C. TYPE D. AMOUNT	18. RESOURCES EST. PRIOR FY N/A CURRENT FY	19. PROFESSIONAL MAN-YEARS N/A		20. FUNDS (in thousands) N/A	
19. GOVT LAB/INSTALLATION/ACTIVITY NAME Frankford Arsenal ADDRESS Amm Dev. & Engr Labs SMUFA-J5400 Philadelphia, Pennsylvania 19137 RESP. INDIV. Weinstock, Manuel TEL. 215 535-2900 X 5147			20. PERFORMING ORGANIZATION NAME ADDRESS INVESTIGATORS PRINCIPAL ASSOCIATE TEL. TYPE			
21. TECHNOLOGY UTILIZATION			22. COORDINATION			
23. KEYWORDS Filter materials, Bonding of materials, Gas generators, Nozzle materials						
24. (U) <u>Objective</u> : To initiate studies to aid in the development and application of new materials for PAD having a performance capability beyond what is currently in use.						
25. (U) <u>Approach</u> : Feasibility studies will be initiated to: a. Develop cool gas generators that produce gases of a non-condensable and non-corrosive nature, and that will somehow be cooled to a maximum temperature of 160 degrees F while leaving the generator. b. Develop nozzle materials that will reduce the effects of corrosion in advanced concepts for rocket catapult devices. c. Develop filter materials that will effectively filter the solid residue of propellant combustion down to the 5 to 50 micron range. d. Develop techniques for assuring complete bonding of propellants, inhibitors, insulators and case materials.						
26. (U) <u>Background</u> : The high temperatures associated with most propellant gases (and their incompatibility with materials exposed to them, e.g., parawings, life rafts) have limited their application.						
27. COMMUNICATIONS SECURITY ☐ A COMSEC OR COMSEC RELATED ☒ A. NOT RELATED		28. N/A	29. OSD CODE N/A		30. BUDGET CODE N/A	
31. MISSION OBJECTIVE			32. PARTICIPATION N/A			
33. REQUESTING AGENCY N/A		34. SPECIAL EQUIPMENT N/A				
35. EST. FUNDS (in thousands) N/A		36. N/A				

RESEARCH AND TECHNOLOGY RESUME			1.	2. GOVT ACCESSION	3. AGENCY ACCESSION	REPORT CONTROL SYMBOL
4. DATE OF RESUME	5. KIND OF RESUME	6. SECURITY	7. REGRADING	8. RELEASE LIMITATION	9. LEVEL OF RESUME	
15-08-67	A New	U U U	N/A	OD	Q. ODRI	
10. CURRENT NUMBER/CODE			10. PRIOR NUMBER/CODE			
QM4-25901-C-132			SMUFA-52			
11. TITLE:						
(U) Improved Propulsion Techniques for Aircraft Emergency Escape Systems						
12. SCIENTIFIC OR TECH. AREA			13. START DATE	14. CRIT. COMPL. DATE	15. FUNDING AGENCY	
			N/A	N/A	N/A	
16. PROCURE. METHOD	17. CONTRACT/GRANT		18. RESOURCES EST.		19. PROFESSIONAL MAN-YEARS	
N/A	a. DATE		PRIOR FY N/A		N/A	
	b. NUMBER	N/A	CURRENT FY		N/A	
	c. TYPE	d. AMOUNT				
19. GOVT LAB/INSTALLATION/ACTIVITY			20. PERFORMING ORGANIZATION			
NAME Frankford Arsenal			NAME			
ADDRESS Arm Dev & Engr Labs SMUFA-J5400			ADDRESS			
Philadelphia, Pennsylvania 19137			N/A			
RESP. INDV. Weinstock, Manuel			INVESTIGATORS			
TEL. 215 535-2900 X 5147			PRINCIPAL ASSOCIATE			
			TEL. TYPE			
21. TECHNOLOGY UTILIZATION			22. COORDINATION			
23. KEYWORDS						
Automation systems. Stabilization systems. Personnel ejection						
24.						
(U) Objective: Develop an adequate ejection and stabilization mechanism for helicopters and fixed wing aircraft. An all rocket ejection system is desirable.						
25.						
(U) Approach: Studies will be initiated to develop integrated and automated escape systems for both helicopters and fixed wing aircraft, with a requirement for minimum human control. The feasibility of an all-rocket system will also be investigated.						
26.						
(U) Background: The largest single cause of fatalities in emergency aircraft ejections is the result of ejections at low altitude, low air speed and unfavorable attitude. This calls for attention to stabilization of the system during ejection and minimum delay between initiation of escape and controlled descent.						
27. COMMUNICATIONS SECURITY			28.		29. OSD CODE	
a. COMSEC OR COMSEC RELATED ☒ b. NOT RELATED			N/A		N/A	
31. MISSION OBJECTIVE			32. PARTICIPATION			
			N/A			
33. REQUESTING AGENCY			34. SPECIAL EQUIPMENT			
N/A			N/A			
35. EST. FUNDS (in thousands)			36.			
N/A			N/A			

