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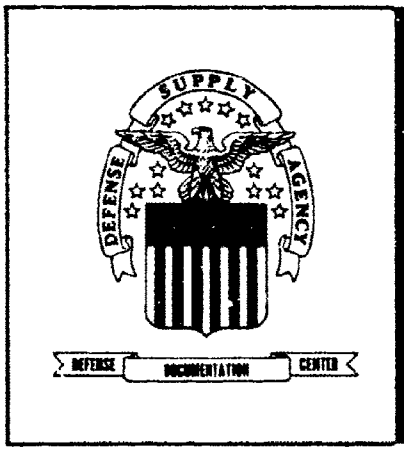

ANNUAL HISTORICAL SUMMARY

1 July 1965 to 30 June 1966

Defense Documentation Center

ANNUAL HISTORICAL SUMMARY

(RCS DD - DSA (A) 216 (L))

1 July 1965 - 30 June 1966

DEFENSE DOCUMENTATION CENTER
CAMERON STATION
ALEXANDRIA, VIRGINIA 22314

Prepared by

ROBERT H. REA

1 OCTOBER 1966

SUMMARY

New missions, new services, and new record levels in requests for services highlighted the events at the Defense Documentation Center (DDC) during Fiscal Year 1966. During the report period, first priority on manpower and other resources at DDC was assigned to the RDT&E Work Unit Data Bank.

This Annual Historical Summary reflects the principal actions taken during the report period. Among the most significant changes were the following:

- **The establishment of the Defense Department's RDT&E Work Unit Data Bank.**
- **Change from microfilm (roll film) to microfiche (sheet film) as basic microform for storing documents.**
- **Cost reduction savings of $676,000 during the report period.**
- **Two data banks established to provide contractor information to Defense Contracting Officers and Source Selection Boards.**
- **Centralized primary distribution in the U. S. of technical reports of certain foreign nations.**
- **A Report Number (Correlation) Index was added to the DDC index service to users.**
- **Centralized DoD registry of users of DoD scientific and technical information and documents.**
- **Change to a computer-produced (Linofilm) announcement publication.**

The changes which occurred at DDC during Fiscal Year 1966 are of importance to both the Federal and Defense Scientific and Technical Information Programs. These efforts have one major purpose: The maintenance of effective and systematized services to our research and development communities at the least cost.

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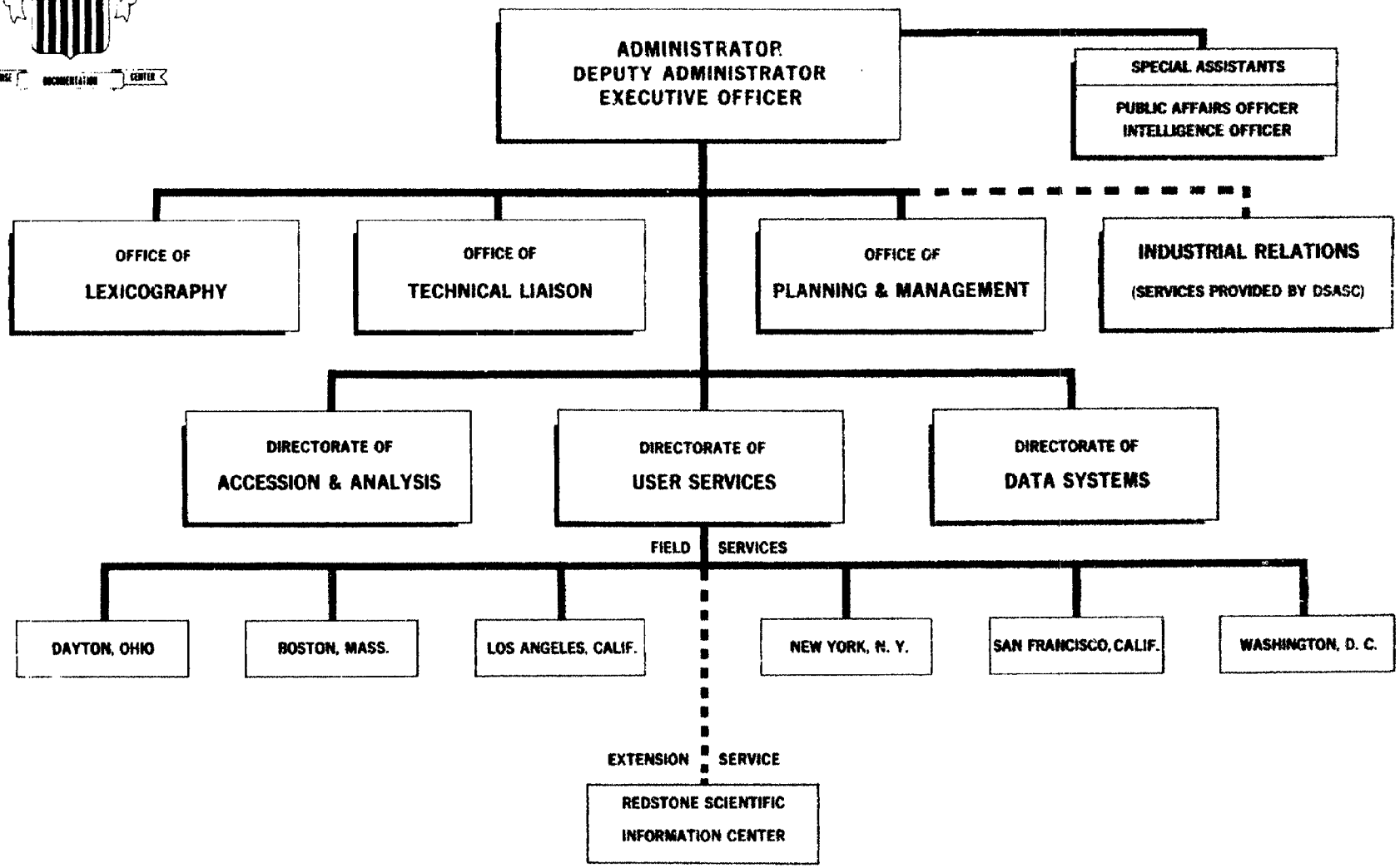
DEFENSE SUPPLY AGENCY

DEFENSE DOCUMENTATION CENTER



APPROVED
ROBERT B. STEGMAIER JR
ADMINISTRATOR
15 AUGUST 1965

DEFENSE DOCUMENTATION CENTER

Cameron Station - Alexandria, Virginia

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*Transferred to Department of State
15 April 1966

**Retired 30 June 1966

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I. INTRODUCTION

The following background information is provided for the readers who may be unfamiliar with the history, mission, purposes, and services of the Defense Documentation Center (DDC):

Capsule History: DDC had its origin in July 1945, when literally tons of captured German and Japanese technical documents were added to the mass of domestic R&D reports generated during World War II. The Army Air Corps established an Air Documents Research Center in London, England, to process the collection. Later in 1945, the operation was moved to Wright Field, Ohio, where it became the Air Documents Division of Headquarters Air Materiel Command's Intelligence Department. The Division was reestablished in 1947 as the Central Air Documents Office (CADO). The Navy maintained a separate operation for its documentation efforts at the Library of Congress.

On 14 May 1951, the Honorable George C. Marshall, Secretary of Defense, established the Armed Services Technical Information Agency (ASTIA), to serve all three military departments and their contractors.[1] CADO and the Navy Research Section of the Library of Congress were incorporated to form ASTIA. ASTIA started with a collection of some 400,000 titles and received requests for 40,000 documents during Fiscal Year 1951. ASTIA continued until 19 March 1963, when the Agency was reconstituted as the Defense Documentation Center. At that time ASTIA had a collection of nearly 700,000 titles and its annual requests for documents totaled more than a million. After 18 years of Air Force operational control, the functions performed by DDC were transferred to the Defense Supply Agency (DSA) on 1 November 1963. The DDC collection, which totals approximately 850,000 reports, spans the spectrum of scientific and technical subject matter.

Major Programs and Services: DDC is the central facility of the Department of Defense for secondary distribution of technical reports of research, development, test, and evaluation (RDT&E) sponsored by DoD. DDC acquires technical documents on primary distribution or acquisition from the originators, processes and stores them for retrieval, announces their availability for official use, retrieves them on request, and supplies them without charge to Government agencies and their registered contractors, subcontractors, grantees, and to potential Defense contractors. Organizations registered with DDC may request copies of these documents either in full-size or in microform (microfilm or microfiche). They also may request bibliographic searches of the Center's collection.

