DD/A Registry
83-0559/3

ROUTING AND RECORD SHEET

SUBJECT: (Optional) Development of CIA Strategic Plan
1983 - 1993

FROM: Harry E. Fitzwater	EXTENSION	NO.
DDA		
7D18 HQ		DATE 17 NOV 1983

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TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
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2. D/ODP 2D00 HQ				
3. D/OF 616 Key				
4. D/OIS 1206 Ames				
5. D/OL				
6. D/OMS 1D4054 HQ				
7. D/OP 5E13 HQ				
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MEMORANDUM FOR: Director of Communications
                     Director of Data Processing
                     Director of Finance
                     Director of Information Services
                     Director of Logistics
                     Director of Medical Services
                     Director of Personnel
                     Director of Security
                     Director of Training and Education

FROM: Harry E. Fitzwater
                     Deputy Director for Administration

SUBJECT: Development of CIA Strategic Plan, 1983-1993

REFERENCE: Multiple Addressee Memo from DDA, dated 28 Sept 83,
                     Same Subject

1. The initial phases for the development of the CIA Strategic
Plan, 1983-1993, are nearing completion. As you know, this year's
planning cycle is much shorter and is concentrating on changes to the
1982-1992 Strategic Plan.

2. In preparation for our Directorate participation, please have
your office representative review last year's strategic plan
(BYE-020-83), as well as the attached copy of the Long-Range
Plan--Phase IV Support Capabilities, which was prepared as part of
last year's strategic planning process. While we will not update the
Phase IV paper, we will update the CIA Strategic Plan.

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3. [   ] of my staff will invite your representative
to participate in a Directorate session to review changes made by the
DI, DO, and DS&T in the initial phases of this process and to
coordinate our contribution to this important effort.

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Harry E. Fitzwater

Attachment

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ATTACHMENT

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LONG-RANGE PLAN—PHASE IV
SUPPORT CAPABILITIES

DIRECTORATE OF ADMINISTRATION

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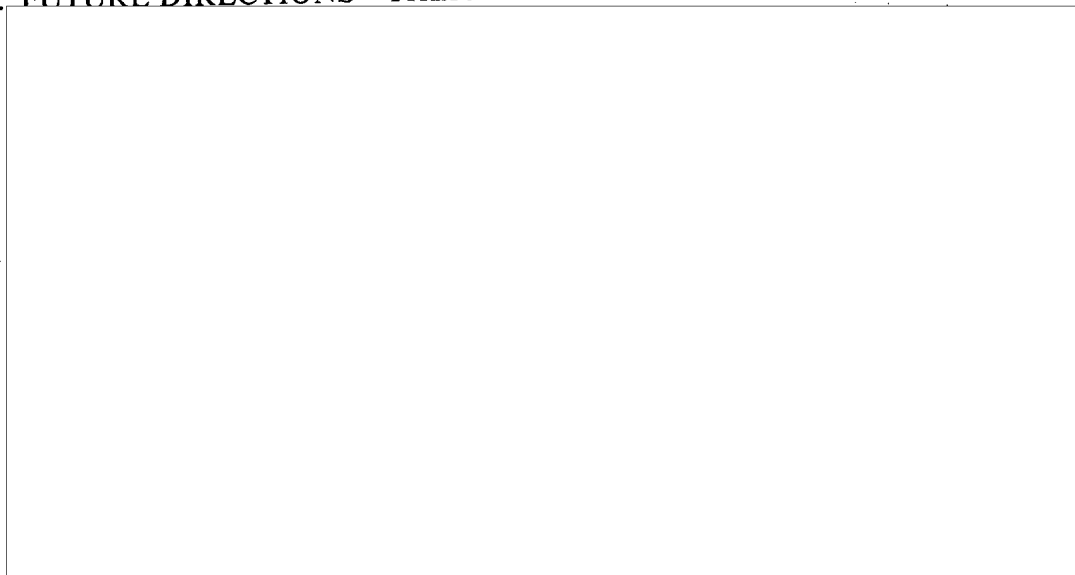25X1

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LONG-RANGE PLAN—PHASE IV
SUPPORT CAPABILITIES

DIRECTORATE OF ADMINISTRATION

I. EXECUTIVE SUMMARY

A. Introduction

This paper discusses the resource strategy of the Directorate of Administration (DA) in support of the Agency in general and the Phase III capabilities studies specifically. In this study, we have reviewed our major concerns, the environment which we believe will be confronting us, and the support resources which will be required to carry out the activities contained in the Phase III planning effort. We have provided for specific needs to support an Agency ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ Beyond the specific requirements of the current planning exercise, a number of independent themes, directions, and initiatives have been incorporated which we believe will meet the challenges of the future in providing timely, effective services in support of the Agency's mission.

While it is recognized that the focus of the capabilities planning papers should not center on resource needs, the resource deficiencies of the past are beginning to impact adversely on present Directorate capabilities—and they will have a more severe impact on the Directorate's future objectives if this trend is not abruptly reversed. The underlying tone of the five capabilities papers is that extensive support will be required in an increasingly sophisticated, complex environment. The demands placed on the DA by an expanded, computer-dependent, highly technical Agency in the immediate future will be enormous.

With the exception of communications, which is currently undergoing a long delayed recapitalization effort, the whole Directorate support infrastructure requires a large concentrated program of capital investment to keep pace with changing and expanding requirements. We must revitalize the Agency's support base so that it is capable of responding to the additional tasking which will inevitably occur.

In this treatment, support is defined as fixed plant, equipment, and resources. While management strategies may be developed to postpone or defer these fixed costs, we should keep in mind that they can be deferred, but not avoided. According to the popular commercial line, you can pay now or pay later, but you must pay.

B. Resource Strategy

We plan to pursue the following strategy for the acquisition and management of Directorate resources over the next ten years:

1. Remedy existing shortfalls in support of Agency programs.

2. Recapitalize and modernize equipment and facilities.

3. Obtain adequate DA resources to match Agency growth.

structure. In conjunction with this we are concerned with the acquisition of adequate training resources to prepare our employees for an increasingly automated environment. Additionally, within the Directorate we must place heavy emphasis on developing and improving our automated systems in order to improve productivity and responsiveness to customer needs. And last but certainly not least we must acquire adequate space to house the forecast increases in personnel. Assuming that the new building is approved and built, we will have space in Headquarters building (new and old) for _____ people. Although the growth between now and 1988 will be accommodated in the new building, it will not be ready for occupancy until 1987. Consequently, we are currently attempting to solve the problem of providing adequate space for growth from 1983–1988.

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II. ENVIRONMENT 1982–1992

A. From a National Perspective

Our current environment is known as the Information Era. We have already seen such terms as "information explosion" used to describe the huge volume of data that pervades our environment. American society is moving into a service-oriented economic structure which has the computer as its major tool. People in our society, especially younger people, are adapting to computers and, more importantly, adapting the computer's ability to solve an impressive list of problems. Society wants the computer to be the tool that removes the drudgery from many of its tasks.

We do not believe that the totally paperless office will come into common use during the next ten years. Although the technology will be available, the limited ability of industry and government to provide surge funding to replace current systems and equipment, or to quickly modify current operating procedures and retrain workers will constrain the evolution towards a paperless office society. This will allow for a planned and orderly evolution, which will not only affect information handling equipment but our management and organizational structures as well. A major challenge in this environment will be to budget for and execute purchases of new technology which can be readily integrated into current systems with a minimum of disruption.

B. From an Agency Perspective

The Agency's main challenge during the next ten years will be to do a better job of collecting, analyzing, and producing intelligence. To do so will require adequate resources to modernize its current capabilities as well as additional resources for enhanced capabilities to support new tasking and expanded requirements. The critical need for space to house additional personnel and machine applications has been identified. New tasking and expanded requirements will require that significant resources be spent on information handling systems. Increased personnel levels and new technology will cause a substantial increase in training needs. Some of the more attractive aspects of overseas assignment will continue to decline. A major factor in this decline will be the ever-increasing security threat to our people and facilities

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overseas. Finally, keeping pace with state-of-the-art technology will require an escalating share of our resources.