APPENDIX H

UNSOLICITED PROPOSALS

The data elements of the Unsolicited Proposal File will be utilized to provide an initial match of the techniques in the unsolicited proposal to known Army needs, through the QDRI Statements File. This matching will provide the basis or first step in the evaluation of the unsolicited proposal.

The problem of conducting a full and thorough evaluation of the potential solutions to problems offered by the unsolicited proposal is not unique to the Army. In recognition of this problem, an "Interagency Working Group on Government Unsolicited Proposals" has been established, comprised of the organizations within the Department of Defense along with other interested Federal Agencies such as the National Institute of Health, the National Science Foundation, the National Aeronautics and Space Administration, etc. The "group" has assumed the responsibility and undertaken the task of developing uniform standards and procedures for the receipt, handling, processing, evaluating, and disseminating of information concerning unsolicited proposals.

Several sessions of the working group have been held for the purpose of clearly identifying all problem areas prior to developing specifications for a standard system for handling unsolicited proposals. Formats for reports based on the unsolicited proposals have not been established, however, until this is accomplished, the QDRI Information Processing System will provide reports on unsolicited proposal activities of the Army, presenting information such as;

UNSOLICITED PROPOSALS RECEIVED

DISTRIBUTION OF UNSOLICITED PROPOSALS

EVALUATION OF UNSOLICITED PROPOSALS

The frequency of these reports may be on a monthly or quarterly basis, however, this need can best be determined by actual usage. Sample formats of these reports are presented in the following pages of this Appendix. Summary type reports based on unsolicited proposals are included in Appendix K.

PAGE _ OF _ PAGES

UNSOLICITED PROPOSALS RECEIVED

PROPOSAL IDENTIFICATION NUMBER DATE OF PROPOSAL

TITLE OF PROPOSAL

NAME OF SUBMITTING ORGANIZATION (OR INDIVIDUAL)

STREET ADDRESS

TELEPHONE NUMBER

CITY

STATE, ZIP CODE

NAME OF ORGANIZATION CONTACT

SUBMISSION DATE

CUT-OFF DATE

AMC INSTALLATION/AGENCY RECEIVING PROPOSAL

ABSTRACT OF PROPOSAL (IF AVAILABLE)

KEY WORDS (IF AVAILABLE)

PAGE _ OF _ PAGES

DISTRIBUTION OF UNSOLICITED PROPOSALS

PROPOSAL IDENTIFICATION NUMBER

DATE OF PROPOSAL

TITLE OF PROPOSAL

NAME OF SUBMITTING ORGANIZATION (OR INDIVIDUAL)