DDC established and maintains, for Department of Defense organizations, the "RDT&E Work Unit Data Bank." Summarized technical and management information of Defense-sponsored research and exploratory development efforts is programmed into the DDC computer and made available on request to military organizations.

Data Banks of Contractor Cost Reduction Reports and Con-

[1] DoD Directive unnumbered, subject, Armed Services Technical Information Agency dated 14 May 1951.

tractor Performance Evaluation Reports are maintained at the Center. Reports from these collections are available to Defense Contracting Officers for contract award and negotiation purposes.

Through a Referral Service, authorized users are directed to Defense-sponsored organizations, groups and individuals which are known or considered to be potential sources of specialized information, or to the National Referral Center for Science and Technology.

Twice each month the Center publishes the *Technical Abstract Bulletin (TAB)* in which it announces its latest accessions available to users. A supplement contains the following indexes for use as reference tools: Corporate Author-Monitoring Agency Index; Subject Index; Personal Author Index; Contract Index, and Report Number Index. The indexes are cumulated quarterly and annually.

DDC User Services

1. ANNOUNCEMENTS
   - Technical Abstract Bulletin
   - Issued Semi-monthly, with Indexes
2. CUMULATED INDEX
   - Quarterly Indexes
   - Annual Indexes
3. TECHNICAL REPORTS
   - Full-size
   - Microform
4. BIBLIOGRAPHIES
   - Demand Searches
   - Printed Report Bibs
5. RDT&E PROGRAM DATA
6. REFERRAL SERVICES
7. LOS ANGELES FIELD SERVICE

II. PERTINENT DoD DIRECTIVES AND INSTRUCTIONS

DoD Directive 5100.36 (December 31, 1962), Subject: Department of Defense Technical Information.

DoD Directive 5200.20 (March 29, 1965), Subject: Distribution Statements (Other than Security) on Technical Documents.

DoD Instruction 3200.8 (March 7, 1966), Subject: Standards for Documentation of Technical Reports under the DoD Scientific and Technical Information Program.

DoD Instruction 5100.38 (March 29, 1965), Subject: Defense Documentation Center for Scientific and Technical Information (DDC).

DoD Instruction 5100.45 (July 28, 1964), Subject: Centers for Analysis of Scientific and Technical Information.

DoD Instruction 5129.43 (January 22, 1963), Subject: Assignment of Functions for the Defense Scientific and Technical Information Program.

DoD Instruction 5200.21 (September 1, 1965), Subject: Certification for Access to Scientific and Technical Information.

DoD Instruction 7720.13 (January 27, 1965), Subject: Reporting of Current Research and Exploratory Development Effort at the Work Unit Level.

DDC CIVILIAN PERSONNEL STRENGTH

Directorate or Office	30 JUNE 1966	
	Authorized	Assigned
TOTAL	511	472
• Office of the Administrator	4	4
• Executive	7	7
• Public Affairs	3	3
• Intelligence	24	24
• Office of Technical Liaison	6	6
• Office of Planning and Management	29	28
• Office of Lexicography	8	8
• Directorate of Accession and Analysis	95	86
• Directorate of Data Systems	114	101
• Directorate of User Services	221	205

Figure 1

III. RESOURCES

PERSONNEL

Personnel Strength: The Center's authorized end-of-quarter strengths during Fiscal Year 1966 were as follows:

First quarter	**513 Civilians**	**4 Military**
Second quarter	**510 Civilians**	**4 Military**
Third quarter	**504 Civilians**	**4 Military**
Fourth quarter	**511 Civilians**	**4 Military**

The allocation of personnel within DDC, as of 30 June 1966, is shown in Figure 1.

At the start of FY 1964, DDC overtime totaled 21 percent of regular time and was reduced to 3 percent by June 1965. As of 30 June 1966, overtime had been reduced to 1-1/2 percent of base pay.

Shortage of Computer Operators: A serious personnel problem concerned DDC's shortage of computer operators. The shortage necessitated the detailing of two systems and programming employees as computer operators, operation of the computer system on a three-shift basis with as few as six operators instead of 12, and extensive overtime. In an effort to offset this shortage of computer operators, DDC participated in various automated data processing training programs.

Manpower Utilization Survey: In March 1966, DDC requested DSAH[1] to make a survey of the Center's utilization of manpower in order to establish a firm manpower base for consideration of DDC's future needs. The DSAH Comptroller Resources Survey (Manpower/Funds) Team completed the survey during the period 25 April - 6 May 1966. The survey report recommended 497 civilian man-years which equalled the man-years utilized by the Center in both regular and overtime performance. DDC comments concerning the survey report were forwarded to DSAH on 9 June 1966.

Guard Force Survey: A Manpower Management Survey of DDC guard force personnel was made. The report reviewed security needs as defined by existing regulations. Changes were recommended to reduce escort, clerical and other requirements to permit a saving of three manpower spaces.

DDC Manpower Distribution Analysis FY 1963-1964-1965: A study was made showing the utilization of manpower prior to and including the implementation of the working agreement for the processing of DoD unclassified/unlimited documents by the Department of Commerce. A DDC productivity index evolved from the study which is based on the work units completed per man-year utilized in the various operations areas of the Center. The index shows that, from FY 1963 to FY 1965, the number of technical reports processed for announcement per man-year increased from 207 to 314; processing of requests for documents per man-year effort

[1] Defense Supply Agency Headquarters.

was stepped up from 7,593 to 8,087 requests; and bibliography requests completed per man-year increased from 139 to 263.

FISCAL MATTERS

Funding: DDC's Fiscal Year 1966 resource requirements were reviewed and revised by DSAH. The total direct fund allotment for the fiscal year was $10,091,000.

During the fourth quarter of FY 1965, the Advanced Research Projects Agency (ARPA) allotted $250,000 to DDC for Phase II of the ODDR&E User Need Study. Of the $250,000, DDC had obligated $235,000 as of 30 June 1966.

Cost Reduction: Savings of $676,000 were audited and approved as a valid Cost Reduction during FY 1966. Through negotiations with the Clearinghouse for Federal Scientific and Technical Information, National Bureau of Standards, their costs for processing DDC's unclassified/unlimited documents were reduced $329,000. The replacement and removal of certain Automatic Data Processing equipment resulted in a savings of approximately $32,000. Improved internal procedures and techniques accomplished an approximate savings of $315,000.

ADP Equipment Purchase: The 1107 Computer System was purchased for DDC in December 1965 at a price which represents complete amortization of capital costs in 26 months at the then monthly rental rate. Approval was received in February 1966 for acquisition of additional core storage, an additional magnetic tape synchronizer, and the upgrading of the UNIVAC 1004's to 1005's for use in meeting anticipated requirements of the Work Unit Data Bank, the proposed weekly TAB cycle, and projected increases in bibliography requests. The additional core memory was installed in March 1966.

During the second half of FY 1966, the computer operated on a daily 22-hour schedule. Since February 1966, computer time was made available on weekends, as time permitted, to the Bureau of the Census on a reimbursable basis.

Five-Year Plan: During the second quarter of FY 1966, at the request of ODDR&E and DSAH, DDC realigned its fund requirements contained in the September 1965 Five-Year Plan into four main functional areas: (1) Basic Mission Operations, (2) Work Unit Information System, (3) Other Special Services, and (4) Developments. A further revised plan, submitted 2 May 1966, shows funds to accomplish the DDC program (a) on the basis of a fixed manpower ceiling of 493 spaces and all required contractual assistance and (b) on the basis of maximum practical effort. in-house and necessary contractual effort.

FY 1967-1968 COP/B: On 15 April 1966, DDC submitted a Command Operating Program/Budget (COP/B) detailing resource requirements for FY 1967 and FY 1968, a revision of FY 1966 requirements, and obligation schedules for the use of all prior year funds.

An alternate plan for FY 1968 detailed the resources required if the Clearinghouse (CFSTI) arrangement was not in effect, and all document processing was performed in-house by DDC.

