THE INTELLOFAX SYSTEM

Introduction

The history of the Intellofax System encompasses many facets of the information and storage retrieval system of the Office of Collection and Dissemination (OCD) and its successor, the Office of Central Reference (OCR). Two Divisions, the Machine Division (MD) (Central Index of the Reference Branch, Office of Reports and Estimates [ORE], until May 1948 and then Machine Methods Division [MMD] of OCD until September 1951) and the CIA Library (Intelligence Documents Division, ORE Reference Branch, until May 1948) were responsible for the development and operation of the Electrical Accounting Machine (EAM)-supported document storage, reference, and retrieval system. The office reorganization of November 1956 added a third layer of responsibility—a new Document Division (DD).*

This history covers all aspects of the Intellofax System from 1947 until its demise in 1967: equipment developments and improvements, including microfilming, print service, and fast transmission of data; classification input scheme; and retrieval. A project that had great impact on the Intellofax System but was not adopted—Minicard— is also discussed in detail.

The Intelligence Publications Index (IPI), the printed index of finished intelligence documents, is historically part of OCD/OCR's information storage and retrieval system and therefore appears in this chapter with the Intellofax System.

* For the Intellofax System as it related to the Graphics Register,

The effect on the Intellofax System of the Library Consul-
tants' Survey of 1957 and the resulting Task Team Reports of
1958 is discussed in Chapter ___ (the CIA Library) of the
office history because of the overall impact on the Library.

1. Early Developmental History

    a. Objectives

    In providing a central reference service to the
Central Intelligence Group (CIG) and its successor, the
Central Intelligence Agency (CIA), as well as to the
intelligence community, the early managers of the Agency
recognized the need to develop a machine capability for
indexing and retrieving a staggering quantity of intelli-
gence documents. The resulting Intellofax System was
unique--no other government agency, no university or
library, and no commercial firm had anything of its
type in operation. The name was coined in 1949 by Dr.

25X1

the first Assistant Director (AD) of
OCD, to describe the system that combined IBM and facsimile
reproduction techniques for intelligence documentation pur-
poses. Later, Intellofax became a household word not only
as an adjective (the Intellofax System and the Intellofax
files) but also as a verb form (intellofaxed and intellofax-
ing for the indexing aspects).

    The actual authority for establishing the Intello-
fax System appeared in July 1947 in ORE Instruction 31-47,
entitled "Functions of the Reference Center." [1] Thomas Babbitt,
AD/RE, charged the Central Index and the Intelligence Docu-
ments Division to:

        (1) index, by business machine procedures,
            the subject matter of all available reports,
            and other documents of a foreign intelligence nature
        (2) classify and catalogue all intelligence documents
            of a foreign intelligence nature available to CIG.

[1] ORE Instruction 31-47, 15 July 47, sub: Functions of the
Reference Center, ORE, pages 3 and 4. S. File: OCD History
and Annual Report 1947-48. Job: 59-875/1. 58-98/4

b. <u>Early Equipment Needs</u>

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[   ], Chief of Central Index, was given the responsibility for organizing and developing the initial essential steps toward establishing a central indexing and filing system, in conformity with an earlier Interdepartmental Coordinating and Planning Staff (ICAPS) recommendation in March 1947. $\frac{2}{}$ It soon became apparent that no existing equipment would be capable of meeting the needs envisaged. Although an IBM punch card offered great flexibility and speed in the handling of thousands of cards, each of which would represent a particular document, no card would carry enough printed data to supply the researcher with titles and descriptions of documents.

During 1947 [25X1A9A   ] met with top management of Finch Communications, Inc., to discuss the possibilities of the use of standard Finch Telefax machines and the adaptation of these machines to the documentation problem. A Vice President of Finch said that his company would be willing to cooperate with IBM in adapting the Telefax machine to automatically reproduce bibliographic and subject abstract data typed on IBM cards onto any type of paper that included a duplicating medium. This would answer the problem of preparing accession lists and lists of abstracts requested.

*Management originally planned for a daily accession list of those documents received and indexed, all of which would be abstracted. This plan was given up in 1949 as entirely impractical and uneconomical.

2/ Memo, Acting Chief, Reference Center, ORE to Chief, Central Index 7 July 1947, sub: Establishing Central Indexing and Filing Procedure. U.

After numerous meetings with Finch and investigation

of other companies, such as RCA and Eastman Kodak, the machine experts

opted for Finch, and a contract was let in January 1948. By July

Finch had produced the first of the Library Recorders and had

completed the final design for the IBM card scanner. Both awaited

25X1A9A

OCD approval. Experimenting and testing continued, and in January

1949 [   ] reported favorably on the equipment. 5/

Progress reports were prepared periodically throughout

the first 6 months of 1949; test runs were made during June, and

the equipment was finally accepted in July. The Projects Review

Committee (PRC) on 27 July 1949 approved an amendment to the original

contract, which had been for $100,000, to increase the amount to

$203,000. 6/

The Intellofax Card, or Faxcard, (see Figure 1) was

an IBM punch card of standard shape and dimensions, which bore on its

face up to 200 words of printed information—the so-called

bibliographic data: source, country, date, title, possible abstract,

pagination, and security classification. The corresponding coded,

punched, and interpreted data appeared at one end of the card. The

cards were sorted, selected, and arranged by standard IBM machines,

and the printed information on the selected cards was transmitted

and reproduced by facsimile process.

The equipment delivered in May 1950 was the second proto-

type resulting from the developmental engineering begun in May 1948.

"Shakedown" tests were still being conducted in mid-1951 concurrent

25X1A9A

with actual usage. [   ], an Office of Communications

Telecommunications, Inc. /o.U. (in Machine Division 1947-54 (8) 60-548/1)

58-98/3

employee (and formerly an engineer with Finch), was on

temporary duty with OCD and placed in charge of the Faxcard

equipment. He wrote to [   ] (Chief of the Machine Methods

Division since September 1950) that since the equipment

was not standard, additional development was anticipated before

the equipment's stability could be placed in a class with

that afforded by existing teletype machines. 7/

The Intellofax tape, as it was known throughout the

entire Intellofax history, was originally a 4-inch-wide

tape prepared by the facsimile process. The Intellofax

punch card was fed into a transmitter, which optically

scanned the printed information. A receiver received signals

from the transmitter; the printed information was impregnated

into a chemically treated tape, which was dried by a heat

process.

The early OCD managers had hoped to electronically
8/
transmit the Intellofax information to requesters in their

own office locations. As of 15 May 1950, six transmitters

and 12 receivers had been delivered (see Figure 2).Experi-

mentation continued throughout the summer months, and
was
the first transmission strictly local--transmitter and
m m.D.
receiver side by side in the Machine Methods Division.

One receiver was placed in K Building in the Branch Library, but

security considerations and technical problems of transmission

were responsible for not continuing with what seemed like

a Utopian transmission phase. The completed folded tape s

25X1A9A were delivered to the requester not via electronic transmission but by hand.

25X1A9A * [   ] had transferred to the Management Staff to work
25X1A9A Approved For Release 2004/09/23 : CIA-RDP84-00951R000300040002-5 ment. U. (in
7/ Memo, [   ] 1 June 1951, sub: Faxcard Equipment.
Machine Division 1947-54 58-98/8

c. Coding Schemes

(1) The Intelligence Subject Code

In conformity with the wishes of ICAPS, the Central Index also took steps to prepare a unified subject classification scheme. 25X1A9A [   ], Acting Chief of the Reference Center, wrote to 25X1A9A [   ] in July 1947: 9/

> Although the Reference Branch has taken the initial steps in the direction of establishing central indexing and filing procedures, any unified acceptance of the end product of these investigations will depend upon joint action of IAB [Intelligence Advisory Board] and CIG representatives and the agencies' final acceptance of the system decided upon.

On 14 July 1947 25X1A9A [   ] entered on duty as Chief of the Classification Unit of the Intelligence Documents Division to work with the Central Index in developing a classification schedule for CIG. 10/

It was soon evident that the War Department's Basic Intelligence Directive (BID) devised during World War II for collection purposes (although it had been used for classification of documents in the G-2 Library in Vienna immediately after the war) was not adequate. The subjects listed in the BID were not sufficiently comprehensive to cover the wide range of subjects in intelligence documents because it had been devised for Army purposes only. The economic, political, and scientific sections were woefully weak. It was decided to prepare a list of subjects that would include those contained in the BID,

9/ Addicott memo (2, above)
10/ Reference Center Library Monthly Status Report 26 June-28 July 47. S. File: Library 1947-48 Job: 58-98/1

the Navy Monograph Guide, the abridged Dewey Decimal system used by the State Department, and for scientific subjects, the Voge Classification, prepared and used by the Joint Research and Development Board (JRBD). 25X1A9A [   ] the Librarian, and 25X1A9A [   ] made visits to the parent organizations using these classification schemes.

By August 1947 [   ] Classification Unit of **STAT** three people, with the assistance of 25X1A9A [   ] a classification specialist from JRBD, had completed a general framework of an all-inclusive classification schedule. The major subject categories included Army, Navy, Air, Political, Economic, Sociological, Scientific, Geographic, and Biographic. On 22 August a familiarization meeting was held with duly appointed representatives of the three services. The participating IAB agencies agreed to develop and/or revise their respective military categories in the BID. To those categories would be added the CIG contribution, consisting of the nonmilitary subjects. Because the War Department was not inclined to change the numbering system of the BID (eight digits), it was to be used as the nucleus of the new classification system. 11/

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* OCD tried unsuccessfully to recruit Mr. Ball as a permanent employee.
11/ Intelligence Documents Division (Library) Monthly Status Report 28 Aug-28 Sept 47 File: Library Monthly Reports 1947-48 Job: 68-116/1 CC-G8/1

[blank] was not very enthusiastic about the cooperation from the

12/

other agencies. He and [blank] had visited the State Department

Librarian, who welcomed a comprehensive expansion of the Army, Navy,

and Air subject classification, but felt that this expansion should

be incorporated into the abridged Dewey. The representatives of the

IAB agencies seemed to feel that what CIG was trying to do with a

new classification would replace the classification which each agency

was using. This was, of course, the ultimate aim, but it would not

be realized even partially until the Air Force adopted the Intelligence

(ISC)

Subject Code in 1954. Each representative took a cosmic view of the

fields which were of primary interest to his agency and argued that

the whole structure of intelligence would be imperilled by any

deviations with its own scheme.

C/A

So the Library set about continuing with its own classification.

ISC

The first edition of the Intelligence Subject Code (henceforth

13/

referred to as the ISC) was dated 15 March 1948. The Preface indicated

that the edition was provisional and that the subject headings were

intentionally kept rather general so that expansions and revisions

could be made as experience required. There was no index to this

first edition. A biographic or "Who's Who" class which was in the

original outline was deliberately omitted because of the Biographic

The main classes and

Intelligence Register was already indexing biographic information.

the number of notations (codes) were:

000   International Situation   (32)

100   National Affairs   (120)

12/ Memo, C, Central Index to AC/ Reference Center, 8 Sept 47,
    sub: Scientific Section New Subject Classification. U.
    File: Machine Division 1947-54. Job: 60-518/1

13/ Master Copy of ISC, March 1948. U. File: Intellofax Historical
    Files in ISC

/0

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200  Army            (139)