By the late 1980's we foresee an Agency analytical environment in which ADP services will be central to all productive activities. Document preparation will be accomplished by using both data and word processing technologies. Printing, publishing, and the coordination of document drafts will be done over networks that interconnect all user terminals with each other and directly to the major printing systems of the Agency. A terminal will be at the work station of virtually every analyst. The integration of word and data processing via networking will make it possible for the analyst to accomplish all major activities associated with the production of intelligence from a single terminal. The entire process will be dependent upon systems that are responsive to the user and absolutely reliable. This presents an extraordinary support challenge in terms of being able to guarantee that major services are never interrupted.

· The next decade will require the Agency to recruit, train, and keep on board an appropriate mix of high caliber, dedicated personnel and ensure that they have a suitable working environment. The new recruit of tomorrow will be today's computer-literate young person. Both the people and the tasks of the Agency of the future will be pushing toward the near paperless environment that is currently being forecast.

C. Directorate Perspective

During the decade of the eighties, support functions of the Agency will change in more dramatic fashion than they have in our entire past 35-year history. These changes will be the direct result of the development and adoption of data and word processing systems in contrast to traditional support mechanisms. The driving force will be the adoption of the new technology within the Agency, by the rest of the Federal government and by private industry. We foresee that within the decade the laws of the Federal government regarding accounting, procurement, Federal wages and retirement, and most other Federal administration will change the definition, organization, and functioning of future support management systems.

Technology will present the opportunity for dramatically improving the productivity of virtually everyone. Electronic mail systems will move correspondence throughout the Agency in seconds rather than days. The ever-decreasing cost of storing data magnetically will increase the movement from paper files and into electronic filing cabinets. Directorate endeavors will involve the development of systems that are capable of being used in the office right from the desk of the analyst. Developing these systems will be complicated by rapid advancements in new developments in ADP technology. The most significant advances anticipated are increased miniaturization of hardware components, increased central processing unit (CPU) speeds, faster, higher-density peripheral devices, improved network architecture, greater reliance on interactive applications, improved graphics capability, high-quality printing, and increased use of personal computers. Use of on-line storage devices such as direct access storage devices (DASDs) also will expand. Furthermore, improved hardware and software will significantly increase the amount of on-line information directly accessible to users of Directorate services.

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Major technological advances in communications are expected. Use of remote terminals located at great distances from the computer and eventually supporting users not now being serviced, will substantially increase, as will the use of direct communications among computers. By 1988, the services available from the backbone network will include the potential for narrative traffic, bulk data service, secure voice, teleconferencing, and facsimile. Any service will be provided error free with cryptographic protection. In fact, literally anything that can be converted to a digital signal can be transported by the future network.

Probably the most significant growth in the communications arena during this period will be in the domestic network. It is a goal that by the end of the decade most electrical cables coming into the Agency will be disseminated in electronic form rather than by paper. In addition, much of the operational and administrative information distributed in the Agency will be in electronic form.

Training's role will become more important in dealing with the rapid changes in our workforce and the environment. A larger diverse workforce in an automated setting will require changes in the way we communicate and make decisions. Management analysis of jobs and their organizational relationships will become increasingly important along with the process of selection of employees to fill the positions. The Directorate will need instructors to assist Agency line managers in applying concepts such as decision analysis. We will see an increased use of officers from components outside the Directorate to fill training positions with specific content expertise, and an increased need for training careerists to seek experiences through rotational assignments throughout the Agency. While operational training will increase in volume and some of the tools used by the case officer will change, the methods of training which have been tested and proven through the Agency's history will not change significantly.

The accelerated use of mini, micro and even personal computers and the exploitation of laser, bubble memory, holographic, and fiber optic technologies will challenge our ability to identify and correct vulnerabilities associated with these powerful and ubiquitous information tools. Current distinctions between microcomputers, microprocessors, word processors, office machines, computer terminals, and communication terminals are based more on their specialized uses than on their technological characteristics. During the next decade the already blurred distinctions between these types of devices will virtually disappear. Typical office machines at the end of the next decade will have the capabilities of all of the devices and will have voice, graphic, and data integration. Future operational environments will require that access to Agency data bases be extended outward to the end user, overseas as well as domestically, even perhaps to non-Agency entities. Access limitations, compartmentation, and ever-increasing requirements for accountability and audit trails, however, will severely tax the entire Directorate's ability to maintain a secure environment.

III. SUPPORT TO THE PHASE III CAPABILITIES STUDY

The information presented in Phase III does not accomodate a detailed, quantitative support response. We therefore address the papers from a broad, long-

range perspective, and define resources on a scale of general order of magnitude. The specifics of actual implementation will need much more detailed study.

A great deal of specific information is required to prepare good, sound support planning estimates and annexes to operational plans. Over time, prices escalate and availability of whatever is required from the commercial market whether it be things or services like transportation also vary. Consequently, it is essential that all support components be involved in the conceptual as well as the planning stage of new initiatives.

A. Office of Data Processing (ODP)

There are many requirements which will impact the Office of Data Processing level of effort over the next ten years. For the most part, these are not new requirements. Only the magnitude and urgency will change. Project SAFE, the backbone for ADP support for analysts in the DI, is expected to support [ ] analysts. The SAFE concept has been designed and funded around this figure. The addition of more analysts mentioned in the capabilities plan will cause a significant increase in the SAFE workload and terminal requirements. However, it would be premature to attempt to discuss additional requirements for SAFE support in the midst of efforts associated with the redirection of the SAFE project. A study will be required to analyze the impact and to determine the feasibility and cost of the needed SAFE system enhancements.

While SAFE is intended to support DI analysts, the implementation of office automation capability has more general applicability across the entire Agency. The Agency has competitively selected a contractor, Wang Laboratories, for an Agency-wide standard word processor and office automation system. The contract includes Wang support for initial surveys, maintenance, and training. It is anticipated that with sufficient component funds, this effort could be expanded to whatever level is necessary for additional Agency analysts, technicians, and clerical personnel.

During the early 1970's, ODP was overtaken by accelerated user demands for data processing capability. Central processing capacity was woefully inadequate to cope with demands for service. Extraordinary efforts were undertaken in the mid-1970's to acquire new computer hardware to address the mushrooming requirements. The efforts were successful. In addition to solving the immediate problem for additional computing resources, the procurement strategy and defense became the model for subsequent successful acquisitions of computer hardware. Since the mid-1970's, ODP has managed to just keep pace with increased user demand.

However, ODP's capability to support user requirements for new applications software development has fallen behind demand levels. A seven-year period of zero increases in numbers of applications programmers (ignoring a modest complement of four staff positions for the TADS project) ended in FY 82. But an estimated two to three-year backlog of requirements for applications development has developed.

ODP is addressing the need for increased applications software development in three ways: obtaining additional personnel slots for applications programmers, increasing the use of contract development, and by helping the users to help

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themselves when feasible. The newly established information center will be the focus of efforts to provide the users with assistance in simple data processing tasks—programming, data base manipulation, simple graphics, etc.—which will help free ODP's professional programmers and allow them to concentrate on complex problems.

Two more specific categories of support requirements continue to receive increasing attention—modeling capability and computer graphics. Requirements for increased use of sophisticated mathematical models may develop such that a new scientific computing capability will be required. Such models are most efficiently run on a computer designed to optimize processing oriented toward scientific and engineering problems rather than the general-purpose computers employed by ODP. A new scientific computing capability could be expected to entail costs of ten to twenty million dollars for hardware alone. And there will be a need for an additional thirty-five new ODP staff positions to support the activity as well as sufficient additional computer grade space.

