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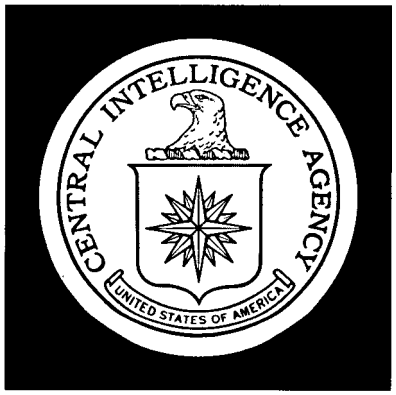

CIA HISTORICAL STAFF

The Support Services Historical Series

PRINTING FOR INTELLIGENCE 1942-68

SECRET

OL 5

November 1970

Copy 2 of 3

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Approved For Release 2001/09/07 : CIA-RDP93-00939R000100040001-2

ROUTING AND RECORD SHEET

SUBJECT: (Optional)

1A

FROM: [redacted]
Acting Chief, Supply Division, OL
1106 Ames Bldg.

EXTENSION [redacted] NO. STATOTHR

DATE

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. Acting Director of Logistics	4/27			
2. Executive Officer, OL		4/27		
3. Records & Services Branch, EO/OL				3. Your Office is the official repository for Office of Logistics' histories. Attached is the History of Printing Services.
4.				
5.				
6.				
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11.				
12.				
13.				
14.				
15.				

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ROUTING AND RECORD SHEET

SUBJECT: (Optional)

[redacted]

FROM: Acting Chief, Supply Division, OL 1106 Ames Bldg.	EXTENSION [redacted]	NO. DATE STATOTH

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. Acting Director of Logistics	4/27			
2. Executive Officer, OL		4/27		
3. Records & Services Branch, EO/OL				3. Your Office is the official repository for Office of Logistics' histories. Attached is a History of [redacted] Supply/Support. 25X1A
4.				
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SECRET
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THE DDS HISTORICAL SERIES

OL-5

PRINTING FOR INTELLIGENCE
1942-68

by

[redacted]

November 1970

[redacted]

John F. Blake
Director of Logistics

HS 5.024

HISTORICAL STAFF

CENTRAL INTELLIGENCE AGENCY

SECRET

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AT PEC

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PRINTING FOR INTELLIGENCE
1942-68

I. Introduction

A. Mission and Organization

The Printing Services Division (PSD), as part of the Agency's support function, is charged by the Office of Logistics (OL) with the responsibility for the Agency's printing program. The scope of responsibility includes the operation of the Agency's printing facilities, liaison with the printing facilities of other Government Agencies, advice and technical assistance to customers, and review and action on all field and headquarters requests for remote facilities. Other related and inherent duties include maintaining a continuing research and development program and sponsoring management and trade-skill training programs for division personnel.[1/*]

Although PSD's mission has remained virtually unchanged, the character of its support role has been constantly adjusted to keep abreast of industry advances and to meet new and changing customer

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* For serially numbered source references, see Appendix C, p. 94.

demands. Current patent records and trade journal articles will show that the division's efforts have more than just "kept up with the times"; in fact, it has made significant contributions in the fields of microphotography,[2] typography,[3] offset photography, and platemaking.[4]

At present (1970), as in the past, the division is physically decentralized. The Office of the Chief is located in the Printing Services Building at the Headquarters compound. From this point, the Chief, PSD, directs the activities of the Graphics and Visual Aids Staff and the three printing plants which make up the operational structure of the division. These plants are designated as the Main Printing Plant (in the Printing Services Building); the General Printing Plant (on the ground floor of Headquarters Building); and the Special Printing Plant (in the OCI area on the seventh floor of Headquarters Building).*

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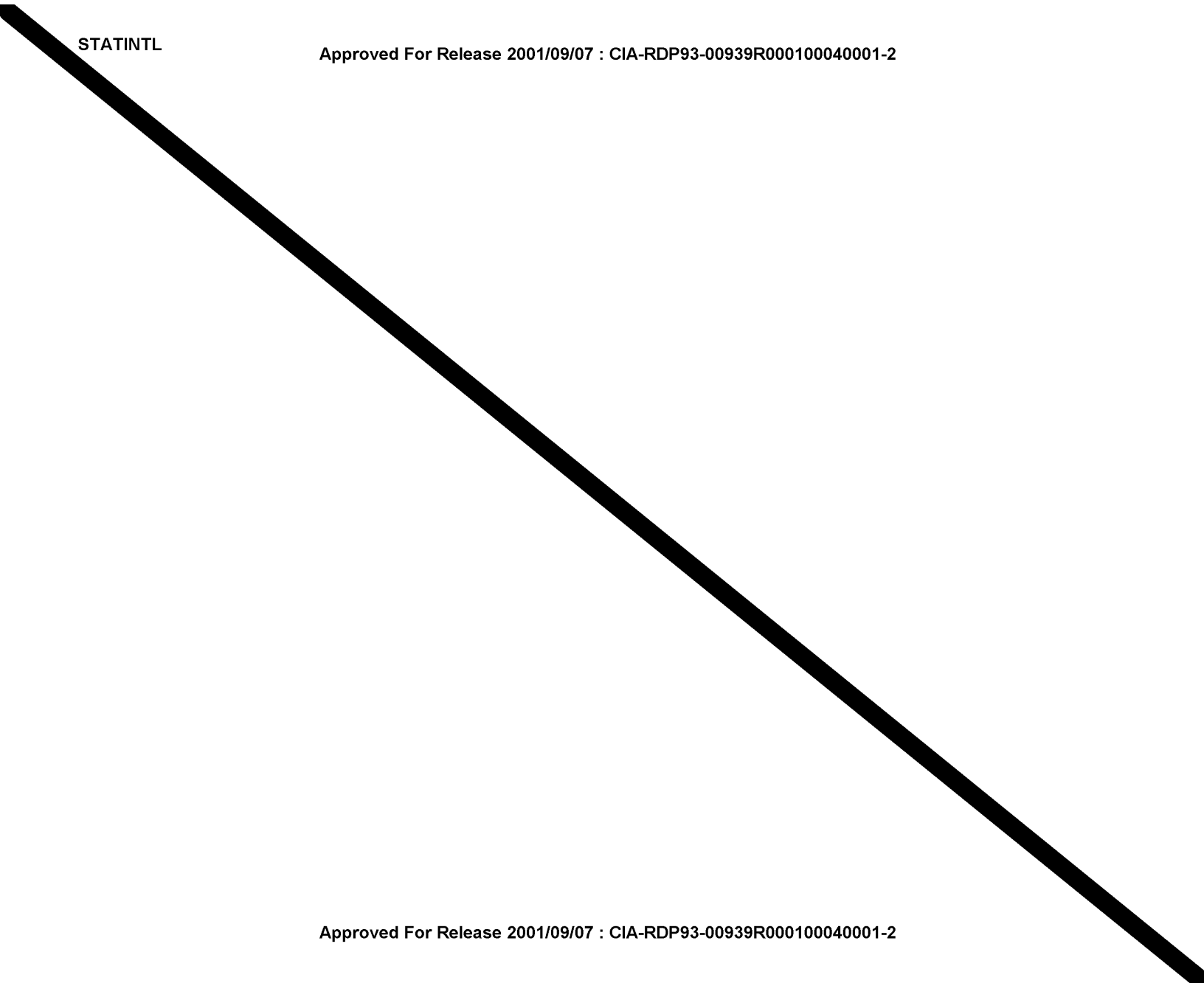
* For a chart showing the evolution of the printing plants and the Graphics and Visual Aids Staff, see Figure 1.



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B. Statistical Profile

Before entering into a detailed analysis of the historical development of PSD, the following statistical summary of personnel and production data is provided as an introduction to its activities.

1. Personnel

The 1968 Table of Organization (T/O) for PSD called for a total of [redacted] positions. Of this number, it is estimated that about 10 percent were administrative and 90 percent were production positions. The wage structure was divided among the GS Schedule (administrative personnel -- 20 percent), the Lithographic/Wage Board (general graphic arts workers -- 28 percent), and the GPO Wage Scale (journeymen and apprentices -- 52 percent).

Approximately 23 percent of the employees were female -- a percentage that was similar to that prevailing in other Government printing facilities and the printing industry in general. Women (under the three wage categories) were employed in jobs ranging from clerk to offset press operator. Other positions for women included bindery worker, photographer (both black-and-white and color photography),

negative engraver, proofreader, and keyboard operator.

The chain of command of the management hierarchy descended from the Office of the Chief (which included staff positions) to the managers of each of the plants. The Main Printing Plant, because of its size, was divided into operating branches (press, bindery, etc.) with a manager over each branch. There were no branches in the Special and General Printing Plants, where the plant managers supervised all operations of their plants directly.

2. Production

The output of PSD was measured in two ways: in terms of "income" and in terms of the number of printing impressions. Under a cost-accounting system, a "cost" in dollars and cents was calculated for each printing operation. PSD was regarded as a "business" and each component in the Agency levying a requirement on the division was treated as a "customer." The "cost" of each printing job was carefully recorded and "charged" to the account of the "customer." In 1968, for example, a typical DDI *Intelligence Memorandum* of 15 pages produced by

OER, with a press run of 325 and printed by offset with multilith masters without the use of color would have cost about $22.* This sum would have been "charged" to OER's account. The total of such "costs" constituted the division's "income." By this device, it was possible to determine the relative demands of the various Agency components on the resources of the division. Needless to say, no funds changed hands, but the division was able to maintain fiscal control of its operation and the "customer" was provided with a rough measure of the cost to the Agency of his job.

Tables 1, 2, and 3 show the "income" (dollar value of output) for each of the division's printing facilities for fiscal years (FY) 1961, 1964, and 1967. Several items are worth noting when looking at production trends. [redacted] costs increased in FY 1964 over FY 1961 because of volume, and then STATSPEC

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* The actual number of hours spent by each employee on a job was converted to a "cost" figure by the application of the appropriate wage rate; the costs of materials were then added; finally, a fixed percentage of this figure was added to cover overhead.

decreased in FY 1967 after conversion from mimeograph to offset printing. Between FY 1961 and FY 1964, printing "income" from jobs other than the [redacted] STATSPEC at Plant No. 1 decreased by almost $100,000 because Plants No. 3 and No. 4, which were housed in Headquarters Building, provided more rapid service for shortrun requirements and because Plants No. 2 and No. 4 were the only ones set up for printing the increasing volume of Special Center (SI and TKH) material.*

Table 4 shows the distribution of printing costs by Agency component based on FY 1964 "income." The DDI accounted for more than three-fourths of the total output of PSD (in terms of cost), and the NIS program, alone, for almost one-third. The relatively small share attributed to the Clandestine Service is due to the fact that it is not primarily charged with the production of finished intelligence publications.

The output of the division was also expressed in terms of the number of "impressions." (An im-

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* For a discussion of the "Special Center," see p. 48, below.

pression is equal to one pass through a press regardless of the number of pages printed. Small presses print one page at a time; large presses print as many as 16 pages simultaneously.] Although the number of impressions is a useful measure of the volume of presswork performed in a plant, it is not a reliable measure of the physical output (number of pages printed). As newer and larger presses are acquired, more pages are printed per impression; thus the number of impressions in a year may decline when in fact the number of pages printed increases.

Nevertheless, the distribution of the output of the division based on the number of impressions bore a rough correlation to the distribution based on printing costs. For example: printing for the DDI, which accounted for 72 percent of the total number of impressions by division presses in 1968, accounted for 76.5 percent of the total "costs," and work for the DDS, which accounted for 7 percent of the total impressions, accounted for 8.5 percent of the "costs."

