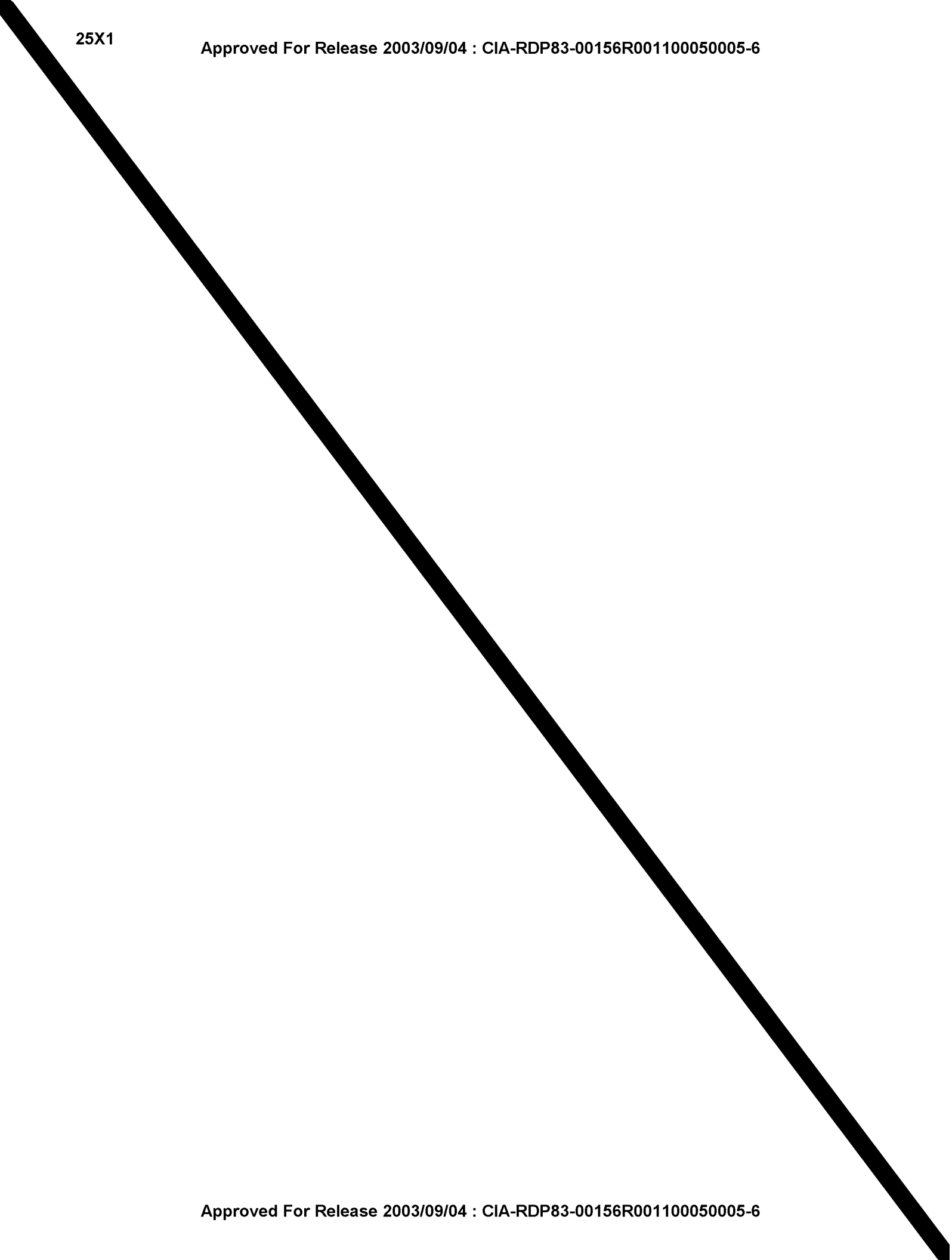


Approved For Release 2003/09/04 : CIA-RDP83-00156R001100050005-6

DDS&T-3478-79/2

13 JUL 1979

MEMORANDUM FOR: Deputy Director for Administration

SUBJECT : FY 1982 RD&E Planning Cycle (U)

1. We are again preparing to initiate a program cycle for RD&E. The attached schedule for the FY 1982 RD&E Planning Cycle is very similar to last year's with two exceptions: (U)

a. The cycle is earlier this year to permit more meaningful interaction between our Directorates and to allow for your full coordination and evaluation of all proposals and,

b. We are asking you to rank your requirements from one to n at the time they are forwarded to us.

2. The remaining steps in the schedule are self-explanatory. In general they are designed to facilitate the orderly and timely review of the individual proposed projects, the aggregated program and monies, and finally the total RD&E program. (U)

3. Your comments and suggestions are solicited so that together we can build a comprehensive and responsive RD&E program. Please forward your ranked requirements to [redacted] Chief, Planning and Resources Staff, Room 6E68 Headquarters, extension [redacted] (U)

STAT

STA

STA

[redacted]

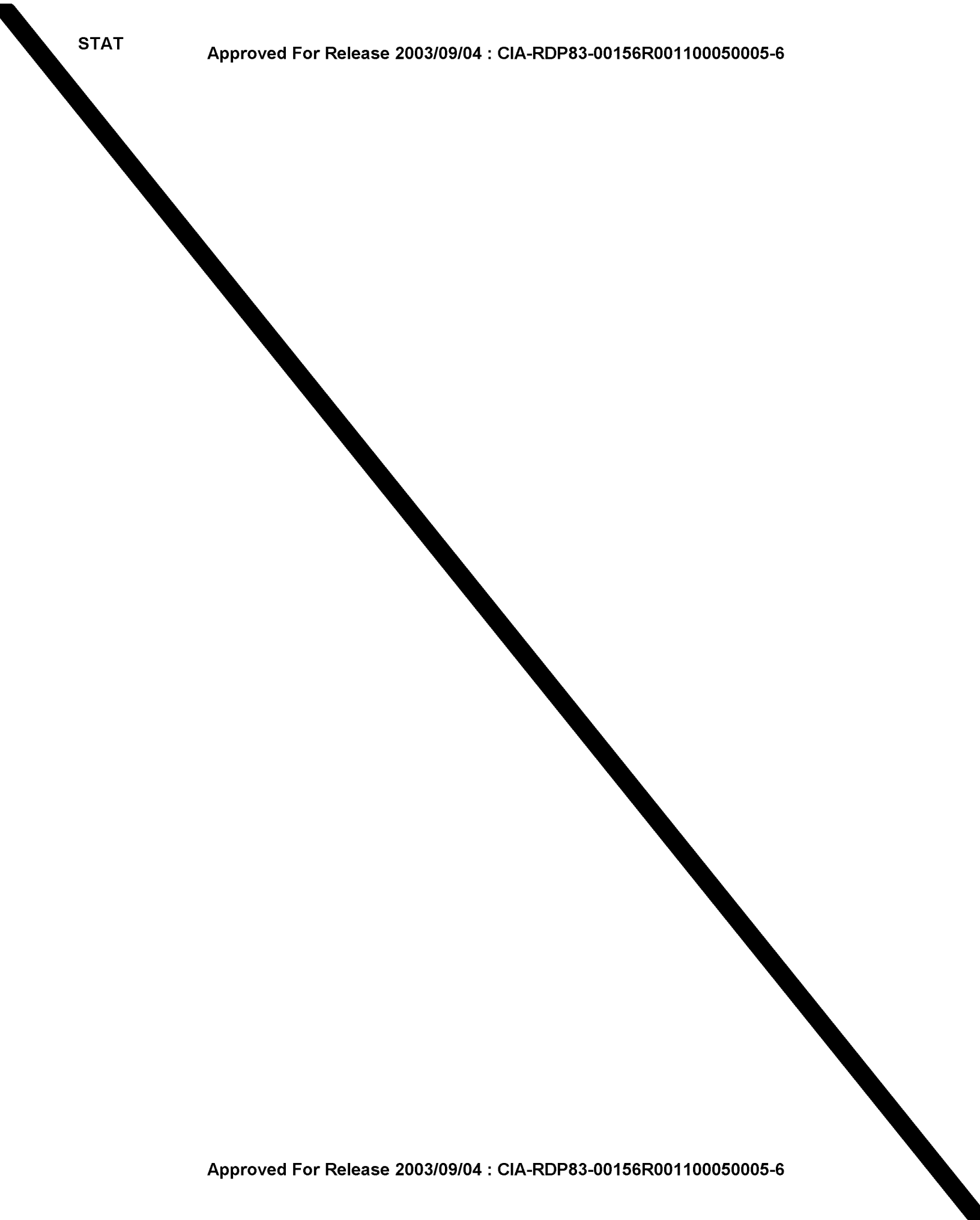
LESLIE C. DIRKS
Deputy Director
for
Science and Technology