The use of computer graphics can provide dividends in the areas of presentation graphics, publication graphics, analytical support, imagery analysis, and computer aided design. While individual components with specific needs such as cartographers make very good use of computer graphics capability, we do not offer easy-to-use capability for the general ODP user community. Demand can be expected to grow for such capability, and indeed, the potential and promise of computer graphics capability as demonstrated with such systems as CAMSTACK, foster continuing new interest in exploiting the technology.

Additional requirements include the need for extended automated publication facilities. As more and more of the Agency's information holdings are converted to electronic form, there will be increasing demand to go straight to publication in that form. More electronic paths to more ETECS-like capabilities will be required.

We must also develop new means for data archiving for storage and backup. A requirement for reliably storing huge volumes of electronic data has existed for some time. This requirement will take on new importance as disaster plans are more carefully formulated and detailed. But technology has not yet quite evolved to the point to permit serious planning to satisfy that requirement. We will continue to monitor technological developments in this area.

A growing and increasingly sophisticated customer population which depends more and more on data processing to accomplish the daily workload demands increased availability and reliability. ODP systems availability (which the users see through their terminal) is presently 97%, so there is a three percent margin for improvement. But that three percent improvement (nearly three percent—we cannot reach 100 percent) will require improved hardware technology, redundant equipment, improved telecommunications, reduced software errors, and reduced procedural errors. ODP will improve systems availability, but progress will be difficult and slow.

B. Office of Communications (OC)

The thrust of the planning papers is quite clear; they describe an ever-expanding customer work force which must use progressively more modern techniques. Technical tools which multiply the customers' effectiveness will also challenge the Office of

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Communications to maintain its current high level of service while meeting the changes in customer demands. To do this, OC must continually improve its service profile, modernize its network, and provide the qualified professionals to run that ever-changing network.

Other requirements, such as secure facsimile, connote the need for a communications network that can accommodate a variety of systems and protocols in a secure, efficient, and reliable manner.

The Domestic Network's evolving role will by necessity reflect the changes occuring both in the Agency and in society as a whole. ADP technology will be a driving factor, as will increasing customer sophistication. In the coming decade, service emphasis in the Domestic Network will focus on interactive manipulation of data bases, more secure voice and facsimile, paper reduction, efficient use of available bandwidth, and improved communications security.

Up to 100 Delta Data terminals per month are currently being installed for interactive operation with ODP. Secure voice expansion began with the activation of the DBX-5000 switch in Headquarters (1000 instruments thus far) and DBX-1200 switches at four other sites. OC's present goal is to expand the secure voice system by 100 instruments per month through 1985. SAFE and the 4-C program add to this heavy workload. They require major new additions to the grid system and add to the number of data channels passing through the technical control facility. Through this period, OC will be installing, operating, and maintaining more telephones, crypto, statistical multiplexers, secure grid, facsimile and alphanumeric terminal systems. Concurrently, the microwave system will also be expanded to handle more ultrawide-band channels and better error detection will be provided. OC will also be preparing for Project MERCURY, the Message Handling Facility, and the new Headquarters annex.

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Outside the metropolitan area, the network is expected to grow from its current by the end of the decade. To meet this challenge, the Directorate will provide a broader range of services to a greater number of domestic customers than ever before. Secure voice (KY-71/STU-II) and data (KG-84) crypto along with modern terminal and transmission equipment will be introduced, at first, to satisfy some of the new locations (field and contractor) that do not have existing communications links. Later, major retrofitting and/or installations will finish the job. All future installations to satisfy the total growth will be made to this standard.

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Teleprocessing, secure voice, metropolitan outbuilding, field and contractor communications requirements, and special programs such as SAFE, 4-C, and NPIC Development Program are growing and converging into overlapping time frames. The mid-1980s will see a rapid expansion of basic services, and a changeover to a new generation of terminal and cryptographic equipment.

C. Office of Training and Education (OTE)

One of the major impacts of the Phase III capability papers is the major increase in both the nature and the volume of training requirements. A significant need implicit in the Phase III papers is to bring employees on board and get them to a productive level as fast as possible. To meet the resulting training requirements, OTE will use inhouse resources for dealing with Agency-specific information while contracting out for other short-term requirements. To meet specialized requirements, training programs will be set up as self-study, self-paced programs on interactive video terminals. The concept of a terminal on every desk will be explored in detail to ensure that the full potential of using these terminals for self-study is fully exploited. With the proliferation of terminals throughout the Agency, it is anticipated that a very large part of future training will be self-conducted through the terminal. The profile of OTE's offerings will change considerably with more offerings of specialized and shorter programs available in all areas including language instruction, where the demand for intensive survival programs will increase. Other changes in foreign language instruction will include the adoption of computer assisted instruction (CAI) and the possible development of the capability to train students in an overseas environment on a tutorial basis. Whenever possible, we will procure packaged training programs with the new systems. This change will influence the Agency workforce in the next decade. Instructors and employees in general will find that some of their skills are less than adequate if not obsolete. Training will play a role in dealing with this change by retraining employees for new jobs and training managers to deal with employees that feel trapped in the career squeeze. OTE will have to become more involved in the planning stages of all Agency projects which create training requirements.

D. Office of Security (OS)

The DI paper suggests a need for outside expertise which would involve more staff-like clearance actions for individual consultants or contractor employees. Use of ADP equipment in communications and word/data processing which will service every analyst, would have an across-the-board influence on the computer security discipline. The Office of Security plans to at least triple the strength of its Information Systems Security Group (ISSG) by 1992. The general proliferation of word processing equipment in CONUS and abroad will multiply the functions of ISSG to identify and negate security threats, and to audit and inspect computer operations. Significant new requirements in areas such as alarms, vaults, vault-type rooms, safekeeping equipment, and guard personnel will merge.

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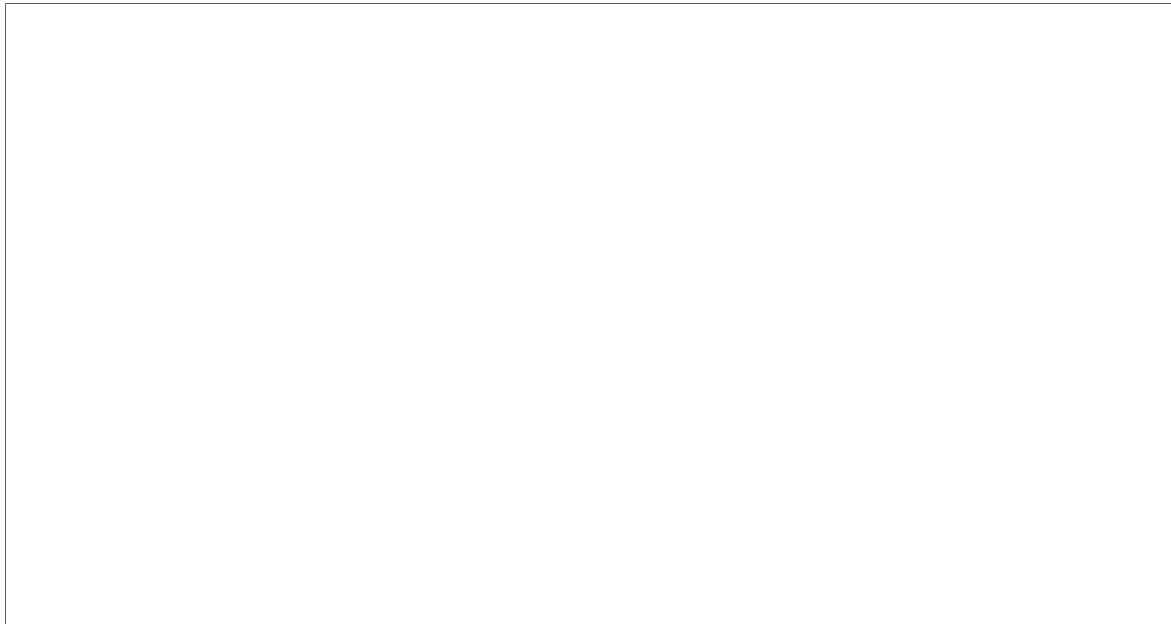
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E. Office of Finance (OF)