Table 1

Value of Output of Printing Services Division
(Expressed as "income")

Fiscal Year 1961

Installation	Activity	Income ($)	Percent of Total
1A [redacted]		179,324.53	6.40
(later Plant No. 1)	Photography	457,913.75	15.07
	Other Agency Printing	560,849.14	19.20
	For Outside Agencies	2,367.87	.12
	TOTAL	1,200,455.29	40.79
Administration Building (later Plant No. 2)	NIS	1,053,151.35	36.12
	Cartographic	113,425.08	4.10
	Other Agency Printing	99,440.27	3.70
	For Outside Agencies	39,159.33	1.20
	TOTAL	1,305,176.03	45.12
1A "K" Building (later Plant No. 3)	[redacted] Reports	72,382.06	2.30
	Reports	24,202.43	.82
	"Batch" System	8,889.31	.32
	Other Agency Printing	50,941.68	2.20
	TOTAL	156,415.48	5.64
"Q" Building (later Plant No. 4)	OCI Reports	178,918.89	7.30
	Administrative Support	6,263.44	.33
	TOTAL	185,182.33	7.63

Installation	Activity	Income ($)	Percent of Total
Other	Photography Produced Outside the Division	18,383.22	.60
	Printing by [redacted]	680.00	.02
		5,899.35	.20
	TOTAL	24,962.57	.82
	GRAND TOTAL	2,872,191.70	100.00

K1A

Table 2

Value of Output of Printing Services Division
(Expressed as "income")

Fiscal Year 1964

Installation	Activity	Income ($)	Percent of Total
Plant No. 1	[redacted]	229,458.39	5.84
	Photography	505,105.06	15.04
	Other Agency Printing	463,706.88	13.81
	For Outside Agencies	4,043.65	.13
	TOTAL	1,202,313.98	35.82
Plant No. 2	NIS	1,156,150.77	34.43
	Cartographic	146,395.19	4.36
	Other Agency Printing	158,822.16	4.73
	For Outside Agencies	13,053.52	.39
	TOTAL	1,474,421.64	43.91
Plant No. 3	[redacted] Reports	45,690.19	1.36
	[redacted] Reports	28,619.20	.85
	"Batch" System	12,006.93	.35
	Other Agency Printing	137,160.24	4.08
	TOTAL	223,476.56	6.64
Plant No. 4	OCI Reports	319,346.06	9.50
Graphics and Visual Aid Staff		47,013.54	1.39

Installation	Activity	Income ($)	Percent of Total
Other	Photography Produced Outside the Division	37,632.62	1.13
	Printing by [redacted]	53,959.31	1.60
	[redacted]	388.96	.01
	TOTAL	91,890.89	2.74
	GRAND TOTAL	3,358,552.67	100.00

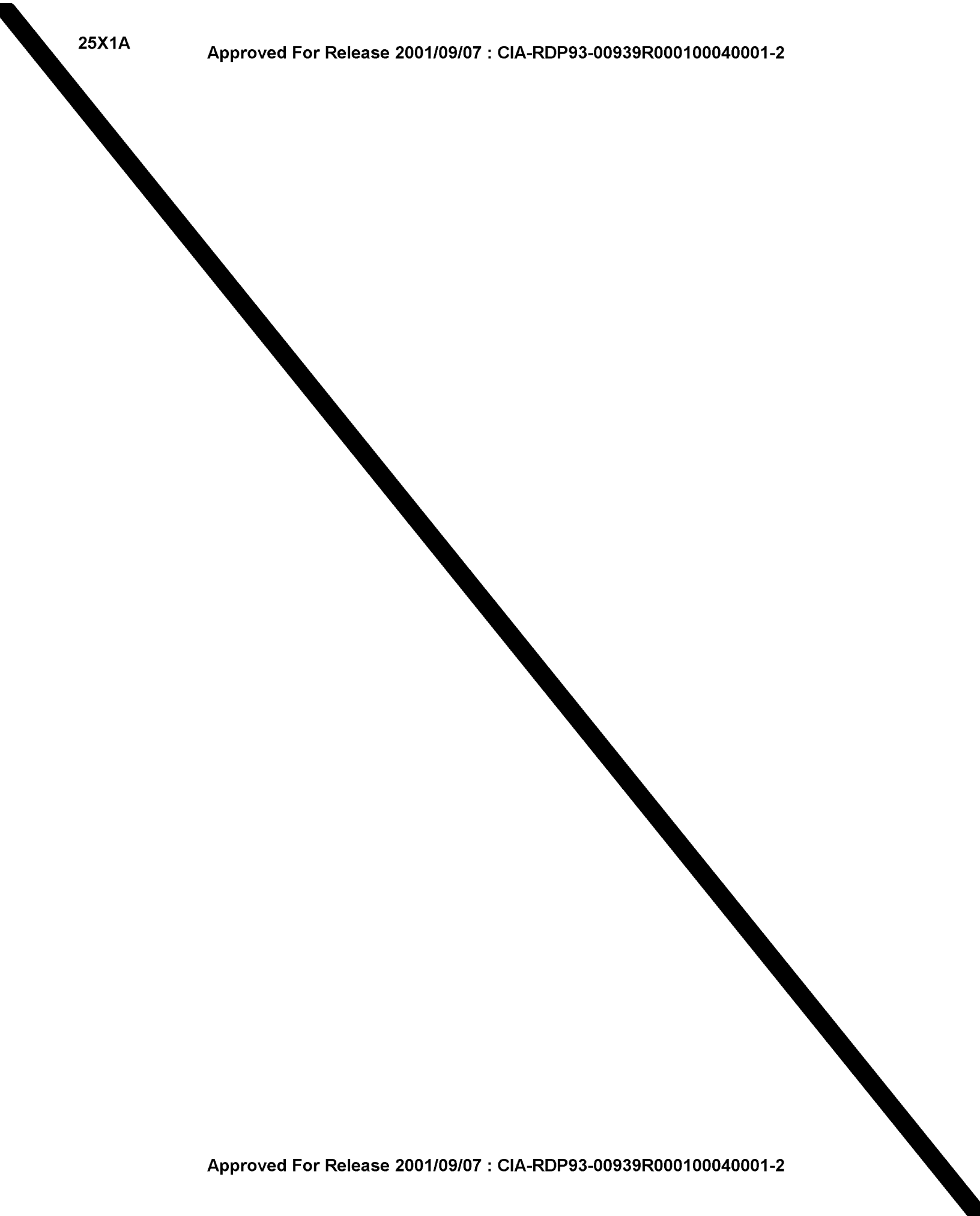
Table 3

Value of Output of Printing Services Division
(Expressed as "income")

Fiscal Year 1967

Installation	Activity	Income ($)	Percent of Total
Plant No. 1	[redacted]	183,141.25	5.25
	Photography	520,453.97	14.92
	Other Agency Printing	485,693.00	13.93
	For Outside Agencies	5,585.88	.16
	TOTAL	1,194,874.10	34.26
Plant No. 2	NIS	991,326.46	28.43
	Cartographic	169,368.24	4.86
	Other Agency Printing	261,340.45	7.50
	For Outside Agencies	10,492.98	.30
	TOTAL	1,432,528.13	41.09
Plant No. 3	[redacted] Reports	48,570.07	1.40
	[redacted] Reports	18,850.01	.54
	Other Agency Printing	194,287.58	5.57
	TOTAL	261,707.66	7.51
Plant No. 4	OCI Reports	446,760.51	12.80
Graphics and Visual Aid Staff		88,989.35	2.55

Installation	Activity	Income ($)	Percent of Total
Other	Photography Produced Outside the Division	31,266.30	.90
1A	Printing by [redacted]	31,266.72	.89
	TOTAL	62,533.02	1.79
	GRAND TOTAL	3,487,352.77	100.00



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Directorate	Office	Activity	Percent of Total
		TOTAL	8.52
DCI		ODCI, General Counsel, NIPE, Budget, IG, Cable Sec	.39

C. Graphics and Visual Aids Staff

The Graphics and Visual Aids Staff is situated on the ground floor of Headquarters Building. In 1968, this staff consisted of [redacted] persons and filled requests primarily from the DDP and DDS for the creation of original artwork and visual aids materials. PSD inherited the staff in 1963 when the visual aids operation assigned to the Special Support Assistant to the DDS and the graphics personnel of the Administrative Staff, OL, were combined into the present activity within PSD. The visual aids portion of the combined shop can be traced to 1949, when a visual aids operation was organized in "K" Building under the Administrative Staff of the Office of Policy Coordination (OPC/Admin). Although the unit remained in "K" Building for 12 years, it was passed among several directorates and directorate-level staffs until becoming a part of PSD. In 1951, the unit was transferred to the Plans and Policy Staff of OPC (OPC/PPS) and in 1952 was returned to the Admin Staff, DDP. In 1954, the unit was transferred to the DD/A and until coming to OL/PSD was under the Special Support Assistant, DDS. The consolidated

25X

art shop was assigned to PSD because the staff had the talent and facilities for the creation of original artwork, and other elements of PSD had the capability of producing the artwork in volume.

D. Main Printing Plant

Completion of the Main Printing Plant in September 1967, permitted the consolidation of the Office of the Chief, PSD (formerly located in the Ames Building); the [redacted] facility; the new South Building Plant; and the [redacted] Composing Section. The new Printing Services Building, the largest of the three plants was the result of years of planning for a consolidated facility to handle the bulk of the Agency's printing and photographic work. One portion of the Main Printing Plant had been located at [redacted] since late 1951. This plant produced printing and photographic material for all components of the Agency through a wide variety of processes. The equipment used at [redacted] and for that matter at all Agency facilities, was the product of the Agency's growth from the days of the Central

25X1A
25X1A
25X1A
25X1A

Intelligence Group (CIG) to its present role in the intelligence community. As the new requirements developed or as the established ones changed, additional equipment was acquired and usable equipment was modified to fit the new production system.* All photographic and printing equipment in operation at [redacted] was used for both the intelligence and administrative effort of the Agency. Some of the typical printing jobs included raw and finished intelligence reports with color maps and charts for the Directorate of Intelligence (DDI) and the Directorate of Science and Technology (DD/S&T); [redacted] headquarters regulations; and classified Agency forms. Photographic work included color badge production, microfilm, motion picture processing, xerox reproduction, and photographic prints for the entire Agency. Also at the [redacted] the [redacted]

25X1A

25X1A

STATSPEC

* A simplified example of this is the necessity for additional equipment to convert Agency badge production from black-and-white to color.

[redacted] were produced on the night shift.**

The other major facility consolidated into the Main Printing Plant was located in the basement of South Building. The largest share of its resources was directed toward producing National Intelligence Surveys (NIS's) and National Intelligence Estimates (NIE's). The plant had the greatest dimensional capability of the four printing facilities at the time. The plant's 45-inch offset press and 40-inch process camera produced Agency work which had dimensions beyond the capacity of presses in other plants.

Unlike the growth of the [redacted] which resulted from a variety of customer requirements in both printing and photography, the South Building Plant developed substantially as a result of one particular program -- the NIS. On the whole,

[redacted]

** This job was transferred to the General Printing Plant on the ground floor of Headquarters Building [redacted] was consolidated with the South Building facility in the new Printing Services Building.

changes in the plant and in equipment were in line with greater efficiency in the production effort of the [redacted] employees devoted to that project. The need for this amount of effort is readily understood after an inspection of the finished product -- a high-quality intelligence report containing text and tabular composition, maps, charts, and photographs within the text as well as end-of-text fold-in maps.

[redacted]

25X1A
25X1A
25X1A

E. General Printing Plant

The nature of intelligence production necessitated that the Headquarters Building have facilities

for immediate-need duplicating and copying. The General Printing Plant (GPP) was located on the ground floor of the Headquarters Building to provide such support for DDP and other Agency components who found these services convenient to their needs. GPP had its beginning as the Foreign Intelligence, DDP, printing facility located in "L" Building. After the requirements increased beyond the plant's own capabilities, the operation was transferred to PSD in 1953. Since that time, GPP has moved operations from "L" Building to "K" Building in 1954, and from "K" Building to Headquarters Building in 1961. Since its installation at Headquarters Building, GPP has become the center of shortrun multilith printing and xerox copying. In addition to producing publications and reports for all Agency components, the plant, which employs [redacted] prints 25X1A

1A TS SPEC the [redacted] reports, and [redacted] reports 25X1A

for both Agency-wide and external distribution.