Attachment:
As Stated

Attachment to
DDS&T-3478-79/2

FY 1982 Requirements/Proposal/Budget Schedule

Jul 1979	Request from DDS&T to DDA for prioritized long-term requirements
1 Aug 1979	Requirements from DDA to DDS&T
13 Aug 1979 thru 14 Sep 1979	Project Officers in DDS&T meet with DDA Offices to discuss individual requirements and proposed solutions
1 Oct 1979	DDS&T proposals to DDA
19 Nov 1979	DDA consolidated rankings of DDS&T proposals to DDS&T
14 Jan 1980 thru 15 Feb 1980	DDA-DDS&T final coordination of FY 1982 support program



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DDA FY-82 R&D REQUIREMENTS

DDA RANK	TITLE	REQUESTING OFFICE	REQUESTING OFFICE RANK
1	Document Control/Protection	OS/TSD	1
1A	Placement of Controlling Numbers on Classified Microfiche	OL/SS	1
1B	Develop Methods for Providing Classification Markings for Computerized Material	OS/ISSG	7
X1 2	PROJECT [redacted]	OC	1
3	Future Strategies for Database Management	ODP	1
3A	Database Technology for very large Databases	ODP	2
3B	Improved Processing of Personnel Transactions and Data	OP } market survey once [illegible]	3
3C	Cost-Effective Replacement of Card-type Data Bases	OP }	4
4	Psychological Measures and Security	OS/PB	2
5	Advanced Textual Database Management	ODP	3
X1 6	[redacted]	OS/TSD	3
6A		OS/TSD	12
7	Pouch Security	OS/PSD	22
7A	Plain Text Processing Equipment Protection	OC	2
7B	Develop Tamper-Proof Housings for Data Terminals, Work Stations and Word Processors	OS/ISSG	13

[redacted] 25X

DDA FY-82 R&D REQUIREMENTS

DDA RANK	TITLE	REQUESTING OFFICE	REQUESTING OFFICE RANK
8	Information Handling System/Device Security Profiles	OC	3
8A	Development of Improved Means for Inexpensively Protecting Against Compromising Emanations	ODP	4
X1 9	[redacted]	OS/PB	4
9A		OS/PB	5
9B		OS/PB	10
9C		OS/PB	14
9D		OS/PB	18
9E		OS/PB	21
9F		OS/PB	25
10	Data Communications Strategies for the Future	ODP	5
10A	Improvement in High Frequency Communications System	OC	4
10B	Distributed Computing Methodology and Strategies	ODP	6
11	A Need for Advanced Telephone Security Concepts	OS/TSD	6
12	Methodology for Improving the Availability of Computer Services	ODP	7
13	Videodisc Technology	OTR	1
14	Optical Systems	OS/TSD	8

DDA FY-82 R&D REQUIREMENTS

DDA RANK	TITLE	REQUESTING OFFICE	REQUESTING OFFICE RANK
15	Advanced Receiving System	OS/TSD	9
16	Archival Storage of Electronic Data	ODP	8
17	Threat Studies	OS/TSD	15
17A	Local Oscillator Radiation	OS/TSD	11
17B	Typewriter Hazards	OS/TSD	20
18	Harmful Physiological Effects of ACM Systems	OS/TSD	16
19	Measurement of Computer Center Effectiveness	ODP	9
20	Computer Security	ODP	10
20A	User Identification and Authentication	ODP	12
20B	Develop a Security Approved Degausser for Discs Used to Store Information in ADP Systems	OS/ISSG	19
20C	Develop a Provably Secure Operating System for Agency Data Processing Operations	OS/ISSG	26
21	Alternative to Magnetic Tape Storage	ODP	11
22	Audio Countermeasures General Support	OS/TSD	23
22A	Physical Security General Support	OS/TSD	24
23	Secure Destruction of Classified Materiel that Provides for Recovery of Metals Through Normal Salvage Channels	OL	2
24	The Development of Wide-Ranging Manpower or Human Resources Planning Techniques	OP	2

