

Establishment of a Proposed Copy Center
Serving the South and East Sides
of the Headquarters Building

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Purpose

The purpose of this paper is to address the production requirements and to identify the resources required to establish a Copy Center (CC) serving the south and east sides of the Headquarters building. It is assumed that the present Headquarters CC, located in GJ-56, would attract, and effectively handle, all the requirements from the north and west sides of the building. Therefore, only the copy requirements from the A,B,C,D and E corridors have been considered in this study.

1. Workload Requirement for a CC for the South End of the Headquarters Building

A. Ground Floor: All existing copiers are low-volume, point-of-need machines. The equipment is properly spaced for maximum personnel efficiency. A CC would have little, if any, effect in reducing either the requirements on the equipment or the total number of copiers.

B. First Floor: The equipment on the first floor is also properly spaced and sized for maximum cost effectiveness and personnel efficiency, and, with the exception of four (4) units, is all low-volume, point-of-need copy equipment. A CC conveniently located to the four higher-volume copiers could draw some requirements from these copiers, but it is highly unlikely that the attraction would be substantial enough to provide any saving or allow a reduction in the number of machines.

C. Second Floor: The equipment on the second floor is poorly spaced and improperly sized for the requirements. In several instances, copier use is strictly for convenience, and is justified through compartmentation requirements. It is estimated that 42 percent of the volume (58,000 copies/month) could be directed to a CC. This would allow the total number of machines to be reduced by eight (8) units, and would provide an annual savings in rental and maintenance costs of \$18,432.

D. Third Floor: The third floor offers the largest requirement for a CC. It is estimated that 45 percent (92,000 copies/month) of the copy volume being produced on this floor could be sent to a CC. The total number of copiers on the third floor could be reduced by three (3), and an annual reduction in copier rental and maintenance costs of \$17,280 could be obtained without decreasing personnel efficiency.

E. Fourth Floor: The equipment on the fourth floor is for the most part properly spaced for maximum efficiency. However, most of the equipment is being used either at or above recommended volume levels. Fifty-four (54) percent (80,000 copies/month) of the volume being produced on this floor should, and potentially could be, routed to a CC. The total number of

copiers could be reduced by three (3), and an annual savings in copier rental and maintenance costs of \$8,484 could be obtained.

F. Fifth Floor: The situation on the fifth floor is much the same as that on the fourth floor. The copying equipment is properly spaced but is being used beyond its capacity for maximum dependability. An estimated 45.5 percent (67,000 copies/month) of the volume being produced on this floor could be directed to a CC. The total machine population could be reduced by three units, thereby providing an annual savings of \$10,416.

G. Sixth Floor: As with the fourth and fifth floor copiers, the units on the sixth floor are properly spaced for maximum personnel efficiency, but are in most cases producing at, or above, an effective capacity. By directing 45 percent (53,000 copies/month) of the copy volume to a CC, the total number of units could be reduced by three (3), and an annual savings of \$5,832 could be realized.

H. Seventh Floor: There are thirteen copiers on the seventh floor in the B,C,D, and E corridors. Although it is conceivable that a CC would attract some percentage of the 196,000 copies a month being produced by these units, the amount is considered to small, and the subsequent savings minimal. All thirteen units are located in the offices of DCI staff functions or the offices of Deputy Directors, making it highly unlikely that any of the units could be eliminated.

2. Personnel and Physical Resource Requirements for Establishing and Operating a CC to Serve the South and East Side of the Headquarters Building

A. To be successful as an alternative to convenience copiers located in individual offices, CC's must offer convenience, expeditious service, and a high-quality product. A single CC to serve the south and east corridors of the Headquarters building with a projected workload requirement of 350,000 to 400,000 copies per month must have as a minimum the following:

(1) <u>Equipment</u>	<u>Copies/Month</u>
(a) Xerox 8200 copier	175,000 to 200,000 cps.
(b) Xerox 5600 copier	25,000 per month
(c) Kodak 100PS copier	150,000 to 175,000
(d) Book stitcher	
(e) Paper cutter	
(f) GBC Binding equipment	
(g) Mailing and wrapping equipment	

(2) Space: To effectively operate a CC containing the above listed equipment plus administrative and supply storage space a minimum of 900 sq. ft. will be required.

- (3) Personnel: To provide the level of service necessary to effectively operate this CC and satisfy user requirements a minimum of 2.75 man-years will be required. (2 full-time, 1 part-time employee)

B. Cost of Operation

(1) <u>Copier Equipment</u>	<u>Annual Rental</u>	<u>Purchase</u>
Xerox 8200	\$ 29,868	\$ 48,640
Xerox 5600	10,920	30,352
Kodak 100PS	21,816	51,775
	<u>\$ 62,604</u>	<u>\$130,767*</u>

(2) Support Equipment

Book stitcher (ACME-Morrison)	\$ 3,900
Paper cutter (Challenger)	1,500
GBC Binding equipment	1,750
Mailing equipment	850
	<u>\$ 8,000</u>

(3) Supplies

The cost of expendable supplies (paper, toner, developer, etc.) would be the same whether copies were made on individual office machines or in the CC.