STREET ADDRESS

TELEPHONE NUMBER

CITY

STATE, ZIP CODE

NAME OF ORGANIZATION CONTACT

SUBMISSION DATE

CUT-OFF DATE

AMC INSTALLATION/AGENCY RECEIVING PROPOSAL

MEMO OF UNDERSTANDING

DATE OF MEMO

RELATED QDRI ITEM NUMBER (OR ASSIGNED NUMBER IF NOT RELATED)

DISTRIBUTION FOR EVALUATION

SMUFA

SMUPA

SWEWV

XXXXX

XXXXX

XXXXX

PAGE _ OF _ PAGES

EVALUATION OF UNSOLICITED PROPOSALS

PROPOSAL IDENTIFICATION NUMBER DATE OF PROPOSAL

TITLE OF PROPOSAL

NAME OF SUBMITTING ORGANIZATION (OR INDIVIDUAL)

STREET ADDRESS

TELEPHONE NUMBER

CITY

STATE, ZIP CODE

NAME OF ORGANIZATION CONTACT

EVALUATION RESULTS

FAVORABLE/UNFAVORABLE

FUNDING/PROGRAM ELEMENT

CONTRACT NUMBER

CONTRACT DATE

CONTRACT PRICE

CONTRACT ADMINISTRATOR

TECHNICAL COORDINATOR

AMC INSTALLATION/AGENCY SPONSOR

APPENDIX I

AUTOMATED RESEARCH AND DEVELOPMENT BIDDERS LISTS

This report, prepared by the QDRI Information Processing System will provide a selected list of registered organizations, qualified to participate in research and development procurements, to major Army Procurement Offices. The format of this report has not been standardized for all procurement offices. The standardization of formats is currently being developed under NAPALM, however, the pertinent data elements are already known and are incorporated within the QDRI Information Processing System. These output data elements are presented as follows.

<u>DATA ELEMENT</u>	<u>SIZE</u>
QUALIFIED ORGANIZATION (FACILITY) IDEN. NUMBER	6 A/N Chars.
NAME OF QUALIFIED ORGANIZATION (FACILITY)	34 A/N Chars.
NAME OF PARENT ORGANIZATION	34 A/N Chars.
STREET ADDRESS	33 A/N Chars.
CITY	19 Alpha Chars.
STATE	6 Alpha Chars.
ZIP CODE	6 Numeric Chars.
GEOGRAPHICAL CODE LOCATION	4 Numeric Chars.
TELEPHONE NUMBER	10 A/N Chars.
NAME OF ORGANIZATION CONTACT	20 Alpha Chars.
TYPE OF ORGANIZATION CODE	1 Alpha Char.
CORPORATIVE STATUS CODE	1 Alpha Char.
DATE OF LAST QUALIFICATION REVIEW	6 Numeric Chars.
SMALL BUSINESS CODE	1 Alpha Char.

<u>DATA ELEMENT</u>	<u>SIZE</u>
SECURITY CLEARANCE CODE	1 Alpha Char.
COGNIZANT SECURITY AGENCY CODE	5 Alpha Chars.
STATUS LIST CODE	1 Alpha Char.

APPENDIX J

QDRI PUBLICATIONS

These reports or documents are actually system generated maintenance and up-dating of the Annexes of the QDRI Manager's Guide. The Annexes provide to the QDRI Offices a wide variety of basic data necessary for the management and coordination of the Program. The pertinent Annexes which are amenable to automated maintenance and up-dating procedures are:

- ANNEX 1 - PROGRAM ELEMENT COORDINATION
- ANNEX 2 - DIRECTORY OF POINTS OF CONTACT FOR
INFORMATION-TO-INDUSTRY PROGRAMS
- ANNEX 3 - LIST OF OUTSTANDING QDRI's
- ANNEX 4 - BASIC DISTRIBUTION OF QDRI PUBLICATIONS
- ANNEX 5 - MISSIONS AND INTERESTS OF ARMY RESEARCH
AND DEVELOPMENT AGENCIES
- ANNEX 6 - LIST OF CONTRACTS RESULTING FROM QDRI PROGRAM
- ANNEX 7 - FORMAT REQUIREMENTS FOR QDRI GUIDES
- ANNEX 8 - REFERENCES AND BIBLIOGRAPHY