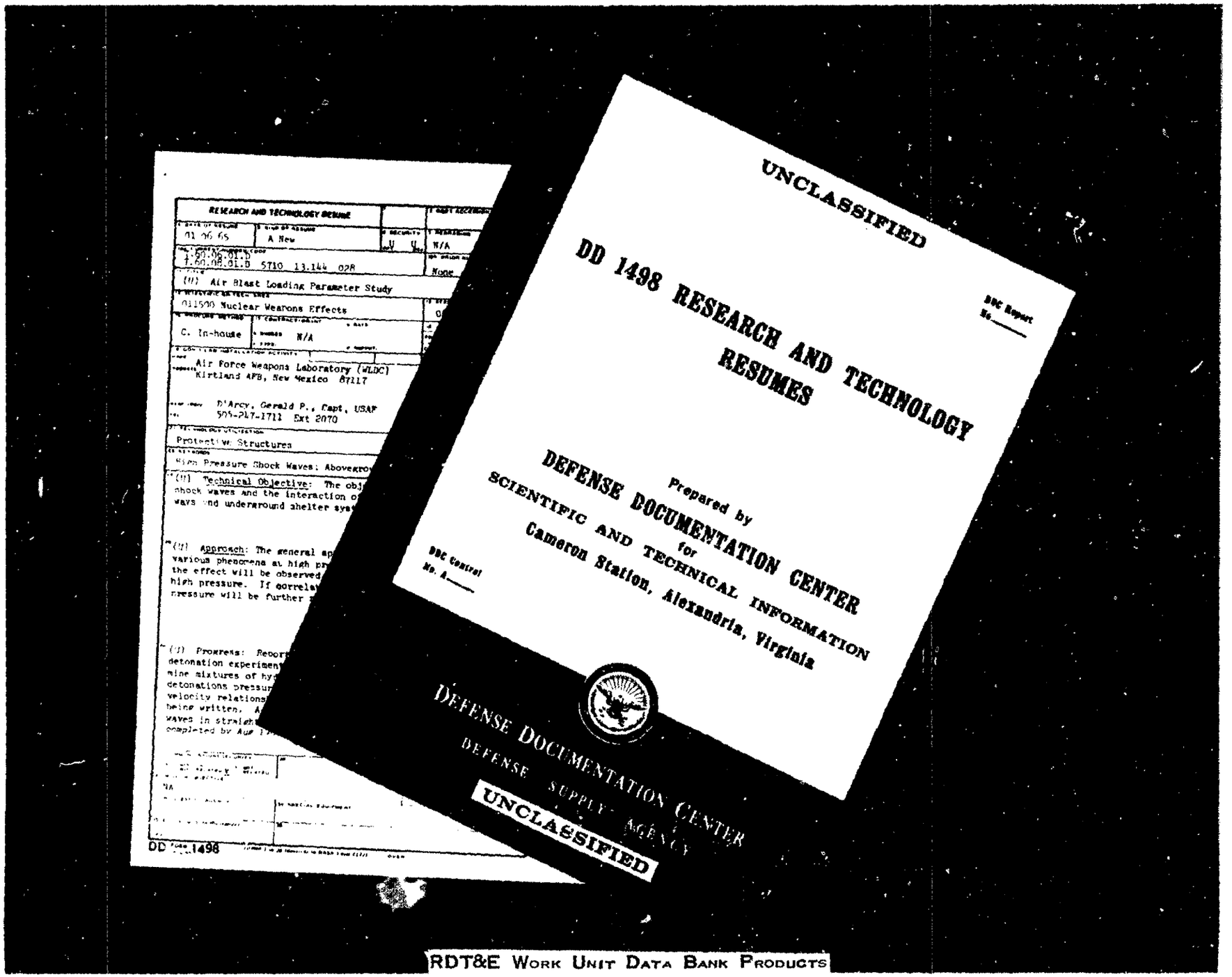
PHYSICAL FACILITIES

DDC Headquarters: Headquarters for the Defense Documentation Center is located in Building No. 5, Cameron Station, Alexandria, Virginia, approximately seven miles south of Washington, D. C.

Throughout most of Fiscal Year 1966, DDC occupied the entire one-floor renovated warehouse. In June 1966, a portion of Section F (approximately 6,700 square feet) was relinquished to DSAH for use by the DoD Warehousing Gross Performance Measurement Office and the U.S. General Accounting Office.

Within DDC Headquarters is a large UNIVAC 1107 computer system which is involved in almost every aspect of the Center's operations. The building also houses a complete printing plant, including microphotography and graphic arts operations, and other processes for providing documentation services.

Field Services: During Fiscal Year 1966, DDC maintained six field services in the major research and development areas of the United States. These offices were located within the metropolitan areas of Boston, Massachusetts; New York City, New York; Dayton, Ohio; Los Angeles, California; San Francisco, California, and Washington, D. C. Extension services were provided DDC users in the Huntsville, Alabama, area by the Army's Redstone Scientific Information Center.



RDT&E Work Unit Data Bank Products

IV. PROGRAMS AND SERVICES

WORK UNIT DATA BANK

RDT&E Work Unit Data Bank System: As directed by DDR&E, DDC designed a system and developed the programs required to establish the DD 1498 Data Bank by 1 July 1965. Due to delays in the submission of reports, actual establishment of the Data Bank was not completed until October 1965. Information in the data bank is stored and retrieved in much the same manner and with many of the data files and controls used in the documentation system.

The DD Form 1498, "Research and Technology Resume," is a DoD-wide reporting form used for input to the system and reflects on-going research work as opposed to the results of completed work contained in the DDC document collection. The DD Form 1498 provides technical information on the research and exploratory development efforts including the objectives, planned courses of action and progress. It also contains management data elements of value to the R&D managers such as estimated man-years, funding requirements and budgetary coding elements.

The volume of the initial Data Bank was approximately 9,000 resumes. At the close of FY 1966, the file contained 18,584 resumes. Because of the potential of this system for improving management efficiency of the Defense research and development effort, this operation was given, in April 1966, first priority on manpower and other resources at DDC.

To meet rapidly increasing workloads engendered by the RDT&E Work Unit Data Bank System, functions of the Systems and Programming Division were informally realigned in early February 1966 to place the emphasis on those activities essential to the development, operation and maintenance of the system. At that time, 49 percent of the Systems and Programming Staff were engaged in efforts related to that mission. In addition, 11 contract personnel were engaged to varying degrees in the same effort. By the end of the fiscal year, approximately 56 percent of the Systems and Programming personnel and nine contract personnel were engaged in this mission.

The resumes were received in three different forms. Contributors not having card punching facilities submitted information on the DD Form 1498, and DDC prepared the punched cards. Others submitted either the corresponding punched cards or a magnetic tape containing the card images with the resumes. In preparing these data for storage and retrieval, DDC analyzes, cataloges, and indexes the records by procedures similar to those of the document handling system.

The Work Unit Data Bank is composed of two basic files: (1) a master file of the DD 1498 data elements for each work unit reported, and (2) an inverted file of each retrieval term used followed by the accession numbers of resumes on work described by the same retrieval term.

For management and planning purposes, the services rendered from the data bank are designated as being in two categories, one called Standard Listings or Reports and the other Special Reports.

Standard Reports were those produced from the generalized information retrieval system or from the library of computer programs. The generalized retrieval system has a great deal of flexibility in terms of selecting and sequencing DD 1498 records from the Data Bank. The final report can contain the entire resumes for the entries in the report or only those data elements desired by the user. Because additional programming is not required, these reports can be produced quickly and at little cost.

Special Reports are those for which the format or statistical summaries cannot be satisfied by the Generalized Information System and therefore require additional programming. These reports are more costly and require time to produce. As special reports were produced, the programs involved were added to the library of programs for possible re-use to serve future requirements.

On 4 August 1965, DDC received from ODDR&E the first set of output requirements for the DD 1498 Work Unit Data Bank System: 24 specialized management reports and an estimated average of five new formats per week over the following six months. Resource requirements for providing this workload were submitted to DSAH on 27 September 1965. On 25 October, DSAH authorized DDC to enter into a contract for programming assistance to produce the estimated 144 management reports expected to be requested during the period September 1965 to February 1966. The contract was let in December 1965. DDC delivered its first management report from the DD 1498 Data Bank to ODDR&E on 3 December 1965. By the end of FY 1966, DDC had received 992 requests and had satisfied 924 leaving a backlog of 68 requests. Of the 992 requests, 285 required special computer printouts and tabulations.

Considerable time was spent on file cleanup and finalizing a draft Input Procedures Manual for the system.

DD Form 613 Program Terminated: The DD Form 613 (RDT&E Project Card) Program was terminated in May 1966. ODDR&E authorized this action as the program had been superseded by the RDT&E Work Unit Data Bank (DD Form 1498). The DD 613 magnetic tape files, computer printouts, and hard copies were destroyed, and all requests for this type of information are being referred to the RDT&E Work Unit Data Bank.