* The purchase of the copiers does not include the maintenance cost. Annual maintenance for the three units listed would amount to an additional \$28,900.

3. Location

The location of a CC to serve the south and east side of the Headquarters building is the most important factor determining whether such a facility would be successful or not. The facility should be centrally located along the south and east corridors, preferably the southeast corner of the building on the third or fourth floor. The most suitable location is room 3D39, with 1,050 sq. ft. of space. This room provides adequate space for the proposed CC, and is centrally located to all potential users. An alternative location is room 4D37. This location would provide 875 sq. ft., approximately 175 sq. ft. less than 3D39, and 85 sq. ft. less than that which is considered optimum for the facility. The third or fourth floor location is further justified by the potential copy volume on these floors. With little possibility of any requirements from the ground floor or first floor, establishing a CC on the third or fourth floors would centrally place the facility for all potential users.

4. Impact

A. Reduction in the Number of Copiers

Twenty office copiers could be removed by establishing the CC; however, operation of the CC would require three additional units. Net decrease in copiers would be 17.

B. Increase in Operating Cost

Establishing a central CC in the southeast quadrant of the Headquarters building would increase copier operating cost above the current level, eventhough the 17 units would be removed. Although many of the copiers in this part of the building are operating at volume levels at or above recommended levels, and continued use at these levels affects the dependability of the equipment, they are producing at the most cost-effective level. As usage increases vendor charges decrease. Establishing a CC would not only eliminate the need for 17 units, it would have the effect of decreasing requirements on the remaining units, and the per copy cost on these units would increase. Eliminating more than 17 units would have a negative effect on personnel efficiency as employees would have greater distances to travel for convenient copier use.

In summary, establishing the CC would reduce component copier costs by \$60,444 annually. However, the annual operating cost for a CC to accomplish this same requirement would equal \$62,604 in rental cost, \$8,000 for purchasing support equipment, and 2.75 man-years in salaries.

5. Possible Impact

A CC located on the southeast end of the building could pull a substantial quantity of work from the present CC in GJ-56. In fact, so much work could be drawn from GJ-56 to a new center that it could become overburdened, and the present CC could become underutilized. However, pulling some of the work from GJ-56 could also improve throughput time in that facility, making its use more appealing to some of the larger NFAC production shops on the north and west sides of the building.

6. Other Options

a. Unmanned Center (s)

An unmanned CC could be established in one of the locations recommended, or large unmanned machines could be placed in strategic locations on the south and east sides of the building. The cost of operating unmanned centers would be approximately equal to the savings obtained from the displaced equipment. However, past experiences with unmanned centers have not been favorable. Equipment and supplies are not properly maintained, and security is a problem. Also, when there is an equipment

malfunction the equipment is usually left in an unusable state for the next person.

b. Realign Existing Equipment to Requirements

The realignment of existing equipment to requirements is the most attractive option from both a cost-effective and an efficiency standpoint. Machine reduction, in numbers equal to those resulting from the CC concept, could be achieved. Considerable savings in machine rental and maintenance are possible without the problems associated with unmanned or manned CC's. Overall, the simple adjustment of equipment to meet requirements is the best approach from both an efficiency and economic standpoint.

Requirements Summary

Current Status

Convenience Copiers

Projected Status

Convenience Copiers

Copy Center

	Monthly Volume	No. of Copiers	Monthly Cost	Monthly Volume	No. of Copiers	Monthly Cost	Monthly Volume	No. of Copiers	Monthly Cost
G.F.	111,000	16	\$ 3,068	111,000	16	\$ 3,068			
1st	109,000	13	\$ 2,908	109,000	13	\$ 2,908			
2nd	137,000	17	\$ 4,980	79,000	9	\$ 3,444			
3rd	205,000	11	\$ 4,919	113,000	8	\$ 3,479			
4th	147,000	10	\$ 2,874	67,000	7	\$ 2,167			
5th	147,000	10	\$ 3,347	80,000	7	\$ 2,479			
6th	117,000	9	\$ 2,770	64,000	6	\$ 2,284			
7th	169,000	10	\$ 5,058	169,000	10	\$ 5,058			
Totals-----	1,142,000-----	96-----	\$ 29,924	729,000-----	76-----	\$ 24,887	350,000-----	3-----	\$ 5,217
	x 12mos.		x 12mos.	x 12mos.		x 12mos.	x 12mos.		x 12mos.
	13,704,000 cps.		\$359,088	9,504,000 cps.		\$298,644	4,200,000		\$62,604

Machine Reduction - 17

Cost Increase - \$2,160 (Annually)