Sample sections of the Annexes are presented. The QDRI Information Processing System will maintain and up-date the list type data elements contained within each Annex. For example, as changes occur in Annex 1 - Program Element Coordination - on the Program Element Assignments, up-dated versions can be prepared by the system. As an additional example, in Annex 2 - Directory of Points of Contact for Information-to-Industry Programs - up-dating requirements of the names of individuals, changes in mailing addresses, new telephone numbers, etc. can also be accomplished by the automated features of the QDRI Information Processing System.

ANNEX 1

QUALITATIVE DEVELOPMENT REQUIREMENTS INFORMATION PROGRAM ELEMENT COORDINATOR ASSIGNMENTS

(REF: AR 705-12 & AMCR 11-5, C1)

<i>Program Element Assignment</i>	<i>Coordinator Assignment</i>
RESEARCH DIVISION, R&D DIRECTORATE, AMC	
6.11.30.01.1 In-House Laboratory Independent Research (BP 5000)	Dr. R. G. H. Siu Attn: AMCRD-R
6.11.45.01.1 Defense Research Sciences (BP 5000)	
Research in Physics	Mr. Joseph Kaufman Attn: AMCRD-RC
Research in Chemistry	Dr. O. Borum ATTN: AMCRD-RC
Research in Mathematics	Mr. Joseph Kaufman Attn: AMCRD-RC
Mathematical Numerical Analysis for Scientific Computers	Mr. G. E. Stetson Attn: AMCRD-RP
Electronics	Mr. Park Bedford Attn: AMCRD-RP
Research in Materials	Dr. P. R. Kisting Attn: AMCRD-RC
Explosives—Pyrotechnics	Mr. M. C. Miller Attn: AMCRD-RC
Propellants Research	Mr. M. C. Miller Attn: AMCRD-RC
Research in Mechanics	Mr. Joseph Kaufman Attn: AMCRD-RC
Pure-Fluid Systems	Lt. Col. Walter Kertula Attn: AMCRD-RP
Interior Ballistics	Mr. G. E. Stetson Attn: AMCRD-RP
Exterior Ballistics	Mr. G. E. Stetson Attn: AMCRD-RP
Terminal Ballistics	Mr. G. E. Stetson Attn: AMCRD-RP
Aircraft Aerodynamics	Mr. John Beebe Attn: AMCRD-RP
Research Energy Conversion	John Crelin Attn: AMCRD-RC
Research in Earth Physics	Mr. R. F. Jackson Attn: AMCRD-RV
Research Atmospheric Sciences	Mr. J. A. Copeland Attn: AMCRD-RV