300  Navy            (181)

400  Air Force       (83)

500  Weapons and Scientific Warfare   (44)

600  Science and Technology   (82)

700  Geography and Economics   (232)

800  Social and Cultural Forces   (67)
```

Total notations: 980

Each of the eight categories was broken down to provide,
as nearly as possible, for the needs of the agency chiefly
concerned-- the Army, Navy and Air Sections following closely
the patterns developed by the three services for their own use. The
other sections had been worked over in detail with the ORE
units chiefly concerned.

Chapters 100 through 800 retained their overall
subject outline until the complete revision of the ISC in
November 1960. Further chapter sub-divisions appeared throughout
1948, but it was not until November 1948 that the 600 and 700
sections were expanded to the full six-digit capacity allotted on the IBM
card). A relative index (alphabetical) was printed at the same time.

25X1A9A

[   ] * who had reported for duty in the Library
on 9 February 1948, took over from [   ] 25X1A9A in mid-1948 as Chief
of the Analysis Section (formerly the Classification Unit). (She
remained head of the input or classification effort for the Intello-

GROUP 1
Excluded from automatic
downgrading and
declassification

SECRET

25X1A9A
* [   ] had been in charge of the G-2 Library in [   ] for 2 years 25X1A6A
previously.
** This Section was elevated to Branch status in the November 1948 Library
reorganization.

))

for almost 20 years until the demise of the system
at the end of 1967.) During the first 5 years she
worked closely with analysts of ORE (became the Office
of Research and Reports [ORR] in November 1950) and the
Office of Scientific Intelligence (OSI) in the continuous
revision process, to ensure more effective organization
of the information in documents. These research analysts
pointed out deficiencies in certain subject fields and suggested
appropriate changes. Most suggestions benefited and
improved the ISC; others reflected only parochial needs of
insistent and narrow-in-outlook requesters who raised their
subject specialty out of all proportion to the entire
scheme of knowledge. The latter type of requester made
one section of the ISC look ridiculous, which was later
used as an example of what not to do when constructing
a classification scheme: the subject code for Plant Patholo-
gy (632.4) was subdivided into 68 different codes for
wheat, rye, barley, oats, and miscellaneous crop diseases,
with the name in English followed by the scientific term in
Latin.

The 1949 ISC resembled the original 1948 edition
only in the eight major chapter headings. Within each
chapter much restructuring took place. A new heading for
Communism was added, and this 114 section became the most
widely used and remembered throughout the book. Geography
was moved from the 700 to the 600 chapter. In 1950,

12

*

after the Library decided to catalog books according to the ISC,

a 900 chapter (Organization of Information) was added.

The history of the ISC was a history of change and then
and were reduced to
hoped-for improvement. 980 codes grew to 15,000 by 1959

5,000 in 1960. A review → of the master copies of the ISC during these 20 years

reveals many pages of revisions. New Editions were pub-
**
lished in 1954, 1957, 1960, 1962, 1964, and March 1967.

Changes in subject codes necessitated the preparation

of new cards. The printed information was transferred from

the old card to the new card by means of a heat process,

whereas the punched data were converted by machine

underpunches to the new codes. This was a time-consuming

process and caused machine backlogs.

All classification schemes have limitations, and the

ISC was no exception, particularly since code expansion

was tied into the allotted spaces on the IBM card.

By 1950 it had become evident that certain aspects of

information could be uniformly applied to almost all

commodity and equipment subject codes in the 700 chapter.

The Library and MD personnel developed a list of one-to-

two-digit "action" or prefix modifier codes for such refinements
and
of the subject → → as production data, imports-exports, repair, procurement,
codes

* See chapter on the (Library).
** For discussion of the complete revision of the ISC in 1960, see
page _____.

*
~~and many others~~. The classifier entered them on the code sheet by placing a slash between the modifier and the subject code. For example, the production of coal was written as 4/735.1. The extra punch (called an "overpunch") slash appeared on the IBM card as an $\wedge$ above columns 1-6 (in the subject field).

This important change in the coding process eventually extended to other chapters of the ISC. Prefix modifiers were applied to the military chapters in 1954 for such aspects as security, vulnerability, sabotage, order of battle, specifications, and descriptions of military equipment. Other devices to show **coding specifications were inaugurated as the need arose.

(2) Area Classification 14/

(a) AMS In their 1947 plans for the development of a classification scheme, [   ] chose the Army Map Service (AMS) Library Area Classification as the best and most adaptable system for coding geographic areas. According to this system, the world was divided into 26 main divisions, A through Z. Each division was subdivided, moving from right to left with a numeric designation. For example:

25X1A9A

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          M Europe,
         1M Scandinavia
         11M Denmark
         21M Finland
         31M Norway            141M Northern Sweden
         41M Sweden            241M Southern Sweden
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* The professional personnel who provided input to the Intellofax System were called by various titles: classifiers, indexers, coders (the most common, but the least professional), and finally Library or document analysts. In this discussion, they will be referred to as classifiers.

** See early editions of the ISC.

14/ Analysis Branch Archival Folder-Area Codes in Intellofax Historical Files in ISC

AMS did not maintain its area classification on an up-to-date basis; therefore, the Analysis Branch was constantly expanding the code and updating it to specific Intellofax needs, as in the case of developing and emerging nations.

(b) Related Areas

Two years of experience pointed up the inability of being able to show any area relationships. This came to a head with the 1950 Korean War, when it became necessary to be able to show some combination of Communist China, USSR, North Korea, South Korea, or the United States. The entire punching area of the IBM card (other than the subject field, which always remained the first six fields) was revamped, eliminating certain codes that did not seem necessary, such as day of information, and adding two two-digit abbreviated area codes to be used as related or secondary areas in columns 15-22.

(c) Area File

The advent of the Korean War also brought out the need for a separate file arranged by area. Requests coming in for everything on Korea could not be answered quickly because the primary file arrangement of the Intellofax cards was by subject code. Beginning in September 1950, 15/ MD started an adjunct Area File by preparing one extra card for each main area. (There was no card filed by related area.) No subject code was punched into this card. The Area File continued to serve effectively in retrieving all information on smaller

15/ Procedure for "stablishing Area Intellofax File, 7 Sept 50. U. (in Procedure Manual in Intellofax Historica File, in ISG)

areas, such as oblasts of the USSR and the provinces of
China. Because the Area File grew so rapidly and was con-
sequently useless for large areas in its set-up without
subject code punches, the Library's Analysis and ^{R}eference
Branches in 1954 made an agreement, concurred in by MD,
* (February)
that area cards would not be prepared for Western European
countries, USSR, Mexico, Australia, and New Zealand. 16/

In 1955 another important change was made in the Area File.
The classifier underlined one subject/area combination
considered most representative of the whole document. The entire
six-digit subject code was punched into the area card,
but within a given area the card was filed only by the first
three digits of the ISC.

*The Area File was finally destroyed
in 1968 because by that time little use
was made of it.*

* From the very inception of the Intellofax System, retrieval
responsibility was placed with the reference librarians,
because Intellofax queries were considered no different
from other reference questions. See chapter on Document Division
for transfer of responsibility in November 1965.
16/Area Underlining, 23 Feb 1954. C. (in op.cit. 15, above)

(3) Miscellaneous Codes

(a) Security Classification

With the completion of the ISC (although there would be continual revision) and the adoption of the AMS Area Classification, thought was also given to other necessary codes to be punched into the IBM card for complete retrieval. [   ] issued a memorandum on 3 January 1949 establishing uniform security codes to be used in all OCD coding operations. The Intellofax System Procedure Manuals /17/ show the security classifications with various controls that evolved as more and more non-CIA requesters used the System. These codes enabled MD to eliminate, if necessary, certain document citations with controls such as Controlled Dissemination, Warning Notice-Sensitive Sources, No Dissemination Abroad, and No Foreign Dissemination.

(b) Source Locator /18/ (For Source Card File, see page ?)

In June 1948 the Library issued Library Bulletin No. 18 entitled "The Locator System"; it explained that the intelligence document files in the Library had been set up according to codes assigned to source of origin, such as Army. Arbitrary designations were established to differentiate between attaché-type reports (so-called "A" type) and finished intelligence reports (so-called "S" type). These source codes were also used on the Intellofax punch card. For example, 05A7552 referred to an Army Attaché report from [   ] (see Figure 8)

/17/ Procedure Manuals (op. cit. 15, above)   25X1A6A

/18/ Analysis Branch Archival Folder-Source Locator in Intellofax Historical

By 1 June 1949 it was necessary to issue a second bulletin because of numerous changes in organizational divisions of government agencies. By February 1950 the ~~arbitrary~~ "A" and "S" ~~type~~ designations were no longer punched into the Intellofax card.

The six-digit source locators remained basically unchanged until May 1954, when specific city or post locators for Army, Navy, and Air attache reports were no longer considered necessary for retrieval. By January 1956 only the two-digit source locator* was used for everything except CIA, [   ] 25X1X7 and Top Secret documents.

The coding schemes described in the previous pages provided selectivity in retrieval. Requesters were always urged to be as specific as possible on subject requests and not to ask for too general a subject, such as Politics (the entire 100 chapter of the ISC [   ]. The only STAT reason for a six-digit ISC was to pinpoint specific subjects, if possible. Provincial breakdowns of the USSR and China helped area specialists. Requesters were also reminded that the date of publication was punched in the IBM card. Why ask for all years when only 1950 was needed? Security classification and source specificity were part of the retrieval picture, although not requested as often as subject, area, and date limitations.

The following is a typical request using all the code parameters:

Communist Party penetration of labor organizations in [   ] during 1949-50. CIA document (SO) only. Through Confidential

STAT

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* Source locators: 01-Air; 02-CIA; 03-Navy; 04-State; 05-Army; 06-Defense in general; 07-14 Other government agencies; 15-Executive, Legislative and Judicial Branches; 16-Non-Government; 17-International Organizations; 18-Foreign Governments.

17/Intellofax Chronology (1947-67) in Intellofax Historical Files in ISG

/8

Original card format

114.562	Subject code	(columns 1-6)
6M	Area or country code	(columns 7-10)
49-50	Dates	(columns 24-25)
02-0404	Source	(columns 13-20)
3	Security classification	(column 12)

(4) Abbreviation File

A reference tool ~~which~~ that the classifiers found a need for as early as January 1949 was a list of abbreviations of organizations ~~which~~ that appeared in intelligence documents. The Agency Management Officer approved the establishment of a Central Abbreviation File in the Library. 19/ It was originally planned that periodically printed cumulative lists of abbreviations would be published for general circulation and that the entire Agency would contribute to the growth of the file.

The ~~growing~~ Abbreviation File of 3" x 5" cards was used not only as an indexing aid, but also by reference librarians when published lists of abbreviations did not answer specific reference queries. The card contained the abbreviation, the area, the title translated into English, the foreign title, a brief descriptive comment, and the source of the abbreviation. Offices throughout CIA, particularly the Foreign Documents Division (FDD), supplied hundred of abbreviations and their identification to the file. A note appeared in the front of the CIA Telephone Directory under services of the CIA Library encouraging requesters to make use of the file. In 1954 a publication was distributed entitled Part I. Abbreviations of US, [   ] and   25X1X7

19/ Memo, EX AD/CD to Management Officer, "Proposed Administrative Instruction regarding Central File of Abbreviations". 31 Oct 49, auf: ~~Restricted~~ (in Management Office 1949-51   58-98/2)

79

International Organizations of Intelligence Interest (CD # 13), and it

was Revised in 1956 (CR/6). Requests were received to publish Part II

on other areas of interest, such as Russian abbreviations, but because

there had been no attempt to confirm translations or even correct

the foreign language title, it was considered too horrendous an

undertaking.

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* The manual Abbreviation File, amounting to 45,000 titles by 1959,
  was replaced in 1960 by the Dictionary of Organizations adopted
  with the revised Intellofax System. See discussion on page 74.
  The actual cards were kept for retrospective searching until
  destroyed in 1971.

25X1X7 20/ Abbreviations of US., [   ] and International Organiza-
  tions of Intelligence Interest. (CD # 13, 1954) and (CR/6, 1956)
  in CRS Historical Files)

Intellofax-page 20

A. Data Base
25X1A7B

(1) [_____] Daily Reports

From the very beginning, the Reference Center was eager to
begin some kind of indexing, so while negotiations were continuing
for the development of the Intellofax equipment and for the
construction of a unified classification scheme, management author-
ized the indexing of the [25X1A7B   ] aily Reports. This was in
1947
accordance with a memorandum to the Agency's Assistant Executive
from the Assistant Director of Operations. The monthly
Table of Contents to the Daily Reports was considered inadequate for
retrieval purposes and was therefore discontinued with the 1947
May issue.

The Daily Reports became the first data base available for
machine retrieval from the Reference Center. The Central Index began IBM
card punching   on 19 August 1947 for that material which the Classification Unit
(of the Intelligence Documents Division) had been indexing. The index
cards contained the following information: security classification, pam-
phlet data, one one-digit subject from nine major subject categories
(Army, Navy, Air, Science and Geography, Domestic Political Affairs,
Foreign Political Affairs, Economics, Sociology, and Miscellaneous),
page reference, intercept headline, transmitter, target countries.
Ninety-nine
99 countries with a two-digit sequential code made up the area codes.
The requester was furnished with a listing of the selected cards
showing intercept heading, page reference, pamphlet date, security
classification, and areas. By the end of September 1947, 14,762 cards
had been punched and filed. By November the index covered reports
issued since May, and an announcement was sent out to all recipients
of the Daily Reports.

2/ Memo, AD/O to Asst. Ex. Dir, 19 May 47, sub: Organization of FBIB,
Office of Operations. C. (File: Office of Operations 1947-50 Job 58-98/2)

Memo, AC/Intelligence Documents Division to AC/Reference Center, 28 Sept 47
Monthly Status Report, 28 Aug to 28 Sept 47. S. (In Library 1947-48
58098/1) File: of at. 10 above
25X1A7B

Memo, AC/Intelligence Documents Division to Chief, [   ] 29 Oct 47, sub:
Announcement to [   ] Daily Report Recipients. U. (In Library Daily Reading File
1947 68-116/2)   FBID Daily Report 47-53

25X1A7B   File: Ibid, 23 above

SECRET

25X1A7B

This method of indexing [   ] Daily Reports continued

until January 1949, when a procedure was put into

effect which allowed for a redesign of this particular

IBM card in order to make use of the ISC subject and

area codes. Again, only one subject code was permitted. The

name of a prominent individual was entered in the first

15 spaces of the caption, which was restricted to 40 spaces.

25X1A7B

A year later [   ] and the CIA Library jointly

prepared for inclusion in the front cover of all restricted

issues a short announcement advertising the available

indexing facilities. Based on recurring requirements from

the Library sent out
certain offices, particularly ORE/ORR and OSI, typed

lists of pertinent titles to these offices every week.

....By early January 1952 the Library advised the dis-

continuance of the indexing of the Daily Reports for several

reasons: requests averaged only 10 a month plus four

recurring requests; and with indexing restricted to one

subject per article because of workload in the Analysis Branch

and in the Machine Division, adequate cross references to

cover all subjects within an article could not be made.

The Chief, Analysis Branch, in a memo to the CIA Librarian

stated that the two analysts thus released would be able to

devote full time to help reduce the Intellofax backlog of

several thousand documents. Dr. Andrews concurred because

25/ 24/ Memo. C, Analysis Branch to Chief, CIA Library, 22 Jan 52,
sub: Indexing of [   ] Daily Report. U. GRAY FBIS Indexing
Folder in CRS Historical Files)

25X1A7B

of severe 1952 manpower cuts and because the OCD Registers

picked up the personality and industrial plant information

found in the Daily Reports. On 6 February the Library

discontinued the coding of all radio broadcast information.

Although the IBM cards were retired to the Records Center,

the Library retained a master printed form of all the

coding effort.

The issue of the desirability of reestablishing a

machine index to the FBIS Daily Reports was raised periodically. *

(2) Early Intellofax Coverage

With the publication of the ISC in March 1948 it was

possible to start indexing in earnest. The first efforts