The long-range planning papers submitted by the other Directorates each call for increasing activities requiring additional personnel and funds with clear implications for increasing travel, procurement, commercial contracting, and bill paying. These papers project a growth _____ capabilities which usually require a high-level of financial support. Most of these plans are not specific enough to permit us to draw clear relationships between the presumed growth in other areas and what the Office of Finance will need to provide financial services to these activities. Nevertheless, we can make certain statements about the impact with reasonable certainty. There is a clear emphasis on additional travel above the current rate, additional personnel overseas, additional contractual requirements for _____ data processing equipment and software, and external analytical research as well as technical R&D. In sum, we can expect every financial system to be hit by increasing workloads ranging from 30 percent for payroll to 50 percent for contract audit and bill paying. Furthermore, the growth of activities across the Agency will require increased decentralized support within the DS&T, the DI, and the DO, which does not appear to be included in their projections. Provision of finance careerists to meet these outside needs will require substantial investment in training programs which do not now exist if we are to provide personnel who are capable of maintaining the decentralized financial systems on which the Agency relies.

F. Office of Logistics (OL)

Logistics proposes to meet increased requirements by extending automation in the logistics process and through improved productivity. OL strategy is to develop the Logistics Integrated Management System (LIMS) to increase the timeliness and responsiveness of the Agency procurement, contracting and supply systems. The capability to meet new requirements is being increased with cross-training for career personnel and through the development of proprietaries to provide a mix of skilled
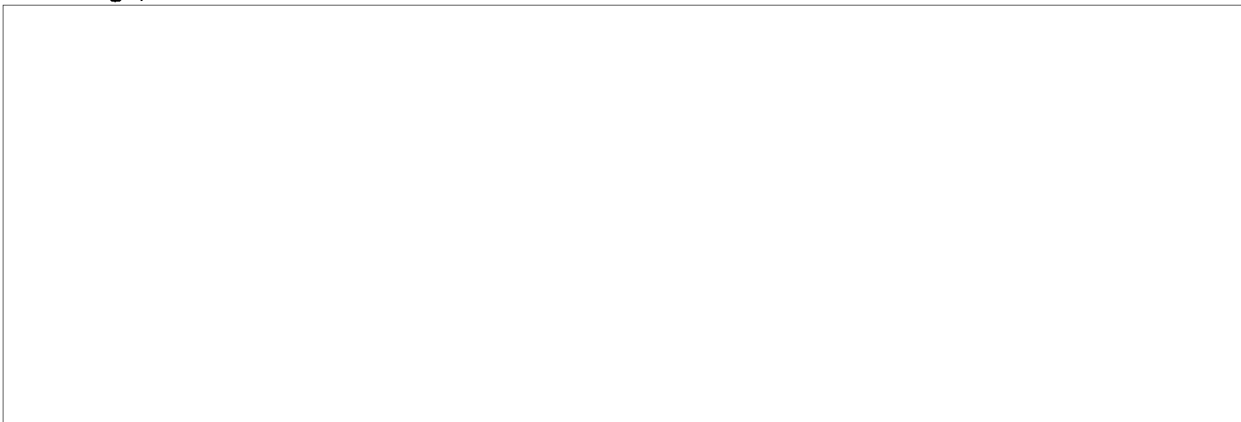
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personnel. In addition OL is taking action to expand in the areas of transportation, storage, and electronic printing capabilities.

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G. Office of Medical Services (OMS)

OMS can contribute to support of the Phase III capability papers in recruitment, selection, and retention of high quality personnel and in support to operations. A substantial impact on Psychological Services Division (PSD) will result from the necessary testing and evaluation of additional analysts, operations officers, and

25X1   nonofficial cover personnel. The increase in activities counterintelligence, and counterterrorism will all cause increases in demand for medical support. Given a future work environment consisting of automated and machine-dominant offices, all Agency employees will find themselves working long hours in front of terminals. Mental and physical health will be impacted by this stressful and sedentary environment. We foresee a need to increase medical support in terms of facilities and programs for physical exercise and mental health of our employees.

H. Office of Information Services

The Office of Information Services has initiated the development of The Records Information System (TRIS) which will be designed as a network of subsystems, some supporting the information needs of a single component, and others maintaining central data bases for the use of all participating components. TRIS will integrate all subsystems in a way that facilitates standard record accounting practices and allows an uninhibited exchange of data within security constraints. The goal by 1992 would be an integrated automated information system which would utilize artificial intelligence for making routine decisions and routing traffic. It would work under a central management control using data base administrators and systems analysts/ troubleshooters, and would replace mail clerks and couriers in decentralized component locations by using terminals operated by information analysts.
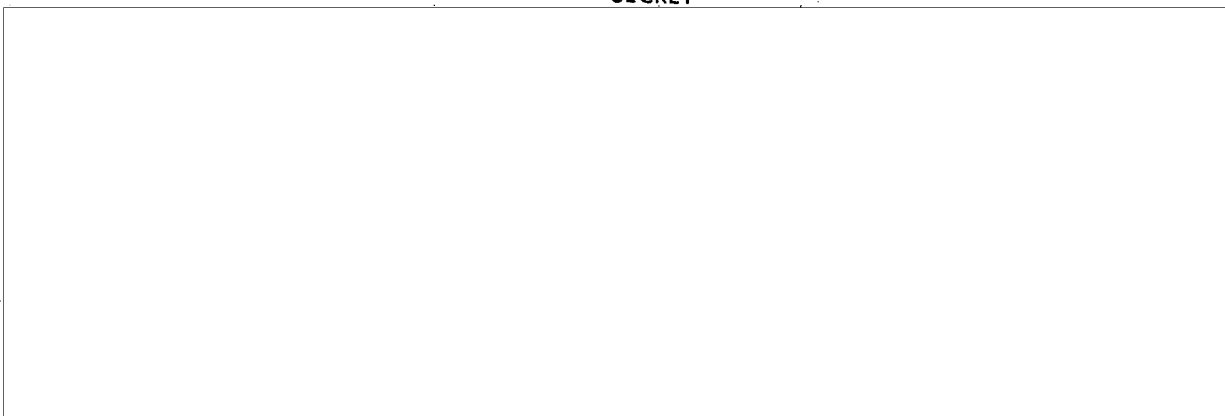
IV. RESOURCE REQUIREMENTS

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F. Back-up Information/Processing Center (Long-Term)

1. As the Agency becomes more and more dependent upon the capabilities of data processing to accomplish its mission, the need for a backup computer center to preserve a minimal processing capability in an emergency situation assumes a correspondingly greater importance. Past efforts to defend requirements for such a backup center in annual budget exercises have been unsuccessful. Efforts to reserve space in new buildings such as [   ] have been similarly unrewarding. Lacking a backup computer center, ODP's emergency backup procedures are based on the assumption that the [   ] Computer Center and the Special Computer Center will not be simultaneously disabled. One center could therefore be used to process the critical workload from the other center until the crippled center could be returned to service.

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2. Opportunities to extend these backup procedures are on the horizon. For example, one result of the redirection of the SAFE Project was a shift to the use of IBM compatible architecture, which will make the SAFE computer center compatible with the existing centers and thus add another dimension of flexibility to backup procedures.

3. The construction of the new building in the Headquarters compound will likewise provide additional opportunity to extend flexibility. As central computing capabilities are moved from existing computer centers to the new building, some existing computer center space will be retained, refurbished, and used to accommodate some production processing requirements. The systems which will be configured to provide this support will also be included in emergency backup procedures. A request for two staff personnel to manage the move, determine levels of capability to be retained in existing centers, and determine critical backup needs and thus backup system configurations was included in the FY 84 budget submission for the new building.