TECHNICAL REPORT SERVICES

Terminal Data Input System (TDIS): Automatic data processing equipment, including software packages, relating to the Center's Terminal Data Input System was installed at the Center in June 1966. The TDIS is designed to permit the early capture and transfer to magnetic tape of DDC's document input announcement data, the con-

trol of this input data for production and accountability purposes, and the elimination of duplicative processes in the input production line. The system also provides a simplified, controlled means of data verification and correction prior to the information being placed in the UNIVAC 1107 computer.

The TDIS is to become operational early in Fiscal Year 1967. It will include 16 terminals which will feed data to an IBM 1440 computer at various stages during document processing. Five of the 16 terminals will be located at the Clearinghouse for Federal Scientific and Technical Information. When fully operational, the system will allow for phasing out the Synchrotape machine (punched paper tape) operation and will shorten the document processing schedule.

Primary Distribution of Foreign Technical Reports: By memorandum of 17 January 1966, the Director of Defense Research and Engineering extended the mission of DDC to include the processing and primary distribution within the United States for technical reports from certain foreign countries. By the end of the fiscal year, some incoming technical reports were being processed although no formal operational agreement had yet been finalized.

Primary Distribution of AGARD Reports: Responsibility for primary as well as secondary distribution of classified AGARD reports within the United States was assigned to DDC in March 1966 by the Director of Technical Information, ODDR&E, and by the Director, DSA.

TDC Documents Processed: Processing of reports transferred to DDC from the Technical Data Center (TDC) in May 1963 was completed during the second quarter of FY 1966. The original collection contained more than 112,000 documents gathered by the Air Force Systems Command's Ballistics Systems and Space Systems Divisions.

A selection policy evolved from experience in processing the TDC collection which will be applied to other older collections to be absorbed by DDC.

Single Copy Processing: DDC document processing procedures were altered in December 1965 to permit use of single copy for input processing purposes. Previously, two copies had been necessary, lowering by one the stock available for filling requests. Handling time decreased with one less copy to account for and move through the system. Costs of security control of Secret and NATO-classified documents also decreased.

Special Power Units Installed: Three specially constructed dual-access Diebold Power Files were placed in operation at the Mail Room/Accession Branch interface in December 1965. The units

provide for more orderly temporary storage and transfer of unclassified and confidential documents between the two areas.

Adoption of COSATI Descriptive Cataloging Standards: Descriptive cataloging standards of DDC were changed in December 1965 to conform to the proposed revised standards of the Committee on Scientific and Technical Information (COSATI). The changes affected almost all the procedures for recording the elements of cataloging information. All current effort is in accordance with the new standards. Approximately 60 percent of the older entries had been changed to conform to the new standards by the end of the fiscal year.

Conversion to COSATI Subject Category List: During the first half of Fiscal Year 1966, DDC converted from the use of the DDC Division/Section method of subject categorization to the Field/Group structure of the "COSATI Subject Category List - DoD Extended." The new Field/Group categories were assigned to DDC classified documents by machine conversion, using manual conversion by subject analysts only where necessary. The required changes in user registration data were also made. By January 1966, all requests for documents were validated according to the DoD-expanded COSATI Field/Group structure. Announcements of document availability also were changed to the new method of subject categorization.

Automated Corporate Author List: DDC participated, through its active member of the COSATI Subpanel on Descriptive Cataloging of the Panel on Operating Techniques and Systems, in proposing a system design for the basic data processing system, tape records and programs for maintenance of a COSATI Corporate Author List. The plan provides for the publication of a cross-referenced Corporate Author List for general use.

Procedural Change in Release of Documents to CFSTI: A procedure was established by which the Clearinghouse for Federal Scientific and Technical Information can review certain unclassified/controlled documents announced in the buff section of TAB. If appropriate, CFSTI may negotiate release to the public directly with the originating agencies. This procedure is authorized by Public Law 776, the basic legislation authorizing the Department of Commerce to operate the Clearinghouse.

Microfiche Replaces Microfilm: Microfiche became DDC's basic microform for storing documents beginning with the accessions announced in the 1 August 1965 issue of TAB. The use of microfiche (sheet film) has many advantages over the 35 mm microfilm (roll film) used previously at DDC, both for the Center and for the users. The advantages relate to both handling and costs.

DDC's system of microfiche reproduction is in accordance with Federal interagency (COSATI) standards; the film is 105

FULL-SIZE DOCUMENT AND MICROFICHE COPY

RECORDING DOCUMENTS ON MICROFICHE

by 148.75 mm (approximately 4 by 6 inches). About half of the documents in the collection can each be stored on a single microfiche sheet.

Photography Equipment Eliminates Extra Work Shifts: Two Microcard Corporation microfiche cameras and one Bell & Howell step-and-repeat microfiche camera were purchased in May 1966. Use of the cameras increased output to the extent that a second work shift was discontinued by the end of the month. The initial shortage of microfiche cameras, problems in developing the product format, and equipment downtime resulted in a backlog at the end of the fiscal year of documents to be placed on microfiche. Plans have been developed to eliminate the backlog in Fiscal Year 1967.

The third shift in the Full-Size Copy Unit of the Film Processing Section was discontinued on 31 May 1966, following the acquisition of two Microcard Corporation EL-4 microfiche printers, making a total of six such printers.

Microfiche Efforts Under Contract: Because of excessive workloads in the Film Processing Section, a commercial contract was negotiated for duplication of microfiche of unclassified-limited documents. The contract was operational between 18 April and 30 June 1966.

Microfiche Headers: The first 1107 computer-printed Mi rofiche Headers, which can be photographed and stripped on each microfiche, were used during the production of TAB 65-17, 1 September 1965.

Reduction in Number of Copyflow Machines: The lease on two Copyflow electrostatic reproduction machines, used to reproduce documents from microfilm, expired on 31 December 1965, and was not renewed. The three units remaining at DDC had been modified to increase the speed from 20 to 40 feet per minute and should be sufficient to meet the Center's needs. As more accessioned documents are placed on microfiche, requests for older full-size documents stored on microfilm will diminish.

Limited Document Request Form Produced: DDC Form 55, a standard form to assist users in requesting limited distribution documents, was prepared in coordination with the Military Services and Major Defense Agencies, and was made available for this purpose in the third quarter of FY 1966.

Linofilm Production of TAB: Beginning with TAB 65-19, 1 October 1965, the *Technical Abstract Bulletin (TAB)* has been printed by means of a new computer-directed photocomposition process. The Linofilm process, utilizing the UNIVAC 1107 and UNIVAC 1004, reformats the Direct File information for TAB. It suppresses classified and certain limited information, inserts print controls, and converts to IBM compatible tapes. The tapes are processed through AUTOSET on the IBM 1410 at the DSA Administrative Support Center to produce tapes which drive the Lino-

film photounits at the Government Printing Office (GPO). Linofilm produces the TAB in galley format which GPO pastes into page format, photographs, prints, and distributes in finished TAB form. The new method has reduced the size of the publication and improved the graphic quality and readability. Incorporated as a feature of the Linofilm process was the inclusion of "See References" within each subject classification group which indicate the location elsewhere in TAB of announcements of documents which are also pertinent to the subject matter.

Distribution Statements: The new distribution/availability statements as required by DoD Directive 5200.20, 29 March 1965, "Distribution Statements (Other than Security) on Technical Documents," were introduced in the 1 January 1966 issue of TAB. Included were explanations of their meaning and brief equivalent statements which appear in the announcements for each document.

Journal Articles Announced: The DDC announcement policy was changed to provide users with journal articles used in lieu of technical reports to report on DoD-sponsored research and development efforts. Involved in the review and recoding process were more than 2,000 older documents in the AD-600 000 series alone. The policy change was reflected in the 1 January 1966 issue of TAB.