were confined to OO-B reports issued by the Office of Operations

(OO) Contact Office. One Transmittal Sheet was prepared for

each document: It contained a bibliographic statement (source,

document number, country, date of publication, date of

information, title, and security classification), an abstract

of the contents, and pertinent codes. Until the Central Index

had typing personnel and reproducing equipment to type and re-

produce abstracts on the tabulating cards, only the punched

data appeared on the IBM cards; the Transmittal Sheets were

filed in the Library by source.

25X1A5A1 * See Library Consultants Report of 1957 in history of the (Library)
and the [   ] of 1958 in history of the (Document Division
26/Operating Memo-Central Index, 12 May 1948, sub: Index Cards for OO/B
Reports, Interim Procedure for Processing of. U. (in Machine Division
1947-54 60-543/1) 58-98/3

Plans   1,000
____ called for the receipt of   documents a day.

Experience already showed that a classifier could abstract only

25X1A9A

30 documents a day. [   ] noted 27/ that a T/O of

20 professionals in the Analysis Section would not

provide adequate manpower to abstract every document. In

November 1948 the current intake was between 400 and 500

items a day. The 1948 backlog of approximately 12,000

SO (predecessor of CS documents from the Clandestine Services)

and 3,000 other CIA reports was decreasing by 150 items per day.

Of the backlog of non-CIA reports it was estimated that

five percent of the 154,000 items would not warrant

indexing because of content. The unclassified and

restricted documents for 1948 were indexed by Special Projects

1 ("the pool"). Documents issued in 1946 and 1947 were

25X1A9A

processed but only those of priority areas of interest. [ ] **25X1A9A**

25X1A9A [   ] stated that it appeared possible that "we can set

a 1 January 1949 target for providing daily tab-fax

service." And this did occur.

27/Memo, Chief, Library to AD/CD, 10 Nov 48, sub: Classifica-
tion and Indexing of CIA Library Documents, Status of. C.

Heavy backlogs frequently required stringent measures that affected coverage. For 4 months in 1949 unclassified State Department despatches were not indexed. This was briefly expanded to include any document from Greece, Turkey, or African and Latin American posts. No effort was made later to fill this void.

Document coverage rose from 46,681 documents in 1948 to 227,106 in 1950, or a total of 414,329 documents indexed into the Intellofax System during the first 3 years. [28] There are no comparable figures available on the number of Intellofax requests received in this same period. From 1951 through 1953 requests averaged 341 monthly, in 1954 [29] 20% of which were from outside CIA. A chart prepared for the Clark Committee showed the annual input and output of the Intellofax System (see Figure 3)

By 1953 increased emphasis was given to indexing all available material on China by three projects in conjunction with the Foreign Document Division (FDD): (a) the Chinese Periodical Index; (b) Chinese Annotated Bibliography; and (c) the Chinese Eceonomic Statistical Charts (CESC). The CESC project of 3,957 items was completed by a classifiers of Chinese extraction in the Analysis Branch by March 1954.

[28] OCD Statistical Reports 1947-52 on Reel No. 1 (in 58-850/1)

[29] OCD Statistical Reports 1953-54 on Reel No. 2 (in 58-850/1) 58-98/4

(3) ~~NODEX~~ Nodex

Early in the indexing processing it became apparent that certain documents dealt with information ~~which was~~ *that* of little or no intelligence value for retrieval purposes. The term ~~"NODEX"~~ *Nodex* was coined to represent those documents ~~which~~ *that* would not be indexed into the Intellofax System. Originally these were documents of a purely administrative nature. As the System grew, however, more subjective judgment as to the value of certain information for Intellofax retrieval purposes was exercised, and the list of NODEX items grew and changed. In some cases, it was subject information ~~which~~ *that* was rejected; in other cases, it was an entire series. ~~There was no way the Library could prevent the receipt of these documents; besides, some office in the Agency might want to see them.~~ The whole question of what should be nodexed was ~~very~~ much debated throughout the entire Intellofax history. No two researchers agreed, and much criticism was levied on the System because of certain NODEX decisions, *which had not been coordinated within CIA with the community.*

The selection out criteria ~~in the early days of the~~ Intellofax System fell *entirely* upon the classifier, ~~who would so mark a document and its attached control card in the batch envelope.~~ *Soon, however,* the Incoming and Dispatch Unit of the Library ~~soon~~ recognized certain series, such as Army Who's Who Reports. These were batched separately and did not even come to the ~~attention~~ *classifier.*

~~SECRET~~

GROUP 1
Excluded from automatic
downgrading and
declassification

The early 1950 NODEX Standards included such topics or
series as:
30/

    a. Purely administrative matters
    b. Consular or commercial functions (replies to
       complaints of Americans about lack of service)
    c. Notification of change in security classification
    d. Agendas of various international committees
    e. Order of battle (considered a military responsibility)
    f. Transmittals of enclosures not attached and not
       described adequately enough for indexing
    g. Industrial Card File (CF) reports giving primarily
       plant data (and, therefore, an Industrial Register
       responsibility)
    h. Who's Who reports
    i. Joint Weekas (considered cables)

Out of 17,367 documents processed in January 1951, 1,125 or six
percent of the total were nodexed.

A printed list entitled "NODEX Standards from Start of the
Intellofax System to July 1966" is indicative of the colorful
history of the NODEX program. Translations and FDD products
31/
were particular targets for changing criteria as the
following dates show from the Intellofax Chronology:
32/

August 1954	Nodex FDD Summaries and Reference Aids
October 1960	Nodex unclassified translations
July 1963	Nodex all translations
Sept 1963	Exception made on translations from or about Communist China
Feb 1964	Nodex all translations from newspaper, magazines, and books
	Index all others
March 1965	Index FDD Summaries

The microfilming of NODEXES is discussed along with the
microfilm criteria on page ___.

30/ Procedure Manuals (15, above)
31/ Procedure Manuals (15, above)
32/ Intellofax Chronology—Appendix B

2 7
(4) "Flash"

An indexing economy which that developed was the so-

called "Flash" procedure. 33/ By January 1949 classifiers

recognized that there was a sizeable segment of documents

which covered the same subject matter each time and which that

were issued periodically. "Quarterly Military Reviews"

"Weekly List of Infectious Diseases", "Semi-Annual

Railroad Statistics" were a few examples. It was a

waste of indexing and key punching effort to code

these documents every time they appeared. The initial first time

such a document was encountered it was coded and

abstracted in a table of contents manner; the Intellofax

card bore the usual bibliographic statement but without

report number or date. The word "Flash" appeared on

the IBM card. A master Transmittal Sheet on which the

abstract was prepared was filed in the "Flash" Book

in the Analysis Branch. Every time a similar document

was received, its report number and date were entered

into the "Flash" book, on the Transmittal Sheet. When a

subject retrieval request turned up the original "Flash"

card, the librarian or classifier knew that he must

refer to the "Flash" book to find all the documents which that had

been published and received. This "Flash" record was the

only means of determining document numbers in order to

retrieve the material out of the document file.

32/ Procedure Manuals (15, above)

SECRET

GROUP 1
Excluded from automatic
downgrading and
declassification

Although lists of "Flashed" reports were periodically distributed to the classifiers-- and the lists grew-- the classifiers were always reminded to glance at the current documents to guarantee that they were sufficiently covered by the codes originally established. Changes in the ISC as well as wider subject coverage in the series did necessitate added codes.

The "Flash" system finally outlived its usefulness. Irregularity of issuance of certain series, the manual labor involved in maintaining the "Flash" book (for a period one copy was maintained in the Reference Branch also), the nuisance of not having a source card for every document, and the advent of the revised Intellofax system--all combined to bring about its demise in 1960.

√ 3.4 Memo from C/DD,IY and MD to AD/CR "Elimination of Flash
Entries in Intellofax System" CIA Internal 18 Mar 60
(in Library 1959-60   64-341/8)

GROUP 1
Excluded from automatic
downgrading and
declassification

35/ /Memo, AD/CD to Chief, COAPS, 6 Dec 49, sub: Coding and Abstracting, Attachment: Central Reference
Facilities. Status and Facilities. 5. (in Chrono 49 58-98/4)

(5). The Abstracting Program

[ ] w as very proud of his central reference facilities,

and by late 1949 he felt that OCD was on the track of a "far

more effective solution to providing analysts with quick re-

trieval of intelligence information than has ever, anywhere,

been achieved before." He devoted 32 pages to a definitive

description of the Intellofax System, entitling his monograph

Central Reference Facilities. Status (1 November 1949) and

    35/   [which became a classic study in OCD]

Objectives. (He had prepared this paper at the request

of the Chief, Coordination Operations and Policy Staff

[COAPS-successor to ICAPS]. (He in effect rejected a Management

Staff proposal that the Library classification functions be

decentralized and placed in substantive units of ORE and OSI.)
                                                                36/

                    manner,   previously

    In his usual dynamic approach, [ ] had briefed   STAT

specialists in ORE on the potentialities of the Intellofax

System and how analyst participation in the growth of the file

would benefit the system and therefore the whole Agency. In

other words, he was asking analysts if they would like to contri-

bute abstracts to the file. He stated that only the specialist

could decide which were the important documents bearing upon

his field of specialty and only the specialist could write com-

petent abstracts of such documents. In January 1949 the Turkish

desk began selecting and abstracting the most important documents

on Turkey. OSI also commended operations on a trial basis in

/ 36/ Memo, .C/MMD & CIA Librarian to AD/CD "Comments on Management's
    Proposals Relative to Abstracting and Coding of Intelligence
    Information" 30 Nov 49 SECRET (in Ly Daily Reading File /1949-51
    July-Dec 49   68-116/21   5 8-98/1

STAT

3 0

February, and the [_____] of ORE followed shortly thereafter.

A so-called contributor code was punched into column 21 of the

IBM card so that if a specialist ever wanted to retrieve only

his own abstracted material, he could do so. (Historian's note:

(this seldom occurred.)

OCD meanwhile continued to write abstracts of a table of con-

tents type for publications covering a wide variety of subjects

*

and areas. Much as he had fostered and approved of the abstracting

STAT

program, [_____] became concerned about the rapid growth of

these files in Intellofax. By the end of 1949 there were

18,047 abstracts (OCD-2847; ORE-6245: OSI-8955), and they

37/

were growing at a staggering rate. He warned that each extension

of the system to a new group of specialists involved difficult

adjustments, revisions, and expansions in the classification scheme,

required more typists, and could be accomplished only by day-to-

day hard work. How true! [_____] spent a large proportion of her   STAT

time in these early years working on changes and expansions of the

ISC to satisfy the needs of new contributors to the abstract program.

Area codes for three of the Near Eastern countries were expanded

to take care of provincial divisions. And as it turned out they were

never used for retrieval.

The abstracting program mushroomed from its beginnings in

---

* On pages 23 and 25 of the Intellofax study, [_____]   STAT
  provided samples of OCD, ORE, and OSI abstract cards.

37/ Statistical Reports (28, above)

1949, reaching a peak in the early 1950's. Other desks joined

the program in 1950 and 1951. Some of these desks even set

up their filing systems according to the ISC. ORR contributed 16,558

abstracts in 1950 and 10,695 in 1951. OSI contributions amounted

to 20,186 and 20,715 in those 2 years. 38/

However, a downward trend began in 1952/53 because specialists

were not interested in spending their time learning how to use the

ISC correctly for in-depth indexing. The Physics and Medicine

Divisions of OSI continued as heavy contributors but finally ceased

In 1958
abstracting in 1954 and 1955, respectively. ORR/Shipbuilding became

the last ORR component to stop input. 39/

OCD management had always hoped that these contributions

would preclude the indexing of the same documents by the OCD classifiers. *

This was never possible, for the specialists frequently extracted and

coded only the part of the document that interested them. So some

duplication continued; both IBM cards would turn up on a machine

run if the same codes had been used (and there was no guarantee

of this). In such a case, the OCD classifier or the librarian in

screening the cards before an Intellofax tape was made would

pull out the nonabstracted card as being less meaningful.

A great danger to the Intellofax System later
input to the
surfaced after the research offices had stopped the program.

References turned up that could no longer be retrieved, such

as articles in Russian scientific journals index by OSI and

later thrown away. No limit as to source material had been

imposed on the specialists, some of whom even extracted

or prepared abstracts from the New York Times articles.

In the mid-1960's (exact date not confirmed) all IBM

cards with the contributor code were pulled and destroyed, for

they added nothing to the Intellofax file but instead created

document retrieval difficulties.

(6) Cables

OCD management early in the Intellofax history

decided that cables and telegrams would not be considered

a part of the central reference system for subject/area

retrieval. There was no question as to their current

intelligence value, but OCD did not consider them

vital to retrospective searching and therefore felt it

was uneconomical to index the enormous cable flow.

This philosophy carried throughout the years of the

Intellofax System, although there was a brief

of a cable indexing experiment in 1963/64.*

25X1A9A   [   ] in his November 1966 study entitled

"Choosing the Director's Central File System" said

> The most noteworthy omission to the OCR file holdings
> is of noncodeward cable traffic. . . This omission
> of a major intelligence input is not the serious
> deficiency it might at first sight appear. The
> substantive content of most cables is of transitory
> value.. . .The current intelligence analyst is
> particularly insistent on keeping cables close at hand
> in his own files during the useful intelligence life of
> the cables. He could not risk reliance on OCR for the
> short retrieval times that current intelligence requires.
> The subject will deserve reexamination when it becomes
> technically feasible and economically practical for
> analysts to interrogate central files from remote
> query stations and recover needed documents within the
> time frame in which current intelligence operates.

Chapter

* See history of the (Document Division) 1963/64.

25X1A9A   Box 68-487/1 [   ] Committee Study of Indexing and Support
Activities

(a) Machine Support ---

(1) The Batch System 40/

   In August 1948 OCD management decided that a
review of the existing and contemplated document handling pro-
cedures should be made with a view to determining if such
procedures could be modified to expedite the distribution,
         machine
classification, and indexing of documents pending the
fulfillment of T/O requirements. [   ] of Administration

25X1A9A

25X1A9A

and Management Office worked closely with [   ] in setting
up a detailed procedure for the use of multilith mats in controlling
and indexing intelligence documents. This was the beginning
of the so-called "Batch System," which was modified many
times during the next 19 years of the InterIufar System.
A batch usually contained in one envelope 15-20 documents of
like source. (This was similar to the organization of the
dissemination function in the Liaison Division. The classifiers
were not organized by source breakdown until April 1952.)

   Put into operation in December 1948, the system 42/
included the complete processing cycle of dissemination, distribu-
tion, indexing, key punching and final filing of the documents in
the Library document files. The bibliographic information for
a given document was typed on a multilith mat, which had on the lower
half of the mat a pre-
printed distribution ladder for dissemination points. (See Figure 4)
This mat was the basis for the preparation of control slips (a
cutoff IBM card) to be attached to each distributed copy of a document.
One control card became a source card (see page 45).

40/ Analysis of Batch System, 1 Sept 49 to 31 Jan 50. 20 Feb 50. C.
  (in File: Management Office 1949-51. 58-98/3)
  32/ Machine Division 1947-58 Job: 60-548/1 2

41/ Procedure for Use of Multilith Mats in Controlling and Indexing

  Machine Division 1947-49 Job: 60-548/1) 58-98/3

Intellofax-page 35

The classifier used one of these control slips on which to write the necessary codes for ultimate key punching. The typist prepared another multilith mat to be married with the punched IBM card. In February 1953 a Code Sheet was adopted for the use of the classifiers; thus the codes for all the documents in a given batch were recorded on one sheet instead of having a separate control slip for each document. The duplicate preparation of multilith mats continued until 1956, when a revised batch system eliminated the preparation of control cards for distribution purposes.*

In September 1949 each classifier was assigned an Intellofax stamp bearing his individual number. Used instead of the classifier's initials, the stamp was affixed to three places: (1) the face of the document to indicate that indexing had been completed; (2) the control slip for the codes, so that key puncher could question a classifier, if necessary; and (3) the Batch Control Sheet (see Figure 5), which stayed with the group of documents through the various processing steps.

As the Intellofax System grew, it became more involved, and procedures were constantly revised and, presumably, improved. MD and Library personnel worked hand-in-hand in developing better and faster methods of processing the document flow and in taking care of users' needs. A procedure had to be written for every exception.