4. While the increase in computer centers offers additional flexibility in shuttling production workload from one center to another in the event of crippling disaster to a center, more centers mean more work and are indicative of greater dependence on data processing in the Agency. Such dependence begs for more than minimal capability to support critical requirements. Plans should be adopted to establish a backup computer center located away from the Headquarters compound. The center should be underground, climate-controlled, and located in a sparsely

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· populated area, making full use of technological advances. The location would be coordinated with emergency organizations at the national level. Plans to acquire property should be in progress now with the possibility of utilizing government facilities. An alternate solution would be to plan, in conjunction with appropriate national level organizations, a Federal Data Storage Facility which would be located away from the metropolitan Washington area. CIA and the Intelligence Community should be allocated a portion of this facility which could be shared with other Federal agencies.

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H. Alternate Methods to Accelerate the Number of Language-Qualified Empolyees (Mid-to-Long Term)

1. Over the coming decade, the Language School will become highly automated as we move into word processing and computer assisted instruction (CAI). Expanded application of CAI techniques will enable instructors to focus their attention on the more creative aspects of teaching and program development, and drills and reinforcement exercises will be studied using CAI programs. This will enhance the efficiency of instructors and enable the school to train increasing numbers of students without

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an increase in staff. The Language School is already working with the Information Science Center to expand an in-house CAI system, and in cooperation with ORD, is exploring the possibility of assistance from the commercial and academic world. Those efforts will continue through the 1980s.

2. The planned adoption of computer techniques to test scoring using optical character readers and mark sense readers will increase the speed and accuracy of our testing procedures and allow us to more easily determine both the effectiveness of our training and the quality of the Agency's foreign language inventory at any given time.

3. Throughout the next decade the Language School will continue to experiment with types and lengths of language programs, offering increased numbers of both short minimal survival courses and total immersion programs of several weeks' duration. New instructional techniques will be tried and the use of audio and visual aids to supplement classroom instruction will be expanded.

4. Efforts to direct course curriculum to the specific needs of Agency students will continue through familiarization of instructors with the tasks required of operations officers and analysis of the Language Use Questionnaire which gathers information about language use overseas.

5. The results of research into the relationship of language aptitude to learning success and optimal course length to attain professional proficiency will become available during the next several years, and we may see selectivity in accepting students and some changes in the design of language programs.

6. The Language School's role in the development of a standardized method for oral proficiency testing will indirectly contribute to an increase in language-qualified employees in the Agency. The adoption of these standards nationally will regularize and improve language teaching in high schools and colleges and provide a better trained pool of individuals with language skills from which to recruit new employees for the Agency.

7. The Language Incentive Program which provides monetary reward for language use, achievement, and maintenance will be continued since all evidence indicates that it is having a positive impact on the Agency's language skills inventory. The program will be reviewed and adjusted during the coming years to assure that the intent of the program is being realized.

8. Finally, the professional qualifications of the Language School staff will be augmented by continued participation in the activities of professional associations and through expanded in-house programs.

I. Training for Information Handling (Long-Term)

Information handling training will increase at least fourfold over the next decade. As the CIA is asked to do more, it is necessary to use computer-based information systems to multiply intellectual power. More information handling training should occur in the vendor's facilities than has been true in the past. In the future, a number of information handling tools will be off-the-shelf items from a vendor. Other government and commercial organizations have need of information

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handling tools similar to our own. Over the next ten years, a far larger percentage of the software used in the CIA will be standard (or almost standard), commercially available packages. In many instances, the training for this type of package can be better provided by the vendor. Other types of general training, such as a computer language or information handling concepts, can be effectively and efficiently provided by general providers of education such as the Office of Personnel Management and universities.

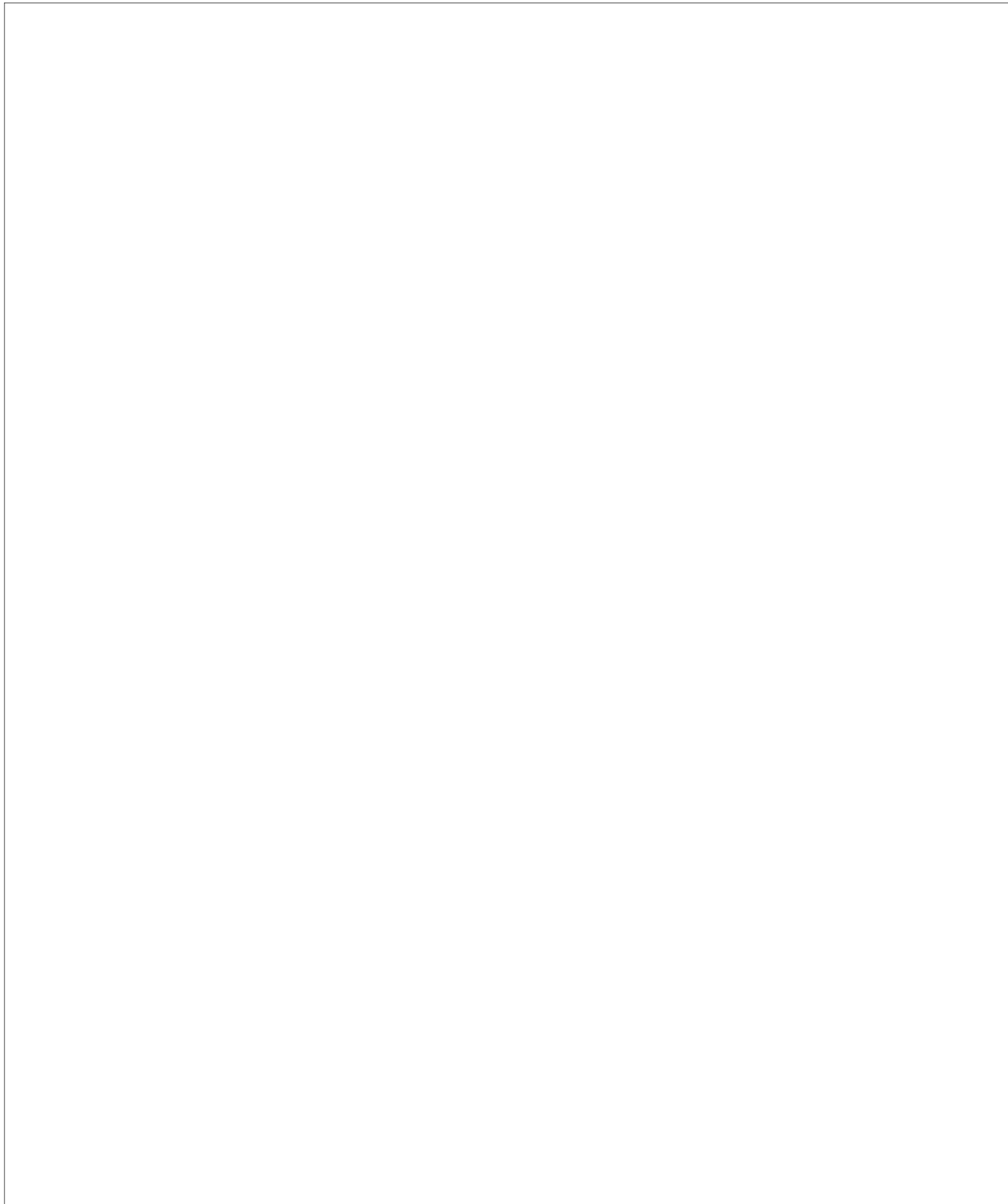**J. Communications Support to Crisis Situations (Long-Term)**