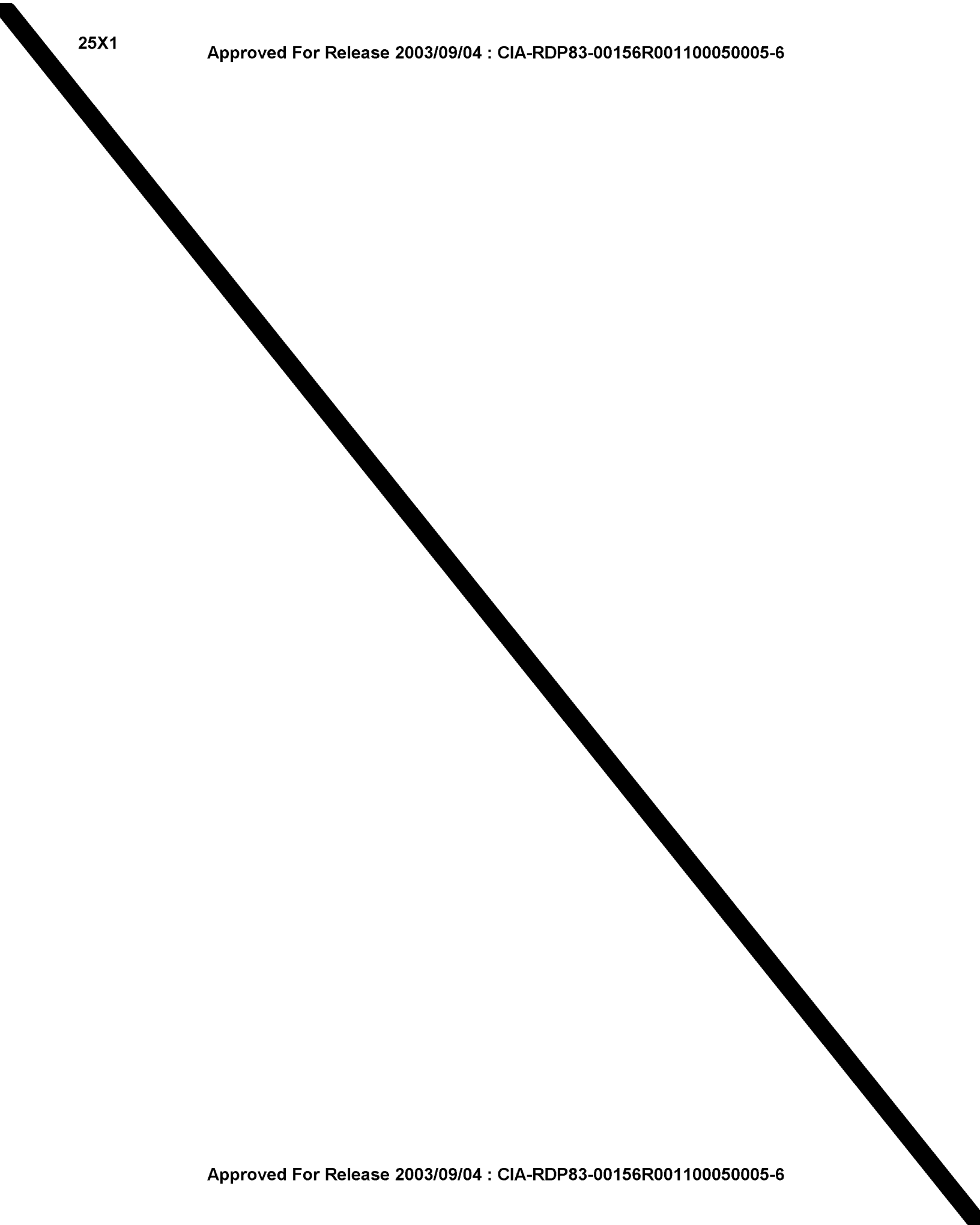
DDA FY-82 R&D REQUIREMENTS

DDA RANK	TITLE	REQUESTING OFFICE	REQUESTING OFFICE RANK
25	Distributed Databases as a Means for Providing Improved Availability and Responsiveness	ODP	13
26	Technology for Future Data Terminals	ODP	14
27	[redacted]	OS/TSD	17
28	Small Machine Micro-Coding	ODP	15
29	Analytical Tools for the Intelligence Analyst	ODP	16
30	Integration of Programming Tools	ODP	17
31	Automated Graphics	OP	5
32	More Efficient Automated Office	OF	1
32A	Office Automation	ODP	25
33	Internal Classification of Data Files	ODP	18
34	Methodology for Insuring the Security of Agency Computer Data Created for Non-Agency Use	ODP	19
35	Disaster Planning Strategies	ODP	20
36	New Methodologies for Capturing Data	ODP	21
37	Measuring Programmer Productivity	ODP	22
38	System Design Methodology	ODP	23
39	Security Model for Dealing with Human Source Information	ODP	24

25X

DDA FY-82 R&D REQUIREMENTS

DDA RANK	TITLE	REQUESTING OFFICE	REQUESTING OFFICE RANK
40	Agency Strategies for Overseas Computer Support	ODP	26
41	Application of Micrographics to the Personnel Data Base	OP	1



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SECRET

DDA #1

OS #1

PROBLEM STATEMENT: Document Control/Protection [redacted] 25X

The problem encompasses both the prevention of unauthorized removal of classified documents from buildings and the unauthorized copying of sensitive documents. [redacted] 25X

The Intelligence Community has come under severe criticism lately because of a rash of leaks, stolen documents and the ease with which individuals can exit a secure compound with sensitive documents on their person. The problem is exemplified by the Boyce-Lee case, the Moore case, the William Kampiles case, and numerous leaks to reporters involving classified memos. While this problem has been researched in the past with minimal success, it is hoped that today's technology will offer more hope for a solution which will at least impede those who attempt to thwart U.S. Government security procedures. [redacted] 25X

We would like to see the entire problem investigated from control of copy machines and possible non-reproducable paper to document tagging techniques. The Office of Security realizes that some solutions may require severe limitations and restrictions on how employees carry out their day to day work assignments. Solutions would have to be weighted according to effectiveness vs. inconvenience, so that proper decisions could be made for long term programs. [redacted] 25X

25X1

Contact: [redacted]

25X1 [redacted] 25X

SECRET

DDA #1A

OL #1

PROBLEM STATEMENT: Placement of Controlling Numbers on Classified Microfiche [redacted] 25X

The problem of controlling unnumbered classified microfiche has been a matter of concern in the Agency for a number of years. In an effort to resolve the problem the Printing and Photography Division (P&PD) recently requested the Bureau of Census to develop a device allowing the placement of numbers on microfiche. At the present time P&PD is uncertain whether Census will be able to develop the device and, if successful, what the projected final developmental costs will be. Should Census be unable to develop the aforementioned device P&PD would seek some internal research and development to help resolve the problem. Attached is a memorandum for your perusal outlining the functional aspect of the proposed device as submitted to Census by our Systems Staff. [redacted] 25X

25X1

Point of Contact:

[redacted]

25X

WARNING NOTICE
INTELLIGENCE SOURCES
AND METHODS INVOLVED

[redacted]

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Approved For Release 2003/09/04 : CIA-RDP83-00156R001100050005-6

DDA #1B

OS #7

PROBLEM STATEMENT: DEVELOP METHODS FOR PROVIDING CLASSIFICATION MARKINGS FOR COMPUTERIZED MATERIALS (A/IUO)

Research and development is required in the following areas in order to develop approved methods for placing security markings on classified materials: (A/IUO)