* See history of dissemination in chapter on the Document Division.
Machine Division Intellofax Procedures 1949-55 (in CRS Historical Files)

For example: Extra IBM cards were printed for a number of offices—Top Secret Control so that that office could set up its own Source Card File; [ ] Contact Office for every [ ] document codes so that the Intellofax card could be matched with [ ] own contact card (and this procedure continued until 1967); Reference Branch of the Library for every finished intelligence and basic intelligence (encyclopedic type studies) document for setting up a cumulative index by subject, area, and title (this stopped in 1953); and ORE/ORR and OSI offices that were engaged in the abstract program (see page ___). A special procedure was written for loan documents that were to be microfilmed. If more than 14 subject codes appeared on the control slip, the classifier wrote "MATS" on the Batch Control Sheet opposite the CIA control number in the "coded" column (see Figure 5) to indicate that additional Intellofax cards were needed.

STAT

SECRET

(2) The Microfilm Program

One of OCD's problems was ~~that of~~ keeping the Library
operating at a maximum peak of efficiency. The Intellofax
System had made available a greater volume of library document
references to a larger number of requesters than had ever
before been possible. The increased output of the System
had resulted in a corresponding increase in requests for the
documentary materials referenced. In wishing to offer maximum
service to all offices, the Library was faced with the dilemma
of coalescing two variations in point of view as to these
services. On the one hand, some of the Library users insisted
on an inviolate set of documents in the Library at all times.
On the other hand, some insisted on the availability of
library materials to their respective offices upon demand.
In answering this criticism by an ORR analyst, [   ] wrote: 25X1A9A

> We clearly recognize the need for ensuring the
> availability of a master set of documents;
> however, keeping an original document collection
> poses problems of filing, space, circulation,
> and reference which are almost overwhelming.

With 617,562 intelligence documents on file (but not
all indexed) in the Library by September 1950, space had also
become a serious problem. There was no doubt in anyone's
mind that microfilming was urgently needed.

4B / Memo, Librarian to [   ], 6 April 1951
sub: Techniques and Methods.   SECRET
U. (in Library 1949-51
File: 58-98/1)

25X1A9A
GROUP 1
Excluded from automatic
downgrading and
declassification
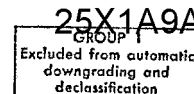
In March 1950 the Library began experimenting with a microfilm and print procedure, and by mid-1951 it had begun to microfilm all single-copy material (10 percent of the receipts) on 35mm reel film. 44/

MD and the Library cooperated in developing the best sort of system to solve the document storage and retrieval problem. In

25X1A9A January 1951, [   ] and his Deputy, [   ] examined 25X1A9A
25X1A5A1 equipment at [   ], where 16mm microfilm was mounted into an IBM aperture or window card. This system allowed each document that was microfilmed to become a separate entity in itself and not just part of a reel, as was generally the case in most microfilm applications up to that time.

25X1A9A In October 1951 [   ] that the problem was urgent and proposed that the Library microfilm all incoming documents, keeping a copy of the document as well as the microfilm. 45/ The latter would be available at all times both for viewing purposes and for reproduction in cases where the requester wished to retain a copy. On 19 December 1951 the ~~Project Review Committee~~ PRC authorized "microfilming of all signifi- cant incoming intelligence documents" and approved funds in the amount of $16,700 for the initial purchse of equipment and in the amount of $62,285 for the annual costs of personal services and supplies. 46/

44/ Memo, C, CIA Library to AD/CD, 20 July 1951, sub: Status Report, 1949- CIA Library Microfilm Program. C. (in Library ~~Daily Reading File~~ 1951. File: ~~58-116/2)~~ 58/98/1

45/ Memo, C, CIA Library to AD/CR, 16 Oct 51, sub: CIA Library Services. S. (in Library 1949-51. File: 58-98/1)

25X1A9A 46/ Memo, [   ] to Acting DD/A, 15 Oct 53, sub: Microfilm Program of the Office of Collection and Dissemination. S. (in DD/A 1952-53 58-98/2)

Approved For Release 2004/09/23 : CIA-RDP84-00951R000300040002-5

25X1A9A

Mrs. [   ] from the Deputy Director/Administration's Organization and Methods Service surveyed the proposed OCD Microfilm Project because of jurisdictional questions raised by the Office of General Services. In her final report of 15 October 1953 [   ] 25X1A9A recommended that the personnel required for operation of the system be on the OCD T/O and under OCD supervision. She outlined what she proposed system would achieve by 1956: immediate film inspection, immediate customer service on the entire collection, eliminate tracing of documents and repeat borrowings from other agencies, about 90 percent economy in space and filing equipment, better utilization and conservation of personnel, permit reduction in size of researchers' files, and expedite the chain routing of documents. 41/

41/ Ibid (4, above)

Approved For Release 2004/09/23 : CIA-RDP84-00951R000300040002-5

Research and testing continued throughout 1951, 1952,
and 1953. At a CIA Budget hearing in October 1953, Dr. Andrews stated
that MD's prime job was to keep pace with new developments all over
the country, but that the most important research then at hand was to
develop a microfilm processer that, in conjunction with the Intellofax
equipment, would ensure that the Library would give to the
analyst the documents he asked for.

At no expense to the Agency, but at OCD's suggestion,
the
25X1A5A1
undertook the development of
a new machine to reproduce prints of microfilm negatives mounted in
IBM-Filmsort (aperture) cards. Because no other machine existed at that
time that could perform the necessary task for OCD's microfilm project,
Dr. Andrews requested an expeditious procurement of the automatic
one-step reproduction equipment (Photostat Expediter) at a cost of
approximately $3,950.

Microfilming of incoming documents began officially in March 1954
with the following equipment: two Recordak Model D Planetary microfilm
cameras for the purpose of making initial microfilm reels, three Diebold
film processors, one Microtonics Film Printer for copying the original
reels (one copy of the reel was placed in the Vital Documents Repository),
three Filmsort "mounterd" to cut the microfilm reels and install the
frames in the aperture cards, and one Photostat Printer-Processor to
make positive prints from the aperture cards.

48/ /O.C.D. Topics to be Discussed in CIA Budget Hearings, 22 Oct 53. S.
(in Chrono 1953. Sub: 58-98/4)
49/ Memo, AD/CD to Chief, Contracts Branch, P & SO, 20 Nov. 53, sub: Re-
quest for Purchase of Photostat Copy-Card Filmsort Type Machine.
C. (in Chrono 1953. File: 58-98/4)

The aperture card (see Figure 3) was a punch card that had information identifying the microfilmed document printed across the top and 16mm film images of an intellofaxed document mounted in apertures (openings on the right-hand side of the card). Aperture cards varied in that a single card   might contain one, two, three, or four apertures. Each aperture contained a maximum of two film images, each image being a page of a document. The basic procedures of microfilming documents did not change materially until 1968 when 35mm film replaced 16mm.

25X1A5A1   A screening committee of librarians and machine people, and chaired by [   ] of the Analysis Branch was established to scan all documents at the intake point and to work up proper procedues. The first documents microfilmed in March 1954 were State Department despatches. These were followed in April by Air Force reports (from an original ozalid copy, which had to be returned to the Air Force within 48 hours); by Army and Navy reports in July; and by the last segment—CIA reports—in September. 5/

With full-scale microfilming in effect, the Library and MD decided late in 1954 not to microfilm NODEX documents because their contents did not meet indexing standards. In April 1955 this decision was amended so the microfilming would occur only for those NODEXES that were single copy, required further routing, contained enclosures, or were of CIA origin, thus ensuring an inviolate copy in the Library. In the set-by-step batch procedures established for the flow of documents, microfilming

* Detailed procedures of microfilming were outlined in CIA/CR 25-3.
5/ CIA/CR 25-3, December 1959. see Reference Aid on Machine Support Services. C. in CRS Historical Files.
5/   Intellofax Chronology —Appendix B

occurred after indexing, so that NODEX determination could be made first. This had one big disadvantage in that the microfilm of an indexed document was not on file until after all other processing had been completed.

Print service from the aperture file became the responsibility of the Circulation Branch of the Library where they were filed by control number* assigned to the document. 35mm reel film was used for documents over 50 pages in length. Bulky and oversized documents were not microfilmed. Any equipment developments or problems were the responsibility of MD, such as experimenting with improved aperture card positioners for Filmsort viewers and with better methods for printing documents from the microfilm viewers.

* See page 45 for microfilm designators assigned to control numbers.

(3) Machine Processing

        After the microfilm program was implemented, MD

inaugurated a system of using work cards to prepare Intellofax

cards and aperture cards. A work card was a blank brown punch

card. For the preparation of Intellofax cards, MD punched

(from the code sheet) one subject and main area code into each work

card. It was possible that several work cards were prepared for a

single document- the average being four. The Intellofax work cards

When the printed white Intellofax cards (made by PSD from the

multilith mat) were received, the punched codes were transferred from the

work cards to the corresponding Intellofax cards containing the

containing the bibliographic citation. After the above processing

was completed, MD used the Intellofax work cards to prepare

statistical records and eventually sent the cards to the Vital Materials

Repository (VMR) at the rate of $666,000 annually. These cards

could be used in emergency cases to reconstitute the punched information

in the Intellofax File, but only the punched information and not

the bibliographic citations.

        One work card was also prepared from the Batch Control Sheet

for each microfilmed document. Coded information (document control

numger, date of filming, number of pages in the document, the

sequence number and the reel number) was punched into a work card

first —

rather than directly into a blank aperture card because it was
more efficient to punch one work card for each document, select the
number of aperture cards to cover the total number of pages in
the document a_nd then transfer the punched codes by machine from
the work cards to the appropriate aperture cards. The document control number
printed across the left end of the ap each aperture card
faciliated the manual sorting of the cards for filing by document
control number in the Circulation Branch, Library

Consumer service to the Intellofax File was provided on the
was provided on the Intellofax File in the form of Intellofax
tapes (see page ___. The tapes were lists of bibliographic
citations on the indexed documents, covering subjects, areas,
dates, security classifications and other details specified by the
requester. The tapes were arranged in the sequence specified by
the requester—that is, by subject, area, source, or date.
The Intellofax tape was prepared by the unique facsimile process as described
on page 5 until 1959. developed in-house a much
faster Card List Camera. By this machine the printed data on the
cards were photographed on a 4-inch strip of photo-sensitive paper,
at the rate of 3,600 cards per hour. After the data from the cards
The tape was then inserted in a modified Photostat Expeditor (had no
exposure unit), a machine that developed, fixed, washed, and dried the
tape in a single operation. The machine could process two tapes
simultaneously—350 feet of single tape hourly—or a maximum of
700 feet of tape hourly.

f.   The Source Card File

   An important by-product of the Intellofax System was

the establishment of a Source Card File. The Library early

recognized the need for a card catalog of document sources,

similar to the author catalog for books. In the first coding

efforts of 1948 prior to the Batch System, the classifier wrote

the ISC codes on a 3"x5" form on which the typists had typed

the bibliographic data. With the inauguration of the Batch

System, MD provided the Library with a "cut" Intellofax card

or control slip for the Source Card File.

   This File served several purposes: (1) inventory of

document holdings, (2) identification of a document, and (3) loca-

tion of a document. Requesters looking for a specific document

often did hot have the document number but might know the source

and/or year. The cards were filed by source of origin with

further divisions by year of publication followed by specific post

or agency breakdown and document number. A brief title description

of the enclosure and a notation whether it was received or

not~~received~~, microfilmed or not ~~microfilmed~~, appeared on the

card. After the inauguration of the microfilm program in 1954,

the approach to the aperture card was only through the

document control number that appeared on the source card:

    "D" * control number---on 16mm aperture card
    "C" + control number---on 35mm reel film
    "V" + control number---not microfilmed and in hard copy

46

The source card that was prepared for NODEXES contained only an abbreviated bbiliographic entry, that is, source, document entry, date, and security classification. The title and country were not entered. This abbreviated notation saved typing time, but it created problems when librarians searched for document identification. By March 1961 a full source card entry was made for all NODEXES that were microfilmed, the so-called NODEX-M category—primarily CIA documents that were nodexed.

For further discussion of the Source Card File see

25X1A2G   page 91, the Impact of ☐ on Intellofax.

47

g. The Intelligence Publications Index

Equally as important as the Intellofax System in the history of OCR's document and indexing schemes was the IPI. Because the IPI was actually a corollary to the Intellofax System, its history is dealt with here.

Although the Intellofax System had included finished intelligence documents since early 1949 with a special "fin intell" punch added to the IBM card, OCI made a strong plea in 1951 for a separate printed index of finished intelligence studies. The request was all-encompassing and included intelligence studies and featured articles in intelligence periodicals, up through Top Secret, published by Intelligence Advisory Committee (IAC-successor to IAB) agencies, certain subordinate commands, and [   ] intelligence organizations.

25X1C8A

Library personnel made trips in November 1951 **3/** to the New York Times and to H.W. Wilson Co. to review their respective procedures. [   ] was recruited from Catholic University where she had been involved in the preparation of a similar Readers' Guide type of index. One of her first tasks as chief of the Editorial Section of the Book Branch of the Library was to prepare a prospectus to the Index to Intelligence Periodicals. Issued in October 1952, it listed as its purpose: **4/**

25X1A5A1

> To establish a current, continuing, cumulative, subject index to articles and studies contained in a selected list of the more important intelligence periodicals heretofore not covered by cumulative indexing

Frequency was to be monthly, with semiannual or annual cumulations.

* A full set of the IPI is kept on file in the CRS Document Library.
3/ Memo, Analysis, to New York, Nov 13-14, 1951. U. File: IPI Historical Folders in CRS Historical Files.

(left margin, rotated text) **54/** Prospectus for Index to Intelligence Periodicals, Oct 52. S. (File: op. cit. 54 above) CIA Library 1952 opt. 58-98/1

(handwritten bottom right) CIA Library 1949-51 OPI: 58-98/1

48

Reaction to the proposed index throughout the Agency and
the intelligence community was most favorable, and valuable
suggestions were received on coverage and format.

Issue No. 1, dated January 1953, was entitled
Intelligence Periodicals Index, but the title was changed with the November
issue to Intelligence Publications Index, when, after much
urging from by OCI, finished intelligence studies were also included. as well.
Arrangement in the enlarged IPI was by subject and area in one
alphabetic sequence.

The IPI was a
conventional library index, following American Library Association
rules for bibliographic entries. Arrangement in the enlarged IPI was
by subject and area in one alphabetic sequence. The IPI staff
opted for a semi-annual cumulation as easier to prepare than an annual.

In January 1955 an important change in format occurred.
The index was arranged in three sections: a classed subject index with
area subdivisions, thus putting related subjects into a compact section
of the index; an area index with broad classed subject subdivisions; and
a list of series by source and title. The area subdivisions of the
subject index, the countries of the area index, and the bibliographic
sources of the monographic series were arranged in alphabetic sequence.
). Beginning with the January 1957
issue, a black border appeared on the edges of the area index for easy
identification.

The security classification of the IPI changed several times:
it began as SECRET in 1953; from November 1953 to 19 55 it was CONFIDENTIAL

No Fprn; ~~and~~ from ~~May~~ 1956 ~~on~~ it was SECRET No Forn.

*from Aug 1962 –
July 1963 it was
Secret, and from
Aug 1963 on
it was Secret
Controlled
Dissem*

An IPI issue was assembled by means of an aligning device ~~which~~ *that* "shingled" typed cards onto a large board. The assembled boards were returned each month from Printing ~~and~~ (PSD) Services Division and the cards stripped from the boards to be interfiled with each monthly group of cards, ready for the semi-annual cumulation. In 1957 a Justowriter Model L Recorder, ~~and~~ a Justowriter L Reproducer, and a Line Finder were procured. A punch tape containing a record of what was typed in the form of a code for each letter and function was inserted in the Reproducer and run continuously until 10 cards, a standard number to take care of the three indexes, were produced for each entry. Justified composition was produced on a continuous strip of perforated card stock. The arrival of this equipment made possible the assembling of a monthly issue for printing within the first week after close out date.