ANNEX 2

DIRECTORY

Points of Contact for QDRI and Related Information to Industry Programs

1. U. S. ARMY MATERIEL COMMAND, Washington, D. C. 20315
AUTOVON 22 plus Ext. No.; Area 202, Phone OX plus Ext. No.
 - a. Research and Development Directorate—Policy
 - (1) Policy on QDRI and Unsolicited Proposals
(P) Mr. B. Stutsky, GS-14, AMCRD-SS-P, Ext. 53933, Building T-7
 - (2) Prime Contact on Unsolicited Proposals
(A) Mr. H. L. Mourning, GS-12, AMCRD-SS-P, Ext. 54982, Building T-7
 - b. Project Managers—Coordination
 - (1) QDRI Projects and Problems
(P) AMCPM (To be assigned)
 - (2) Unsolicited Proposals and Inventive Proposals
(P) AMCPM (To be assigned)
2. INDEPENDENT LABORATORIES—Coordination
 - a. USA Ballistic Research Laboratories, Aberdeen Proving Ground, Maryland 21005
AUTOVON 231-1380; Area 301, Phone 272-4000 (See Note).
 - (1) QDRI Projects and Problems
(P) Mr. L. E. Zongker, GS-13, AMXBR-W, Ext. 3374
 - (2) Unsolicited Proposals and Inventive Proposals
(P) Dr. Frank E. Grubbs, PL 313, AMXBR-X, Ext. 3098
 - b. USA Coating and Chemical Laboratory, Aberdeen Proving Ground, Maryland 21005
AUTOVON 231-1380; Area 301, Phone 272-4000 (See Note).
QDRI Projects and Problems, Unsolicited Proposals and Inventive Proposals
(P) Mr. Harry L. Ammlung, GS-15, AMXCC, Ext. 48206
 - c. USA Cold Regions Research and Engineering Laboratories
Hanover, New Hampshire 03755
Area 603, Phone 643-3200
QDRI Projects and Problems, Unsolicited Proposals and Inventive Proposals
(P) Mr. Wesley R. Floyd, GS- , AMXCR-TL, Ext. 229
 - d. Harry Diamond Laboratories, Washington, D. C. 20438
Government Code 154; Area 202, Phone 244-7700
 - (1) QDRI Projects and Problems
(P) Mr. C. C. Schwenk, GS- , AMXDO-PP, Ext. 7745
 - (2) Unsolicited Proposals and Inventive Proposals
(P) Mr. Jens F. Holst, GS- , AMXDO-PP, Ext. 7745

NOTE: The Ballistic Research Laboratories QDRI Office will be the point of contact for industry and commerce for all laboratory activities located at Aberdeen Proving Ground, Md.

ANNEX 3

QDRI. PROJECTS, TASKS, AND PROBLEMS
U. S. ARMY BALLISTIC RESEARCH LABORATORIES
ABERDEEN PROVING GROUND, MD. 21005

**PROJECT
NUMBER**

QP4-10501-M-001
(sample number)

PROBLEM TITLE

Interior Ballistics (Pressure measurements)
Computer Methodology
Interference Comparator (Photogrametric) (NIC-2307)
Automatic Stereoscopic Measurement (NIC-2308)
Gauge to Measure Transient Pressure within Soil
(NIC-2309)
Hydraulic Brake Fluids (Mineral Type)
Conversion Coating, Zinc and Iron Phosphate
Heavy Duty Alkaline Cleaner
Cleaners, Paint Removers
Cleaners, Carbon Solvent Looseners

HARRY DIAMOND LABORATORIES
WASHINGTON, D. C. 20438

**PROJECT
NUMBER**

PROBLEM TITLE

An Electronically Variable Microwave Delay Line
Step Recovery Diode with Superior Performance Characteristics
Electronically Scanned 70 KMS Antenna; 2D Type Capable of Being Scanned in the Horizontal Dimension
Small Meter (1" Diam. Face or Less) to Measure Static Pressure in Miniaturized Pneumatic Devices
Sensors for Measurement of Liquid and Gas in Very Small Passages (Order of .25" or less) Without Appreciable Disturbances of Flow
Rapid Pulsing Laser System, Manportable and With Superior Performance Characteristics
Power Supply for Specialized Fuze Application
Miniature Gun-Rugged Accurate Electronic Time Base
Transistor Flip-Flop Setting Device
Solid State Safety & Arming Device
Low Power Counter