A. External

1. Printed Output

2. Video Display Devices

3. Computer Output Microfilm

B. Internal

1. Magnetic Media Data Sets

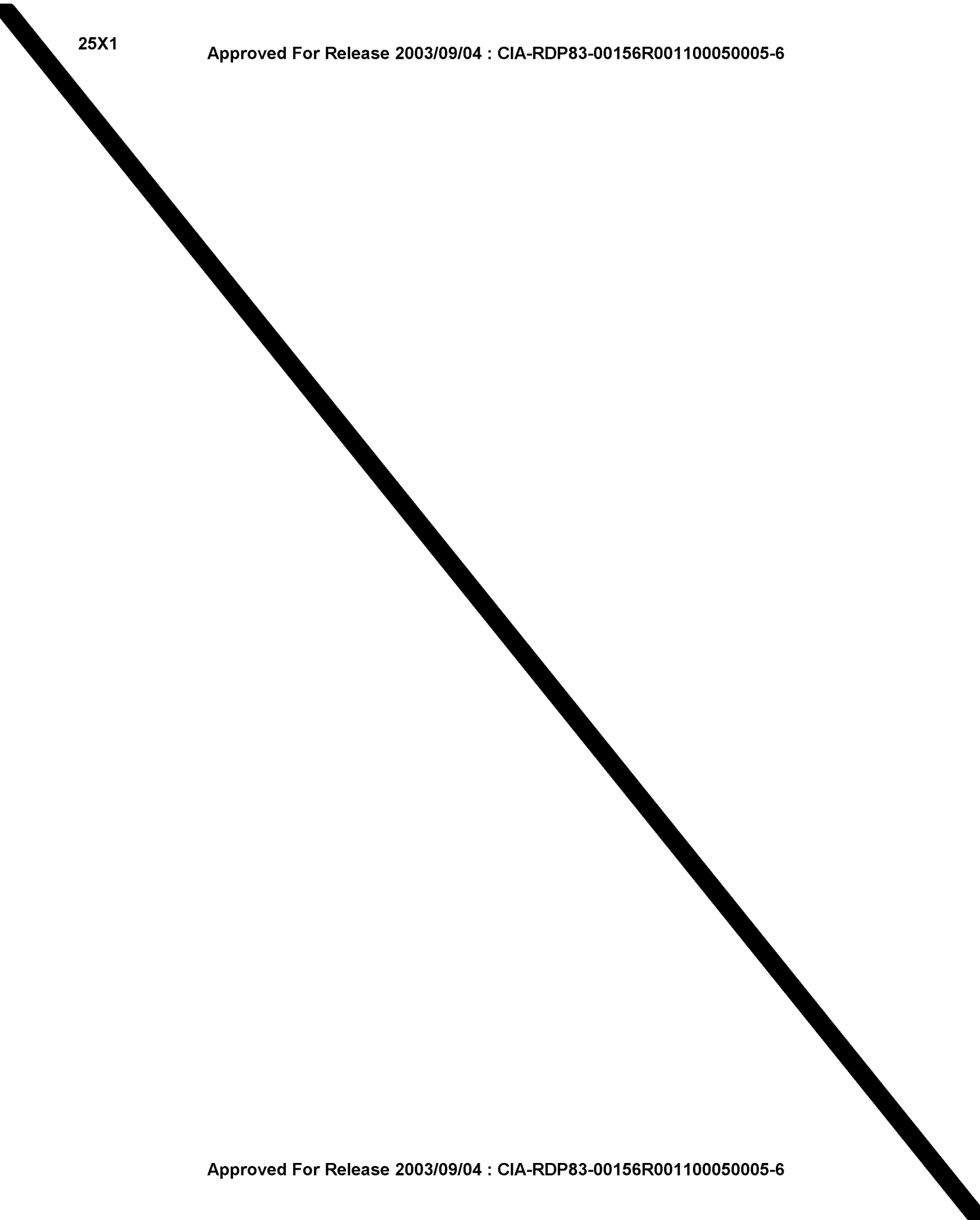
2. Automatic Classification By

a. Keywords or Context

b. Dataset Creation by Combining Two or More Datasets

STAT

Point of Contact:



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DDA #3

ODP #1

PROBLEM STATEMENT: Future Strategies for Database Management (U)

ODP currently makes use of two database management facilities (RAMIS and GIMS) for almost all applications requiring generalized storage and retrieval of formatted data. There has been a strong commitment within ODP to developing standardized approaches to such problems, and this has resulted in a continuing investment in improvement of the GIMS system. Since that system was initially developed there have been a number of new approaches to DBMS, and these developments continue. ODP needs to develop a strategy for an eventual migration towards new techniques, either as modifications to our current environment, or through the adoption of new systems. In order to develop this strategy, we need to perform objective evaluations of new techniques such as relational structures and backend DBMS implementations, in the context of our environment to determine which of these might offer significant benefits. Techniques for handling graphics, cartographic, and other specialized forms of data should be investigated. (A/IUO)

STAT

Point of Contact:

DDA #3A

ODP #2

PROBLEM STATEMENT: Database Technology for Very Large Databases (U)

Some research attention is currently focusing on large DBMS technology. In anticipation of less expensive storage media and increasing applications requiring the Agency-oriented study to evaluate this new technology. (A/IUO)

STAT

Point of Contact:

DDA #3B

OP #3

PROBLEM STATEMENT: Improved Processing of Personnel Transaction and Data (U)

The software currently used by OP for the maintenance of its data bases is not flexible or reliable. Given the increasing rate at which new legislation and procedures are impacting on the processing of personnel data, it is imperative that improved ways be found to process the data. (A/IUO)

Requested:

Research into data base management systems, to see if there are software packages available which could better serve the data handling requirements of OP. (A/IUO)

Point of Contact:

AT

DDA #3C OP #4

PROBLEM STATEMENT: Cost-Effective Replacement of Card-type Data Bases (U)

The Office of Personnel has many card based information systems. These systems take up a large amount of space, are hard to maintain, and do not provide for remote access of the data. (A/IUO)

Request:

Design a desk top mini-computer system for the replacement of these card based system. (A/IUO)

Point of Contact:

AT

Administrative - Internal Use Only
Approved For Release 2001/08/08 : CIA-RDP81-00156R001100050005-6

DDA #4

OS #2

PROBLEM STATEMENT: Psychological Measures and Security [redacted] 25X

It seems highly likely that there is potentially useful information about individuals which is not presently being used in making security clearance decisions. Data in psychological test scores probably have some relationship to security problem behavior, but to date this source of information has not been used, partly because no objective studies have been done to establish specific relationship between these variables. [redacted] 25X

Preliminary discussions have been held among OS, ORD, OTS, and OMS relative to the initiation of a program to develop such a capability, but no action has yet been taken. Such a program should be undertaken, aimed at developing test or observational items of known validity to aid in the security evaluation of employment candidates in terms of their likelihood of becoming security problems and in terms of determining situations likely to result in problem behavior from the candidates. [redacted] X1

While Polygraph Branch is the entity recommending this program, there is no reason to assume Polygraph Branch to the component best placed to collect all the desired information once the enhanced screening program is under way, and any constraints implicit in such an assumption should be consciously avoided in the design of the R&D program. [redacted] 25X

POINT OF CONTACT: [redacted] X1 25X

[redacted] 25X1

DDA #5 ODP #3

PROBLEM STATEMENT: Advanced Textual Database Managements (U)

The Agency has invested considerable research dollars towards the development of text searching capabilities (RSM and HSTS). Technology in this area continues to advance, and there is sufficient applicability of text searching to the Agency environment to warrant additional research in this area. Efforts should be made towards harnessing existing and projected techniques to develop generalized text searching facilities which could be cost-effectively applied to a range of textual databases. (A/IUO)

Point of Contact:

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Approved For Release 2003/09/04 : CIA-RDP83-00156R001100050005-6

DDA #7

OS #22

PROBLEM STATEMENT: Pouch Security [redacted] 25X

A considerable effort has been made in FY 1978, 79, 80 and 81 to improve the Agency pouch system. It is anticipated that future requirements will be more demanding and pouch security technology will find more applications in our expanding use of data terminals at field installations both for shipping and protection. The Office of Security would like to see a continuing effort in this area of technology through FY 1982.