F. Special Printing Plant

PSD devotes approximately three-fourths of the combined production effort of its three printing

plants to support of the DDI.[5/] A small, yet vital portion of the DDI support is the operation of the Special Printing Plant (SPP), which is located within the Office of Current Intelligence (OCI) area.

1A [redacted] persons who provide 24-hour-a-day, 7-day-a-week coverage for the DDI, the compact and versatile shop has a variety of capabilities in both printing and photography.

The largest requirements for the plant are the the printing and binding of the *Central Intelligence Bulletin* (produced daily), the *Current Intelligence Weekly Summary*, and the *Current Intelligence Weekly Review*. The two weekly publications average 25 to 30 pages and contain from four to seven graphics in the form of multicolor maps, charts, and photographs. Among other publications produced daily and weekly by SPP are *Daily Vietnam Situation Report* and the *Weekly Vietnam Situation Report*, the *Presidential Daily Brief*, DDI and OCI Memoranda, cable and press item reproduction for the Operations Center, the *Night Journal, Missile and Space Summary*, and miscellaneous publications for the DD/I Offices of Economic Research and Strategic Research and the Office of Scientific Intelligence, DD/S&T.

II. Under the Office of Strategic Services 1942-45

A. Origin and Mission

The history of PSD began with the organization of a printing and photography unit, the Reproduction Branch, which provided direct support to the Office of Strategic Services (OSS) during World War II. This chapter is a self-contained portion of the history, inasmuch as the Reproduction Branch was formed and functioned only during the war years (1942-45). As will be discussed later, the branch was disbanded and reorganized at the end of the war.[6]*

Originally known as the Duplicating Section of the Coordinator of Information (COI), the Reproduction Branch was organized and designated the primary intelligence printing and photography support unit for the war effort. Its mission was to

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* A large portion of the information contained in this chapter is taken from *Reproduction Branch, OSS* and from interviews with former members of the branch.

maintain domestic and field facilities, to recruit and train personnel, to provide technical assistance and, when necessary, to perform research and develop new techniques. The mission of the Reproduction Branch was in general similar to the mission of PSD today. What was different, however, was the fact that this branch was operating under adverse, wartime conditions. The unit was confronted with such problems as the recruitment of skilled personnel, training of personnel, lack of supplies and, at times, inadequate equipment. In spite of these problems, the White House, the Joint Chiefs of Staff, and the Departments of State, War, and Navy recognized the efficiency, quality, and security of the Reproduction Branch and relied on this branch for the production of their war plans and diplomatic papers.[7/] For this task, 116 military and 39 civilian personnel were organized and based in South Building, which then was assigned to OSS.

B. Organization

Early organizational information reveals that the mission of the branch was implemented through

three operational units -- the Administrative, Publication, and Photographic Divisions.*

1. Administrative Division

Under the Administrative Division were offices of security, personnel, and research. The principal task of the personnel office was the recruitment of skilled craftsmen during the war, and the research office investigated new equipment and procedures for possible application to OSS requirements and even developed in-house innovations and inventions for use by OSS operatives.**

2. Publication Division

The Publication Division was, in effect, the original printing and binding section. This shop used all types of printing equipment, both linotype and letterpress, large offset presses for graphics and color production, and the small, yet efficient, mimeograph, and ditto machines. This office worked

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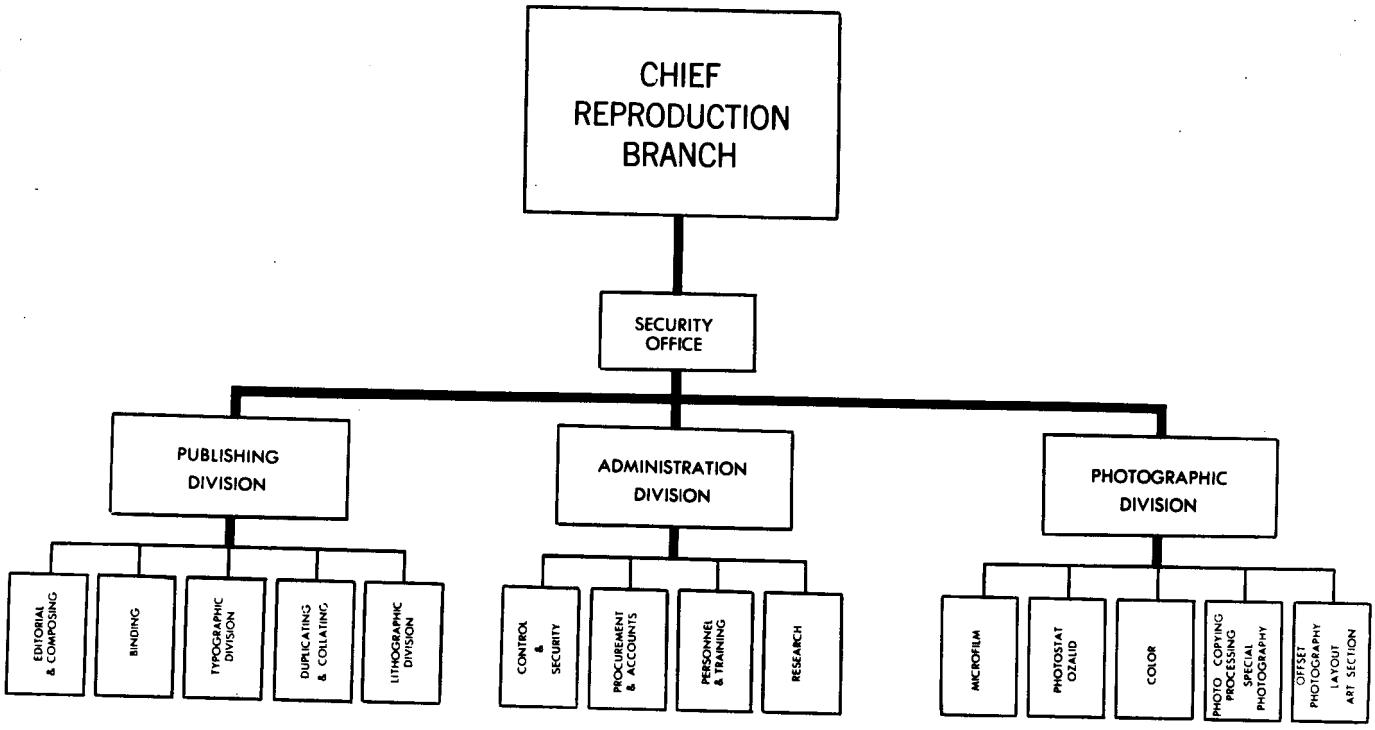
* For a table of organization of the Reproduction Branch as of 1944, see Figure 2.

** For a reproduction of a page of an instruction manual for a miniature offset press invented by the Reproduction Branch for field use, see Figure 3.

FIGURE NO. 2

REPRODUCTION BRANCH
1944



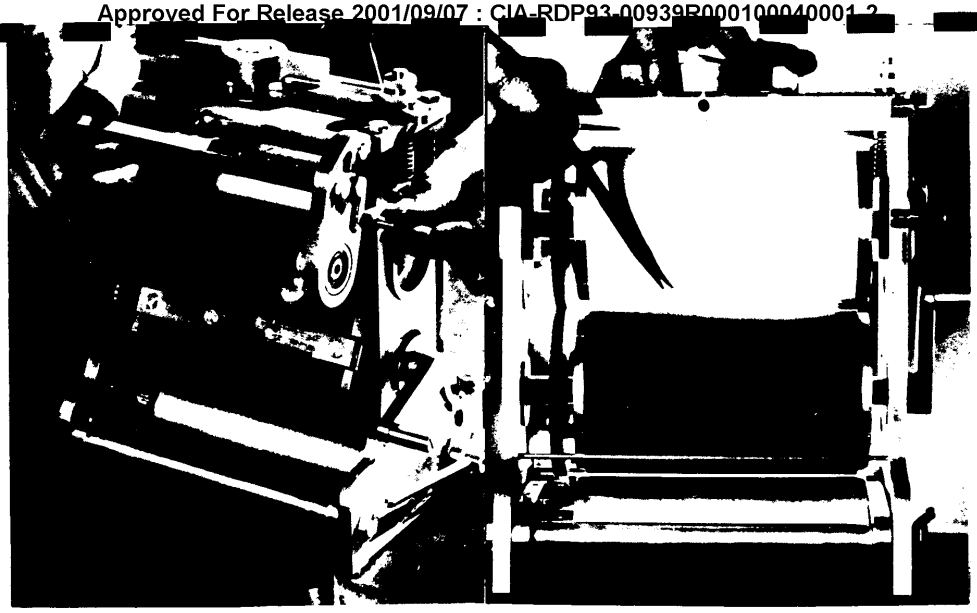


Fig. 1

INKING THE PLATE

The plate should be inked as quickly as possible after moistening. While revolving press contact ink roller to the mat and continue to turn until a light scum is noticed on the mat. At this point, raise ink roll while still revolving press. As little scum as possible is desired and with a little experience this point can be noticed early enough to keep all scum off the first copy.

Remove the ink roll from the press and place it back on the inked slab.

TRANSFERRING IMAGE TO BLANKET

It is necessary to lower the plate to the blanket to transfer the image. Be sure the blanket has been cleaned with solution from can holding *"solvent"* before transferring is done and is dry. Turn the lever shown at top of "Figure 1" counter-clockwise (Figure 2). This lowers the plate cylinder to the blanket. Turn the handle of the press, and the image will transfer from the plate to the blanket. The press is ready for printing.

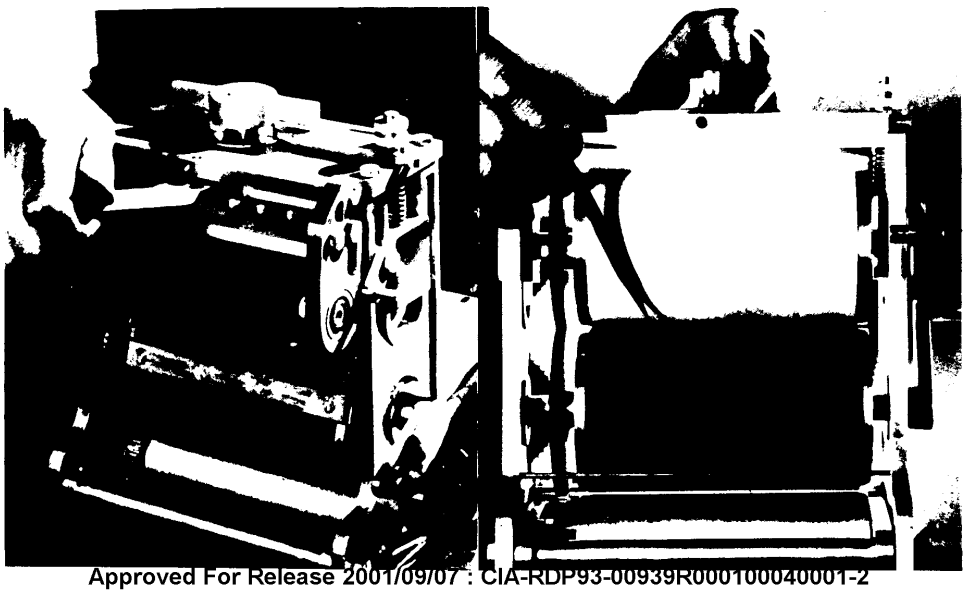


Fig. 2

in direct support of the Joint Chiefs of Staff (JCS) and, at times, produced papers for the various United Nations Conferences.[8/] A complete bookbinding section, although not a part of the original plant, was added in 1943 after security problems became evident when work was sent out for the finishing bindery operation. Without this in-house capability, the danger of compromising material was always present. It is generally agreed, in retrospect, that the Publication Division of the Reproduction Branch was the best-manned and best-equipped in the Government, including those of the Government Printing Office (GPO) and the Bureau of Printing and Engraving.[9/]