Beginning in 1960, the June and December monthly issues were omitted, and the entries of those months appeared with an asterisk in the respective cumulations. This saved about $460 a month in printing costs and provided for faster publication of the cumulations.

Document coverage for the IPI evolved throughout the years as it did in the Intellofax System. Rules for flow and selection criteria were made simultaneously with those for the Intellofax System. The chronological sequence of selectivity

appeared in the IPI chronology
(see Appendix B).

The National Intelligence Surveys (NIS) were indexed from 1953 until 1958; classified US research and development publications were included from 1957 to 19 58; FDD publications were selectivity indexed after 1955; selected non-NPIC photo interpretation studies were included after 1960. In 1956 a request to index the [ ] Daily

25X1A7B

Reports in the IPI was rejected as not feasible, because they did not fall into the criteria of finished
The
intelligence. (IPI staff was constantly making decisions as to what constituted "fin intell.") At the request of the DD/I in 1955, the IPI staff began to provide citations of all new monographic intelligence, including the NIS's, for listing in the back of the OCI Current Intelligence Weekly Summary.

#6

The 1957 Library Consultants' Survey was most favorably impressed with the IPI-- it was a conventional Library tool ! Nevertheless, along with other programs, OCR conducted its own survey of the IPI to determine its usefulness. In 1958, a team composed of Library and Document Division personnel conducted personal inter-
(USIB Committee on Documentation (CODID);
views with representatives from each CODIB member agency. Questionnaries were sent out to recipients not in the Washington area. The following conclusions were

56 Library Consultants Survey File: 63-9

25X1A9A   * See chapter on the (Library) 1957.
* ** Members were: [ ], Chief/Reference Branch

25X1A9A   and former IPI editor; Joan Brahm, DD Staff Assistant;
[ ] C/Analysis Branch/DD;

25X1A9A   [ ] C Training Officer and former IPI editor;
[ ] IPI editor at that time.

*** CODIB was based by IAC Committee on Documentation (CODIAC) in September 1958; CODIAC replaced the IAC Ad Hoc Subcommittee on Information Processing (AHIP) in April 1958.

reported to CODIB in December 1958: 57/

    a. The IPI is used primarily as an announcement of
       current accessions; therefore, researchers want
       a printed index published regularly.
    b. Since this is the only publication of its type
       in the intelligence community, no one wants
       it discontinued.
    c. Users are satisfied with the coverage, content and
       format, and cumulation policy.
    d. Researchers desire the availability of a biblio-
       graphic list-out of finished intelligence material
       for research purposes. Intellofax provides the
       quickest service and desired specificity. (In
       spite of this last conclusion, OCR managers
       decided in September 1960 that finished intelligence wo
       would no longer be indexed in the Intellofax System.
       See page 79)

Denouement

Studies were made on the possibility of mechanizing the IPI,

but nothing ever materialized. The IPI, therefore, continued to

be published as previously described. During the unsettling years

of 1966 and 1967 due to decisions about [ ] (large-scale computer-based informa-

25X1A2G

tion storage and retrieval system) for computer base on top of

continuing budget cuts, the IPI was a target for change or re-

25X1A2G configuration. [ ] was experimenting with a publication called

SKAN (Subject Keyword Announcement) which was a computer listing of

collateral documents on Communist China. OCR management debatted

whether the IPI should be incorporated into an expanded SKAN, whether

the SKAN computer programs should be applied to the IPI, whether

the Special Register KWIC (keyword-in-context) approach should

be used, or whether there should just be a reduction in input,
58/
including an elimination of the subject classed section. None of these

57 CODIB-D-22, 12 December 1958, sub: Intelligence Publications Index
  OUO. (in CODIB Box 1958 64-341/2)
58 Memo, EXA, CR to D/CR, 16 Nov 66, sub: Identification of Positions t
  be Eliminated... (in OCR Organization and Management July-Dec 66.

5~2

possibilities occurred. Instead, the IPI was prepared and

published as it had been throughout the years. During an *September in 1966*

office realignment the IPI was placed administratively in the

Title Indexing Section, Customer Services Branch, of the

new Indexing and Services Division. [59] It was actually the

last activity to be phased out with the complete reorganization

of CRS in 1967/68.

Without any advance warning to the "outside world," an

announcement signed by ~~the Director of Central Reference~~, *the Director of Central Reference*, appeared in the

February 1968 issue of the IPI to the effect that no more issues

would be published. After 15 years of continuous publication and

with a T/O fluctuating between four and six, the IPI had earned

its reputation as the only complete publication of its type

in the intelligence community. Its size had grown from 146

pages in the 1953 cumulation to 454 pages in the last 1967

cumulation.

Historical Facts

        Editors   25X1A9A
        1952 (planning stages)/53
        1953
        1954-58
        1959-61
        1961-February 1968

        Administrative Organization Within OCD/OCR/CRS
        1952   Editorial Section, Book Branch, Library
        1953-55   Publications Review Section, Book Branch, Librar
        1955   Publications Review Section, Analysis and
                            Catalog Branch, Library
        1956-66   Special Section, Analysis Branch, Document Divis
        Oct 1966-Feb 68 Title Indexing Section, Customer Services
                            Branch, Indexing and Services Division

[59]/OCR Instruction CR 1-4, 23 Sept 66, sub: Document Systems Group. S.
    (in Document Systems Group   File: 68-487/2)

2. The Era of Interagency Cooperation

The 1950's were characterized by increased use of the Intellofax System by the Agency and non-agency components at the same time that OCR was doing some soul-searching regarding the System. The impact that the Library Consultants' Survey (1957) and the resulting Task Team Reports (1958) had on the Intellofax System is discussed in the chapter on the Library. Interagency cooperation that was not successful in the 1947-48 period began to loom on the horizon in the mid-1950's. The following pages will deal primarily with the close working relationships with the Air Force in the MINICARD Project and with all of the Defense agencies in common documentation problems of storage and retrieval.

a. Cooperation with Air Force, Army, and Navy ISC Especially

A Working Group on Central Indexing was established early in 1952 by the Economic Intelligence Committee (EIC) Subcommittee on Requirements and Facilities for Collation. [60/] It was dissolved by the end of the year because coordinated IAC policies for a single classification scheme and common cataloging policy still seemed to be unattainable at that time. However, sharing of indexing and reference services were already being developed between CIA and the Army and the Air Force, particularly in the G-2 and A-2 intelligence libraries.

As of January 1953 the G-2 Library began to depend on the Intellofax System for information that could not be answered solely from Army intelligence reports (IR's). The G-2 Library then ceased cataloging and retaining permanent file copies of non-Army documents. It also received unpunched IBM cards containing abstracts covering

basic intelligence and "Flashes." 61/

1953 saw the beginning of a long and close working
relationship between the Air Force and CIA in the development
of a common system of documentation. The Air Force was the first
agency to show a marked interest in adopting the ISC as a workable
classification system for their large-scale MINICARD Project.
(see page 13). As of 15 October —

                                    master
OCD began to write ISC codes on the original A-2 master ozalids
that were sent over to the Analysis Branch daily. Also at the request
of the Air Force, OCD agreed to place subject and area codes
on all CIA intelligence information reports, beginning in
December. This necessitated a satellite operation of three
classifiers and three typists from the Analysis Branch in L
Building, where CS and OO multilith mats were reproduced.
These procedures enabled the Air Force to capitalize
on the CIA indexing effort rather than to set up a duplicate
indexing system of its own. The Directorate of Intelligence,
Air Force, issued a status report on 23 December 1953 to all
Air Force Commands describing the CIA/Air Force Intelligence
Library Reference System: 62/

61/ Memo, G-2 Librarian to CIA Librarian, 4 Dec. 52, sub: Services Available
    from CIA to G-2. Restricted (in Library 1952 58-98/1) and
    /Memo, CIA Librarian to G-2 Librarian, 30 Dec 52, sub: CIA Library Swrvices
    to G-2. S. (in (Library 1952 Job: 58-98/1)
62/ The Air Force Intelligence Library Reference System, 23 Dec 53
    C. (DD/I 1953 58-98/2)

Such a reference system will in the end provide
the key by which the latest developments in machine
techniques and equipment may be employed to quickly
select and provide all available information to meet the
specific needs of the intelligence analyst. A study at this
Headquarters has resulted in a recommendation that the
information codification system in use at CIA be adopted for
Air Force-wide applications.

STAT

[   ] comment to the DD/I was: "This is a first step, and

a major one, toward the evolution of a uniform system which may

someday extend to all members of the intelligence community."

The appearance of Library Subject and Area Codes, so

identified on the last page of CIA documents, served not only

the Air Force but also brought to the attention of researchers,

particularly within CIA the existence and availability of the

ISC. In addition, it was hoped that these notations would offer

the specialist in a particular field the opportunity to raise
the Analysis Branch dis-

questions as to omissions or errors in coding. In 1956 coding continued

directly onto master Air Force ozalids and CIA multilith mats

was discontinued because the Air Force did not feel the need any

longer (they were starting with their MINICARD efforts) and

CIA specialists had shown little interest.

When the microfilm program began in the spring of 1954,

the Air Force ozalids were microfilmed, indexed, and returned

within 48 hours with a 16mm reel of film. Similar procedures

were set up in August 1954 with the Army and in January 1956 with

the Navy, but only for documents with single-copy enclosures. 63/

After the material was microfilmed, OCD reproduced enough copies for
single-copy enclosure
of the document for internal CIA dissemination. During a few month 4—

period, August through December 1955, 1,300 enclosures to Army

time for

such enclosures were readily filled from these files. This was a

63/Procedure Manuals (15, above)

In April 1956 MD was given permission through an interagency agreement to furnish NSA on a reimbursable basis with a film copy of all material received and microfilmed by OCR, with the exception of CIA Internal Use Only. IBM punched cards were also furnished for control purposes so that NSA could prepare its own aperture cards. This agreement, still in effect in 1973, has saved duplication on NSA's part in the photographing of documents. 64/

Toward the end of 1959, OCR began to receive from the Army Actifilm copies of single-copy documents with enclosures, to test the feasibility of interfiling this material with OCR's aperture cards, thus avoiding duplicate filming in both Agencies. MD's experiment with this system proved successful, and all Army Actifilm was accepted for input to Intellofax film storage.

Cooperation with the Air Force in the use of the ISC included CIA's willingness to provide a training program for Air Force personnel in the use of the classification scheme. Thus, in July 1954 the first Air Force analysts participated in the Analysis Branch's training program--a program that grew and continued for the Air Force until it was able to index and retrieve information from its Minicard operation. During the 1950's more than 150 Air Force indexers and disseminators were trained. As the ISC became more widely known and accepted throughout the community (after all, ISC subject and area codes were appearing on many printed documents) and as the word spread about CIA's formal training program, analysts from other Defense agencies were also enrolled in the class, which usually lasted 3-4 weeks for complete indoctrination in the ISC and the whole Intellofax System.

64/Memo, C, MD to C, Operations Staff, 3 Aug 56, sub: Services Rendered

This exposure to CIA's Intellofax System and the Defense agencies' acceptance of the ISC as the best available classification scheme resulted in urgent requests for copies of the ISC. The first official printed version for outside consumption appeared in 1954.

25X1A9A

[   ] Deputy Adsistant Director(DAD)/OCD and Chairman of AHIP, in August 1955 called to the attention of the committee members that the Clark Task Force on Intelligence Activities of the Hoover Commission had recommended that all departments within the Defense Establishment and the Department of State adopt the single index system based on the Intelligence Subject Code now in use by the CIA and Air Force libraries." 65/   Soon thereafter A-2, G-2, Navy's Office of Naval Intelligence (ONI), and NSA endorsed the ISC for adoption and use by the intelligence community. At the same time they established working groups for the revision of pertinent sections of the ISC. State Department's answer was typical: "Theoretically, a uniform classification code for intelligence documents is highly desirable, but the Department cannot substitute its own classification code which encompassed more than subjects of intelligence interest." 66/

25X1A9A

In the meantime, [   ] proposed a Utopian plan for an integrated documentation system prior to the implementation of Minicard, if accepted. 67/   Each agency would index its own documents according to the ISC, CIA would prepare the punched IBM cards for the central Intellofax file, and would return source cards to the originating agency. Each agency would file its own documents,

25X1A9A   65/ AHIP-M-7, 1 Aug 55. C.   File: AHIP 1955-56   Job: 58-   /4 34///
66/ AHIP-A-9, 15 Aug 55. C.   File: Ibid
67/ [   ] to Members of AHIP, 26 Sept 55. C.   File: Ibid

58

CIA would mount the film in aperture cards for a total aperture card file, and CIA would return an aperture card to the participating agency where required. CIA's efforts of common service were outlined as: (1) central IAC source file; (2) central IAC control number file: (3) central aperture card file, (4) Intellofax subject card file, (5) Intellofax tapes for all agencies on request; and (6) print service from central aperture files on request.

This plan also included a common numbering system, a prerequisite to any systematic cooperative IAC library program, and a common document format. By September 1956 all the IAC agencies except for State, which to date has never complied, had adopted a common control number system.[68]
*
In OCR this seven-digit control number served as a filing device for the aperture cards and for the source cards. The IAC also adopted a modified common intelligence document format with uniformity on masthead and size of paper.
AHIP working groups devoted many hours to the agreement and final adoption of the common numbering system and format.[69]
The other aspects of Colonel [   ] plan, however, were never more than a dream.

25X1A9A

(1) Revision of the ISC

In late 1955 the Air Force completed its revision of the 400 (Air) chapter of the ISC, and it was adopted by both CIA and the Air Force. The Army Working Group submitted to CIA a draft of an ACSI Subject Code, which was

* A 10-digit meaningful control number replaced the seven-digit number in 1963/64. See page 66.

68/ AHIP-M-25, 19 June 56. C. File: Ibid
69/ AHIP-M-28, 16 Aug 56. C. File: Ibid

1) 59

not accepted because it contained too detailed revisions and expansions

of the entire ISC with emphasis on the military, scientific, and

technical sections. Navy prepared a first draft of a revised 300

chapter of the ISC. Beyond the IAC, SHAPE Headquarters in

Paris adopted the ISC for its document library in 1956.

25X1A9A

In November of that year [   ] deputy to the Chief,

25X1A9A
25X1A6A

← Analysis Branch, and [   ] from the Air

Force were sent to [   ] for the purpose of training SHAPE

personnel and to recommend a working library system [   ] 25X1A9A
to provide

stayed on for an additional week of in-depth ISC training. (In

1959 Annadel Wile visited SHAPE as a follow-up and learned that,

although a completely new ISC would be issued in 1960,

25X1A9A

SHAPE had no intention of so informing the NATO countries using
[   ] visit to seven NATO countries, therefore, was to discuss
the ISC. As late as the mid-1960's, SHAPE documents still carried

the old ISC numbers.)

25X1A9A

Not until 1957 did AHIP appoint a Working Group on

the Intelligence Subject Code (WGISC), with [   ] as chairman. 70/

And then began the long process of completely recasting the ISC

to make it a uniform classification scheme (dreamed of and

unsuccessfully tried in 1947). Under the terms of reference, CIA

assumed the major responsibility for revision and agreed to

utilize an outside authority on hierarchical classification

for advice and guidance.

25X1A9A

[   ] Analysis Branch training officer for the

ISC, was assigned the task full-time. He worked closely with

Richard Angell, classification authority at the Library of

Congress, in establishing the basic principles for good classifi-

cation. Although a time schedule for revision of the ISC

70/ WGISC Minutes, 1957 (in CRS Historical Files)
on the Intelligence Subject Code

60

chapters was agreed upon with a final draft due on 1 July 1958

and a published edition due 1 January 1959, it was June 1959

before ───────────────── ─┤ CODIB ──

approved the ISC (without the codes). [   ] another   25X1A5A1

consultant, was hired to advise on the notation (code) scheme.

25X1A9A

Between [   ] the notations

were developed, and the revised ISC appeared on the market, dated

February 1960. 71/   in Unclassified edition

~~b, in contrast to the 1957 edition~~

~~that was Confidential.~~

For the first time in its history, the ISC was published not

under CIA authorship but as a USIB product. The agencies agreed to an

Unclassified edition, in contrast to the most recent 1957 edition, which was

Confidential. 1250 copies were printed, with copies distributed externally

as follows: Atomic Energy Commission-2, Air-300, Army-300,

25X1A6A

Federal Bureau of Investigation-2, Navy-250, NSA-10, and USIA-2.   USIB permitted distribution to foreign govern-