X1 [redacted]

All techniques considered should follow past guidelines for user convenience and acceptability. [redacted] 25X

Point of Contact:

X1 [redacted]

[redacted] 25X

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Approved For Release 2003/09/04 : CIA-RDP83-00156R001100050005-6

ODP #5

DDA #10

PROBLEM STATEMENT: Data Communications Strategies for the Future (U)

A current ORD initiative on behalf of both OC and ODP is studying communications network strategies for application to the Agency's computing and communications facilities. There is a need for continuing research involvement to incorporate new developments and to refine selected strategies for the Agency environment. (A/IUO)

Point of Contact:

DDA #10A

8 AUG 1979 OC #4
Attachment #4 to TS-794110

PROBLEM STATEMENT: IMPROVEMENT IN HIGH FREQUENCY COMMUNICATIONS SYSTEM

1. The Office of Communications, like many other telecommunications elements of the government, is making ever increasing use of satellite communications. Satellite systems are excellent for providing day-to-day high volume cost effective communications, but can become excessively expensive for emergency requirements demanding extremely high reliability. The consensus throughout the government is that high frequency (HF) radio communications can provide the least expensive and least vulnerable backup to satellite systems. [redacted] 25X

2. OC is faced with external forces which demand the reduction of overseas radio relay facilities. It is also becoming difficult to hire operators skilled in manual Morse. In many situations the existing 100 word per minute radio teletype links cannot handle the increasing volume of traffic. [redacted] 25X

3. The most cost effective method of attacking the difficulties outlined above is to develop a new HF modulation subsystem which makes use of OC's existing radio terminal equipment. This subsystem must cost less than $15,000 per terminal and provide data rates in the range of 75 to 2400 bps. The subsystem should include the capability (as an option) of circuit coordination via an inband order wire which does not require manual Morse skill. An effective error rate of less than one in 10^8 bits should be enjoyed by the user. This low error rate should be obtained by coordinating the development of the HF modem with other OC projects intended to provide error correction for all types of circuits. [redacted] X1

4. To meet this requirement, it is requested that an RD&E effort be initiated to develop an HF modulation technique along with hardware development, that will be usable with OC's existing HF network equipment. This development will then enable the Office of Communications to accomplish the goal of improved HF altroute emergency communications for the next decade. [redacted] 25X

Point of Contact:

[redacted] X1

25X

[redacted] 25X1

[redacted]

DDA #10B ODP #6

PROBLEM STATEMENT: Distributed Computing Methodology and Strategies (U)

Distributed computing technology continues to be touted as effective in reducing cost, improving computing reliability and availability, and in raising the level of customer satisfaction. Currently, a study sponsored by ORD has been directed towards communications and distributed processing technology. Some continuing effort will be required to insure that the latest improvements in this constantly changing field are evaluated and that the technology is applied effectively. (A/IUO)

Point of Contact:

AT

DDA #11 OS #6

PROBLEM STATEMENT: A Need for Advanced Telephone Security Concepts [redacted] 25X

Although an OTS telephone analyzer study is currently on-going, a need exists for a continuing study program in the area of advanced telephone security concepts. This study would first identify any vulnerabilities that exist in current telephones and systems used in Agency areas. The study must be continued as new technology emerges and better systems are deployed. Of particular interest at this time is the family of computer aided systems, which includes the WECO Dimension 2000. An additional facet of this study would be to aid the Office of Security in determining whether to commit resources to the detection or the protection phase of telephone security. [redacted] 25X

Contact:

[redacted] 25X

[redacted]

25X1

DDA #12 ODP #7

PROBLEM STATEMENT: Methodology for Improving the Availability of Computer Services (U)

One of ODP's continuing problems is our inability to provide the level of computer availability desired by our customers. Analytical techniques, such as modeling, could be applied to studying proposed configurations to determine potential availability flaws. In addition, new techniques could be studied from the point of view of system availability to terminal users, and new methods of measuring availability based on statistics could be applied to this problem. (A/IUO)

Point of Contact:

DDA #13 OTR #1

PROBLEM STATEMENT: Videodisc Technology

ORD has already begun an R&D project dealing with videodisc technology. The problem is one of assessing the potential of videodisc technology as a possible medium for mass prodution of educational, training, and home entertainment programs while we are relying on state of the art technology as the basis for our video programs. The problem focuses on not only advancements or progress in technology, but also on the continuation of current teaching mediums to be certain we have the required resources available to move into this instructional technology.

The videodisc would seemingly offer opportunities in language training (specifically the more difficult languages and ideographs of the exotic languages) such that a student might find he can make faster progress by having the videodisc to reply on for verbal as well as written reinforcement. The videodisc might also be used in skills instruction where an individual could learn and review a subject at his/her own pace. The videodisc may also be an effective way to distribute information overseas if we decide to move in that direction.

We would like to see the entire problem pursued from technology advances on one hand to the applicability of the videodisc in training and information distribution on the other. The Office of Training recognizes that a solution could eventually require a sizable change in our instruction methodology as well as in our media production and playback equipment. Such a dramatic change in training technology would have to be weighed as to effectiveness vs. inconvenience so that a proper balance can be struck between long term programs and the replacement of existing media equipment with advancing technology.

Point of Contact:

AT

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DDA #16

ODP #8

PROBLEM STATEMENT: Archival Storage of Electronic Data (U)

There is currently no effective means for insuring that data written on conventional media, such as tapes and disks, will be able to be reliably read after several years of inactivity. Several trends increase the importance of this area of research. Paper storage costs are rising, electronic storage costs are decreasing, and communications and networking are making more data available for archival storage. In anticipation of eventual requirements for accumulating considerably more data (such as all cables received by the Agency), it would be wise to study mechanisms for improving data storage reliability and decreasing storage costs. It should be possible to develop mechanisms for archiving data in a form which is readable by both people and machines. (A/IUO)

Point of Contact:

[redacted]

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Approved For Release 2003/09/04 : CIA-RDP83-00156R001100050005-6

DDA #19

ODP #9

PROBLEM STATEMENT: Measurement of Computer Center Effectiveness (U)

The ODP computer centers have grown to a state of considerable complexity. New configurations are introducted weekly, often with system-wide implications. There is a need for better means of determining (hopefully in advance) the effect of configuration change, and for optimizing configurations. Techniques such as modelling could presumably be exploited for predicting performance and anticipating vulnerabilities. (A/IUO)

Point of Contact:

STAT

DDA #20 ODP #10

PROBLEM STATEMENT: Computer Security (U)

ODP remains mindful of the great vulnerability of our computers to penetration. Improvements in operating system security are occurring gradually, and this new technology should be supported and evaluated for incorporation in the Agency. (A/IUO)

Point of Contact:

STAT

ODP #12

DDA #20A

25X1 PROBLEM STATEMENT: User Identification and Authentication [redacted]

Currently, users of ODP computer systems identify themselves by entering an identification code. The only means currently employed to verify users is through a password entered on a terminal or (once the ACF-2 facility is implemented) typed on a computer card. As access control facilities are installed, and the operating systems become more secure, it will be desirable to employ more effective means for correctly identifying users of both batch and timesharing services. [redacted] 25X

Point of Contact:

25X1 [redacted] 25X

[redacted]

DDA #20B

OS #19

PROBLEM STATEMENT: Develop a Security Approved Degausser for Discs Used to Store Information in ADP Systems [redacted] 25X

With increasing frequency, the Agency and its contractors are utilizing disc packs for the storage of classified information in ADP systems. This has resulted in a large increase in the number of discs which become damaged and worn out and must be destroyed since the information they contain cannot be degaussed in an approved secure manner. [redacted] 25X