3. Photographic Division

The Photographic Division consisted of microfilm, photostat, color, and special photographic units. This division was concerned with high-quality, low-volume reproduction of documents. It was during World War II that the value of microfilm was fully realized. The security advantages of miniaturized information and the convenience in handling and transporting it led to its frequent use, and the division was required to provide

in direct support of the Joint Chiefs of Staff (JCS) and, at times, produced papers for various early United Nations meetings.[8/] A complete bookbinding section, although not a part of the original plant, was added in 1943 after security problems became evident when work was sent out for the finishing bindery operation. Without this in-house capability, the danger of compromising material was always present. It is generally agreed, in retrospect, that the Publication Division of the Reproduction Branch was the best-manned and best-equipped in the Government, including those of the Government Printing Office (GPO) and the Bureau of Printing and Engraving.[9/]

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facilities for 16mm, 35mm, and 70mm microfilms. The value of the photostat process was also evident, since at this time there were no "copying machines" available. Not until the late 1950's could an instant, quality reproduction be made in an office environment. For this reason, the photostat process, and also the use of photographic prints, was used extensively for multiple copies of a document. During World War II, seven million prints were made. Because of the increased use of xerox-type office copiers, the number of prints in 1968 totaled only about four and a half million. Although this figure is higher than the output per year during the World War II period, the increase is not proportional to the growth of the Agency; furthermore, the volume of printing increased by 1,000 percent whereas photographic prints increased by only 240 percent. The basic purpose of the division's color unit was to provide detailed color proofs of maps for JCS maps. Prior to printing, the JCS required that the maps be checked and, if necessary, be redone before final reproduction.

C. Special Projects

Early in the war, a need emerged for some type of mobile, yet versatile printing-photography unit which could be sent into combat areas. This type of capability was always planned for, yet never fully developed. A prototype was designed by the military but, when tested under field conditions, was found to be unsatisfactory. The Reproduction Branch was assigned the task of modifying the original piece of equipment and having an operational mobile facility for propaganda printing within 60 days. The Reproduction Branch accomplished this by changing the original design from a single truck unit containing both printing and photographic equipment to a two-truck unit -- one for printing equipment and the other for photographic equipment. This mobile unit was used in the European Theater of Operations in 1943. At first, the unit was manned by personnel from the Reproduction Branch. Later, additional personnel were recruited in the field. Though figures are not available for the actual quantity of propaganda material that was produced,

the unit was capable of printing, cutting, and bomb-loading 60,000 leaflets in less than 4 hours.[10/]

D. Field Activity

In support of wartime activities in both the European and Asian areas of operation, the Reproduction Branch had the responsibility for training, manning, and equipping a detachment which could be transported and relocated overseas in direct support of the operating commands. After the initial installation of a printing-photographic unit in Oxford, England, similar units were set up in Paris, France; Rome and Caserta, Italy; Columbo and Calcutta, India; and Kunming, China. At the end of the war, a printing support unit was set up in Nuremberg, Germany, in support of the war crime trials held there.

Basically, these units were compact and complete printing-photographic installations which supported the specialized mission for that area. Each unit had to be designed, equipped, and manned. The type of equipment ranged from the simplest microfilm and ditto facility to a complex installation for graphics production and letterpress composition and printing operation. In all cases,

it was the personnel of the Reproduction Branch who accomplished the functional planning, the training, and the eventual leadership role in the overseas printing and photographic operations.

E. Summary

At the end of the war, the overseas facilities of the Reproduction Branch were no longer required; the field installations were dismantled; and the personnel were returned home. The Branch had supported all the printing and photographic needs of OSS (both Headquarters and field), invented and improvised various field devices and techniques, trained nearly 1,000 men in the graphic arts, and set up and managed 12 different reproduction plants in theaters of operation. The administrators of intelligence production agreed that it was not in the best interest of the intelligence community to completely dissolve such a capable facility. It was inevitable, however, that changes in the role of the Reproduction Branch would be necessary.

III. Postwar Period 1946-51

A. Introduction

After OSS was disbanded, the role and function of the Reproduction Branch was passed to several parent organizations, then split into smaller sections and relocated several times. This segment of the history discusses changes that occurred during the years 1946 through 1951.

B. State Service Office of the GPO

After World War II, the mission of OSS was transferred to the Strategic Services Unit (SSU). In early 1946, the Reproduction Branch, the Presentation Division (of the Office of Reports and Analysis), and the Cartography Division were all transferred to the State Department. The Photographic Division of the Reproduction Branch was physically relocated to [redacted], while the printing facility remained in the basement of South Building. Shortly after the transfer to the State Department, the officials there felt that their newly acquired printing capability far exceeded

their requirements. The GPO was invited to survey the State Department printing requirements and to make recommendations. Subsequently, in the spring of 1946, the South Building facility was designated a secure printing facility of the GPO and established as the State Service Office of the GPO to provide printing support to the SSU,* the State Department, the Atomic Energy Commission, and the GPO itself. Because of the experience and capabilities which were built up in OSS, the plant was recognized as a highly efficient and secure Government facility. This decision to retain the services of the plant was a logical one. By designating the plant as the State Service Office, the GPO provided for a Government-wide plant which provided facilities not only for the *Joint Army/Navy Intelligence Surveys* (JANIS) but also for classified printing services for other components of the US Government.

The JANIS reports were initiated during the war and soon became respected as the primary basic

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* By June 1946, the assets of the SSU were absorbed by the Central Intelligence Group (CIG).

intelligence effort of the United States.[11/] In June 1946, when the SSU was absorbed by the CIG, the responsibility for the coordination and production of the JANIS reports was also transferred to the CIG. In September 1947, the CIG became the Central Intelligence Agency (CIA) and the responsibility for JANIS production went to the Director of Central Intelligence.

Thirty-four JANIS sections were published during 1943-47.* By 1948, the scope was expanded and the name was changed from JANIS to *National Intelligence Survey* (NIS).[12/] From this point until 1957, the continuing requirement for printing and binding the NIS remained in South Building with the State Service Office of the GPO.

C. Printing and Reproduction Services

At the same time that the State Service Office of the GPO was designated and fully operational for NIS production, the duplication and photography sections of the CIG were developing and undergoing

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* In 1970 about 400 NIS sections produced.

change in direct proportion to the growing pains of the outgoing CIG and newly formed CIA. As stated previously, the Photographic (photostat, microfilm, and Ozalid) Division of the Reproduction Branch of OSS was transferred to the control of the State Department. With almost complete concentration of the printing and binding capability of the State Service Office of the GPO directed toward the NIS, the CIG (and its successor, the CIA) was initially in need of a limited duplicating shop. In order to handle the requests for shortrun offset, ditto, mimeograph, and photostat facilities, a small plant (six persons) was installed in the spring of 1947 in the attic of South Building.[13/] Designated the Printing and Reproduction Division, under the Executive for Personnel and Administration, this small shop was the original printing plant of the CIA (the State Service Office was affiliated with the GPO).

Aside from the routine reports, forms, and memoranda required for intelligence production, the first large requirement to fall to the division was for printing and binding the [redacted] STATSPEC

This publication, which consisted of two books of 125 mimeograph stencils and 650 copies each, was originally produced by the War Department. The task was assigned to the CIG in June 1946, and the printing function was allotted to the division in December 1947. With the requirement for producing the daily [redacted] to the division's table of organization (T/O).[14/]

Another function which was levied on the division was the photographic reproduction of the Industrial Card File system. Foreign Documents Division transferred this requirement to the Printing and Reproduction Division in January 1948 after a survey revealed that consolidation of this task with the other division functions and skills would lead to greater efficiency.

One other project was assigned the division, but it was not physically conducted at the original attic shop. The Office of Collection and Dissemination (OCD) operated what it called the "Batch System" in "M" Building. Originally designed and supervised by OCD, the project consisted of printing on IBM cards utilizing three Davidson offset presses.

OCD expanded this requirement and made provision for the addition of two more Davidson presses. In July 1948, when OCD encountered staffing, maintenance and training difficulties in an effort to support its own in-house activities, it willingly turned over control of the printing of the "Batch System" to the division.

D. Expansion

With the addition of the [redacted] STATSPEC the "Batch System," and the Industrial Card File production, an increase in T/O and space was inevitable. The small shop in the attic of South Building, which consisted of one multilith 10"x15" offset press, several mimeographs, and two photostat machines, could not handle the new requirement and could barely keep up with the demands for reports, memoranda, and administrative printing for the entire CIA. Although there was a printing plant (the State Service Office of the GPO) in the basement of South Building, it was geared to NIS production and selected map work for other intelligence agencies and could not meet the shortrun duplicating requirements for the remainder of CIA.

1. North Building

The first expansion move for the Printing and Reproduction Division came in 1948. Space was available in North Building (located on the CIA campus at 2430 E Street, NW) for the complete print shop. New and larger presses were installed in this space, along with a 24-inch process camera (for making offset negatives); however, the small facility was retained in the attic of South Building. The entire Agency was constantly growing and reorganizing. Soon the printing facilities of both South and North Buildings were saturated, and additional or consolidated locations were investigated.

2. [redacted]

At this point, it was the policy of Agency administrators to keep the printing and photographic facilities as close to the Administration Building campus as possible. With this in mind, the site at [redacted] was selected. This new location was to provide improved facilities for the complete printing and photographic units of the division. In October 1948, the units located in the attic of South Building and the basement of North Building were consolidated

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provide warehousing and office space. It was felt that this building would provide adequate space for the reproduction facilities and also allow for possible future expansion. The US Government entered into a lease with the owner for rental of the property on 1 October 1950.

The signing of the lease necessitated that the Printing and Reproduction Division draw up plans for a modern plant to occupy the new building. However, it was felt that before augmentation of the plans, they should be reviewed by a qualified industry

[redacted]

25X1A

called in for consultations and review of the plans. Mr. [redacted] substantiated every detail of the plan that had been developed by the division. The heart of the plan was the establishment of an assembly-line system for the processing of a job. This method made the most effective use of the [redacted] feet of available space.

25X1A

Renovation started soon after the execution of the lease but was not completed until August 1951. It was during this month that the Printing and

25X1A

Reproduction Division began vacating the building

X1A [redacted] 25X1A

E. Summary

The print shop originally designated in 1946 as the Printing and Reproduction Division for CIG was expanded from a six-man operation in the attic of South Building to a [redacted] 17/ 25X9 During this period, the volume of output increased proportionally, as shown in Table 5.

Table 5

Production of the Printing and Reproduction Division for Selected Months

1947, 1948, 1952

Selected Month	Printing Impressions	Photographic Prints
January 1947	21,000	6,200
January 1948	1,960,000	22,000
January 1952	7,719,300	194,615

The production effort of 116 persons in the State Service Office of the GPO was stabilized through

the planning of the NIS Committee, and the output of this plant remained relatively constant from the initial years of the NIS (1948) into the 1950's. This plant remained a GPO function of CIA until it became a part of the Printing Services Division in 1957. In the meantime, new requirements and new facilities were added to the Printing and Reproduction Division.

IV. Centralization of Agency Printing in PSD 1952-56

A. Introduction

This chapter discusses the formation of the three major printing and photography plants in the Printing and Reproduction Division during 1952-56. When the installations at North Building and [redacted] 25X1A
[redacted] were closed, the [redacted] became 25X1A
the Agency's main facility for all photography (color as well as black-and-white), composing (forms drafting and typography), and printing (letterpress and offset). At this same time, two other new facilities were added to the division. One was the OCI plant which operated in "Q" Building in direct support of the OCI mission, and the other was the Foreign Intelligence (FI), DDP, facility which supported the DDP complex in "I," "J," "K," and "L" Buildings. The State Service Office of the GPO continued to operate in South Building as a separate plant primarily responsible for NIS production.