ments, such as [   ]

~~In the Introduction to the February 1960 edition,~~

~~Paul Borel, as chairman of CODIB, wrote: "The present edition,~~

72/
The ISC retained its six-digit notation because

CIA and the Air Force were planning to use the ISC in the Minicard system,

that had been designed for a six-character code. The seven major

chapters were: 100-Government, Politics, and International Activities

and Institutes, 200-Social and Cultural Structure and Institutions,

300-Science and Technology, Engineering, 400-Commerce, Industry,

Finance, 500-Transportation and Communications Systems, 600-Resources,

Commodities, Weapons, 700-Armed Forces. The combining of military

71/ CODIB-M-13, 9 June 59 (in CODIB 1959 64-341/2)
72/ Intelligence Subject Code 1960 (in ISC Historical Intellofax Files)

6|

organizations and activities in chapter VII and the

establishment of a single list of military weapons and equipment

in chapter VI simplified the use of the ISC by the military

services (and was actually the Air Force's suggestion).

Eighty-nine modifiers of three digits each were available

in combination with the subject code. The Introduction ex-

explained that these were "a faceting device which can be combined

with certain subjects to specify actions or states which affect

these subjects."

                                                    73/
25X1A9A   The Area Classification Code had been prepared under an
                 CODIAC
AHIP/CODIB Working Group, of which [   ] was chairman.

The Code was designed to be used with a six- digit hierarchical
                              requested by the
alphabetic notation (Air Force)   , or with a four-

digit non-hierarchical numeric notation (for CIA primarily, if the

Intellofax System continued). The Code was organized into nine major

area divisions. The last position of the notation was called an

"indicator" showing either political affinity or a geographic

unit. For example, Communist China was ACHOOC or 1013; West

Africa, AOOOOW or 1006. Only USSR and Communist China were
                                              or provincial
subdivided completely to administrative levels.

73// Intelligence Subject Code.
     Ibid

Even before the final acceptance of the revised ISC, CIA and the Air Force agreed to exchange their coding efforts. The former sent its Intellofax code sheets to the latter} Air Force's MINICARD code sheets were accepted for conversion into the Intellofax System. This exchange enabled the Analysis Branch cease _to_ coding Air Force IR's _the_ and to free _of_ classifiers to support the MINICARD test. It also set a precedent for cooperative processing in the intelligence community. Beginning in June 1959, this exchange lasted until 1962. _April_ 7h/ Subsequent changes in the Intellofax and MINICARD Systems _CIA's_ _the Air Force's_ (1960 and 1961 respectively) increased processing time and manpower in CIA to prepare Air Force reports for Intellofax.

The Air Force sent the coded document (for conversion) almost 6 weeks after normal dissemination completed. _had been_ This document was, therefore, not available in the aperture and Intellofax files for 8-9 weeks as _(conversion took time)_ opposed to 2-3 weeks for other sources.

Division The Document sent its senior personnel, upon request, for short periods _in 1960, 1961, and 1962 to train_ service personnel in the use

25X1A9A

senior classifier of the revised ISC: [ ] to who had been responsible for conversion of MINICARD code sheets to Intell-ofax) to the Air Force Strategic Command in Omaha, and

25X1A9A [ ] to US Air Forces in Europe. Nine separate training sessions were conducted at CIA Headquarters for Air Force, Army, Navy, and even a few State* personnel.

7h/ Intellofax Chronology see Appendix B

memo, C/DD to AD/CR, 1 May 62, sub: Use of Air Force Coding for Intellofax Input. C. File Doc D in 1962 -65 Job 65-413

* State intelligence personnel had been briefed on the Intellofax system and the ISC in 2 sessions: 250 analysts in 1958 and 80 in 1959. (by the firm Joseph T. Barbeo, Paul Buel and Paul Howeton. 21 April 58 and 20 Mar 59 - State Department. Job 61-416

b. Minicard Project

(1) Purpose and Development

25X1A9A

The Machine Division's charter to keep abreast of the newest

25X1A9A

research and development in machine technology led [   ]

[   ] (with the Management Staff since 1950) in 1952 to investigate

25X1A9A confidential new equipment being developed by Eastman Kodak for the

Air Force. With [   ] resignation in September 1955 to join the staff of

25X1A9A

Eastman Kodak, his successor [   ] as Chief of MD continued

the close rapport with the Air Force in devising compatible methods for

joint Air-CIA use of a multi-million dollar system known as MINICARD.

Four and one-half years of effort in overcoming problems in optics,

photography, mechanics, and electronics ensued with Eastman. OCR's

MINICARD Project was OCR's biggest system design effort in the

office's history since the innovation of the Intellofax System.

From its inception in 1947,

", the storage and retrieval capability of the Intellofax

System had been increasingly strained by the flow of information until,

by 1955, storage, retrieval, and costs problems were considered urgent.

The increased growth of the file had been accomplished by multipli-

cation of IBM equipment rentals, storage units, and personnel. The

rationale for CIA's interest in MINICARD was spelled out by Dr.

Andrews in a 1955 memorandum to the Project Review Committee.

He recommended a contract for the purchase of MINICARD equipment at an

estimated cost not to exceed $330,000 in order to conduct "an early

and large scale test of . . .data handling equipment. . .which it is

believed capable of substantially improving CIA's Intellofax System." 76/

76/ Memo, AD/CR to Project Review Committee, 25 Aug 55, sub: MINICARD
Project. C. (DD/I 1955 58-98/2) 60 -139/

Eastman had developed an information storage retrieval
system utilizing the microphotographic medium in the form of a
piece of 16mm x 32mm, called the MINICARD. (see Figure 7)
film,
Eastman claimed that this provided for the first time a storage
and retrieval system that could be searched electronically and that
combined the mobility of punched cards with the compactness of
microfilm. MINICARDS representing millions of pages of material could
be machine organized in one file cabinet in such a manner that
rapid retrieval was possible. The MINICARD System called for
the retrieval of document images either for viewing or for the
reproduction of hard copy. Retrieval would be by the same
search parameters as in Intellofax—subject and area codes, source,
date, and security classification. Because there was no limit to the
amount of index data (no 80-column limitation as with the IBM card)
that could be used for any document, both CIA and the Air Force
hoped that considerable "richness" could be achieved by generous
indexing of names.

OCR anticipated that MINICARD would hasten and expand
adoption of common data handling procedures throughout the intelli-
gence community. The Air Force and CIA maintained a continuing
degree of close cooperation on an almost daily basis with the
mutually agreed objectives of achieving maximum compatibility, as
a result of which they both anticipated the exchange of MINICARDS
in an ongoing system. Because there was no limit to the amount
of index data (no 80-column limitation as with the IBM card) that
could be used for any document, both CIA andthe Air Force hoped that

considerable "richness" could be achieved by generous

indexing of names of people, organizations, installation,

and locations. MD and OCD/OCR managers made frequent

trips to Rochester to follow the developmental progress of

the MINICARD equipment, which was in the blueprint stage.

25X1A9A In the spring of 1956 [   ] was detailed to the Pentagon

to assist the Air Force at its request in establishing

detailed indexing plans and procedures, and three members of MD

spent several months with the Air Force personnel in

their study of the experimental equipment.

(2) Doubts

The Air Force negotiated an expansion of its contract

with Eastman to ensure the manufacture of a second set of

equipment for CIA. 79/ The equipment arrived in stages, but the complete

25X1A6A set was finally delivered in November 1958 in specially air-

conditioned rooms on the ground floor of [   ] Installation

was completed in February 1959. During the period between the

order date and delivery, several major modifications were made

in the equipment. CIA was aware of them but had no legitimate basis

for objection because CIA's program was appended to the Eastman

Kodak/Air Force development program. The changes did, however,

invalidate the earlier space and personnel estimates. Operating

speeds on the duplicator, sorter, selecter, and processer were

substantially reduced. By the time the test phase arrived, the

79/ : /Memo, AD/CD to Maj Gen Millard Lewis, DDI/USAF, 17 May 55,
sub: CIA Participation in Air Force's MINICARD Contract. C.
(in Chrono 1954-55   60-548/1)
1398/

earlier expectations from MINICARD had been somewhat modulated.
There was some feeling in CIA that extreme miniaturization
which ~~that~~ eliminated manual access might prove inferior to the
16mm aperture card system. The combination of codes and images
in the same card was questioned, as was the loss of the bibliographic
Intellofax tape. The changed equipment specifications stimulated
OCR's managers' belief that additional purchases would be required
at an estimated cost of three to five times the cost in the
original order, with an estimated equipment delivery of 1-2 years.
Despite the increased pessimism, MINICARD, though untested, seemed
to be the only alternative to E_{AM} equipment with the capability
~~(EAM and such was IBM punched card equipment) claiming the~~
'of handling OCR's task. Still prior to the test,
senior classifiers expressed the thought that subject coding,
the slowest phase of Intellofax, would be even slower for MINICARD
because of the increased coding complexities. The pros and cons
continued, but the final recommendation was that having already made a
substantial investment in MINICARD and in spite of the reservations
that had developed, OCR should make its own direct evaluation and proceed with a test. 18/

(3) Test: Input and Retrieval
A test of the equipment and of several systems applica-
tions began in January 1959. In the meantime MD had been photographing
codes and the related documents for about 60-70% of the CIA
information reports that had been processed into the Intellofax System.

25X1A9A

DAD/CR
~~as Deputy Assistant Director of OCR~~ managed the (since September 1957),
MINICARD experiment.

18/ /memo, DAD/CR to AD/CR, 22 Dec 58, sub: MINICARD Test. C. (in
~~MINICARD folder~~

67

As of April 1958 there was an estimated 13,000 master MINICARDS

in the special file mechanically converted from IBM cards.

The full line of MINICARD equipment was operated parallel but

separate from the Intellofax program. A MINICARD Project Test

Manual (dated January 1959, revised August 1959) spelled

out the objectives and stated that the test was intended to

find out the quality of the system, as interpreted by both OCR

and its customers and as compared with the Intellofax System.

A test corpus consisted of a copy of each document

distributed during January and February 1959—approximately 25,000

information reports containing a normal mixture of document

categories by source, format and enclosure variety, and with every

kind of problem in subject coding and photography, including

paper types, inks, size and color differences, and varying

legibility. The documents were processed into both Intellofax

and MINICARD, with codes and document images stored in separate

but related MINICARDS. (The Air Force had already experienced

difficulty in placing codes and document images on the same MINICARD.)

A coding variable was the use of the revised ISC (the 1960 ISC in

draft) for the MINICARD test and the old ISC for the Intellofax

input and retrieval. (This also provided an unusual chance to test

the revised ISC. Several weaknesses were corrected before the final

printing.) This test required the services of 18 staff members for a

period of approximately a year. The indexing staff, made up of

some of OCR's most experienced people (four classifiers from

the Analysis Branch and two from the Special Register, plus one

reference librarian), operated in space contiguous to the Analysis

25X1A6A

Branch in the [   ] Overall supervision was under the

79/ Memo, DAD/CR to Indexing Staff (by name), 11 Apr 60, sub: Commendation.
OUO (in Chrono 60, 6)4-3)14B.

the aegis of OCR's Automation Development Group (ADG)*. The

significance of the test lay in unique MINICARD coding

techniques. This included rules for linking codes in phrases

** (neither)

and for using clear text, both of which were not possible

in the Intellofax System at that time.

The retrieval test began a year later, in February 1960,

after input was completed. 201 test questions included both live

and simulated requests suggested by retrieval test personnel

(two groups: the Composite Intellofax Group and a MINICARD Composite

Group) and by other OCR, other CIA, and non-Agency personnel who

were Intellofax users. Also involved were requester interviews

to define and redefine questions and to check customer satisfaction

with content and format.

(4) Findings and Conclusions

The test clearly demonstrated that subject control of

information and the procedures employed/therefor were the principal

areas to consider in the development of a successful system. The

overall retrieval tests showed an appreciable qualitative advantage

for MINICARD. Both systems combined retrieved 997 specific

references, of which MINICARD obtained 788 or 79% of the total

and Intellofax obtained 649 or 65% of the total. The retrieval

groups concluded, however, that this superiority was attributable to

25X1A9A

* ADG was organized with [   ] from MD as chief in June 1958
after Task Team No. 12 on MINICARD recommended that OCR should have a
continuing high-level planning and management staff to investigate new   25X1A9A
ideas. This staff reported directly to [   ] 80/ Task Team No 12/4
in Task Team Reports, 1958. CRS Historical Files, K-107) 63-9
** The Special Register had for many years in its indexing system been using
clear text for abbreviations of organizations.

the coding and procedural techniques used and not to the equipment.

The Chief, ADG submitted a detailed study outlining equipment and personnel utilization for the MINICARD test project and requirements for a full-scale MINICARD System. He recommended that the MINICARD equipment not be used in OCR.

25X1A9A _____ in his final report to the AD/CR gave the following reasons for rejection, with which Mr. Borel concurred:

a. The retrieval tests clearly showed that any qualitative advantage of MINICARD over Intellofax could be introduced into the Intellofax System with only minor revision of current routines and at a minimal cost.

b. A substantial standby equipment would be required with MINICARD.

c. It would be necessary to operate the MINICARD and Intellofax in parallel for not less than 7 years since Intellofax could not be converted feasibly to MINICARD.

d. The technology of storage and retrieval of information has advanced so rapidly that "we believe" MINICARD, even in its latest model, to be obsolescent.

e. The economics of the MINICARD System are prohibitive.

f. Personnel required to operate the MINICARD System would number 47 more people than we presently use to operate the Intellofax System, not including the extra

80/ Memo, C, ADG to DAD/OCR, 1 Apr 60, sub: MINICARD Test Project. E. (in MINICARD Folder 71-21/1) 64-341/5

81/ Memo, DAD/CR to AD/CR, 8 Apr 60, sub: Final Report on MINICARD Test, C. (in MINICARD Folder 71-21/1) 64-341/5

analytical personnel demanded because of the improved
coding technique.

g. The original space requirement was of the order of
100 square feet per MINICARD installation. Our findings
indicate that 3,007 square feet would be required for an
installation of the size necessary to handle our loads.

The DD/I concurred in OCR's conclusion, and directed the

AD/CR to proceed with plans for the disposal of the equipment, spaces,

and supplies on hand. 83/

It was incumbent upon Mr. Borel to explain OCR's rejection of

the MINICARD System to CODIB. His summary and decision appeared as

follows: 84/

Our findings are negative. This conclusion is based only
in part on our findings that the MINICARD System would not
enable us to give substantially superior reference service
over that possible with our present system... The expectation
of economies in the Agency from a common community program
for one-time processing, common code, and identical equipment
and procedures has not come about and from all indications
would not come about through MINICARD, whether this Agency
adopted it or not. Technological advances since 1955 have been
such that alternative systems have been presented and no
other Agency in the USIB other than the Air Force plans
to use MINICARD. One of the aims of CODIB has been the
stimulation of compatibility of systems considered, and this
goal has by no means been reached: to hope for identical
systems is just not realistic. ..As a result of the test,
the Working Group concluded that MINICARD did not live up
to what had been hoped for in terms of our own problem.
There were demonstrable advantages, but important disadvantages
were also discovered. As a consequence the Working Group did
not recommend a conversion from Intellofax to MINICARD,
but recommended instead the modification of Intellofax to
incorporate as many of the advantages of MINICARD as were
technically and administratively feasible. OCR management
took these findings into account, along with the proportional

83/ Memo, DD/I to Project Review Committee, 18 Apr 60, sub: MINICARD. C.
(in MINICARD Folder 71-21/1) 64-341/3
84//CODIB-D-23/1, 30 June 60. CIA/OCR MINICARD Test. C. (in MINICARD Folder
71-21/1)
64-341/3

role that machine searches play in the overall OCR service picture, and the present limitations on staff, money, and space. These considerations led to a decision not to adopt the MINICARD System as a substitute for the Intellofax System.

So 8 years later (starting with the early investigations in 1952), after a tremendous amount of manpower and effort had been expended *, OCR ~~rejected its long-sought goal of~~ gave up your ~~will a auditing~~ compatibility of an information storage and retrieval system in the intelligence community. To say that the Air Force was unhappy was putting it mildly. Eastman Kodak was furious and did not agree with any of OCR's criticisms of the equipment. The company wrote a letter to the Director of Central Intelligence, whereupon the Inspector General (IG) got into the act 9 months later in questioning OCR's management of the MINICARD Project. 86/ The DD/I, however, in replying to the IG, was satisfied with OCR's (charges) decision and stated that "in arriving at this answer OCR took a stand which was both courageous and in the best interests of the Agency and other USIB agencies." 87/