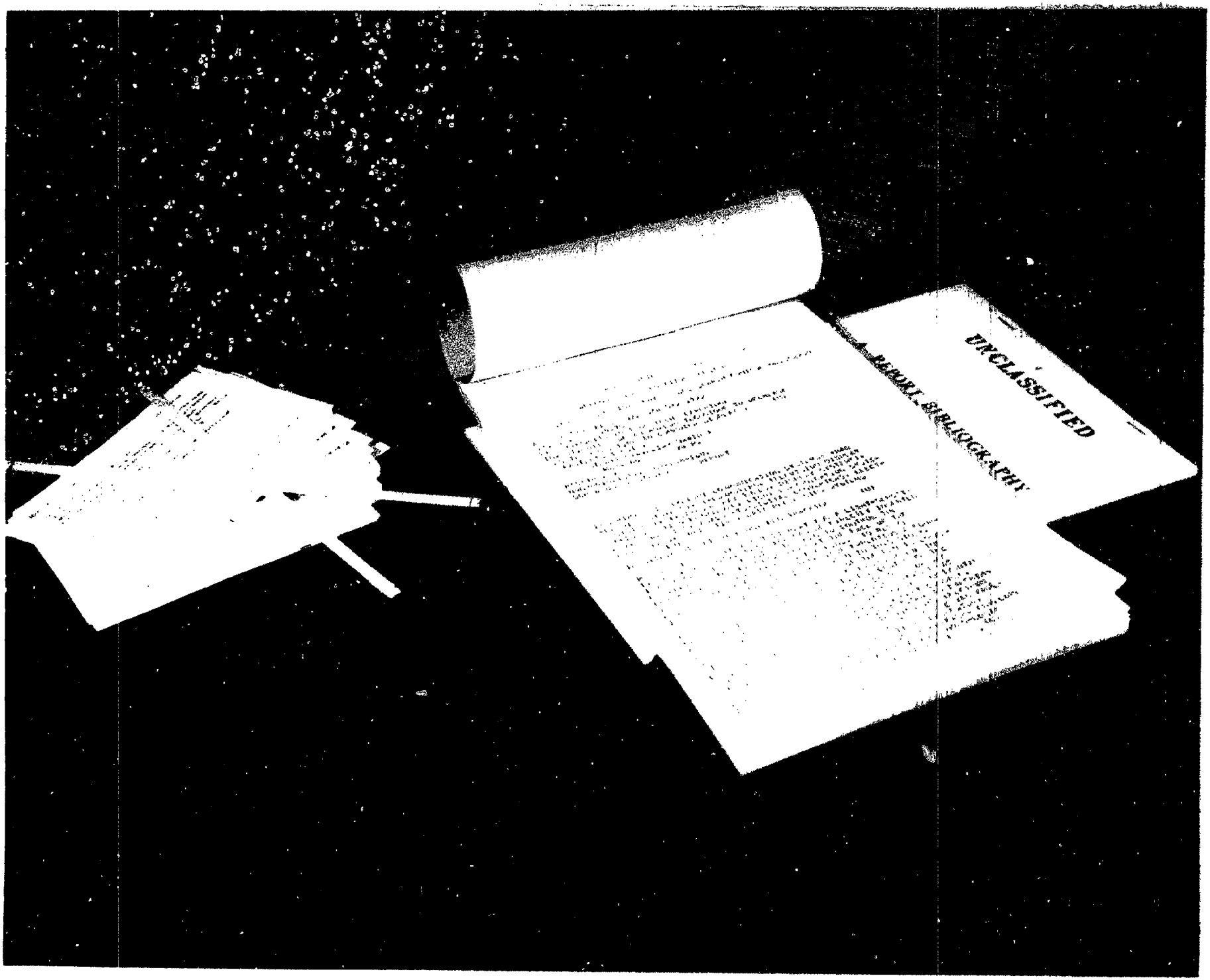
New Index Added: Beginning with the 1 January 1966 issue of TAB, a Report Number Index was added to the existing four (Corporate Author-Monitoring Agency, Subject, Personal Author, and Contract) indexes provided in the companion volume to TAB, the *Technical Abstract Bulletin Indexes*. This was the index improvement most frequently requested by user organizations.

Index Backlog Eliminated: The two notable backlog situations which existed at the end of Fiscal Year 1965 were the Cumulated Source Index for June - December 1963 and the Cumulated Subject and Source Indexes for 1964. With the publication of these indexes in November and December 1965, all processing operations became current. During this period, the number of programs required to prepare indexes was reduced from five to three, and computer running time for indexes was decreased about 40 percent. The sorting of data within the computer index entries was improved, and a better technique was instituted for packing data with an entry.

TAB Exchange Service: The *Technical Abstract Bulletin* exchange service was inaugurated in November 1965 to assist DDC customers in locating back issues of TAB. Users having a surplus or unwanted issues of TAB were placed in contact with users wishing to obtain the copies.

Single Address File: A single mailing address for each user organization was established for mailing documents and other materials. Addresses were refined and data processing files

READING DOCUMENTS FROM MICROFORM



COMPUTER-PRODUCED BIBLIOGRAPHIES IN BOUND DOCUMENT FORM REPLACED LIBRARY-TYPE CATALOG CARD BIBLIOGRAPHIES

were updated preparatory to using computer-prepared address labels for mail purposes and for other DDC management purposes. Merging of the single address file and the user validation file was accomplished in May 1966.

Study of Certified Versus Registered Mail: A study was made to determine possible advantages of changing from the use of registered mail to certified mail for shipping Confidential materials from DDC to users within the continental United States. The study showed there would be no appreciable savings in making the change and that there would be increased in-house costs and a greater chance of security violations if the change were made.

Envelope Use Reduces Document Wrapping Time: The use of envelopes for mailing unclassified documents to DDC users began in July 1965. The new method eliminates the manual wrapping and reduces the handling of documents.

Service Support Efforts: The following actions were completed during Fiscal Year 1966 to develop more effective procedures in maintaining the document inventory and provide improved document security.

- **Documents which had no request usage during a six-months period were destroyed.**
- **Excess copies of non-AD publications (*TAB, TAB Indexes*) were destroyed.**
- **Shipping Sections for classified and unclassified materials were physically separated.**

Bibliographies: The 17,496 requests for bibliographies received during the report period represented a new high for the Center in providing this service. The total was more than nine times the number of requests received in Fiscal Year 1960, and reflected a 74 percent increase over the number of requests received in Fiscal Year 1965.

Programs have been developed to produce indexes on bibliographies. Indexes have already been prepared on some of the preprinted bibliographies.

Special Bibliographic Assistance: Four bibliographies were prepared for use with Project Hindsight, a DoD program designed to demonstrate how improved military hardware results from fundamental research. Other special bibliographies were prepared for the Army, Navy and Air Force in support of high priority research and development projects. DDC bibliography support was provided also during the Third Fluid Amplification Symposium, a DoD-sponsored meeting held 26-28 October 1965.

Telex Bib Service Expanded: The Telex bibliography service was expanded for use by DDC customers in August 1965. Users having

their own Telex equipment could request bibliographies, produced in the form of AD (Control) number listings, directly from DDC.

Referral Service Operational: A referral service for DDC users concerning DoD-sponsored sources of scientific and technical information became operational in June 1966. The service, authorized by DoD Instruction 5100.38, is presently based on field-of-interest profiles for 21 DoD Information Analysis Centers; service profiles for numerous other services such as DoD technical libraries and special projects are being indexed and stored in the Center's computer files daily. These activities will be cited in response to special requests or as additional referral points in bibliographies.

CONTRACT MANAGEMENT DATA BANKS

CCR and CPE Data Banks: Data banks of Contractor Cost Reduction Reports and Contractor Performance Evaluation Reports were established at DDC during the second quarter of FY 1966. Both data banks are operational on a manual basis. Reports from the data banks are available to DoD Source Selection Boards and to DoD Contracting Officers for use in awarding contracts and negotiating for profit and fee.

REGISTRATION/CERTIFICATION ACTIVITIES

DDC Becomes STINFO Registration/Certification Center: In accordance with DoD Instruction 5200.21, 1 September 1965, subject: "Certification for Access to Scientific and Technical Information," such scientific and technical information (STINFO) generated by Defense-sponsored research and development programs would be made available to other Government agencies and their contractors in support of similar programs. The Instruction designated DDC as the central location for registration/certification for access to the products and services of the various DoD STINFO activities.

Conversion of Registration Data: A major effort was directed to converting the user registration files to reflect the requirements of DoD Directive 5200.21, "Certification for Access to Scientific and Technical Information," and the COSATI Subject Category List. Conversion of user records took place between 1 October and 28 December 1965. Recertification packages were sent to users whose registers did not convert one-for-one between the DDC system of Divisions and Sections and the COSATI Field/Group structure. From the information gathered, a Distribution Authority List (DAL) was prepared for distribution, twice each month, to Defense Information Analysis Centers and DDC Field Services. The DAL is used as a basis for release of classified documents and information.