B. [redacted]

The [redacted] facility opened in the fall of 1951, and by early 1952 the plant was operating with an enlarged T/O of [redacted] This new facility housed the complete printing and photography sections of [redacted] printing unit formerly located in North Building.[18/]

Consolidation of the [redacted] and North Building plants resulted in greater efficiency in handling the various requirements. No longer did cramped and scattered facilities hinder scheduling and production. The consolidation also afforded an opportunity to handle more efficiently some of the larger continuing requirements of the division such as the production of psychological warfare material, the printing and processing of motion picture film for OCD (now [1970] Central Reference Service), and the microfilming of the Agency's vital records. The list of new equipment acquired from 1952-54 to accommodate these requirements and to update older processes included two linotypes, two Miehle letterpresses, an eight-station gathering machine, a DePue motion picture printer, a Houston Fearless film processor, and a 22"x34" Harris offset press.[19/]

C. OCI Printing Facility

The OCI plant started in "Q" Building early in 1949 with several duplicators and three persons for the shortrun printing of rush publications. As the current intelligence contribution of the Agency grew, the plant expanded in both quality and quantity in fulfillment of its support function. In September 1952, the Printing and Reproduction Division assumed responsibility for staffing and maintaining this facility.[20/] Although the responsibility was transferred, the physical location remained in "Q" Building where the high-priority service was required. Another important reason for the "Q" Building location was the special security classification of the material that was being reproduced. To protect this material, the plant, all of OCI, and parts of ORR were segregated in a secure area call the "Special Center." The publications were called "Special Intelligence" (SI) and workers within the Center carried a special clearance. For security reasons, therefore, the facilities at [redacted] were not used, and the responsibility for printing SI material fell to the "Q" Building plant.

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OCI requirements grew, and the printing facility expanded with them.[21] The nature of the work necessitated intensified security measures and the importance of the material together with extremely short deadlines required high-quality, high-speed reproduc-

[redacted] 25X1A

current intelligence support function posed initial problems for the small shop but, with the help of the division's experience, these problems were overcome. Printing special classifications in red ink (with the text in black), training and staffing for offset photography, and providing staggered work coverage from 0530 to 1930 hours were some of the typical problems. To print the classifications in red, special press attachments were purchased which permitted a simultaneous red imprint while running the black text. Problems of staffing and training were overcome by blending experienced personnel [redacted] 25X1A

[redacted] with the initial small work force. To provide staggered work hours, only persons who were willing to take on the "odd" work schedule were

recruited. This type of recruitment was so successful that the OCI coverage was eventually expanded to provide 24-hour-a-day, 7-day-a-week operations in the 1960's.

D. FI/DDP Printing

In February 1953, a small reproduction plant was transferred to the division from the FI Staff of the Clandestine Service (CS).[22/] The facility was staffed with [redacted] persons to print and disseminate FI reports. These reports, which were written by Clandestine Service officers, were typed by FI personnel on multilith masters, and immediately printed and disseminated by the division.

Although initially formed to handle these FI reports, the capability of the plant was expanded with additional presses, ditto, photostat, and Ozalid equipment to service the entire DDP complex, which was located in the "I," "J," "K," and "L" temporary buildings. To enlarge on this service, the plant was moved from "L" Building to "K" Building in 1953. This "K" Building plant was later moved to the ground floor of the Headquarters Building.[23/]

E. Reorganization

In the early 1950's, the division was operated under the General Services Office (GSO), DD/A. This office consisted of the Records Services Division, the Printing and Reproduction Division, the Maintenance and Utilities Division, and the Garage and Motor Pool. In February 1954, the General Services Office was abolished and the Printing and Reproduction Division was assigned to the Office of Logistics (OL).[24/] With the new organizational alignment came a larger scope of responsibility for the division. Of great-

25X1A

[redacted] 25X1A

At the same time that the Printing and Reproduction Division was transferred to OL, the position of the Agency Printing Advisor went to the OL Inspection and Review Staff.[25/] This advisory staff function had been established in 1953 in order to have a staff office which could carry out liaison with the GPO and the Congressional Joint Committee on Printing, to perform staff studies, and to contribute staff assistance to the management of the Agency printing facilities.

By January 1955, the duties of the Printing Advisor (under the Inspection and Review Staff) were so closely aligned with those of the Printing and Reproduction Division that the function was merged with the division and both were redefined and renamed the Printing Services Division (PSD). 25X1A

[redacted]

F. Summary

25X1A

The period 1952-56 was an important period of growth for the division. The new plant on [redacted] which had been acquired late in 1951, was provided with new presses and other equipment. It soon became the principal producer of general printing and photography for the Agency. The printing shop in the Special Center in "Q" Building, formerly operated by OCI, and the FI printing plant, formerly run by DDP personnel in "L" Building, were assigned to the division and provided important specialized reproduction services.

At the end of this period, one of the most important activities of the division was the planning and preparation for the acquisition of the State Services Office of the GPO which took place in January 1957. In the remaining portions of the history (beyond 1957), the activity and significance of the South Building plant will be discussed in some detail.

Table 6 shows the steady growth of the division as reflected in the increased production figures for printing impressions, photographic prints, and the number of feet of microfilm processed. The figures

apply only to the [redacted] "K," and "Q" Building plants for the years 1953-56 since the GPO facility in South Building was not acquired until the following year. Most fluctuations from year to year occurred because of the initiation or completion of large, one-time projects.

In the attached organizational chart, (Figure 4), the Photography Branch and the Printing Branch were located at the [redacted] The Special Plants Branch was in "K" and "Q" Buildings, and the supply and maintenance functions were under the Plant Services Branch.

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Table 6

Output of the Printing Services Division

1953-68

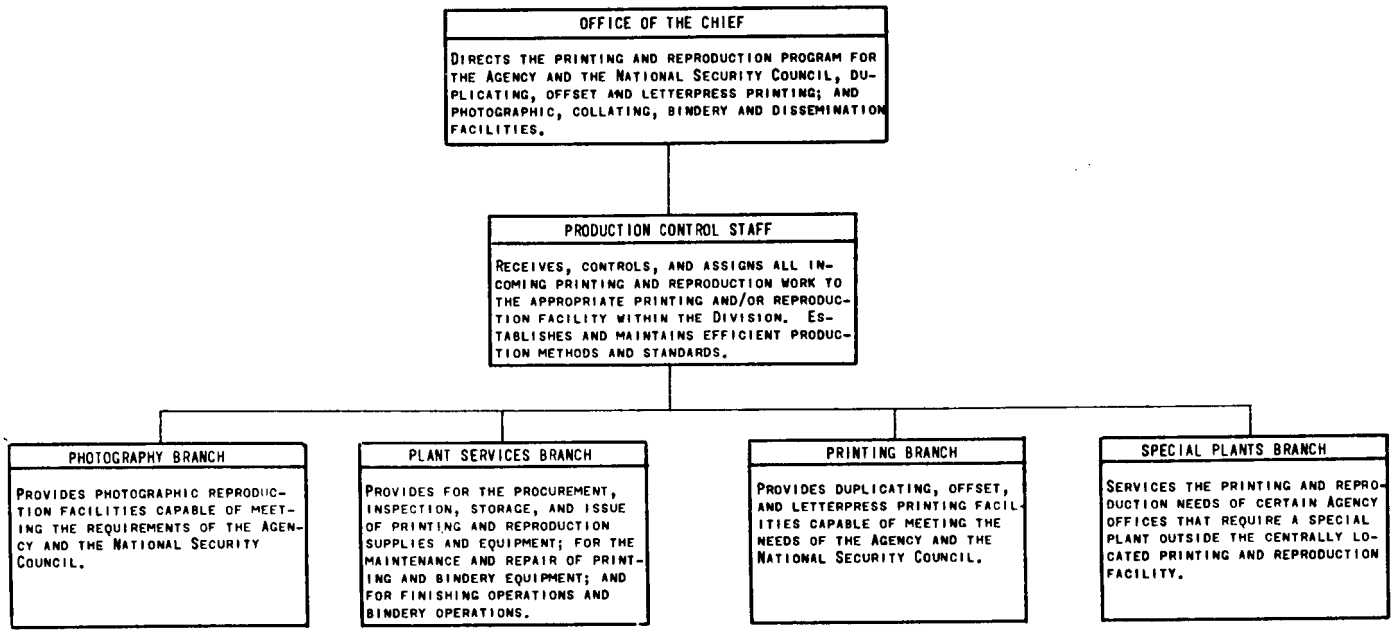
Year	Printing Impressions	Photographic Prints	Microfilm Processed (Feet)
1953[a]	100,000,000	2,525,000	950,000
1954[a]	119,509,150	2,618,340	955,500
1955[a]	139,894,000	2,750,600	900,000
1956[a]	147,595,300	3,164,468	803,030
1957[a]	148,681,000	4,327,000	1,133,800
1958[b]	189,943,000	3,933,000	700,300
1959[b]	185,317,000	2,236,000	863,400
1960[b]	185,156,000	3,166,000	923,900
1961[b]	175,409,000	3,779,000	1,022,800
1962[b]	189,389,000	4,068,000	962,200
1963[b]	202,533,000	4,437,000	955,000
1964[b]	188,650,000	3,929,000	840,800
1965[b]	151,807,000	4,055,000	691,200
1966[b]	165,061,000	4,679,000	834,900
1967[b]	172,734,000	4,918,000	942,000
1968[b]	190,710,000	4,349,000	738,000

a. [redacted] "K," and "Q" Buildings.

b. [redacted] "K" and "Q" Buildings, and South

FIGURE NO. 4

PRINTING AND REPRODUCTION DIVISION
1954



V. Further Growth and Consolidation 1957-62

A. Introduction

In 1957, the Printing Services Division acquired control of the State Service Office of the GPO and increased not only the division's T/O but also its technical capability. This chapter (and the chapter which follows) considers some of the technical advancements which were peculiar to the South Building shop and also the impact of the relocations of the "K" and "Q" Building printing facilities to the Headquarters Building.*

B. Acquisition of the State Service Office of the GPO

On 14 January 1957, CIA officially acquired control of the GPO State Service Office located in

25X1A

[redacted]

the basement of the South Building. With this addition, the division gained [redacted] positions and increased its staffing complement to [redacted] The annexation of the State Service Office greatly enhanced the capability of the division by bringing to it a shop with 17 years' experience in intelligence printing, inasmuch as approximately 90 percent of the production effort in the State Service Office had been directed toward the printing of the NIS program.[26/]

25X9

25X9

The absorption of the South Building plant by CIA had been considered for a long time and was a logical step. The relationship between the two had been quite strong, since the plant was operated almost solely for the NIS program. Printing management on both sides strongly felt that by bringing the plant under CIA control, both the division and the State Service Office would benefit. These predictions proved to be true when a study of the first year's operation under the division showed annual savings amounting to more than $100,000 for the Agency. The savings resulted from reductions in overhead costs, the elimination of previous "peaks and valleys" in production, and the availability of

State Service personnel and equipment for Agency work other than NIS.[27]

C. Job Costing System

With the addition of the State Service Office and because of the continued growth in the number of customers, the fixed-price method of cost accounting which the division had used for a number of years became obsolete. Although this system had proved adequate in the early years, the weaknesses became apparent as the volume of jobs and the requirements grew. To remedy the situation, the division converted to a job-order costing method which proved to be a reliable compromise between a proposed revolving fund and the previous fixed-price method.

Under the new procedure, each processed requisition was individually costed for labor, material, and overhead.[28] Monthly billings or spending reports were given to customers through the Office of Finance. Unlike the old system which had no billing procedure, the job-costing system provided the division with a more realistic means for determining the individual cost of jobs and the extent and trends of customer spending. (See p. 4, above.)