ANNEX 4

Distribution of QDRI Series of Guides

<u>Addressee</u>	<u>No. of Copies</u>		
	<u>Vol. I</u>	<u>Vol. II</u>	<u>Vols. III thru VIII</u>
Qualified civilian organizations	None	(a) I (b)	
According to interest—2 per installation—maximum		(a) All unclassified volumes (b) Classified a/c "need-to-know"	
Hq. U. S. Army Materiel Command			
CG. USAMC; AMCCG	1	1	1 each
P&P Directorate; AMCPP	1	1	1 each
AMCPP-PP	1	1	1 each
AMCPP-ME	1	1	1 each
AMCPP-MW	1	1	1 each
AMCPP-MU	1	1	1 each
Materiel Readiness Dir; AMCMR-CO	1	1	1 each
AMCMR-EL	1	1	1 each
AMCMR-MI	1	1	1 each
AMCMR-MO	1	1	1 each
AMCMR-MU	1	1	1 each
AMCMR-WE	1	1	1 each
Comptroller; AMCCP-RA	1	1	1 each
General Counsel; AMCGC-PA	1	1	1 each
Data Systems; AMCDS	1	None	None
Information Ofc; AMCIN	1	1	1 each (Unclassified only)
Research & Development Directorate			
AMCRD	1	1	1 each
AMCRD-TL	5	2	2 each
AMCRD-SS	5	2	2 each
AMCRD-DE	7	7	7 each
AMCRD-RS	4	4	4 each
AMCRD-T1	1	1	1 each
Management Science Office			
AMCGA	1	1	1 each

ANNEX 8

REFERENCES AND BIBLIOGRAPHY

MAJOR QDRI PUBLICATIONS

- AMCR 70-19** Release of Qualitative Development Requirements Information (QDRI), 13 October 1964
- Letter** Subject: Qualitative Development Requirements Information, (QDRI) Program, from AMCRD-SS-P, dated 9 November 1964

QDRI Technical Publications

- Volume I** QDRI Managers Guide, January 1965
- Volume II** AMC QDRI Guide (to be published)
- Volume III** USA ECOM QDRI Guide (to be published)
- Volume IV** USA MICOM QDRI Guide (to be published)
- Volume V** USA MOCOM QDRI Guide (to be published)
- Volume VI** USA MUCOM QDRI Guide (to be published)
- Volume VII** USA WECOM QDRI Guide, February 1965
- Volume VIII** USA T&E Command QDRI Guide (to be published)

PUBLICATIONS ON OTHER MAJOR INFORMATION PROGRAMS

- AR 825-20** Inventions, Patents, and Patent Infringements Claims and Inventive Proposals, 23 October 1951, Changes 2-3
- AMCR 70-2** Unsolicited Research and Development Proposals and Inventive Proposals, 28 November 1962
- AR 70-35** Department of the Army Research and Development Unfunded Study Program, 12 December 1963
- AMCR 70-22** The AMC Research and Development Unfunded Study Program, 16 December 1964

Inventions Wanted by the Armed Forces and Other Government Agencies, published by National Inventors Council (NIC), U. S. Department of Commerce (obsolete)

U. S. Army R&D Problems Guide, Volumes I thru VIII, published by OCRD and the technical services prior to Army reorganization (obsolete). Program, Northern States, Navy Research and Development Clinic, Philadelphia, Pa., November 18-20, 1964.

OTHER APPLICABLE DOCUMENTS

- DOD Instruction 5010.11** Improved Management of Technical Logistics Data and Information, 25 February 1964
- DOD Instruction 5010.12** Technical Data and Information; Determination of Requirements and Procurement of, 27 May 1964

January 1965

APPENDIX K

MANAGEMENT REPORTING

The QDRI Information Processing System will provide management type reports in accordance with the requirements set forth in the QDRI Manager's Guide. These reports will be rendered periodically and as required, based on the needs of the users of the system. The reports will be statistical in nature, providing a review of the QDRI Program based on cost effectiveness and its value in use to the ARMY.

Sample reports are presented which are prepared by utilizing the data elements within RODATA in varied sequences to provide selected statistical data on either the entire QDRI Program or the activities of individual AMC QDRI Offices, or even individual contract reports.