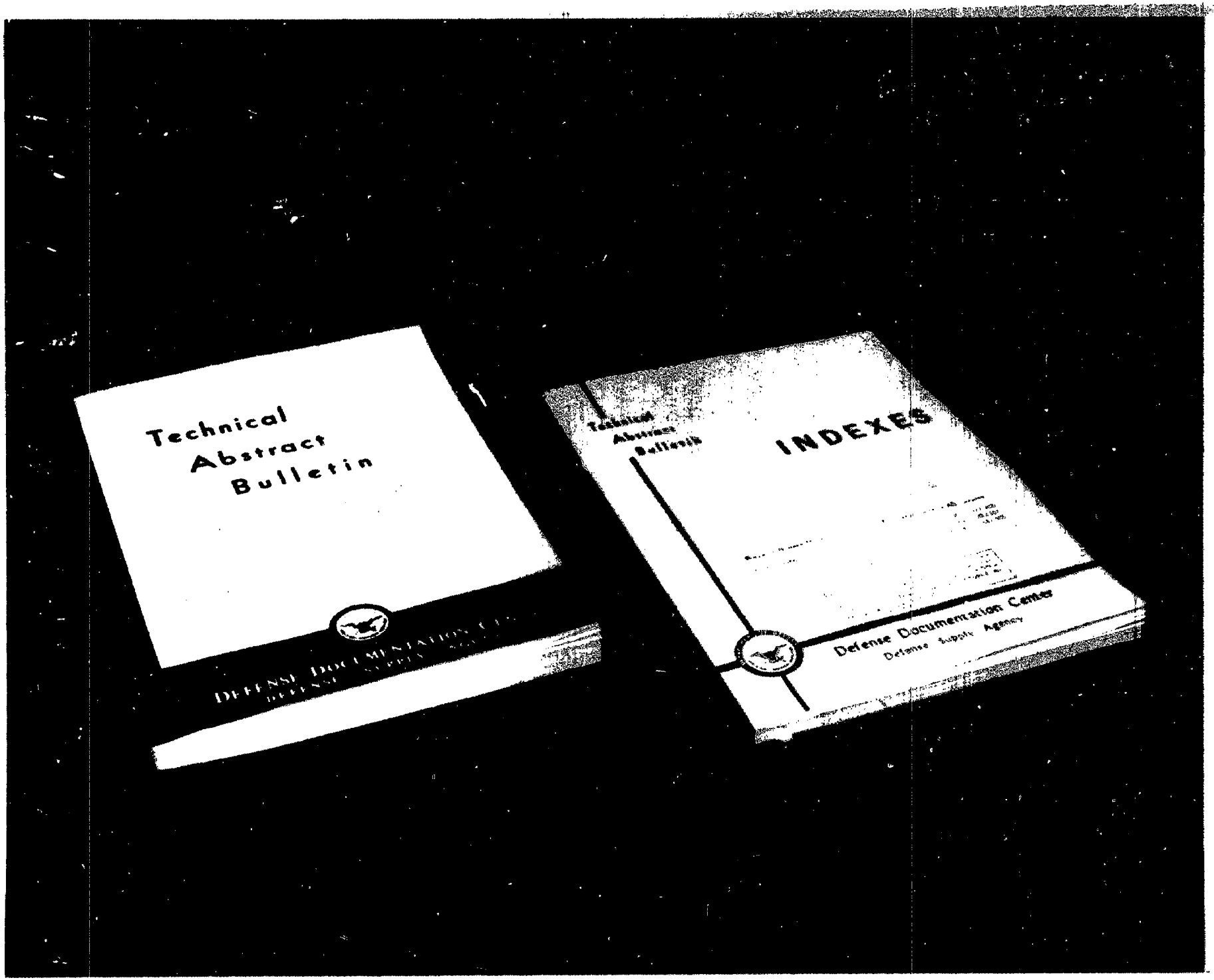
VOCABULARY CONTROL

Project LEX Participation: Members of the Office of Lexicography participated in the development of rules published in the *Manual for Building* a Technical Thesaurus. The document was published in April 1966 as part of Project LEX, the DoD-sponsored effort to develop a Defense-wide Technical Thesaurus. A senior DDC lexicographer has been detailed to serve full time on Project LEX.

New Thesaurus: The *Thesaurus of DDC Descriptors* was revised in June 1966. An interim vocabulary, it is to be replaced during 1967 by a Department of Defense Thesaurus. The DDC Thesaurus represents a major update of the Second Edition *Thesaurus of ASTIA Descriptors*, dated December 1962. The new vocabulary consists of 7,146 terms and has three major sections: (1) A COSATI Subject Category breakdown of the authorized vocabulary, (2) an alphabetical section, and (3) an hierarchically-arranged section. This revised interim edition is available on request but is not being distributed automatically.

Descriptor Count: A document titled *DDC Descriptor Frequencies* (AD-632 600) was published in May 1966. It provides indexing frequencies for all descriptors from March 1953 (AD-1) through March 1966 (AD-427 000).

Computer Search Capabilities Extended: DDC's capabilities for searching were extended in two directions: one is a program which permits descriptor truncation and therefore searches all descriptors with the same morphological stem; the other is a hierarchical search capability in which only the hierarchy need be specified to actuate a computer search of all terms comprehended by that hierarchy.



DDC's Announcement Publication and Companion Index Volume

V. PRODUCTION[1]

Document announcement processing was down slightly from the previous fiscal year, but in all other areas, production reached new record levels during Fiscal Year 1966. The most significant increase was in requests for bibliographies, the Center's fastest growing service. Requests concerning the new RDT&E Work Unit Data Bank were almost double the anticipated amount.

Document Processing: There were 47,891 titles announced in the *Technical Abstract Bulletin (TAB)* and 776 unannounced titles added to the collection bringing total titles analyzed and stored to 48,667 in FY 1966. An average of 14 copies was submitted with each title and 6 percent of gross input was obtained from acquisitions. Of the 47,891 titles announced, 24 percent were classified, 39 percent were unclassified/limited, and 37 percent were unclassified/unlimited. This compares to 50,603 titles announced in the regular issues of TAB in FY 1965, of which 22 percent were classified, 48 percent were unclassified/limited, and 30 percent were unclassified/unlimited. Titles were announced in TAB in an average of 25 work days from date of receipt as compared to an average of 24 work days in FY 1965.

DDC processed 30,334 titles or 63 percent of all titles announced in TAB in FY 1966. In addition to those announced, 776 unannounced titles were added to the collection bringing total titles analyzed and stored by DDC in FY 1966 to 31,110. CFSTI processed 17,557 titles or 37 percent of total announced in TAB in FY 1966.

Requests for Documents: Requests for documents totaled 1,506,996 in FY 1966, more than double the number received in FY 1961. There were 1,342,268 requests filled in FY 1966 or 89 percent of total processed. Of this total, 1,228,950 were filled with hard copies of documents; 113,318 with microform. Sixty-two percent (31% original and 31% prestocked Multilith) of the hard copies were available from shelf-stock and 38 percent (11% Multilith and 27% Xerox and microfiche blowback) were reproduced. Fourteen percent of all documents shipped were classified, 36 percent were unclassified/limited and 50 percent were unclassified/unlimited. The document request backlog totaled 25,902 at the end of June 1966, as compared to 21,652 at the end of the last fiscal year.

DDC filled 677,000 of the requests for documents; 632,183 with hard copies and 44,817 with microform. Fifty percent of the hard copies shipped were available from shelf-stock. Requests were filled from shelf-stock in an average of 2.1 work days and from reproduction in 6.1 work days as compared to goals of three and five work days, respectively. The reproduction processing goal was not attained primarily because of the delay

[1] Summary Management Data Report for June 1966

in processing requests during the implementation of a system to reproduce documents from microfiche. Another factor contributing to the delay was the conversion of the AD document file from subject divisions to COSATI categories. The DDC document request backlog totaled 12,592 at the end of June 1966.

CFSTI filled 665,268 requests for documents or 50 percent of total. There were 596,767 requests filled with hard copies of documents and 68,501 with microform. Of the hard copies shipped, 74 percent (25% original and 49% prestocked Multilith) were available from shelf-stock and 26 percent (14% Multilith and 12% Xerox and microfiche blowback) were reproduced. The CFSTI document request backlog, including 5,995 requests in transit, totaled 13,310 at the end of June 1966.