D. Linotype Improvements

In 1960, the division considerably altered the production of typeset material with the adoption of two methods already in use in the industry. The first change was in the operation of several of the linotypes. With the new system, most manuscript material was no longer keyed directly on the linotype. An intermediate step was added whereby the manuscript was converted to perforated tape which, in turn, was used to drive the linecaster (linotype or monotype machine). The combination of more efficient keyboarding and higher speed in linecasting led to an immediate increase in the composition capability of the division. The second modification was in the conversion of typeset material. In order to print NIS graphics which included typeset material with any degree of quality and economy, it was necessary to convert the type to offset plates, using film as an intermediate. Conventional methods for the conversion required that a repro proof of the type be made and the proof then be photographed for offset printing. NIS production was economized with the introduction of mylar plastic as the intermediate.

Instead of pulling the repro proof on paper, repros were pulled on clear mylar which, in effect, made the proof a piece of positive film. The mylar was exposed to positive-acting offset plates, thus eliminating the need for making text negatives from repros on a camera.

E. Relocation of "K" and "Q" Building Facilities

At the completion of the Headquarters Building, Plant No. 4, which was previously located in "Q" Building, moved with the OCI complex to facilities [redacted] of the new building in 1961. As in years past, the sensitivity and priority of the material produced in that plant necessitated that a highly secure, three-shift operation be available for the requirements of the DDI.

Soon after the new Plant No. 4 was occupied, Plant No. 3 was relocated from the "K" Building site to its present location on the ground floor of Headquarters Building. Because of the relocation of Plant No. 3, customer service was increased to include not only the DDP but all components now housed in Headquarters and, as expected, there was

an increase in requirements levied on the shop for more printing and copying service.[29/]

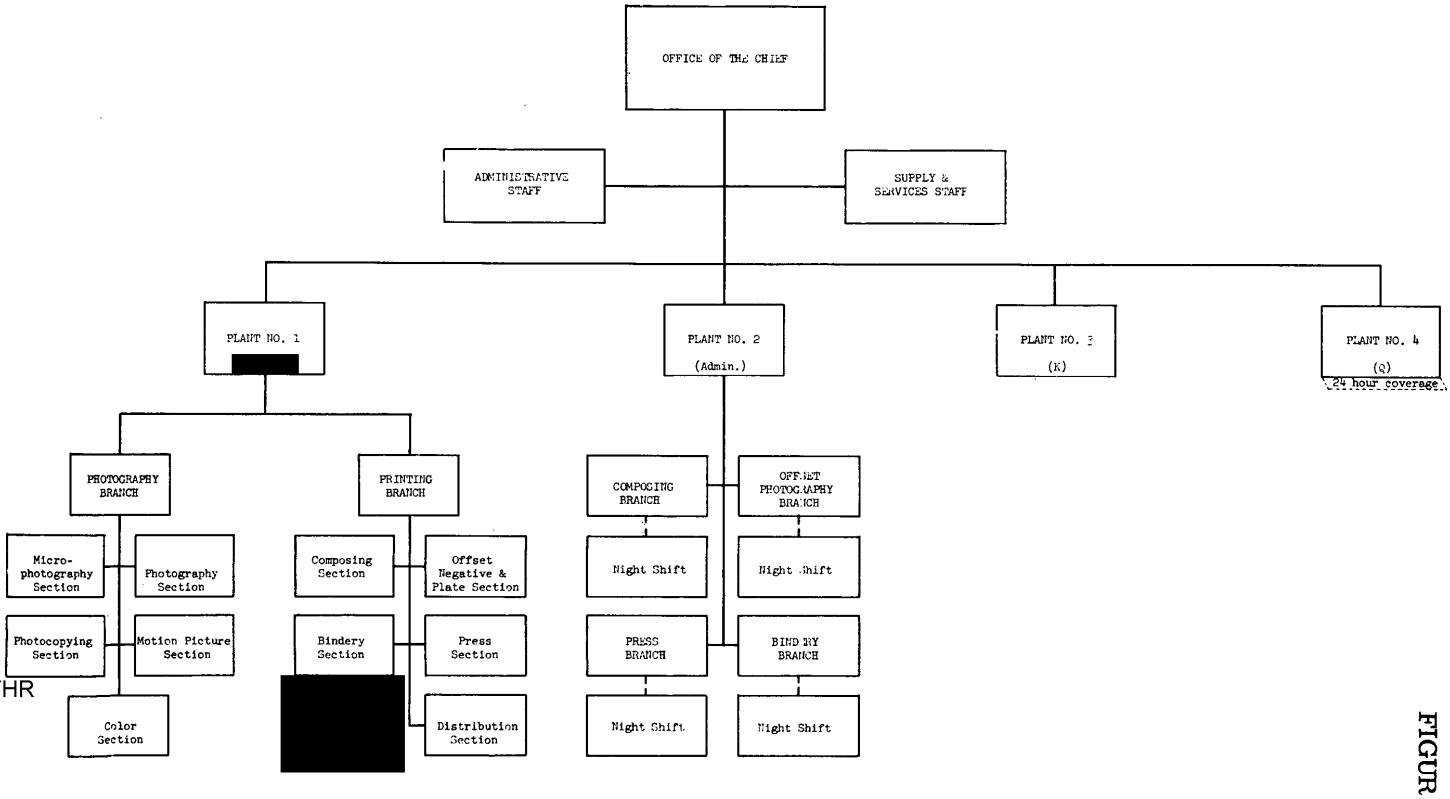
With the centralization of Agency employees at Headquarters and the accompanying relocation of Plants No. 3 and 4 the Division Production Coordinator no longer needed to be stationed in the South Building plant (Plant No. 2). This officer was given an office in the Plant No. 3 area, and by early 1962 the Production Planning Staff was operating at Langley. The task of coordinating the production of the plants was achieved by routing all incoming jobs through the Production Planning Staff for further dissemination to the various plants. This office also made itself available to give advice and assistance to the many customers of PSD.[30/]

The Production Planning Staff was further utilized when a system for monitoring the plant workloads was adopted. Based on weekly reports from the plants on the amount of work on hand, the Production Planning Staff was better able to route the work to areas below capacity and away from overloaded facilities. The staff remained in the Plant No. 3 area until the move to the new Printing Services Building in 1967.

F. Summary

Two organizational charts (Figures 5 and 6) are provided which show the divisional structure immediately after the acquisition of Plant No. 2, and then the redesignation of the plants after the move to the Headquarters Building. Although the production figures shown in Table 6, above, continue to show growth, it should be noted that the figures for 1958 and beyond reflect the addition of Plant No. 2's production, and that the microfilm production (by its nature) was still subject to wide fluctuations.

PRINTING SERVICES DIVISION
1957

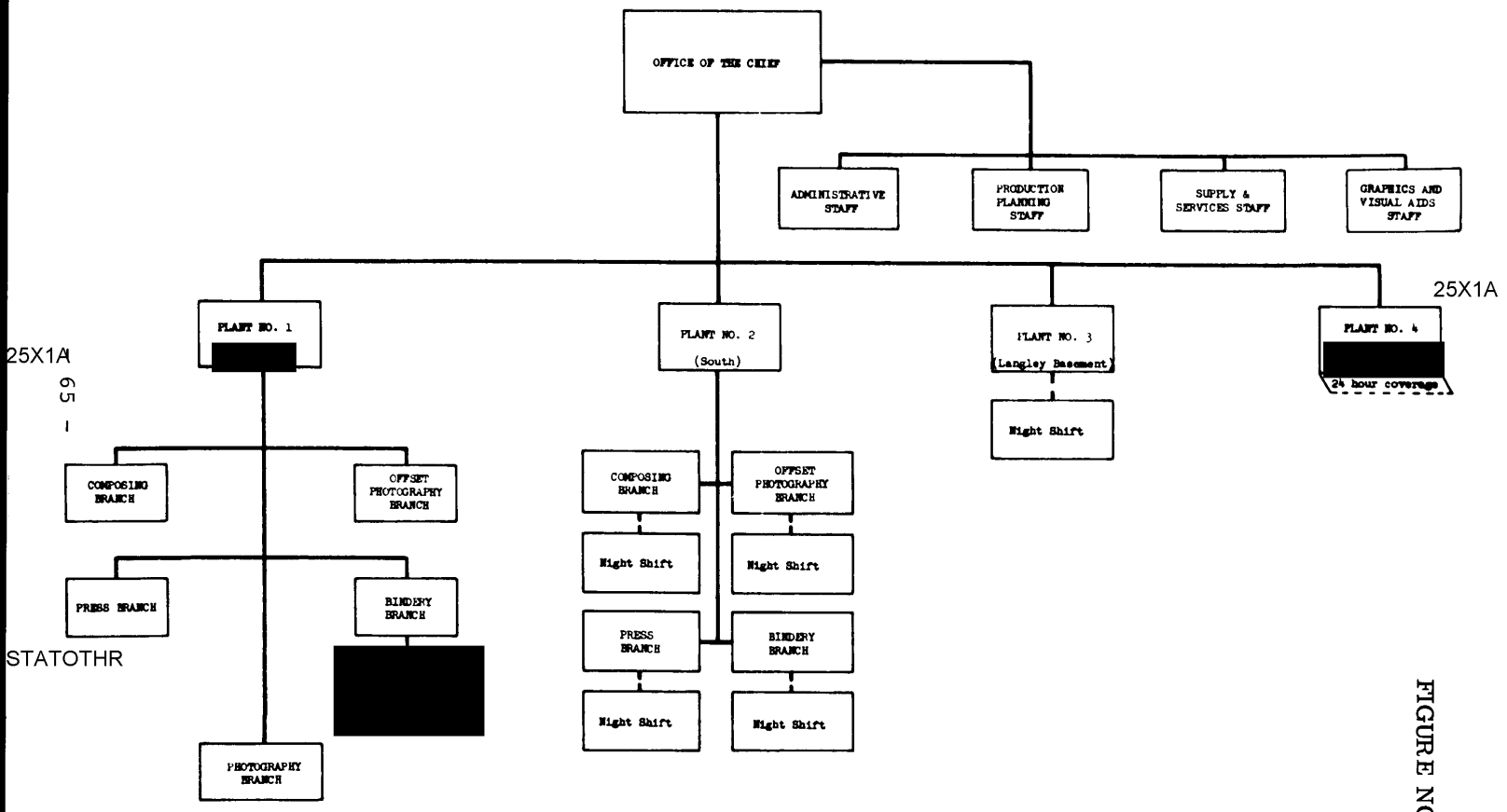


25X1A9a

STATOTHR

FIGURE NO. 5

PRINTING SERVICES DIVISION
1961



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STATOTHR

FIGURE NO. 6

VI. Technical Advance 1963-68

A. Introduction

This final segment of the history covers some of the more important technical improvements which have affected both the division and the Agency in recent years. Some of these include converting the reproduction of [redacted] area books from mimeograph to multilith offset printing, experimentation in continuous tone printing, development and implementation of a computer-assisted typesetting system, the use of source-data automation, and the improvement in quality and speed in copying machines.

Finally, this chapter discusses the consolidation of Plant No. 1 [redacted] Plant No. 2 (South Building), and the Westout Composing Section and the transfer of these facilities along with the Office of the Chief, PSD, (Ames Center Building) to the Printing Services Building at Headquarters. (See Figure 7.)