ANNUAL REPORT - QDRI PROGRAM

TOTAL NUMBER OF REGISTERED ORGANIZATIONS XXXXX

INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXX
NON-PROFIT ORGANIZATIONS	XXXXX
ACADEMIC ORGANIZATIONS	XXXXX
INDIVIDUALS	XXXXX
NEW REGISTRANTS - CURRENT FY	XXXXX
DROPOUTS - CURRENT FY	XXXXX
NET GAIN (OR LOSS) - CURRENT FY	XXXXX

TOTAL NUMBER OF VISITS BY REGISTERED ORGANIZATIONS XXXXX

INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXX
NON-PROFIT ORGANIZATIONS	XXXXX
ACADEMIC ORGANIZATIONS	XXXXX
INDIVIDUALS	XXXXX

ATTENDANCE AT ADVANCED PLANNING BRIEFINGS XXXXX

INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXX
NON-PROFIT ORGANIZATIONS	XXXXX
ACADEMIC ORGANIZATIONS	XXXXX
INDIVIDUALS	XXXXX

<u>TOTAL NUMBER OF UNSOLICITED PROPOSALS RECEIVED</u>	XXXXX
INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXX
NON-PROFIT ORGANIZATIONS	XXXXX
ACADEMIC ORGANIZATIONS	XXXXX
INDIVIDUALS	XXXXX

<u>TOTAL NUMBER OF UNSOLICITED PROPOSALS ACCEPTED</u>	XXXXX
INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXX
NON-PROFIT ORGANIZATIONS	XXXXX
ACADEMIC ORGANIZATIONS	XXXXX
INDIVIDUALS	XXXXX

<u>TOTAL NUMBER OF CONTRACTS AWARDED BASED ON QDRI</u>	XXXXX
INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXX
NON-PROFIT ORGANIZATIONS	XXXXX
ACADEMIC ORGANIZATIONS	XXXXX
INDIVIDUALS	XXXXX

PAGE _ OF _ PAGES

DOLLAR VALUE OF CONTRACTS AWARDED

XXXXXXX

INDUSTRIAL ORGANIZATIONS (LARGE BUSINESS)	XXXXXX
INDUSTRIAL ORGANIZATIONS (SMALL BUSINESS)	XXXXXX
NON-PROFIT ORGANIZATIONS	XXXXXX
ACADEMIC ORGANIZATIONS	XXXXXX
INDIVIDUALS	XXXXXX

A similar format can be utilized for reports on the activities of each AMC QDRI Office.

APPENDIX L

QDRI GUIDES - VOLUMES I to XI

The QDRI Guides supersede the U.S. Army Problem Guides (1960 - 1963), the NIC book "Inventions Wanted by the Armed Forces," all previous Ordinance, Chemical, and Engineer Corps requirements publications, and the separate publication by the Army Research Office - Durham - of "Military Themes."

There are presently ten QDRI Volumes published regularly. These ten are:

VOLUME I	QDRI MANAGERS GUIDE
VOLUME II	AMC QDRI GUIDE (Independent Laboratories and other Agencies)
VOLUME III	USA ECOM QDRI GUIDE (Electronics and Communications)
VOLUME IV	USA MICOM QDRI GUIDE (Rockets and Missiles)
VOLUME V	US ATAC QDRI GUIDE (Combat Vehicles)
VOLUME VI	USA MUCOM QDRI GUIDE (Munitions and related Material)
VOLUME VIa	EA QDRI GUIDE (Chemical Agents and Munitions)
VOLUME VIb	FORT DETRICK QDRI GUIDE (Biological Agents and Munitions)
VOLUME VIc	FA QDRI GUIDE (Small Caliber Munitions)
VOLUME VI d	PA QDRI GUIDE (Nuclear Munitions and Radiological Equipment)
VOLUME VII	USA WECOM QDRI GUIDE (Weapons, Combat Vehicles, and Fire Control)
VOLUME VIII	USA T&E COMMAND QDRI GUIDE (Test and (Evaluation Instrumentation)

VOLUME IX USA AVCOM & AVLABS QDRI GUIDE (Army
Aircraft)

VOLUME X USA MECOM & MERDC QDRI GUIDE (Other Mobility
Equipment)

In addition, VOLUME XI - Army Research Problems, is now being designed for the distribution of QRRIs (Qualitative Research Requirements Information) and Military Themes, on an unclassified basis to academic and non-profit institutions plus recognized and promising individual inventors.