In addition to causing a storage problem, the destruction of these discs proves costly since manufacturers are willing to provide a larger monetary rebate for all packs which are returned with discs intact. [redacted] 25X

This is a current problem which will no doubt become worse in the future. Development of an approved degaussing method for discs is a present requirement which will become more necessary with each passing year. [redacted] 25X

Point of Contact:

25X1 [redacted]

[redacted] 25X

DDA #20C OS #26

PROBLEM STATEMENT: Develop a Provably Secure Operating System for Agency Data Processing Operations [redacted] 25X

With the recent approval of DCID 1/16 relating to the security of Intelligence Community ADP systems processing foreign intelligence data, there is now a formal requirement to accredit such systems for secure operation. A major deterrent to formal accreditation is the fact that the operating systems, as they exist today, are highly susceptible to penetration. [redacted] X1

Presently certain companies such as Philco-Ford and Mitre Corporation are working on Kernelized Secure Operating Systems (KSOS) and Provably Secure Operating Systems (PSOS). It is anticipated that KSOS will be developed within a year while PSOS may be at lease five years from implementation. [redacted] 25X

The above mentioned security software relates only to operating systems utilized by minicomputers and is not applicable to the large scale systems applicable to Agency operations. [redacted] X1

Additional R&D will be required to convert secure operating systems such as KSOS and PSOS for Agency use in the ADP environment. [redacted] X1

Point of Contact: 25X

[redacted] X1

[redacted]

DDA #21

ODP #11

PROBLEM STATEMENT: Alternatives to Magnetic Tape Storage (U)

ODP's magnetic tape library continues to grow, and with it, there are accompanying difficulties in cost, management, data reliability, and access time. While mass storage technology has apparently been floundering, there is some possibility that new technology, such as video disks, may be effectively applied to some portion of this continually growing area. The goal of this research would be to determine when and if such technologies will be mature enough to use in our production environments. Read-only and read/write technologies should be investigated. (A/IUO)

STAT Point of Contact:

DDA #22

OS #23

PROBLEM STATEMENT: Countermeasures General Support [redacted] 25X

Limited investigations are needed at times in general support of technical surveillance countermeasures. Areas of support may include quick reaction contract (QRC) programs, test and evaluation of new and existing hardware, modification of existing equipment, and other short-term support projects.

25X1 [redacted]

Point of Contact:

5X1 [redacted]

[redacted] 25X

25X1 [redacted]

DDA #22A OS #24

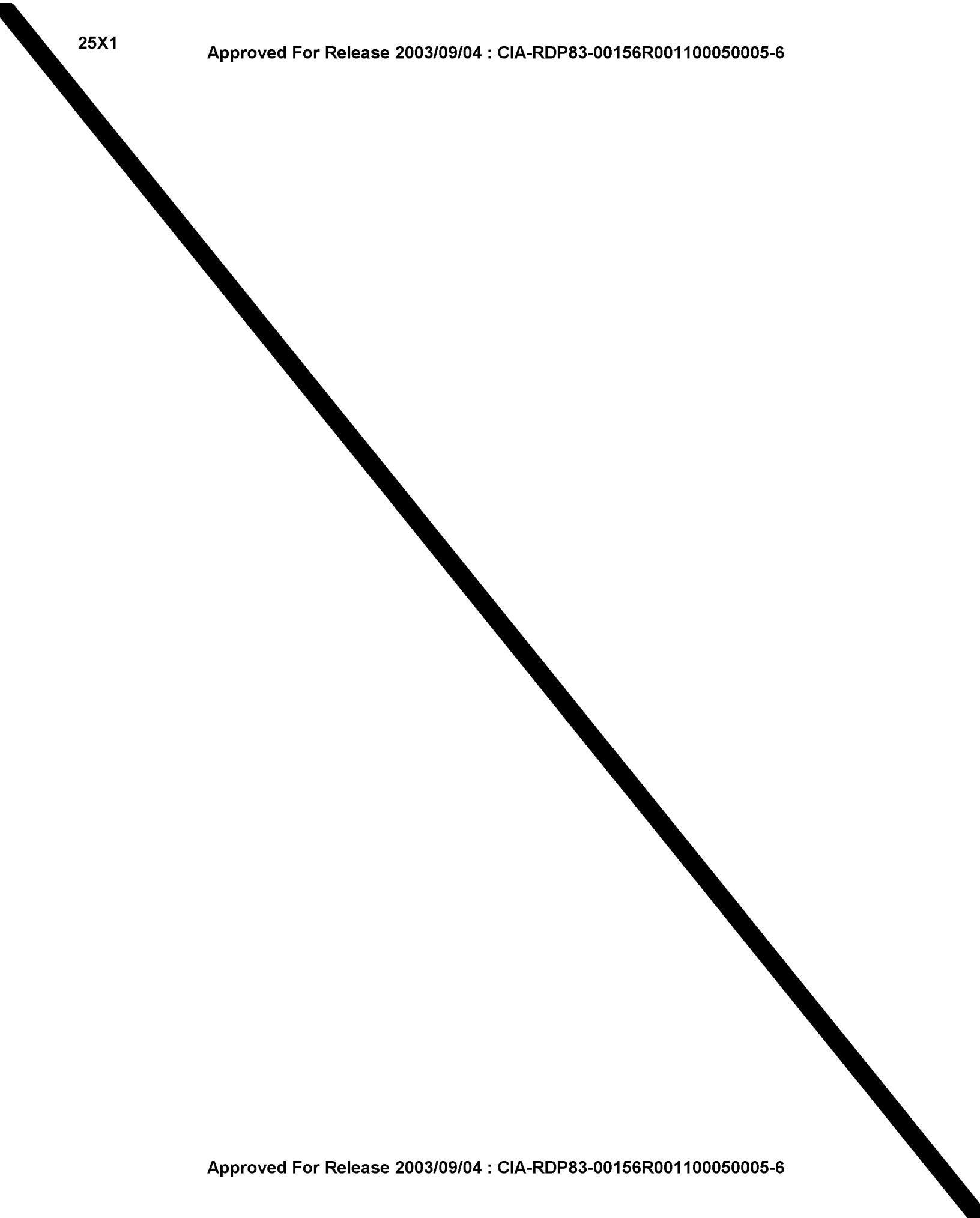
PROBLEM STATEMENT: Physical Security General Support [redacted] 25X

Limited investigations are needed at times in general support of physical security programs. Areas of support may include quick reaction contract (QRC) programs, test and evaluation of new and existing hardware, modification of existing equipment, and other short-term support projects. Past programs have included a market survey of commercially available document tagging concepts and a tray for the storage and destruction of microfiche. [redacted] 25X

Point of Contact:

[redacted] [redacted] 25X

[redacted]



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DDA #24

OP #2

PROBLEM STATEMENT: The Development of Wide-Ranging Manpower or Human Resources Planning Techniques (U)