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* The Machine Division alone expended 26,943 man hours and $59,735 in personnel costs on the MINICARD test in 1959. 85/ (Machine Division Summary of Personnel, Equipment Requirements and Costs in Calendar 1959 in Machine Division Folder 1959. Job: 61-416/1)

86//Memo, Inspector General to DCI, 27 Mar 61, sub: The OCR MINICARD Project. S. (in MINICARD Folder 71-21/1) 64-341/8

87//Memo, DD/I to DCI, 3 May 61, sub: OCR MINICARD Project. C. (in MINICARD Folder 71-21/1) 64-341/8

3. Revised Intellofax System (November 1960-1967)

a. Systems Improvements

MINICARD was over and management devoted its energies to revitalizing and improving the Intellofax System. Viewed in retrospect, the MINICARD Project was indeed a blessing to Intellofax, for, with the big changes adopted in 1960, Intellofax survived another 7 years. Several of the recognized advantages in the MINICARD System were recommended for inclusion in the revised Intellofax System. An Intellofax Task Group, composed of representatives from MD, DD, the Library, and ADG, submitted five staff studies to their respective chiefs on modification of indexing requirements and techniques. 88/ The Task Group stressed that effort should be concentrated on the subject control of information with two specific objectives: coding uniformity, as the technique most likely to achieve a high rate of recovery from among the documents in file that satisfy any given questions, and greater selectivity, as the means of achieving a higher rate of relevance among the documents recovered by machine searches.

The chiefs of the three divisions and the ADG made the following recommendations, which were approved by the DAD/CR and the AD/CR on 30 August 1960, 89/ for a modified Intellofax System:

1. That the four-digit numeric area notation as more economical machine-wise than the six-digit alphabetic be used with the revised ISC.

2. That a coding manual [to be prepared by the Task Group] and (the) dictionary* be adopted and maintained as standard tools for document processing and retrieval.

3. That dictionary-controlled text be used.

* Dictionary in this context was a thesaurus. (Random House Dictionary definition: "An index to information stored in a computer or machine consisting of a comprehensive list of subjects concerning which information may be retrieved by using proper key words.")

88/ Memo, 25X1A9A to C/DD, MD, Library, and ADG, 20 May 60, sub: Intellofax System. C. (in File: Intellofax Reference Group. Job:64-341/3)
89/ Memo, to AD/CR, 24 Aug 60, sub: Intellofax System. C. (in Chrono June-Dec 60 Job: 64-341/4)

4. That regular review of indexing input be performed on a regular basis to the extent considered necessary by the Analysis Branch.

5. That the indexing of finished intelligence be eliminated from the Intellofax System and be serviced only through reference to the IPI.

6. That a card be filed in the subject file for each area code. (Under the old system, the related or secondary area did not appear in a file position. The new area code and revamped card format permitted automatic reversal of all areas, primary or secondary.)

7. That the three divisions continue to participate in major input decisions affecting retrievability.

8. That the Machine Division T/O be increased by three, the CIA Library T/O be decreased by one which is to be transferred to the Document Division to offset the assignment of a document analysts to the Composite Group.

All the working tools for input and retrieval (see Figure 8) in the revamped Intellofax System were spelled out in detail in the Procedure Manual, which was a mutual effort of the three divisions and ADG. The three stages of input, machine support, and retrieval were considered to be of equal importance in operating the system, but the Manual emphasized the input phase as basic to the entire operation. Improvements in the rate of recovery and of relevance were dependent upon: (1) the revised ISC, which offered the advantages of a high-density hierarchical system applied with a clear set of indexing rules, and (2) the use of clear text with an open-ended dictionary, which provided flexibility. With these two tools the classifiers were able to expand their subject control beyond the formal concepts and terms of the ISC.

It was, of course, necessary for MD to redesign the IBM card. Columns 1-6 were still reserved for the ISC subject code. A detailed description of the format of the card appears in the Intellofax Procedure Manual of 1960. (see also Figure 9)

Intellofax Procedure Manuals in Intellofax Historical Files in ISC/

Clear text inaugurated for the first time into the system included, key words for particularized meaning of the subject code; abbreviated names of political parties, organizations, and conferences; and place names in conjunction with the area code. They were controlled by Dictionaries: (a) Subject/Problem Entires, known as the 2-Tag Dictionary; (b) List of Organizations, known as the 3-Tag Dictionary; and (c) Place Name Dictionaries of each Sino-Soviet country except Albania and Outer Mongolia. Usage decisions cumulated during the MINICARD test were used as a basis for the 2-and 3-Tag Dictionaries, which were updated by MD and printed by Printing and Services Division twice a year and were the product of the document indexing effort. (MD prepared a separate IBM card for every 2-or 3-tag entry on the code sheet.) The listing of the 2-Tag Dictionary provided the authorized ISC subject code and the clear-text entry. The print out was available both alphabetic by entry and numeric by subject code. The 3-Tag listing provided English and foreign titles, description, subject code, and clear-text abbreviation. The print out was available in two different orders: alphabetic by organization title and alphabetic by abbreviation. This Dictionary, which replaced the Manual Abbreviation File (see page 18), received wide distribution both within and outside CIA. The listings for the place name dictionaries included the place name, coordinates, ISC area code, and clear-text entry.

*A tag was a numeric symbol that preceded a code or clear text to indicate the kind of information controlled by that code or text. There were nine tags in all: Tag 1 was followed by a three-digit code modifier (see page __); Tag 2-by clear text for expansion of the subject code; Tag 3-abbreviation of an organization; Tag 4-area code for reacting or commenting country; Tag 5-area code for nationality different from location of object or activity; Tag 6- area "from"; Tag 7-area "to" (related area in the old system); Tag 8-area "about"; Tag 9-place name.

The $T_a$sk Group had determined that it was not feasible

to convert the nine million IBM cards in the accumulated

Intellofax files (1948-Nov 1960) to the new system. The old (known as

"B") and the new (known as "A") files were separately maintained,

requiring separate searches and tapes. In the words of the Task

Group, these two files would be necessary "until advances in

storage a$_n$d retrieval techniques provide us _____

* "B" cards were filed in the Intellofax file by subject arrangement.
   In 1966 MD pulled and rearranged by area all the cards on China,
   Korea, and the Southeast Asian countries. This was to provide
   more expeditious servicing of heavy request traffic on those
   areas because of a heavy request traffic of pre-1960 material.

with a system that does not rely on punched control

data and printed bibliographic information combined in each

card." 23/ (Possibly in 1973 a program will be completed to

convert both "A" and "B" files to magnetic tape.)

The manpower requested in recommendation # 8

above was estimated on the basis of three factors: increasing

the size of the subject file to accommodate equal area

status (see recommendation # 6 above); establishing

authoritative forms of entry for clear text (that is, the

need for a Dictionary Editor in the Analysis Branch) and

maintaining the Dictionaries in machine language; and main-

taining and servicing two Intellofax files. Economies

were achieved through reorganization of the Analysis Branch

by area *, use of staff previously assigned to the MINICARD OCR

project, and elimination of finished intelligence in Intellofax.

The revised Intellofax System was put into operation

on 1 November 1960. ** The delay was due to the intensive

training required for the application of the 1960

edition of the ISC combined with the new coding techniques. 24/

The backlog of input to the old system was eliminated

by means of overtime, and by 1 January 1961 the new system

was in full swing, with all classifiers fully trained.

* See chapter on (Document Division)
23/ Memo to AD/CR (88, above), Tab A.
24/ Memo, C,DD to C,Analysis Branch, 1 Sept 60, sub: Use of
    Revised ISC, Modification of Intellofax System, and Dis-
    continuance of the Coding of Finished Intelligence: Enclosure
    3: Three Phase Training Program to Implement the New ISC.
    C. (in File: Intellofax Reference Group. Job: 64-341/3)

** coding as a primary sort, and subject code secondary sort; the B file was maintained by subject code as a primary sort and

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25X1A5A1

25X1A5A1

In 1962/63 the Analysis Branch entered into
an external contract with the [redacted]
[redacted] for the preparation
of programmed instruction textbooks for improved
training in the use of the /Intelligence/ ISC.
This course of 10 manual units was used in con-
junction with and as an introduction to the four
week training course.

98/

25X1A9A

The AD approved a recommendation[1] the three Division Chiefs

from

In January 1961 that the name "Composite Group" used for Intellofax Retrieval since 1958 be changed to Intellofax Reference Group (IRG) to give users a more [crossed out] idea of its activity.

In August 1961 Mr. Borel sent out a questionnaire (see Figure 11) requested by the three concerned Division Chiefs to 500 DD/I and DD/P analysts asking for their opinion of the revised Intellofax System (and to inform them such existed if they did not already know and use it). He was interested in what they thought of the new features in order to assess the effectiveness or more precise document selectivity applied to indexing

led to the questionnaire.
f the selective features
nswered asked that
zation names, and
stics of Intellofax
se who answered. The
by were: (a) the
— and printed on
ces) as the end-product
ferences retrieved.
icipation in deciding
ticularly motivated in
he selectivity of index

98 Meeting of OCR Operating Committee 15 July 63 C.
(in OCR Operating Committee minutes 1962 63) Job: 66-496

content to reference components.

25/ Memo
96/ Composite Group, OUO, (in Intellofax Reference Group, Job: 64-341/3) to AD/CR, 13 Jan 61, sub: Renaming the
9/ Memo for DD/I and DD/P analysts, 2 August 61, sub: Intellofax Ref-
erence Questionnaire, C, (in IRG Folder, 64-341/3))
98/ Memo, to AD,CR, 7 Nov 61, sub:
Intellofax Reference Questionnaire, Response to, C, (in File: Intellofax

b. **Impact of DARE**

After the adoption of the revised ISC and the implementation of the revamped Intellofax System, the next large change affecting the system was the acceptance of DARE equipment (acronym for Document Abstract Recording Equipment

25X1A5A1

produced by [ ]. With the rejection of the MINICARD Project, MD turned its expertise to a proposal that was to reproduce reduced-size images of the first page of intelligence documents on IBM cards. The basic premise of the DARE proposal, as originally set forth in March 1960, 99/ was that the use of the first page of a document as a bibliographic reference would be a material improvement over the Intellofax reference (title and source only) both in substantive contact and in retrieval potential. This premise was confirmed by the CIA Librarian and the Chiefs of MD and DD, on 13 March 1963. 100/

It was anticipated that there would be an annual savings of 10 people (the typists who prepared the multilith mats for the Intellofax cards) to the tune of $40,650 and a reduction by 2-3 days in the time lag between the document's receipt and its availability in the system. The proposal stated further that the system would provide on the Intellofax tapes immedpate copies of single-page documents (35-40 percent of the total document input) and obviate filing single-page NODEX items (65 percent of all NODEX items). These expected results would reduce reproduction costs, save storage space, and reduce filing and search costs.

Two prototype machines, known as A and B, were built by

25X1A9A 99/ Memo, AD/CR to Project Review Committee, 14 March 1960, sub: Electrostatic Printing. OUO. (in Chrono Jan-May 60 64-341/1) DARE 1960-65 68-487/3)
100/ Memo, [ ] to AD/CR, 13 Mar 63, sub: Progress Report on DARE Equipment in OCR and Related Matters. C. (in DARE Folder. 68-487/3)

25X1A5A1

[   ] technology. The machines were accepted

and paid for in October 1962 and February 1963, respectively, at

costs of $124,913 and $59,325. Technical problems, however,

persisted well into mid-1963, although the system had been

implemented for the production of NODEX cards in October 1962.

25X1A9A

[   ] Special Assistant to the AD/CR, chaired a ~from April 1963 to September 1965~

DARE Committee charged with monitoring and coordinating the

initial tests, evaluation, and implementation of DARE. ~He outlined~

although OCR was committed to the adoption of the DARE system,

the problems as falling into five categories: concept, equipment,

costs, related procedures, and implementation. ~There were~ *still* some people

who doubted the validity *its* ~of the DARE System~ and the appointment

25X1A9A

of a new Librarian [   ] in 1963.

delayed acceptance of the concept. Reference librarians and

document classifiers were not happy with reading the DARE card

with a 3-to-1 reduction: there was no doubt about the difficulty

of reading the information without magnification. (see Figure 11)

The earliest and continuing concern was the perfection of the

equipment and the application of rigid quality controls. In May

1963 an unsatisfactory image was still being attained on a fairly

large percentage of the NODEX cards. By the middle of the summer

the problem had been corrected, and the Library conceded that an

acceptable level of image resolution was being consistently

maintained.

Although the succession of technical problems experienced

with the DARE machines attracted the most attention, the lack of an

adequate print-out method was actually a more serious matter.

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OCR entered into a contract with the [   ] about on

S. DARE Folder 68-487/3

10/88/ Memo, Chairman DARE Committee, 30 Jan 64, sub: Status of DARE Program.

80

1 July 1963 for the development of a printout machine that

would enlarge the DARE image to approximately original document

dimensions and provide a positive print by an electrostatic

process. In the meantime, MD's Photostat Expeditor was adapted

and used until the Xerox machine was available in November 1964.

MD's Equipment Services Staff also developed a Viewer-Selector

for magnifying and automatically selecting DARE cards.

Full realization of the potential of the DARE System

required the resolution of other problems, some of which in-

volved interagency cooperation. Problem one was the development

of "meaningful" control numbers for incoming documents. (See

page 58 for seven-digit common number system.) The Defense

Intelligence Agency (DIA) adopted a 10-digit meaningful number

with the Agency's establishment in January 1963. Through the *

efforts of a special OCR study group, the CIA reporting components

began to assign a new 10-digit number on 1 July 1964. State **

remained the significant holdout as in the past, and DD

continued to assign control numbers to incoming State reports. (State

still does not comply as of 1973.) Problem two, also venerable, ***

concerned the standarization of quality and format of documents.

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* See Intellofax Procedure Manual 1964 for complete list of 10-digit
control numbers. 103/ (Intellofax Procedure Manuals in Intellofax
Historical Files in ISG)

** The effective date was set at 1 July 1964 in order to permit DD/P's
large-scale machine operation, Project [ ] to revise its programs
to accommodate the new 10-digit control number.

*** The history of this effort is well summarized in CODIB-D-78, which
cites 37 other CODIB documents on the subject. 105/ (CODIB-D-78, 7
Mar 61, sub: Common Format for State Department Foreign Service Reportin
and Related Problems. C. File: CODIB 1961 Job: 64-341/2
104/ Memo, Chairman DARE Committee to C/DD, MD, and Library, 10 Oct 63,
sub: Appointment of Study Groups for DARE Project. S. File: DARE
Folder. Job: 68-487/3 and Memo, Chairman DARE Committee to AD/
CR, 21 Jan 64, sub: Control Numbers for Information Reports. S.
File: DAR/ Ibid.

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25X1A2G

for bibliographic purposes depended in large measure upon the degree to which the source agencies would provide for the inclusion of certain elements, such as enclosure information and expanded titles. A DARE Committee study group on information report formats took steps within the Agency to convince OO $\longrightarrow$ to print its OO-B reports on white paper insetad of the traditional pink [106]/ it had been using. Both OO and DD/P adopted a commeon format.

The adoption of a USIB-wide common numbering system had accentuated doubts about need for a Source Card File in the Library. This File had been the subject of special study on a number of occasions. In November 1962 the Library proposed and the Machine and Document Divisions agreed to a 90-day test to determine [107]/ the Library's need for source cards. After the test period a four-man Library Committee recommended that source cards be continued for all collateral documents received in OCR and be recognized as a record of common concern to all OCR Divisions involved in the Intellofax System as well as to USIB agencies. The three concerned Division Chiefs agreed with the Library Committee that the Source Card File was the only "author" file of intelligence reports in the community and should be retained until something better came along. [109]/

[106]/ CODIB-D-109, 11 February 1964, CIA/OOB Information Reports. OUO (in Chrono 1964 68-487/2) 64-341/2 CODIB

[107]/ Memorandum of Agreement-CIA Library, MD and DD, 5 Nov 62. Internal Use Only (in Library 1962-63 Job: 65-413/1)

[108]/ Memo, Library Source Card Committee to CIA Librarian, 28 Feb 63, sub: Source Card File. S. (in DARE Folder 68-487/3)

[109]/ Memo, Chiefs DD, MD, and Library to AD/CR, 13 Mar 63, sub: Progress Report on DARE Equipment in OCR and Related Matters. C. (in DARE Folder 68-487/3)