PRINTING SERVICES DIVISION
1968

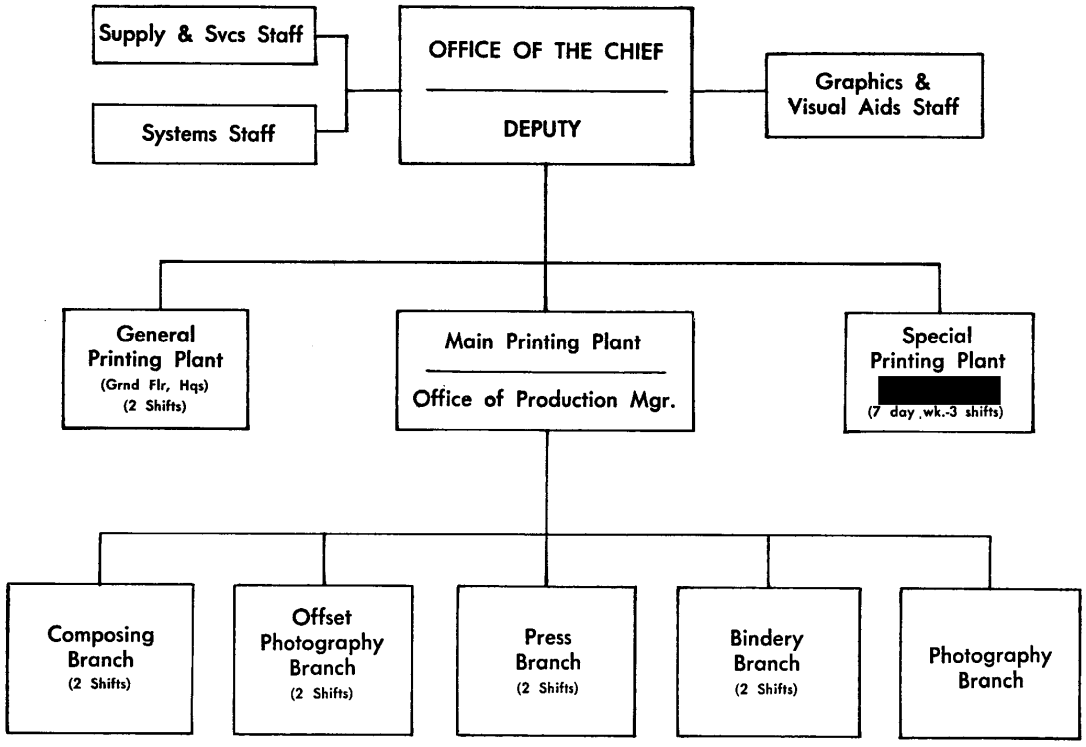

FIGURE NO. 7

25X1A

STATSPEC

B. [redacted] Conversion

STATSPEC

The largest regular daily assignment of the division was to print, bind, and distribute the [redacted] area books -- five publications which were produced overnight in Plant No. 1. As worldwide communications steadily improved, the volume of material available for printing grew to the point where the division was being seriously taxed in men and materials to meet the requirements.

In January 1963, a study was initiated by the Chief of the division to investigate the feasibility of converting the [redacted] publications from a mimeograph process to offset printing. Since production of the five books required an average of 14 persons using the mimeograph method, it was felt that a conversion to offset would effect a reduction in manpower and a subsequent reduction in overall cost.

The result of the staff study clearly showed that the cost of the [redacted] area books could be reduced by the adoption of offset printing. Furthermore, the format used in mimeograph had limited capabilities. By changing the type style, size, and formation of the pages, the page material was compressed and the

number of pages reduced by 30 percent although the total number of words remained constant. The printing and binding operations were further mechanized by the procurement of three offset presses, each with the capability of printing four pages (two on the front and two on the back) with one pass through the press. An automatic collator was also acquired which assembled, stitched, and folded pages in one continuous operation.[31/]

The conversion process was started in April 1964, and was completed three months later. The new process reduced the total manpower needs for the five books to eight persons. The revised system resulted in a level of quality and economy that was satisfying to both the division and its customer.* The cost of producing the [redacted] area books declined from $220,458 in FY 1964 to $151,796 in FY 1965.[32/] STATSPEC

C. Continuous-Tone Printing

After conducting successful experiments in Plant No. 2, the division is closer to the day when

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* As this history was being written (October 1970), the system was still in use.

continuous-tone printing will be a reality. Simply stated, continuous-tone printing gives a true rendition of the middle or grey tones of a photograph. Halftone production, which is the conventional method of producing the grey tones, gives only the *effect* of tone printing through variations in the size of printing dots.* Prior to the experiments, a special type of continuous-tone printing was in limited use in the graphic arts industry. This process, known as colloid printing, was unstable and costly, as indicated by the need for special equipment and material. Because of advancements in offset technology and improvements in films and plates, the colloid process was modified and tested for use on standard equipment. Although not the first such type of color printing in the trade, the first continuous-tone job for the Agency was produced in 1963. The benefits derived from this method of printing are a matter of quality rather than economy. Although there was no significant change in cost,

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* The illusion of grey is created by a concentration of small black dots.

the increase in detail and quality was sufficient to justify this type of reproduction.

D. EPIC System*

During 1964, in a continuing effort to keep abreast of technical advances in the industry, the division, in cooperation with the Office of Computer Services (OCS), embarked on an intensive project to apply computer technology to typesetting for the present and future needs of the Agency.[33/] Computerized typesetting was already rapidly spreading in commercial printing both here and abroad. A wide variety of programs and phototypesetting devices were in operation solving old problems and creating new markets for the printer in the electronic age. The most striking effect of this innovation was that long-accepted typesetting procedures were completely revised or abandoned entirely and replaced by a system that produced error-free, high-quality text composition on positive film.

The initial target for the computer-assisted page-composing system (designated EPIC) was the NIS

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* Electronic Processing of Intelligence Composition.

program. The conventional method used for composing and printing publications in this program consisted of setting the material in metal and pulling proofs on clear mylar for making offset plates.

In developing a program for Agency use, PSD and OCS drastically altered the conventional system and went even further by introducing new features in computerized typesetting. Basically, the EPIC system utilized both customer and composing-room tape, passed it through the computer for line proofs and hyphenless justification and, when deemed perfectly correct by proofreaders, furnished a fully formatted control tape for the phototypesetting device. The key features of the system were the use of customer tapes as input,* the elimination of hyphens, and the casting of a fully made-up page.

In order to eliminate the duplicate keyboarding encountered when the customer typed a manuscript and the printer rekeyed this for linecasting, the customer in the EPIC system used tape-producing

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* See Source-Data Automation (below, p. 73).

typewriters and submitted the tape as part of the computer input.[34/] The printer added the necessary format and control codes to complete the input package. The distinct advantages in using tape are the elimination of unnecessary keyboarding and proofing by the printer and the utilization of the tape as an editing device by the customer.

The insertion of a hyphen when a word was broken at the end of a line was the main source of problems for anyone writing a computer-assisted photocomposing program. Only costly and elaborate computer programs with dictionaries and logic for end-of-line word division were available to produce high-quality text composition. To cope with this problem, a Photon 513 was selected as the casting device. Besides giving versatility in style and size, the machine had the added feature of varying the set size (horizontal dimension) of the characters. This meant that the spacing between the characters on a line was proportionately expanded or contracted in order to successfully fill a predetermined line measure *without word division*. The combination of computer

calculations and the Photon variable set size permitted the hyphenless justification.[35]

The project described above was started in June 1964 and completed in two years. The pilot program for the NIS began in May 1966. After final debugging and the establishment of new procedures for printers, the EPIC system was installed as operational for part of the division's typesetting requirements in August 1966. Although the initial usage of the program was intended for the NIS program, the overall computer program was written in such a way that with individual format codes, the program could be applied to many other typesetting requirements of the Agency.

E. Source-Data Automation

One of the most important aspects of the EPIC system was the principle of source-data automation. This consisted of capturing the data to be typeset on a machine-language medium (tape) at the earliest source (ideally the branch producing the first draft of a manuscript). By using an edit device, which allowed the typist to delete, correct, or add to

the data by word, line, or paragraph, the original document was transferred to a new or revised tape. This cycle could be repeated as many times as necessary to completely correct and alter the manuscript before sending it to the printer. As stated in the description of EPIC, the tape was then used as the input, and rekeyboarding and proofing by the printer was eliminated.[36/] In 1966, the division recommended procurement of the Dura Mach 10 as the source tape device. This machine, which had edit controls and produced punched paper tape, was judged to be the best available at that time. These machines were installed by the NIS non-USIB contributors and also by the OL Supply Division for producing EPIC input for the Agency Stock Catalog. The paper tape produced was an acceptable medium for input but had several serious short-comings. Handling the lengthy tapes for updating or correcting was cumbersome, and a specialized code configuration for data input presented some processing problems. In 1967, IBM marketed a Magnetic Tape Selectric Typewriter (MTST) which performed the same task with greater efficiency and with a code pattern more suited to computer input. The Agency NIS

sources (OCI, OER, and OSI) installed these devices and produced their NIS contributions completely on the magnetic tape system.

Although the original intent was to use the source tape for computer-assisted typesetting, the benefits of tape editing were recognized by virtually every component of the Agency that used the device for their manuscript preparation. By 1968, 20 IBM MTST's were in use not only for computer input but also for routine office reports and for file storage and retrieval. As more and more of these devices are used by PSD customers, the future conversion of linotype and some photo offset (camera copy) jobs to phototypesetting are expected to be more easily accomplished by PSD. In summary, both PSD and the customer will benefit -- the customer by editing control and data storage, and PSD by the efficient and economical use of tape for computer input.

F. Copy Machines

Headquarters Regulation [redacted] (31 March 1964) defined the responsibility of PSD for the Agency printing and reproduction functions. A portion of

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the regulation reads as follows:

> a. DEFINITION. The term "printing and reproduction," as used herein, means the process and the equipment involved in producing copies by relief, offset, hectograph, stencil, and photographic and photocopying methods. Such processes include, but are not limited to, letterpresses and offset printing, multilith, mimeograph, ditto, microfilm, photocopy, and similar processes.

An item which was very much under the technical responsibility of PSD, but was not explicitly defined, was the coordination of all Agency copying machines. Not unlike other Government agencies or commercial businesses, the CIA was significantly affected by the increased use of the office copier. In total amounts, the Agency requirement was for large-volume reproduction, but the small-volume office copier caused both benefits and problems for Agency administrators. Benefits came in the form of convenience due to a decrease in throughput time, labor and time saved by eliminating the need for secretaries to walk to and from a central copying service, and modified systems resulting from an "in-house" copying capability. The problems inherited with the use of copiers were the supply and maintenance

requirements for OL, the overall increase in equipment costs for the Agency, and the paper explosion from too much copying.

The growth in the use of copiers by industry and government was phenomenal. In 1960, there were two major manufacturers. The Minnesota Mining and Manufacturing Co. (3M) was established as the leader with the Thermofax (heat-transfer) process; and the Xerox Corporation, because of patent protection, was the sole source of the electrostatic transfer

[redacted] 25X1A

Aside from the general considerations of equipment, supply costs, quality, copy size, and maintenance, the one factor which contributed most to the growth of the copier was speed. Early models were capable of making from four to seven copies per

minute. By 1968, there were several models by various manufacturers that could produce 10 to 16 copies per minute and Xerox models that could produce 40 to 60 copies per minute. Furthermore, the earlier models consisted only of feed and copy cycles. The new models had automatic feeders, reduction lenses, and automatic collators. The copier had become a copier/duplicator. By 1968, the copier had even taken over a limited amount of work from the printing press operation. In the future, with further increases in speed and quality, and -- most significantly -- as per-copy costs become more competitive with offset, the copier/duplicator is expected to be very much a part of the printing industry.

G. Training

For the Printing Services Division, as with all other government and industry graphic arts units, training was not a by-product of personnel administration but rather a necessity for the continuous operation of the division. From the very origin of the division, efficient production was dependent on apprentice training before journeymanship, maintenance

(of education) after an apprenticeship, and group training for new systems and procedures.

In crafts such as offset photography and press, a minimum five-year apprenticeship was required (for government as well as commercial shops) before a worker was selected and awarded a journeyman rating for his particular skill. The apprentice training consisted mainly of on-the-job training -- with supplemental courses in approved trade schools -- which was programmed to assist the trainee in progressing to a level of complete competence by the end of the five years.

Methods and equipment were always being improved. Some jobs changed so rapidly that annual courses were necessary for skilled persons to keep up with the "state of the art." This was particularly true in the areas of color photography and computerized typesetting. For these two areas, the division sponsored one or two persons at a time to attend technical sessions which ranged from a three-day seminar to a three-week, full-time course at an external installation.