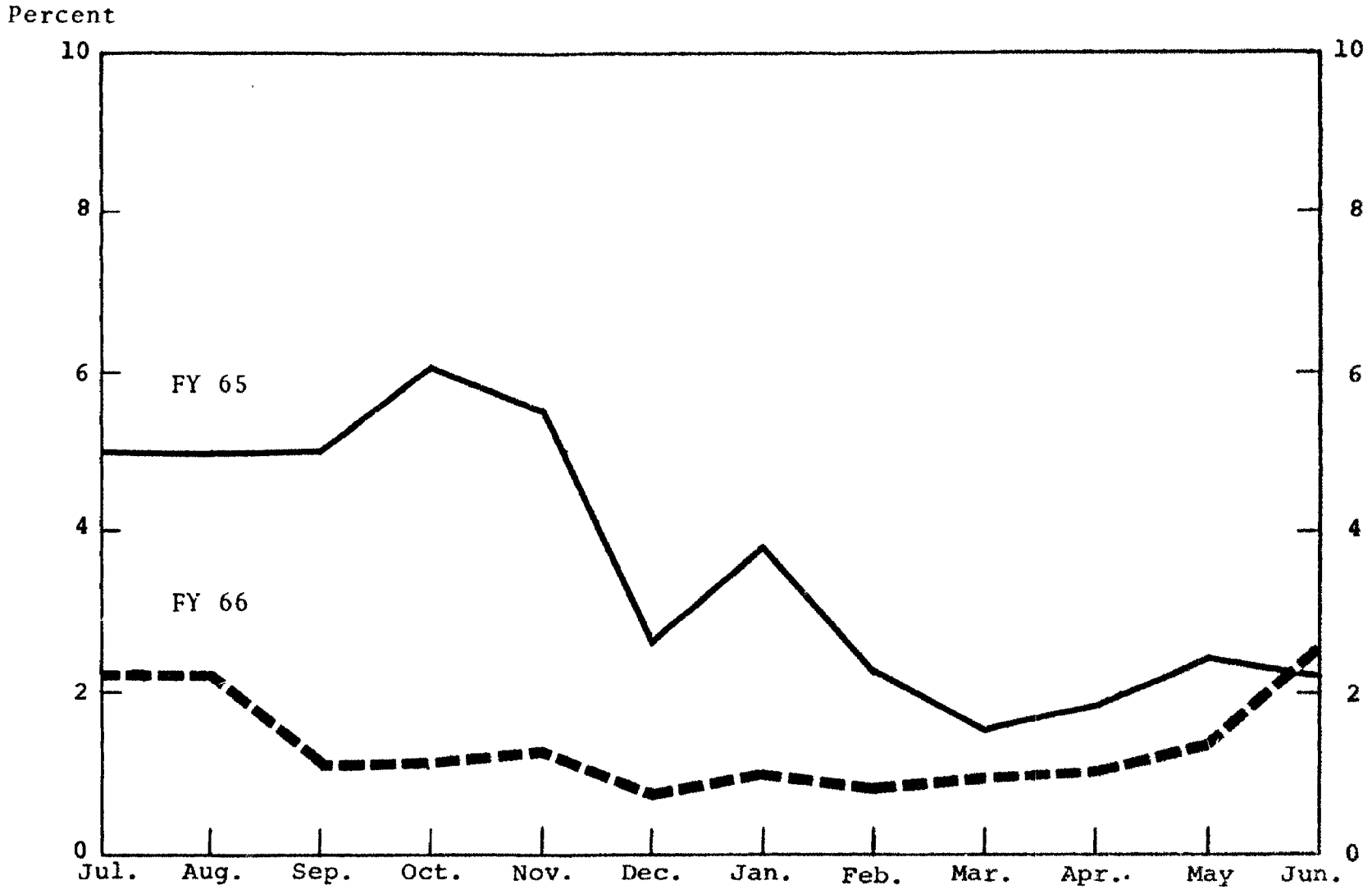
Requests for Bibliographies: DDC received a record high of 17,496 requests for bibliographies in FY 1966, an increase of 74 percent over the 10,079 received in FY 1965. There were 17,403 requests completed in FY 1966, of which 99 percent were machine-processed. An average of 137 citations was furnished with each bibliography. Processing time for requests completed averaged 3.3 work days in FY 1966 as compared to a goal of three work days. The backlog was up from 188 at the beginning of the fiscal year to 281 on 30 June 1966. The increase in the backlog and the failure to attain the three work days processing goal resulted primarily from the increase in receipts and the delay in ADP preparation of requests due to priority processing of RDT&E work units for the data bank.

RDT&E Work Unit Data: As of 30 June 1966, there were 18,584 work units in the data bank. Of this total, 30 percent were received from Air Force, 34 percent from Army, 34 percent from Navy, and 2 percent from other Government organizations. The Center received 992 requests for work unit data during the seven months the bank has been operational as compared to a program of 500. During this period, 924 requests were completed and the backlog totaled 68 at the end of June 1966.

Growth of DDC Services

DOCUMENT ANNOUNCEMENTS		DOCUMENT REQUESTS		BIBLIOGRAPHY REQUESTS	
FISCAL YEAR	ANNOUNCEMENTS	FISCAL YEAR	REQUESTS	FISCAL YEAR	REQUESTS
1953	7,568	1953	138,188	1959	1,326
1954	13,729	1954	209,801	1960	1,890
1955	26,720	1955	295,814	1961	3,735
1956	34,399	1956	383,647	1962	4,166
1957	21,015	1957	454,000	1963	5,953
1958	18,657	1958	322,000	1964	7,603
1959	31,076	1959	395,058	1965	10,079
1960	30,061	1960	547,993	1966	17,496
1961	26,443	1961	700,100		
1962	23,897	1962	827,876		
1963	30,613	1963	1,026,834		
1964	44,919	1964	1,171,259		
1965	*50,603	1965	1,486,882		
1966	47,891	1966	1,506,996		
* Excludes 8,635 documents announced in supplements to TAB 64-5.		The average RDT&E document in the DDC collection is between 60 and 70 pages.		Providing bibliographies of RDT&E documents pertinent to particular research projects or problems is DDC's fastest growing service.	

DDC OVERTIME - Overtime Hours as a Percent of Regular Hours



FY 1965 %	5.0	4.9	4.9	6.0	5.5	2.6	3.8	2.2	1.6	1.9	2.5	2.2
FY 1966 %	2.3	2.3	1.0	1.1	1.3	.7	1.0	.8	.9	1.0	1.4	2.5

VI. OPERATIONS HIGHLIGHTS

Magnetic Tape Distribution: In April 1966, tapes containing the AD-600 000 series of entries for TAB 66-8 in IBM compatible format were sent to the National Aeronautics and Space Administration and to the Army Electronics Command, Fort Monmouth, New Jersey, for testing purposes as part of a plan to develop a standard tape exchange system.

A seminar concerning the merits of such a system, held at DDC on 19 May 1966, was attended by 76 individuals, representing 48 DDC user organizations. A key item of discussion was the policy to be established on dissemination of classified and sensitive data. A report of the seminar was prepared in June 1966, and, at the close of the fiscal year, further action was dependent on a decision as to whether or not the service would be implemented.

Internal and Command Reviews: Semiannual reviews of DDC operations were presented to the Administrator on 2-3 August 1965 and 10-11 February 1966. Heads of principal staff elements discussed problems, accomplishments and plans for their areas. These reports of stewardship are a part of DDC's continuing management review and analysis of its operations.

On 5 April 1966, the Administrator, DDC, made a formal presentation to the Director, DSA, and his staff concerning the Center's problems and general operations, during the regular DSA Command Review series.

Special Briefing for Director, DSA: On 21 February 1966, the Director, DSA, was given a special briefing on recent developments in DDC. Brigadier General William L. Hamrick and his deputy, Mr. Edwin Greiner, also attended. Highlights of the briefing included recent additions to the DDC mission, the RDT&E Management Information System, standardized method of processing documents for multiple purpose output, the introduction and use of microfiche in documentation, and the need for a DoD long-range plan to aid DDC in planning its programs and workloads.

DDC Project Control: DDCR 5010.1, DDC Project Control Program, was revised and reissued in August 1965. The revised program permits a more efficient overview of all development project activities and provides for the orderly implementation of added mission responsibilities. Major changes in the program concern (1) numbering of projects according to the structure and codification of DDC functions, (2) the preparation of a Project Management Plan (milestone chart) for each project, and (3) the requirement of a manpower worksheet for each project identifying the number of man-days required by skill.