Manpower planning is concerned with arranging for the right number of qualified individuals to be allocated to various well-defined activities. The best structure adapted to the purposes of the organization changes with time, and planning has to take account of changing circumstances, to arrive at a structure most appropriate in its own time, at least as nearly as possible. In this sense, manpower planning is not identical with personnel management. Conceptually, we view the manpower planning activity as susceptible to both deterministic and stochastic solutions and thus broader than just dealing with the supply or number of people. (Although in many instances such models will be highly satisfactory). R&D is needed for improved tools and techniques that can accommodate the element of uncertainty associated with any estimates and, if applicable, develop confidence statements in the estimates themselves. Manpower planning typically deals with such parameters as transfers, promotions, recruiting and attrition. Though these parameters are mostly under the control of management, the R&D of techniques should not be limited to the direct elements under managerial control but should also reflect external influences such as demographic facts, competition for manpower by other organizations and the like. With respect to Model(s) implementation, we view such activity as being computer-based and user-oriented. With such implementation we would require the usual and straight-forward test, evaluation and validation of software. The final phase of R&D would be concerned with the fine tuning and adjustments to the models to bring them into consonance with the dynamics of manpower planning and usefulness to management. (A/IUO)

Point of Contact:

TAT

DDA #25

ODP #13

PROBLEM STATEMENT: Distributed Data Bases as a Means for Providing Improved Availability and Responsiveness (U)

With the advent of distributed processing, there has been considerable research interest in the distribution of data. There are well known problems in data base synchronization. With the development of a compatible GIMS system on a minicomputer, ODP will have an excellent opportunity to begin to experiment with portions of databases residing in different modes of the ODP network. At present, we have sufficient practical knowledge and experience to apply this potentially useful technology. (A/IUO)

Point of Contact:

AT

DDA #26

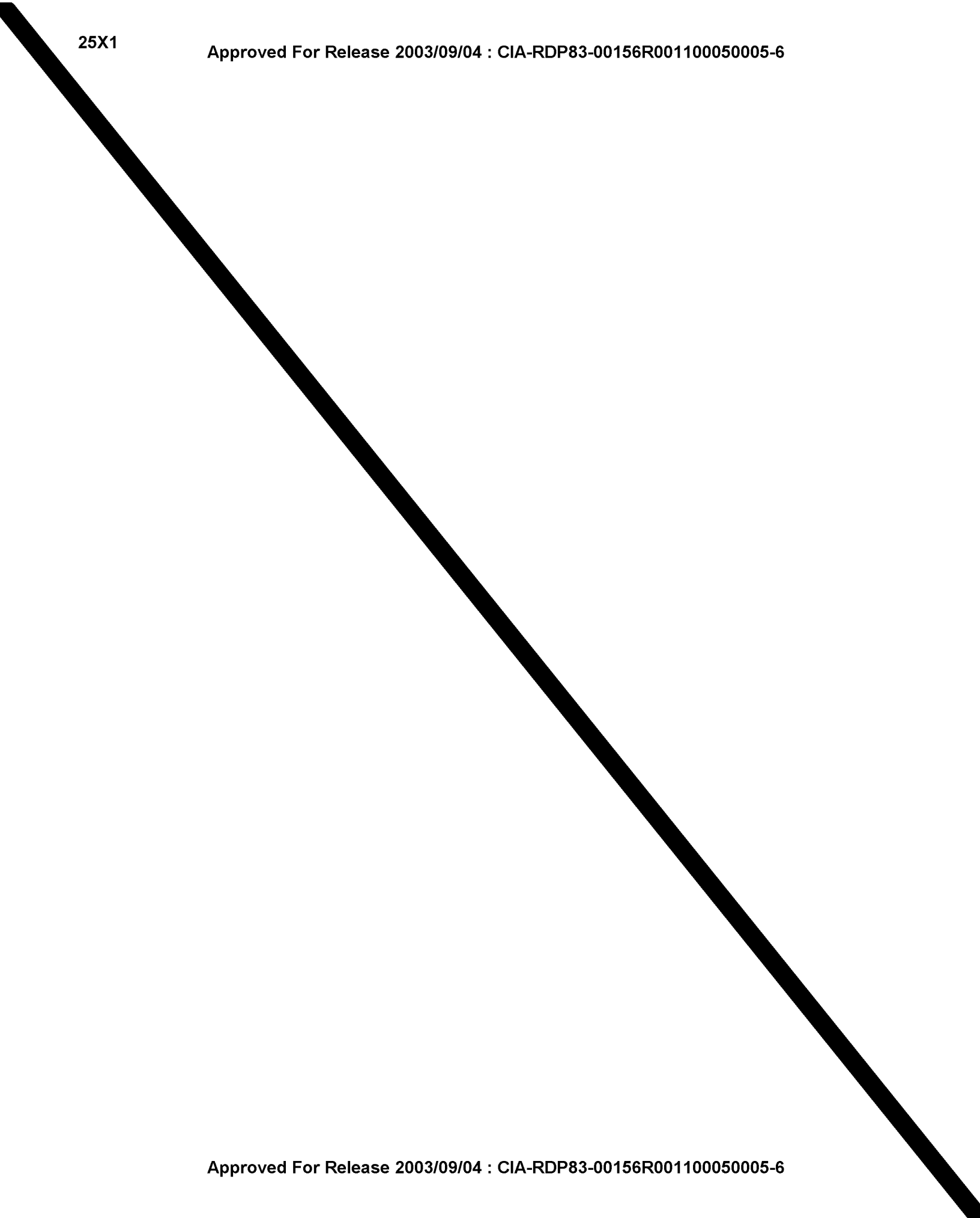
ODP #14

PROBLEM STATEMENT: Technology for Future Data Terminals (U)

The Agency has effectively applied standard terminals to a wide variety of computing environments. The rapid change in technology combined with the lengthy procurement process imply that we should begin to develop the technological basis for our next generation of standard Agency terminals. Display technology, refresh techniques, and economics should be studied in conjunction with projected requirements to determine the fundamental characteristics of terminals which would be procured 5 years from now. (A/IUO)

Point of Contact:

TAT



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DDA #28

ODP #15

PROBLEM STATEMENT: Small Machine Micro Coding (U)

Several years ago, there was an intensive ORD study which looked into the potential benefits of Agency-sponsored modifications to microprogrammable computers in order to improve the efficiency of specific Agency computer programs or systems. At that time, the study concluded that microcode in ODP's machines was not sufficiently approachable, and that software performance enhancement could offer more cost-effective improvement. The introduction of considerably less expensive microcoded machines (such as the IBM 4331) which can be used economically for a single system or problem, may have created a more hospitable climate towards the application of unique microcode. (A/IUO)

Point of Contact:

STAT

DDA #29

ODP #16

PROBLEM STATEMENT: Analytical Tools for the Intelligence Analyst (U)

Of the several different facets of information processing currently being integrated into the SAFE system, that aspect receiving the least attention at this point is "analysis". A significant amount of intelligence data will be available to intelligence analysts under SAFE, and there is a potentially great payoff in applying computer analytical techniques to the manipulation of this data. Examples of potential "tools" which would be provided to intelligence analysts include automatic inferencing, correlation, charting, graphing, etc. Fundamental exploratory research into the analysts needs and the machines capabilities could provide the foundation for the eventual implementation of the "analysis" function. (A/IUO)

Point of Contact:

AT

DDA #30

ODP #17

PROBLEM STATEMENT: Integration of Programming Tools (e.g. Database, Mathematical Programming Languages, Text Processing) (U)