All volumes are in loose-leaf format with standard 3-holes punched 4-1/4 inches center to center on 8 x 10-1/2 inch upright pages. Separate classified and unclassified versions may be published, except that no restriction other than "FOR OFFICIAL USE ONLY" will be placed on pages of Volume I. Volume I, the QDRI Manager's Guide, is assigned to Frankford Arsenal for preparation, publication, stocking, and distribution. Likewise, Volume II, the AMC QDRI Guide, is assigned to Natick Laboratories for collection of data, preparation, publication, and initial distribution. After initial distribution, all agencies represented therein will be given a supply for distribution.

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D		
(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)		
1. ORIGINATING ACTIVITY (Corporate author) FRANKFORD ARSENAL, Philadelphia, Pa. 19137 (SMUFAL L3300)		2a. REPORT SECURITY CLASSIFICATION Unclassified
		2b. GROUP NA
3. REPORT TITLE SUPPORTING STUDIES ON QDRI PROJECT PLAN - APPENDICES A through L to Report No. 2 - CONVERSION PROCEDURES FOR AUTOMATION		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates) Technical Research Report		
5. AUTHOR(S) (First name, middle initial, last name) PEIRCE, James G. SEGAL, Jerry J. (System Concepts Incorporated) CIPRESSI, Pasquale F.		
6. REPORT DATE October 1967	7a. TOTAL NO. OF PAGES 49	7b. NO. OF REFS None
8a. CONTRACT OR GRANT NO. DAAA25-67-C1061	8b. ORIGINATOR'S REPORT NUMBER(S) Frankford Arsenal Report R-1869B	
8c. PROJECT NO. DA Project 1S750203M613		
8d. AMCMS Code 5700.00.00201.02	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
10. DISTRIBUTION STATEMENT Each transmittal of this document outside the agencies of the U.S. Government must have prior approval of the CO, U.S. Army Frankford Arsenal, Philadelphia, Pa., Attn: SMUFA A2100		
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY AMCRD-SS-P
13. ABSTRACT This report is comprised of Appendices A through L of Report R-1869A. The basic report describes the tasks and related efforts necessary to convert the present QDRI program from a clerical operation into an automated information processing system. A description of the QDRI program is presented therein whereby current operations, files, procedures, etc., are contrasted to planned functions. An implementation plan, covering in detail the activities to be accomplished for the establishment of the QDRI Information Processing System, follows the functional description. These appendices cover the supporting plans which describe data elements, format requirements, project staffing requirements, estimated project costs, and project schedules.		

DD FORM 1473

REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

UNCLASSIFIED
Security Classification

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Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Information Systems Planning Project Control Data Processing System Analysis System Design Programming Information Retrieval						

UNCLASSIFIED

Security Classification

SUPPLEMENTARY

INFORMATION

DEFENSE DOCUMENTATION CENTER
NOTICES OF CHANGES IN CLASSIFICATION, DISTRIBUTION AND AVAILABILITY

69-21

1 November 1969

IDENTIFICATION	FORMER STATEMENT	NEW STATEMENT	AUTHORITY
AD-831 2501. System Concepts Inc., Philadelphia, Pa. Technical research rept. Rept. no. FA-K-1865R- 2 Oct 67 Contract DAAA25-67-C- 1061	USGO: others to Commanding Officer, Frankford Arsenal, Attn: SMUFA-A2100, Philadelphia, Pa.	No limitation	USAFPA ltr, 12 Jun 69