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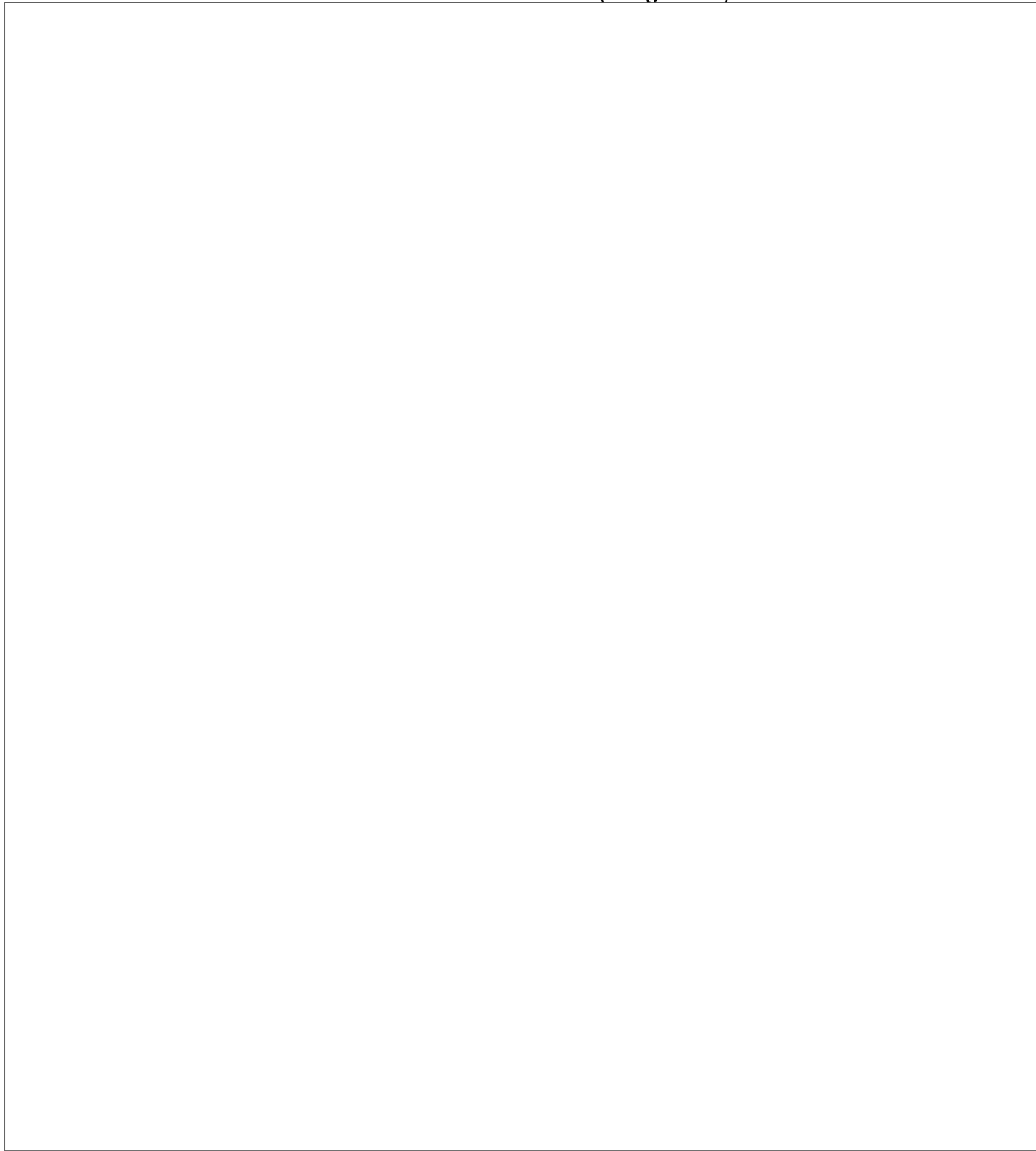
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M. Communications Security (Long-Term)

The Office of Communications has undertaken the design and implementation of a secure, worldwide, packet switched network (Project MERCURY) to meet user needs for increased services. This system will depend on high speed, wide-band communications trunks, sophisticated ADP-based switching nodes, and more and newer cryptographic techniques and hardware. For MERCURY and another major

program, CRAFT, the Communications Security Division will need to address problems such as: 1) developing a new secure gateway-to-network concept, 2) a viable method for user file encryption, 3) routine and emergency destruction techniques and devices for electronic data storage media, 4) with the advent of new cryptographic equipment, new forms of keying material which will impact the key distribution, accounting and control functions of the Division, 5) new communications equipment installation standards and guidelines and 6) the need to protect high-speed non-encrypted data links (the Division has embarked on the adaptation of the Intrusion Resistant Optical Communications [IROC] medium to respond to this need).

In the TEMPEST arena, OC has several long-term programs, among which are 1) to develop a TEMPEST profile monitor for specifie equipments having known TEMPEST profiles, and 2) to develop special shielding materials, and shielding techniques ranging from the total shielding of entire buildings to unique enclosures for specific equipment. Through the next decade there will continue to be a need to identify new TEMPEST vulnerabilities, low-cost, TEMPEST-free technologies and design approaches, and cost effective shielding.

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### N. Communications Support to Field Station Automation (Long Term)

There is an increased emphasis being placed on the "paperless" station of the future. It is envisioned that by the end of the decade, a merger of the office system and the staff communications network will occur. The office system will reach full operating capability at all overseas and domestic DO field facilities. At approximately the same time, the MERCURY-switched network will be fully installed. The office system of the 1980s will expand into more of a data processing and interactive terminal from the simple word processing systems of today's program. The field customer will demand automation that can handle both limited direct access to certain Headquarters data bases, as well as direct transmission and reception of narrative command message traffic. The customer will also desire his own on-site data base manipulation and word processing capabilities.

These requirements will drive the office information system and the communications terminal (message processing system) from earlier efforts at interface between

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the two into one common system from the standpoints of cost effectiveness, efficiency, security, and standardization. This system will be directly connected to the communications network. Paper as a transfer medium between systems will be a thing of the past, as the DO officers will compose, edit, release, transmit, receive, file, and retrieve from their installed workstations. Security, compartmentation, and message processing/preparation will be built into the system.