ODP continues to introduce a large variety of analytical capabilities. These are typically implemented in "packages" which operate independently. There is now some interest in using these in a more integrated fashion. For example, it should be possible to store data in a RAMIS database, manipulate the data with APL, extracting certain data elements for processing by the Mathematical Processing System (MPS) displaying the data with the DISPLA software, and finally, preparing a report automatically through Script. The goal of this research would be the study of packages currently in use or planned for ODP use and the outlining of an implementation strategy to permit these to be more effectively integrated. (A/IUO)

Point of Contact:

AT

DDA #31

OP #5

PROBLEM STATEMENT: Automated Graphics (U)

In order to provide statistics in a meaningful manner, the Office of Personnel produces a large number of graphs, bar charts, pie charts and other graphic data. (A/IUO)

Request:

Research systems which would give OP automated graphic capability. (A/IUO)

Point of Contact:

AT

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DDA #32 OF #1

PROBLEM STATEMENT: More Efficient Automated Office [redacted] 25X

The Agency has been very progressive in improving the productivity and management in many of the varied professions and disciplines involved in the intelligence process, however, 25X it is felt by this writer that millions are being wasted by inefficient information handling at the general office level (a office meaning a unit or branch within a major component). [redacted]

The Office of Finance is currently involved in a long range strategic planning study that is trying to look to the future and develop long range goals in order to do more with less. One way that we feel we can accomplish this goal is to increase efficiency in our various unit offices by utilizing advanced office technologies. We do not believe that we are unique in this problem and therefore present this problem statement as a DDA or Agency goal. [redacted] 25X

We would like to see R&D moneys utilized to look at the feasibility of creating a "paperless office". We would like to see a pilot office converted utilizing fully integrated hardware such as word processing, computers, OCR, micrographics, X1 telecommunications, etc. [redacted]

Such an office as described above does currently exist. It is called Micronet and they are currently giving demonstrations to show the feasibility of solving some of today's information handling problems. Copies of some of their X1 handouts are attached. [redacted]

It is recognized that the intelligence community is concerned about the security of our records. It would appear that the design features of this proposed R&D office would include new technology that solve some of these problems. For example, there would be no unauthorized copying of sensitive documents. Hard copy reports from this proposed office would only be produced in accordance with demand and distribution of all reports could be tightly controlled by computerized methods. Access to the data base would also be X1 tightly controlled. [redacted]

Point of Contact: 25X

X1 [redacted]

[redacted]

DDA #32A

ODP #25

PROBLEM STATEMENT: Office Automation (U)

ODP is rapidly developing new facilities to automate office functions. The recent assignment of Agency word processing responsibilities to ODP only increases the likelihood that there will be increased requirements for automated office technology in ODP systems. ODP could use assistance in evaluating research in this dynamic area, and in formulating an implementation strategy for word processing networks, text processing facilities, tools for increasing managerial span of control, and other technological advances. (A/IUO)

Point of Contact:

AT

DDA #33

ODP #18

PROBLEM STATEMENT: Internal Classification of Data Files

1 [redacted]

This is a security requirement that has not been implemented. The classification must be integral to the data file and automatically created at the time of the data file creation. The security tag should not be able to be modified by a user except when the data file is erased and deleted from system catalogs. This requirement includes data files residing on disk, tape and other ADP media. A follow-on would be automatic classification of computer output based on the highest level of data accessed.

1 [redacted]

Point of Contact:

X1 [redacted]

25X

[redacted]

DDA #34 ODP #19

PROBLEM STATEMENT: Methodology for Insuring the Security of Agency Computer Data Created for Non-Agency Use [redacted]

With some frequency the ODP computing facilities are used to develop data which will be transported through electronic media to other computers outside of Agency control. For example, tapes are regularly prepared for use on the classified Internal Revenue Service Computers, and the application of Electronic Funds Transfer (EFT) will increase the amount of data leaving the centers. [redacted]

Currently only cursory means are employed for verifying that no classified data has either inadvertently or intentionally contaminated unclassified tapes. Techniques such as statistical sampling, check-summing, and pattern recognition could be investigated and algorithms for verification could be developed. [redacted]

Point of Contact:

[redacted]

[redacted]

25X

DDA #35

ODP #20

PROBLEM STATEMENT: Disaster Planning Strategies (U)

The Agency currently has only superficially planned for potential disasters effecting computers and data storage. Unfortunately, although there are numerous strategies for averting disasters these have not been studied analytically to determine the most cost effective and reliable means for insuring that the computer facility is adequately prepared for any of a range of potential threats. (A/IUO)

Point of Contact:

DDA #36 ODP #21

PROBLEM STATEMENT: New Methodologies for Capturing Data (U)

Currently, ODP systems receive input from keypunch machines, data entry devices, and (increasingly) from online terminals. In the past, ORD has investigated the state of Optical Character Reader (OCR) technology. With new emphasis on office automation and electronic processing of textual information, there is an increasing need for new effective ways of capturing data which is not in electronic form. (A/IUO)

Point of Contact:

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DDA #37

ODP #22

PROBLEM STATEMENT: Measuring Programmer Productivity (U)

ODP currently employs over 100 applications programmers who perform various programming tasks for a wide variety of customers. It would certainly be beneficial for the management of these human resources if ODP managers could reliably assess the individual productivity and effectiveness of our programmers. Since progammers produce a product which is capable of being analyzed by computer, there is some possibility that computerized analytical techniques could be applied to more objectively measure differences between programmers. (A/IUO)

Point of Contact:

AT

DDA #38 ODP #23

PROBLEM STATEMENT: System Design Methodology (e.g. Hierarchical Design Language) (U)

Considerable academic research in the computer field has been applied towards improving the software development process. Included in these are the various design languages which have been studied by an ORD contractor. There is currently some interest in ODP in the Hierarchical Design Language concept. (A/IUO)

Point of Contact:

DDA #39 ODP #24

PROBLEM STATEMENT: Security Model for Dealing with Human Source Information [redacted] 25X

While ODP operates all of its computers within a secure environment, with access restricted to cleared individuals, we are aware of the ultimate vulnerability of our individual computers to penetration. In light of this, and in consideration of the highly sensitive nature of human source data, we currently restrict applications requiring such data to a computing environment which is isolated from the general service machines. It has been difficult to assess the security implications of current policies. Policy makers both in ODP and in the DDO could use an improved analytical foundation for developing security policy and for identifying new ways to protect this highly sensitive data. [redacted] X1

Point of Contact: [redacted] X1 25X

[redacted]

DDA #40

ODP #26

PROBLEM STATEMENT: Agency Strategies for Overseas Computer Support (U)

The Agency is rapidly moving towards a massive increase in overseas computer support. The fundamental character of this type of data processing is sufficiently different from domestic computing, that we should study alternatives for effective use of overseas computing. Issues which would merit considerable exploration include the degree of distribution, integration with domestic hosts, maintenance issues, overseas computing requirements, war-time implications, and other related topics. (A/IUO)

Point of Contact:

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DDA #41 OP #1

PROBLEM STATEMENT: Application of Micrographics to the Personnel Data Base (U)

The Office of Personnel is increasingly moving towards the use of micrographics in order to cut down on the use of paper and to provide backup for vital materials. (A/IUO)

Request:

Review the micrographics needs of the Office of Personnel and develop micrographics programs. (A/IUO)

Point of Contact"

STAT