An extensive review of all projects was made in December 1965. The purpose was to evaluate the status of the projects to assure that emphasis was placed in the most significant areas, and to optimize the use of DDC's limited developmental

resources. The review resulted in the cancellation or inactivation of 19 projects and the establishment of seven new projects. Active projects were reduced from 56 to 44. There were 31 active projects at the end of the fiscal year.

Zero Defects Program: The formal "kickoff" of the DDC Zero Defects Program was held on 9 November 1965 in the DSA Auditorium. Vice Admiral Joseph M. Lyle, Director, DSA and Dr. Robert Kay, Manager, Technical Analysis Office, Hughes Aircraft Company, were the guest speakers. The new DDC movie was shown as part of the motivating presentation. The DDC Zero Defects Council, established in FY 1965, prepared a Supervisor's Handbook to aid in implementing the program. A total of 40 Error Cause Identifications were submitted during the fiscal year. Corrective action was taken on 31 of the error causes; five were found to have no justification for action; and four continue under study. Awards were made to employees actively participating in the program.

Quality Assurance Program: To provide for a line-staff team effort on establishing a formal Quality Assurance Program, coordinators were designated from each of the line directorates as well as from the Office of Planning and Management. A regulation has been drafted for the expeditious and systematic handling of user complaints. Surveys have been made of existing quality controls for various areas of DDC operations.

Command Program System: DDCR 3300.2, DDC Command Program System, was published 12 November 1965. This regulation prescribes the development and maintenance of a program system that will permit and assist the Center to translate mission responsibilities into major objectives to be attained, and to divide each major objective into specific and defined areas of required accomplishments, i.e., goals to be reached.

User Reaction Processing System: A program was established to provide for staff coordination and processing of complaints, recommendations, or other response from users concerning DDC services.

DDC Policy Manual: DDCR 3300.1, DDC Policy Manual, was published 18 August 1965. The regulation provides for the recording and dissemination of policy decisions made by the Administrator, DDC, to the principal staff elements.

DDC Field Activity War and Emergency Support Plan (FAWESP): The basic DDC FAWESP was distributed in October 1965. Annex N Continuity of Operations was published 30 June 1966.

Reporting of Current Research and Exploratory Development Effort at Work Unit Level (1498 Reporting System): DDCR 4800.4, governing implementation of the 1498 System, was published 15 July 1965. This regulation established policy and assigned responsibilities

for the receipt, review, and processing of DD Form 1498 (Research and Technology Resume) reports furnished by DoD components. In late December and January, DDC coordinated the preparation of a "Plan for RDT&E Management Information System" which was the basis for the DSAH plan forwarded to ODDR&E (DTI).

Standard Operating Procedures: The Center prepared for publication 27 procedures covering document input, editing, TAB input and publication, indexing, bibliographic services, DD 1498 Research and Technology input and processing, and application for registration. Eleven SOP drafts covering DDC Form 1, Non-Standard Requests, DD 1498 output and DD Form 0-41 processing were in various steps of completion at the end of the fiscal year.

NSF's Annual Survey: The Defense Documentation Center provided information required for the National Science Foundation's Annual Survey of Federal Funds for Research, Development, and other Scientific Activities. This survey covers the trends of Government spending by the categories of research, development, R&D plant, scientific and technical information, and collection of general purpose scientific data. This action was completed and forwarded on 7 March 1966.

DoD User Needs Study: In July 1965, DDC received the questionnaires used by the Auerbach Corporation, Philadelphia, Pennsylvania, in preparing the "DoD User Needs Study." Plans were completed to have the questionnaires indexed and stored in microfiche form to permit access and preparation of copies on request.

Data for House Armed Services Committee: The Executive Director of Technical and Logistics Services, DSAH, and the Administrator, DDC, with the assistance of DDC staff personnel, prepared a statement with supporting data for use in a hearing about DDC programs on 3 March 1966, before Subcommittee No. 3 of the House Armed Services Committee.

Forms Control Program: A total of 54 new DDC forms were added during FY 1966; 59 were revised; 177 were reprinted; 28 were discontinued; and four requests for new forms were disapproved.

New DDC Film: A new DDC motion picture, DSA-MF 791, "*The Defense Documentation Center,*" was released in November 1965. The 16 mm, color/sound film has a running time of 17 minutes. It covers the services offered by the Center and the procedures to follow for making the best use of those services.

DDC Digest: During FY 1966, the *DDC Digest* underwent several page makeup and format improvements. These included change from two-column to three-column layouts, justification of

right-hand column margins, and increased use of illustrations. The ten issues published contained 62 articles, 11 special column items, and two guest editorials.

Management Intern Program: Two interns, assigned to the Office of Planning and Management for six-week projects, helped with the Standard Operating Procedures and the Zero Defects Program. In December 1965, an intern joined the Office for six months of training, which led to his permanent assignment in June 1966.

ADP Blind Training Program: In cooperation with the Department of Health, Education and Welfare's special program for employing the handicapped, DDC-C hired a blind person as a programmer trainee on 16 January 1966. He was assigned to the ADP Blind Training Program, conducted by the Medical Computer Center at the University of Cincinnati, where he completed the training in approximately two-thirds the time normally required. He reported back to DDC on 13 June and has been receiving on-the-job instructions in DDC program applications, file formats, and other operations. Because his initial training was on IBM 1401 equipment, he was assigned to work with the Terminal Data Input System (IBM 1440 Computer System). The results of DDC's participation in this program have been very gratifying. The trainee has performed his duties in a very satisfactory manner and has, consequently, helped to establish a sound precedent for the hiring of other such handicapped persons when their talents match position openings.

DDC Art Show: A DDC Art Show was conducted 15-25 April 1966. There were 60 entries by Center employees.

VII. S E C U R I T Y

Security Regulations: DSAH has provided security guidance for DDC operations in DSA Regulations 5205.1 through 5205.13, ranging in dates from 1 September 1964 to 16 May 1966. These regulations have been implemented by the issuance of DDC Regulations as required.

Security Control of Documents: An inventory of all Secret and NATO classified documents was completed during FY 1966. Cyclic re-inventories were made frequently to correct errors in document count and to maintain accurate computerized records. Frequent samplings of Secret documents by Accession Document numbers on a random basis were conducted by Intelligence Office personnel. Recommendations were made on each sampling for both corrective action on errors detected and measures to prevent further error.

Physical Security: The relocation of the office space of the Intelligence Office adjacent to the main entrance to Building No. 5 resulted in more efficient operation and better space utilization.

Compartmentalization has been accomplished by locking all doors giving access to areas within the DDC Limited Area in which classified material is kept in open storage, when such areas are unoccupied. Wire mesh cages were erected to provide segregation of classified from unclassified storage, wrapping, and shipping operations. Secret material, when not in use is, to the maximum extent feasible, stored in lockable storage containers.

Personnel Security: The program of periodic up-dating of Background Investigations for all DDC personnel was maintained in a current status. The workload was about six re-investigations each month. This effort was in addition to requests for background investigations on new employees.

DDC NATO Control Point Inspection: The Headquarters DDC NATO Control Point was inspected on 14 February 1966 by representatives of the United States Central Registry to determine the adequacy of DDC facilities for the handling of NATO classified documents. The report of this inspection stated that the procedures for handling and controlling NATO classified documents were adequate and that an effective program is in operation for the disposition of NATO classified material no longer needed by the Center.

Security Council Meetings: The DDC Security Council, established in October 1964, met frequently to assure constant, vigilant and comprehensive cognizance over all aspects of physical, personnel and information security in the Center's establishment and operations.

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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Distribution of this report is unlimited.

11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY
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13. ABSTRACT

This Annual Historical Summary reflects the major activities of the Defense Documentation Center (DDC) during Fiscal Year 1966. New missions, new services, and new record levels in requests for DDC services are reported. Included in the summary are descriptions of DDC's RDT&E Work Unit Data Bank, which was given first priority on manpower and other resources; the Center's change from microfilm to microfiche for storing documents; and the addition of a Report Number Index to the DDC index service. Described are advances in data processing techniques, including a computer-produced (Linofilm) announcement publication, and the Center's designation as the DoD registry of users of Defense scientific and technical information and documents.

DD FORM 1 NOV 65 1473

Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
(*Technical Information Centers, Department of Defense)						
Data processing systems						
Data storage systems						
Information retrieval						
Microfiche						
Costs						
Manpower						
Production control						
Operation						
Military publications						
Reviews						
History						
Reproduction						
Documentation						
Abstracts						
Defense Documentation Center						
Linofilm						