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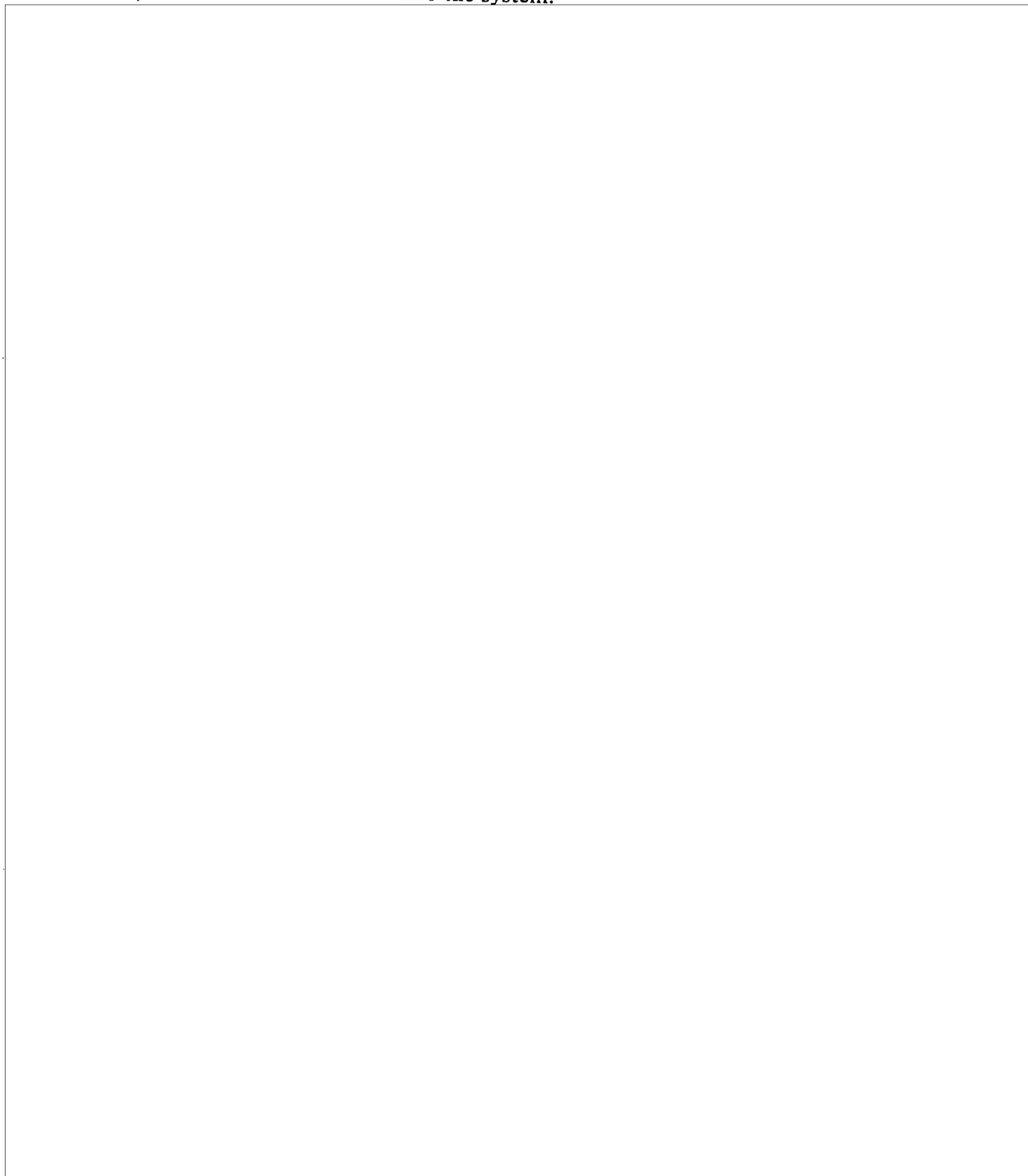
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TRAINING—Similar to the SKYLINK program, installations are going to take place at times when PCS rotations are such that classroom maintenance training will be impossible. This will result in the requirement for on-site training at the time of installation and will impact both on instructor resources and TDY operational support during training.

TEMPEST—All installations are to be TEMPEST tested prior to classified use. Additionally, each installation not in a shielded enclosure will have to be retested annually. The resultant TEMPEST effort, therefore, is cumulative and could reach as many as ⬚ by 1989-1990. This will have a large impact on resources.

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INTEGRATION—In the 1987-1989 time frame, the office system will have a requirement to be "interactive" from the field to certain restricted data bases at Headquarters. This requirement is tied to the implementation of the MERCURY program. From the user standpoint, CRAFT will be seen as an office information system; it is possible that by 1990, CRAFT may be viewed from a communications standpoint simply as an extension of the overseas on-line network. Coupled with the MERCURY packet switched network, CRAFT may be the DO multi-purpose terminal equipment for narrative messages, as well as some data exchange.

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LONG-RANGE PLAN - PHASE IV

SUPPORT CAPABILITIES

ADDENDUM

(SECURITY-TRAINING)

DIRECTORATE OF ADMINISTRATION

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SECURITY

During the next decade, the Office of Security (OS) must continue its commitment to provide full and timely security support on a world-wide basis; this within the framework of appropriate attention to new requirements occasioned by an expanding population, changing staff patterns resulting from the technological explosion, and maintenance of the capability to service the "traditional" security disciplines. To do so, it will be necessary to control, expedite, and generally modernize Office functions through enhancement of automatic data and word processing capabilities, realize growth in personnel strength and acquire space. Among the major issues with which OS must deal in the decade beginning in FY 1983 are: polygraph capability, computer security, technical countermeasures, leaks, overseas support and the changing psychological profile of the Agency employee.

The polygraph, as an investigative aid, has been and will continue to be the most effective tool in the construction of the mosaic that represents the basis for adjudication of security suitability for applicants, employees, staff-like associates, contractor's employees, certain operational assets and others. The tool necessarily is pervasive; the security of Agency operations and activities is related directly to the trustworthiness of the people who carry them out. The polygraph capability must grow and in the near-term (FY 1984), the number of examining rooms will have doubled to 28 and the staff will increase by 7 examiners to 47. More examiners will be required in the mid- and far-term and recruitment will be approached both through efforts to hire qualified personnel and establishment of an in-house training capability. The first in-house training class is now in progress and offers specialized instruction that equals the quality of commercial counterparts. Since recruitment of trained polygraphers is difficult, this in-house training capability is our best hope to obtain and maintain an adequate polygraph service potential.

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contains funds to begin a long delayed upgrade of this facility.

Leaks represent the most insidious and damaging form of unauthorized disclosure and, as such, have been addressed on the national level. The Office of Security, through representation on the DCI SECOM, has supported the provisions and recommendations of the "Willard Report" submitted to the National Security Council. Within the Agency, OS will continue an attack on leaks and unauthorized disclosures in general through investigation referral for prosecution when warranted, imposition of internal administrative sanctions up to and including termination, information control, enhanced physical security and strict enforcement of security regulations. A primary goal in combating leaks and other unauthorized disclosures of classified information is reaching and maintaining currency in the reinvestigation program (RIP). The RIP has suffered because of the necessity to apply limited resources to personnel security functions of immediate and pressing priority. From a counterintelligence viewpoint and in terms of a viable personnel security program, the shortfall in the RIP will be reduced in the near-term and must be eliminated in the long-term.

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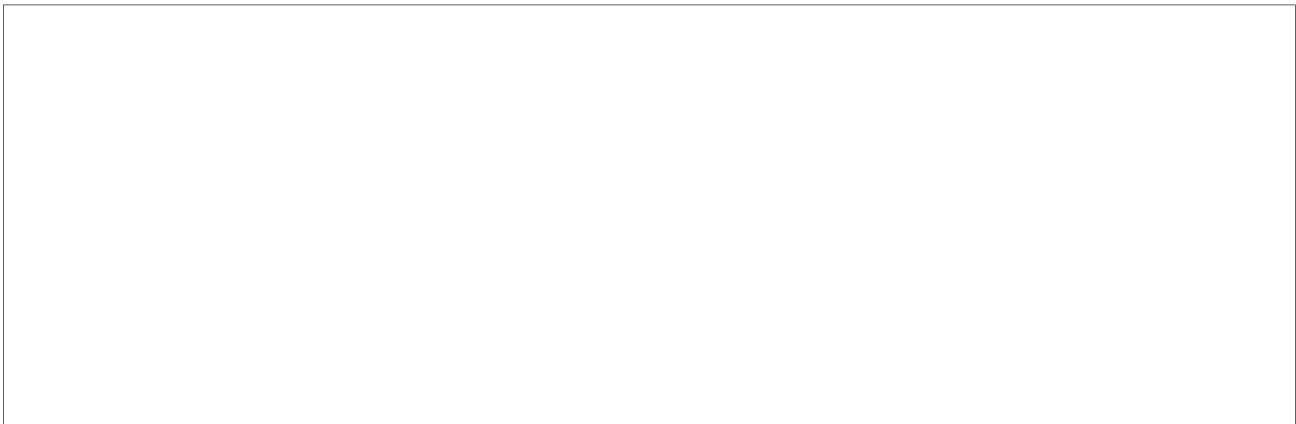
In the security processing of applicants, OS has for some years faced behavioral and attitudinal changes consistent with shifting mores and lifestyle of the general populace. This will continue with exact direction unknown; however, it can be assumed that motivation, personal standards, values and conduct will be far different from those held or practiced 20 years ago and not necessarily similar to today's. This does not mean that basic security standards will change; a person is either loyal and trustworthy or he/she is not. What will change is application of basic standards in the perception of security suitability; i.e., evaluation of security risk as measured against a realistic understanding of societal evolution. The impact on OS will include more difficult investigations, adjudications that require a high degree of sophistication, and more complexity in determinations relating to probationary causes and reinvestigations. Further, since the Agency must insist on standards of security eligibility that may not be readily found, OS anticipates that the number of individuals processed to fill a single vacancy will increase.