At the request of the DARE Committee, in May 1963 a study was made to determine whether a machinable source card file of uncut IBM cards should be established and whether document retirement and destruction information could be incorporated in the source card and thus abolish the keeping of a "retirement book." The report was essentially favorable to these proposals. [100/] In September 1964 the Chairman, Dare Committee suggested that the Library review the earlier studies and determine whether the time was opportune to make any fundamental changes in the operation of the Source Card File. The Library concluded again, and just as adamantly as a year before, that the discontinuation of the Source Card File would have a crippling effect on document services and result in additional manpower costs of 15 hours a day. The Library was, however, in favor of uncut source cards with the implementation of DARE. In the study it was stated that: "The Primary advantage the Library can expect to gain, if the use of the DARE equipment for coded documents is implemented, would be earlier delivery of source cards and simplification of search for documents in the process." [101/]

In September 1964 the three Division Chiefs recommended the implementation of DARE. [102/] The several divisional reports set forth the affects DARE would have on their procedures, efficiency, and service. The chief advantages appeared to accrue at the input with some savings in manpower and times, as well as in some simplification of procedures. The DARE machine turned out only the specific number of cards

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[100/] Memo, [ ] to CIA Librarian, 27 May 63, sub: Proposal for Use of Uncut IBM Cards in Source Card File. C. (in DARE Folder 68-487.)
[101/] Memo, Staff Asst. to CIA Librarian, 7 Oct 64, sub: Substantive Modification of the Source Card File. S. (in same as above)
[102/] Memo, Chairman DARE Committee to AD/CR, 22 Sept 64, sub: Status of DARE Proposal—Final Report. S. (in same as above)

for the Intellofax file, thus eliminating the wasteful operation

resulting in the destruction of 3½ million IBM cards per year.

(PSD, which was ⎯⎯⎯⎯⎯⎯⎯→ ⸱responsible for reproducing Intellofax

cards from the multilith mats had printed a standard number of cards,

regardless of need.) The Chief / MD pointed out that the addition of a new

file to the two (already in existence / "A" and "B" Intellofax files) added

complications to the processing cycle. Procedures for handling damaged

cards would not be as satisfactory as for the non-DARE Intellofax cards

because there was not a one-to-one printing capability that could handle

the reduced images. The anticipated affects of DARE upon procedures and

services in the Library revolved mainly upon the use of two different

formats and equipment. The Library still had some reservations about the

two-track system and the negative affect it might have on the customer.

Anything less than a thorough, sympathetic, and painstaking effort at

the point of customer-contact could well make the difference between

success and failure.

113/

A Quality Control Committee, consisting of one member each from

the Library, MD and DD, was assigned the task of preparing and bringing

together all of the procedural instructions and forms necessary for the

implementation of DARE, the establishment and administration of

quality controls at selected points in the system, the development of

visual briefing materials, and the conduct of a dry run during the

week of 26 October 1964.

after years of exhaustive testing and modifications,

The DARE System became fully operational for both NODEXED and

indexed portions of the Intellofax System on 2 November 1964, another

important November date in the history of Intellofax. (November 1960 →

and ISC and was the date of the inauguration of the revised Intellofax System. November 1960 was the date of the inauguration of the revamped Intellofax System.)

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25X1A9A

Within 90 days of the full implementation, [   ]

was able to report that performance exceeded expectations

"both in economy and efficiency of operations and in customer

acceptance." The lapsed time from mail bag to Aperture Card and Source

Card Files was dramatically reduced from 2 or 3 weeks to 7 or 8 days

or less and was being further reduced. NODEX items reached the

file in 3 days or less. Significant savings in personnel were

effected, especially in the Document Division with the dissolution of

the Typing Section. (Two typists transferred to the [   ] experiment 25X1A2G

three to MD, one to BR, and one to the IPI.) The merger of NODEX and

index cards in the Source Card File was accomplished and this

venerable file finally became mechanized because uncut (long) DARE

cards were used as source cards, An Intellofax requester was provided a

large green-covered booklet of document-size prints of the DARE cards

for documents indexed after 2 November and a small green booklet

of cut sheets for all references to documents indexed prior to DARE.

(See Figures 13 and 14)

A review of the performance of the DARE System in September

1965 after about 10 months of operation indicated that the gains in

economy and efficiency reported on in March had been maintained and

improved upon. Customer acceptance of the system and satisfaction with

it continued. The DARE Committee was dissolved. DARE continued to occupy a

major role in OCR's document processing until the change to a computer-

based system in 1967.

Approved For Release 2004/09/23 : CIA-RDP84-00951R000300040002-5

85

c. Equipment Developments (except DARE)

Along with the changes in input and systems design in the 1960's came improvements in the equipment used in the various facets of the system. MD continued its efforts to find technological innovations that seemed to hold promise for a better system. Some proved successful; others did not.

In 1962 MD replaced the Intellofax Tape, which had been a _____ folded tape since its inception in 1950, with a cut-sheet booklet. The requester's name and address appeared at the bottom of each citation. This was to encourage the requester to submit the citation when requesting a copy of the document and thus simplify the Library search. It also expedited the tape preparation because the number of processing steps was reduced. 116/

An IBM-type 108 card selector that operated at 1,000 cards per minute and two IBM 088 collators that operated at speeds of up to 1,3000 copies per minute were installed to replace slower machines. The card input portion of the Intellofax System was programmed in 1964 for an IBM 1401 computer, and this part of the operation was performed in OCS, producing significant savings in manpower and faster input. Of particular significance was the extent to which the computer was used to generate the contents of the files and to "explode" (create) the necessary number of Intellofax, 117/ source, and aperture cards. In 1966 OCR programmers added a subject code validity check to the Intellofax computer program; this eliminated approximately one hour of work on Intellofax in EAM equipment.

116/ Improving Document Retrieval System, Meeting, 28 Mar 62. FOUO
      File: Machine Division 1962-63 Job: 65-4134
117/ OCR Annual Report FY 1964 File: OCR Annual Reports 1958-64
      Job: 68-187

The Photostat Expeditors used for copying documents and
aperture cards had been in continual operation since 1954 and had
extended their maximum efficiency by 1960. The maintenance cost
per unit was estimated at $428, thus making a total of $2,568 for
the six units. MD experts had begun in 1959 to investigate replace-
ments for these machines, which were becoming difficult to main-
tain. The requirements were for a machine that could handle hard
copy, aperture cards, Actifilm cards, and reel microfilm. MD and
PSD personnel came to the conclusion after much investigation that
electrostatic printing had progressed to the point where it could truly be

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considered the system of the future (speeds up to 10,000 characters per second had been demonstrated). A proposal, therefore, went forward to the Project Review Committee in March 1960 and was approved in June for a contract with [   ] for the delivery and installation of a Videograph Reproduction System, using Videograph Facsimile equipment. [118/]
More than a year later, after much testing and numerous consultations, the Videograph had not turned out acceptable copy from either hard copy or microfilm and the contract was therefore terminated in November 1961. [119/] MD personnel designed and tested modifications to the Photostat Expeditors so they could continue to be used (on pre-DARE material).

Since the advent of full-scale microfilming of most documents in 1954, OCR had been using a 16mm (Mil-E)* aperture card for document storage. MD discovered in the early 1960's that most other organizations in the country had changed to a 35mm (Mil-D) aperture card or microfiche. All research and development work leading to improvements in the microimage field was concentrating on 35mm. OCR management determined that it would require the expenditure of considerable CIA funds for research and development to update and make its own 16mm aperture card more efficient. Meanwhile, commercial companies were developing improved or new methods and machines for handling the 35mm aperture card. One such development that MD investigated was the Filmsort 2000 camera manufactured by Minnesota Mining and Manufacturing Company (3M). This machine offered the advantage of producing automatically an aperture card for any document up to eight pages. Filmsort's one-step operation would permit OCR to speed up the processing

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* The "Mil" abbreviation refers to military specifications

118/ Memo, Acting AD/CR to Project Review Committee, 30 March 60, sub: Videograph Reproduction System. OUO (in Chrono 60 64-341/3)

119/ Memo, Acting AD/CR to Director of Logistics, 20 Nov 61, sub: Videograph Contract [   ] C. Internal Use Only. (in Chrono 1961 64-341/4)

Approved For Release 2004/09/23 : CIA-RDP84-00951R000300040002-5

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of the documents so that in lieu of the 3-4 day delay in getting

aperture cards into the files OCR would be able to reduce that delay to

one day at the most and possibly to only 3-4 hours.

OCR managers worked closely with [____] managers in the latter's 25X1A2G
DD/I   *
plans for an improved document delivery system (DDS). Any changes in

OCR's immediate system, although not initially electronically coupled

with the computer, had to have the flexibility in design that would permit

such coupling in the future. [____] recommended that OCR go to either 25X1A2G

35mm aperture card or microfiche, but microfiche was not susceptible

to machine sorting and filing, whereas aperture cards were. OCR therefore

opted for the latter. The DD/I approved the request for an expenditure of

$30,000 on 7 June 1965 to purchase five Filmsort 2000 cameras and
                                                      12/
three companion Quadrant printers.

As of January 1965 the Aperture Card File and the machines that

reproduced copies were organizationally under different managements

within OCR—the former was controlled by the Document Section of the

Library and the latter was under the jurisdiction of MD. When an

aperture card was pulled from the file for reproduction, a pink charge

card was prepared and put in its place. Four courier trips a day were

required to move the aperture cards from the Document Section to MD and
                                                                    **
back again. With the arrival of the Quadrant printers, small machines re-
                      4
quiring only four feet of space and easy to operate (in contrast to the

bulky and hard to operate Photostat Expeditors), the AD/CR approved

12/Memo, Acting AD/CR to DD/I, 7 June 65, sub: Document Delivery System
    S. File: Chrono 65 Job: 67-515/

25X1C4C

* The term DDS was first encountered in [____] literature. It described the
   plans for a large-scale document storage system with a capability for
** The five 3M 2000 Camera Processor and three Model 222 Dry Silver Printers
   were installed in August 1965. Three technical engineers from 3 M spent

89

the colocation of the files and the printers in the Document
*
Section.

During 1966 technical discussions continued with 3 M for

improvements in the 2000 camera processor, which was not meeting

density variation specifications. 3M was most anxious

to satisfy CIA because many potential customers were awaiting the

outcome of OCR's deliberations. During the period of 3M's work on

the camera, a team of MD experts, with assistance from Printing PSD,

and Services Division undertook further testing and countless

meetings with government and commercial experts to define more

precisely CCR's technical requirements. The team moved ahead
**
with exploring the possibilities of using step and repeat cameras

to backstop the 2000 operation, to provide an optimum means for capturing

document images in the marginal categories, and to provide equipment

more suitable for microfilming bound volumes.

25X1A9A   In June 1966, [   ] who as Executive Assistant to the

AD had been charged with the problem of compatibility with [   ] 25X1A2G

in the document delivery system, announced that 3 days of testing the

2000 cameras that had supposedly been upgraded by 3M revealed

the same bizarre density variations from card to card and within the frame

of a card experienced in previous tests. He recommended that OCR initiate

procurement of modified step and repeat cameras that would lead OCR

into the Mil-D-8-up format (that is, eight pages of information in a

*
Document file activity in 1965 was 181,624 documents with 895,288 pages
filmed; 12,500 aperture cards pulled each month; 30,000 pages of microfilm
produced on Quadrant printers each month.   Memo, [   ] tp 25X1A9A
D/CR, 14 July 66, sub: Document Delivery System-Final Recommendation.
Attachment. S. File: Chrono 1966 Job: [   ] 68-4871

had to be laid out and photographed simultaneously, the step and repeat
camera was able to move and record pages of information in a grid pattern.

<u>123/</u>

25X1A9A

35mm size frame). Six months later [   ] concluded that the 3M cameras were not suitable for the type of application needed and were inadequate in terms of quality control, supply costs, and manpower requirements.

The five 2000 cameras were placed elsewhere, and OCR ordered four National Cash Register (NCR) Model SR-1D step and repeat 35mm cameras at a cost of $20,946 each. They passed acceptance tests in November 1967 and were put into operation in February 1968, with the final demise of the Intellofax System. making in-house improvements as necessary. In the meantime, MD continued to use the 16mm aperture card system. Retrieval of these aperture cards is, as of 1973, still handled by the old equipment because conversion to 35mm is not feasible.

25X1A9A

123/ Memo, [   ] to D/CR, 11 Jan 67, sub: Recommendation--Document Delivery System. S. (in Chrono 67 69-592)

d. <u>Usage</u> (See also Appendix C)

Intellofax program utilization as determined from requests in FY 1966 was divided as follows among customer offices:

<u>CIA</u>   <u>Non-CIA</u>
   DD/I   24.4 percent   44.8%
   DD/P   20.7
   DD/S&T   7.2
   DD/S and   2.9
   other   _____
   Total CIA 55.2 percent

Requests from DoD customers totalled 1037 in 1966 and 812 in 1967. [124] Requests from DoD were limited as of March 1967 because of OCR budget cuts. All requests had to be validated through the DIA Library and coordinated with the OCR Coordinator. [125] See Chapter _____ (Document Systems Group_ for further details of service to DoD.

Support to the National Intelligence Survey (NIS) program was heavy throughout the 20 years of Intellofax operation. Standard runs were pre-coded for specific chapters of the NIS. In FY 1966 OCR received 441 NIS requests (97 CIA and 344 non-CIA) providing 156,828 references of which 103,959 were printed onto Intellofax tapes.

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[124] Intellofax Requests Levied by Department of Defense Consumers During 1966 and 1967. [5] File: OCR Surveys 1967 Job: Intellofax Historical Files in ISG.

[125] Memo, DD/I to Director, DIA, 31 Mar 67, sub: Reduction in Intelligence Support Services. S. File: Chrono 1967

ns, 27 July 67, sub: Central Reference Support for DoD Components. S. File: Ibid

4. Finale

No one doubted that the Intellofax System was

a high cost operation. Intellofax questions made up only

four percent of the total number of search questions

put to OCR. During most of the Intellofax history,

30-50 people were directly associated with the

necessary indexing operations. Another 50-60 operated

the IBM equipment and conducted auxiliary operations, such

as microfilming and DARE, exclusively in support of Intellofax.

Faced with T/O and budget cuts on the one hand

25X1A2G and the prospect of expensive [   ] on the other, the D/CR

looked at the Intellofax System with a critical eye during 1964-67.

25X1A2G Should there be more in-depth indexing as [   ] was planning or

should there be shallow indexing as an economy measure?

Whichever way OCR went, the Intellofax System as it had been

operating for 20 years was doomed. Even if greater numbers of per-

sonnel were used to provide greater indexing depth, the

system with EAM equipment could not cope with the resulting

25X1A9A flow of index information.

Both [   ] * in his 1966 study of OCR 12b/

**

and the 1967 User Study Group recommended shallow indexing for

most information. The User Study Group indicated that users

25X1A9A

25X1A9A *[   ], Plans and Technology Officer, OCI, chaired
a DD/I Study Group.

25X1A9A ** [   ] established a User Study Group of Agency representatives
to conduct a study of OCR information retrieval services.

25X1A9A 12b/[   ]k, 1 Dec 66, sub: Choosing the OCR File System. S.
File: [   ] Folder Job: 68-487//

requested in-depth indexing only for military-related
subjects in critical areas of the world. 12̶7̶/

Therefore, in the CRS reorganization of September
1967, the Intellofax System gave way to a relatively
inexpensive computer-assisted indexing and retrieval system
through which CRS codld get minimal control over that portion
of the document flow that had to be controlled at all. The
ISC was replaced by a greatly modified version of the
25X1C4C
[   ]ubject Intelligence Code, which had been a combination
of the ISC and the SR coding scheme.

In spite of the many criticisms levied against
it, ranging from too many references retrieved to too
few, the Intellofax System was unique. It was the only
system in the intelligence community that provided machine
retrieval of all information reports issued by USIB member
agencies. It finally bowed to the needs of the all-source
improved input and retrieval computer capability.

✓ 12̶7̶/ Memo, D/CR to DD/I, 14 Apr 67, sub: Re-examination of
OCR's Role. Attachment A. Summary of User Requirements.
S. File: Chrono 1967 Job: 69-592