Aside from individual training requirements for both trainees and skilled personnel, situations arose where it became necessary to train or reorient workers as a group. In one case, when the [redacted] STATSPEC production was modernized and converted to offset, employees who worked on the mimeograph equipment were retrained for the offset system. The most recent group training venture was the task of re-orienting persons involved in the traditional type-setting and proofreading methods with the procedures for handling a computer-assisted typesetting system (EPIC). Both cases of this type of training have proved successful.

In 1964, PSD initiated a Management Training Program for the development of future managers for the division. The primary requirements for candidacy were that the employee have completed at least two years of college and have the intention of attaining a BS or BA degree in Business Administration on his own time and at his own expense. The Office of Logistics endorsed this program by placing the

trainees in the Logistics Development Complement* and permitting the division to fill their vacated positions.[38/] As a supplement to their formal education, a complete program was organized which gave the selected trainees on-the-job training in every operation within the division, management courses sponsored by the Agency, and a six-week summer session at a graphic arts college during a two-year period.

The first two-year program began in June 1964 for two trainees selected from the printing plants. At the completion of this initial course, a new trainee entered the Development Complement in July 1966 to participate in the program, while the two graduating trainees were assigned to staff positions in the division. A fourth participant entered the program in September 1967.

H. Printing Services Building

In 1965, plans for consolidation of the Duke Street and Administration Building printing facilities

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* This Complement slotted the trainees against the Logistics T/O and permitted the division to fill the vacancies to the original T/O ceiling.

became a reality when surplus building funds from the construction of the Headquarters Building were made available for the construction of a new plant.[39/] The division engaged the services of the [redacted] 25X1A [redacted] to survey the decentralized locations and design a plant that would efficiently house the combined facilities for the Agency's present and projected requirements.

The company designed a two-level building with 64,000 square feet of operating space. The consolidated plant was to include the entire facilities of Plants No. 1 and No. 2, [redacted] all supply space, 25X1A and the Office of the Division Chief and his Staff. Plants No. 3 and No. 4 and the Graphics and Visual Aids Staff were not included in the consolidation plans.

The benefits derived from the consolidation were many. Duplication of personnel and equipment was eliminated, and costly space that had been leased at scattered locations was abandoned. The transportation of highly classified jobs to and from plants was eliminated, thus saving time and manpower and eliminating security hazards. Finally, the

division had an excellent opportunity to overhaul and update its plant operations.

Innovations and improvements in the new plant included a centralized chemical mixing and piping system, expanded facilities for electronic printing, replacement of worn and obsolete equipment, and an environmental control system supplying the plant with optimum temperature, humidity, and dust control for efficient personnel and equipment performance.

Construction started in April 1966, and the new building was ready for occupancy by August 1967. After the moves of Plants No. 1 and No. 2 and [redacted] were completed, dedication ceremonies were held on 13 September 1967 with Richard Helms, the Director of Central Intelligence, as the principal speaker. The Director, in his speech, discussed the importance of the Agency's mission and the special role of PSD within the Agency. He stated that the end result of the intelligence production process was printed material, and he noted that the annual volume of printed Agency material amounted to approximately 175 million printing impressions, about 5 million photographic prints, and about 16 million pages produced by office copiers.[40/]

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I. Conclusion

The year 1968 was a year of rapid change for the division. Some of the changes related to the installation of new equipment, others to modifications in requirements, and still others to new industrial technology.

After the completion of the Printing Services Building, new plant names replaced the plant number designations. Plant No. 4 in the OCI area was renamed the Special Printing Plant. During 1968, the major change affecting this plant was the elimination of a daily afternoon publication -- the *Central Intelligence Digest* -- and the subsequent publication of a three-tiered (three classification) *Central Intelligence Bulletin*. Because each book contained graphics and was printed on the midnight shift, plant personnel had to be concentrated on the night shift to handle the increase. By 1968, all presses in the shop were capable of running multiple pages (two-up on the 11"x17" press and four-up on the 17"x22" press).

Plant No. 3 was renamed the General Printing Plant and also equipped for multiple-page runs.

STATSPEC

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Plants No. 1 and No. 2 and [redacted] were collectively renamed the Main Printing Plant. Almost immediately after opening the plant, some of the requirements for priority service shifted from the Special Printing Plant and the General Printing Plant to the now-convenient Main Printing Plant. New equipment for both priority requirements and routine work included a cathode-ray tube color negative analyzer, automatic lithographic film processors, faster and more efficient offset presses, and a higher speed Photon phototypesetter.**

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* See first footnote p. 20, above.

** Photon 713-20 (sets copy at the rate of 40 characters per second).

As always, PSD has sought to apply the technical and procedural advances in the industry to meet the demands of Agency printing. The present trend indicates more efficient use of men and equipment in the new printing plant. Although an analysis of Table 6, above, reveals that the number of impressions per year has decreased somewhat since the high point in 1963, it should be noted that the present trend is for larger presses which print two or more pages in one pass. Printing statistics are difficult to reconcile when a small 8"x10 1/2" press prints one page at a time and the page is counted as one impression whereas a larger 17"x22" press prints four pages at a time and the four pages are also counted as one impression.

Furthermore, Table 7, below, appears to show a decrease in the number of requisitions processed in one year. In reality, however, PSD has encouraged the grouping or "batching" of jobs on one requisition in order to expedite handling and cut down on paper work.

In spite of the apparent fluctuation in output, it must be remembered that PSD is a support unit and

that its output is ultimately a reflection of the requirements and needs of the Agency. The real measure of the effectiveness of the division is the quality and timeliness of its product.

Table 7

Number of Requisitions Processed by Printing Services Division

1963-68

Year	Requisition	Year	Requisition
1963	55,370	1966	50,450
1964	52,800	1967	54,161
1965	51,210	1968	48,009

Appendix A

Chronology (1941-68)

1941-42	-	Duplicating Section under the Coordinator of Information.
Mid-1942	-	Duplicating Section becomes Reproduction Branch after formation of the Office of Strategic Services (OSS).
Mid-1945	-	OSS reorganized into the Strategic Service Unit (SSU).
January 1946	-	SSU redesignated as the Central Intelligence Group (CIG).
Spring 1946	-	Reproduction Branch, SSU, transferred to State Department and renamed State Service Office of the Government Printing Office (GPO).
Spring 1947	-	Duplication Section (Attic Shop) set up under CIG.
September 1947-		National Security Act establishes Central Intelligence Agency (CIA).

October 1947 - Joint Army/Navy Intelligence Survey transferred from Defense to CIA and renamed National Intelligence Surveys (NIS).

AT PEC June 1946 - [redacted] production transferred from War Department to the Printing and Reproduction Division.

October 1948 - Printing and photography facility opened at [redacted]. 25X1A

October 1951 - [redacted] 25X1A

August 1952 - Printing and Reproduction Division placed under General Services Office.

September 1952- OCI Facility transferred to Printing and Reproduction Division.

February 1953 - FI Report production added to Printing and Reproduction Division.

February 1954 - General Services Office abolished and Printing and Reproduction Division transferred to Office of Logistics, DDA.

January 1955 - Printing and Reproduction Division redesignated Printing Services Division, OL, DDA.

February 1955 - DDA becomes DDS.

January 1957 - Acquisition of GPO State Service Printing Plant.

July 1959 - Implementation of Cost Accounting System.

September 1961 - Relocation of Plant No. 4 in the Headquarters Building.

October 1961 - Relocation of Plant No. 3 in the Headquarters Building.

February 1963 - Establishment of Production Planning Staff at Headquarters.

April 1963 - Addition of the Graphics and Visual Aids Staff to the PSD complement.

April 1964 - Conversion begun of [redacted] from mimeograph to offset production. STATSPEC

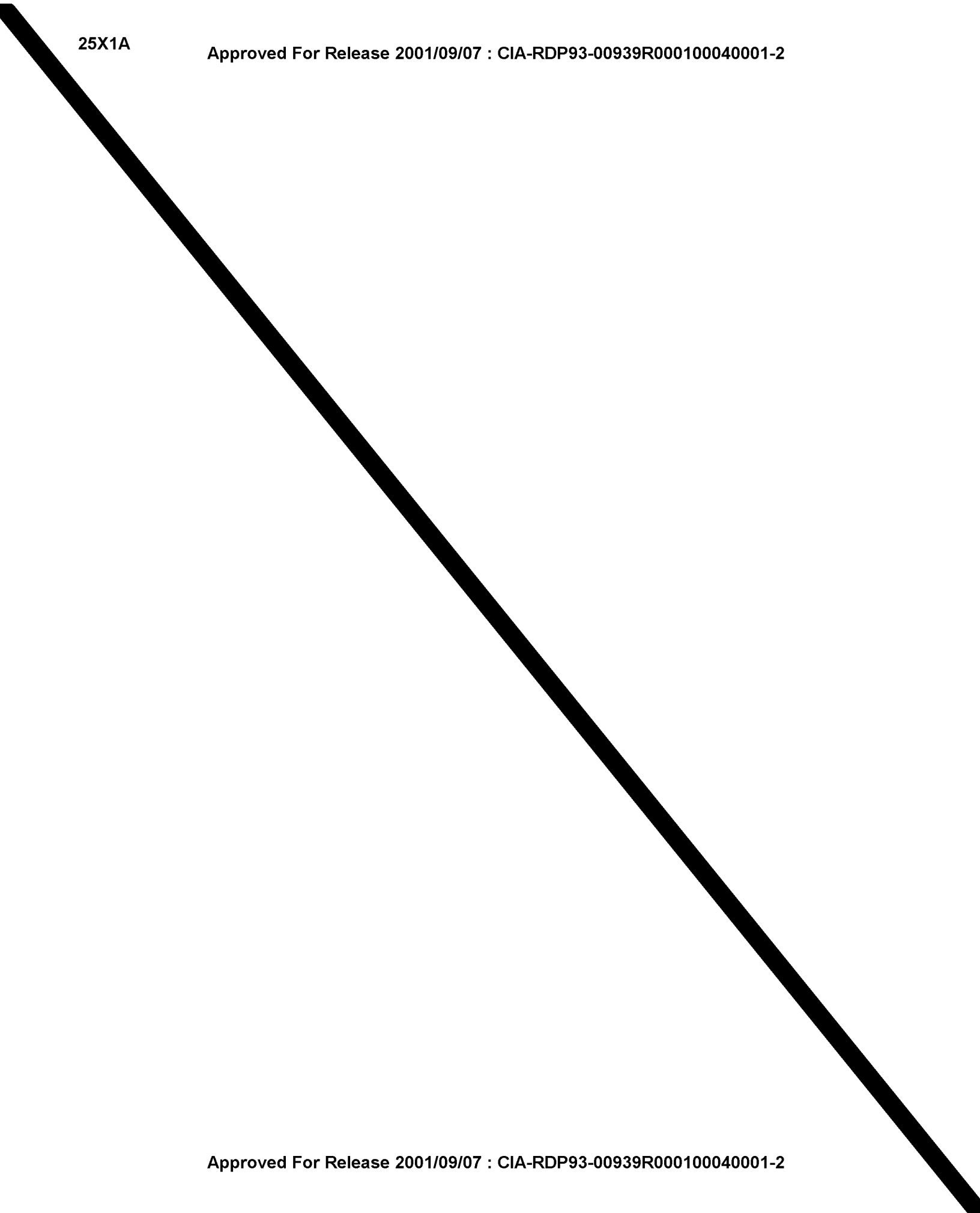
June 1964 - Initiation of PSD Management Training Program.

April 1966 - Construction started on Printing Services Building.

August 1966 - Debugging completed and implementation of computer-assisted typesetting program (EPIC).

August 1967 - Printing Services Building is completed.

September 1967- Dedication ceremonies for the Printing Services Building.



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Appendix C

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