Central to the future of the Office of Security is modernization. The

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Office oversees the development of the Community-wide, Computer-assisted Compartmentation Control System (4C), which is on track and will permit a dramatic improvement in control and accountability of Sensitive Compartmental Information (SCI) access. The ongoing application of ADP to communications, centralization of records and access to record holdings must figure as a managerial priority over the decade. While not all security support lends itself to exploitation of technology, development of ADP systems will figure significantly in the efficiency and productivity of OS in the coming decade and beyond.

Computer security is listed as a major DA resource concern in the body of this current study. We plan to double the current Information Systems Security Group (ISSG) by 1985 and triple it by 1992. The following programs areas will be emphasized both in the near- and long-terms.

NEAR-TERMS ADDITIVES (1983-MID-1985)

a.   Finalize current drafts of regulatory issuances (DCID, HR, HHB) to establish computer security policy and standards.

b.   Monitor all information handling systems procurement for enforcement of fundamental computer security requirements.

c.   Develop new audit trail techniques and alerting systems for better security management of systems controls and privileges and detect abuses.

d.   Provide acceptable, reliable, and verifiable routine and emergency destruction methods for digitally-stored data.

e.   Use new technology to develop better access controls at:

1.   The system level for both individuals and users, programs, and other systems (via networks).

2.   The file level for segregating user privileges.

3.   The operating level to protect the systems's safeguards from modification by privileged but unauthorized users.

f.   Develop for the Agency's more sensitive data bases:

1.   Online file encryption for production libraries.

2.   Improved Systems Management Facility (SMF) utilization and report generation by system utilities in support of the security auditing program.

3.   More positive control of privileged functions on Multiple Virtual System (MVS).

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4. Wider use of check sums.

5. Control of hard copy at remote printer terminals and slave printers in the Document Logging System (DLS) manner.

6. An in-depth understanding of the causes of spillage.

7. Control and monitoring of system programmers access to system(s).

g. Build a personnel training awareness and screening program for computer security and focus on data processing personnel and systems users alike.

LONG-TERM ADDITIVES (MID-1985 AND BEYOND)

a. Develop innovative authentication method for more secure system access control by 1986, including testbed development and prototyping.

b. In close coordination with the Office of Communications and the National Security Agency, we will investigate methods suitable for providing data base encryption. We will simultaneously pursue a DES-based (nonencyption) method of providing protection for "need-to-know" preservation in "benign" environments.

c. ISSG, together with the Office of Research and Development, will continue to support research in the design and development of reliable, trusted information systems by addressing security hardware as well as software technology development.

d. A priority effort will be to fund research and development initiatives to explore hardware integrity verifications. Our security interest centers in the development of methods of component verifications.

e. Research and development initiatives as well as development and engineering projects must provide the hardware and software techniques to satisfy new compartmentation and dissemination control requirements stemming from networking, shared data bases and outside users. ISSG must actively foster these efforts.

f. Finally, we will maintain our support to the Intelligence Community, particularly the new Department of Defense Computer Security Center, in effectively influencing ADP manufacturers in developing security "certified" hardware and software.

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TRAINING

Each Directorate has the responsibility for career development of its employees. One aspect of career development is training, and the Office of Training and Education (OTE) must be sure that the full spectrum of training, be it professional, functional, or skills related, is available to supplement each Directorate career development process. Within this context, the major concern of OTE over the next decade will be to deal with change. This change will be driven by an expanded Agency which is much more automated than it is today. The impact of the increased numbers of new employees requiring training and the new skills that current employees will have to acquire at an accelerated rate will force OTE to change its product and the way in which it is delivered to the Agency. An evolutionary shift of resources from broad educational programs to narrow and specific skills training will take place. More training will be coordinated for specific component audiences. The Off Campus Program and Agency directed assignments to external training will grow in conjunction with the need to upgrade the skills of our analysts, technicians and operations officers.

A major change in the office setting will be the presence of a more skilled, sophisticated, and competent clerical employee. Training and developing the Agency's clerical employees to enable them to meet the requirements of the automated office environment will become a high priority requirement. To respond to this, OTE is developing an aggregate training and development program so that we will have a skilled professional clerical work force in the future. As a first step, clerical employees will receive up to two or three weeks' training before reporting to their first assignment. During this period, the clerical will receive, in addition to a general Agency orientation, specific training in office skills such as the use of the telephone, proofreading, effective written English, word processing, information handling equipment, and office security. This program will be expanded to help the current clerical work force meet the challenge of automation and to help future clerical employees cope with changing office automation.

Training in Intelligence Analysis will become an integral part of the DDI analyst's professional growth from EOD through mid-career and senior analyst training programs. New analysts will enter on duty via a six week orientation and training program which will be similar in concept but more narrow in scope than the Career Trainee Program. Also, OTE is in the process of working with the DI to formalize a two week training program for DI Intelligence assistants, an econometric modeling course for non-economics analysis, and to establish a course for the military analyst.

Information handling in all of its aspects will experience rapid growth. The Information Science Center will experience difficulty meeting internal requirements and maintaining an appropriate level of response to Community requirements. As our experience in office automation grows,

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we will concentrate on integrating the factors learned from office automation into the current offerings of clerical, supervisory, and management courses. It is too soon to identify specific curriculum but, for example, we will need to change our proofreading course, which currently addresses written documents, to one which addresses proofreading via the CRT. In any case, we anticipate that over the next ten years we will need to train four-fifths of our entire work force in some yet-to-be-determined amount of automated systems use. This may necessitate contracting out on the commercial market for instructors, facilities, and equipment to accomplish this considerable training requirement. OTE will need increases in hardware, software and personnel to provide training on specific major computer-based systems, such as CAMS, CRAFT, SAFE, and for basic training in information handling skills, such as word processing/office automation and use of the Agency computer system.

Language training requirements will increase in response to operational and analytic requirements. Language maintenance and achievement awards will increase proportionately. OTE will need to ensure the availability of the appropriate resources to meet or exceed requirements placed on the Language School (LS) in the areas of teaching and proficiency testing. In the teaching domain, the LS will strive to make instruction more efficient and increasingly tailored to the special needs of Agency students. The LS will develop and implement fixed short-term advanced level courses for "2" and "2+" level students in French, Spanish, German, Russian, and Chinese to ensure continual proficiency maintenance. In conjunction with ORD, LS will continue to develop a capability for Computer Assisted Instruction (CAI) in languages. And finally, the LS will continue its program of intensive survival language skills and, if appropriate resources can be acquired, will expand this program. In testing, the LS will continue to elaborate and refine the definitions of proficiency levels and promulgate a government-wide standard, improve the quality of oral testing through research and training, and develop up-to-date tests of reading proficiency.

Operational training requirements will expand significantly requiring additional instructors. To improve the quality of operations training courses, the personnel and training resources of Operations Training Division and Cover Instruction Division will be integrated to more efficiently conduct quality operations training. In consultation with IMS/DO, a determination of the extent to which the CRAFT system should be included in training courses for DO employees will be made. While operational training will increase in volume and some of the tools used by the case officer will change, the methods of training which have been tested and proven through the Agency's history will not change significantly.

During most of this period, properly designed and equipped facilities will be a continuing constraint on the OTE. With the projected increase in training requirements over the next ten years, it appears probable that current planned classroom and conference space will not be adequate. We

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