Chapter 7
Alternative Futures for the Depository Library Program

Documents librarian assists users with the Documents Center online catalog.

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Alternative Futures for the Depository Library Program

SUMMARY

This chapter discusses several alternative futures for the U.S. Government Printing Office (GPO) depository library program (DLP) and examines their implications for the depository program and users of Federal information. The three alternatives considered are:

* maintaining the status quo (that is, the program as currently operating, excluding most electronic information products);
* incorporating electronic information products into the current depository library program; and
* reorganizing the depository program in the 2- to 10-year time period, to accommodate electronic formats and the adoption of current and emerging information technologies by libraries.[1]

Included in this chapter are case studies of electronic delivery oft wo data files—the *Congressional Record* and *Federal Register.* This chapter also discusses several key issues concerning the future of the DLP.

In 1962, Congress revised the laws relating to the depository program. Throughout the hearings and debate on the proposed legislation, Members and those testifying noted the "vital role" of the depository program in the dissemination of government information to the American people. One of the revisions accepted by Members was a provision to extend to the depositories access to additional government-produced materials, and Members noted that ". . . the Subcommittee on the Li-

brary considers . . . the expanded availability of documents to those depository libraries as absolutely essential if the purpose intended by Congress in the establishment of the original program is to continue to be served.'" The debate today concerns not only additional materials but additional formats, and whether including electronic formats is consistent with the legislative history and statutory authority of the 1962 act.

With the increasing number of electronic dissemination projects in agencies as well as related private sector offerings, the impetus for including electronic information in the depository program is strong. Electronic products enhance access to many types of information, and failure to include these products within the depository library program could create or exacerbate inequities in public access to such information. The Joint Committee on Printing (JCP) has interpreted provisions of Title 44 of the United States Code as extending to government information in all formats and has endorsed pilot and demonstration tests and delivery of government information products in electronic formats. The Subcommittee on Legislative, Committee on House Appropriations, has approved the distribution of CD-ROMs to depository libraries. Thus, it seems clear that some electronic products will be included in the depository program. However, the number and types of products are likely to be quite limited, in the absence of further congressional guidance, since at present GPO is not empowered to require agencies to submit their electronic products for depository distribution. Thus, without further policy action, erosion of

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1 Throughout this chapter D PL refers only to the U.S. Government Printing Office depository library program; and the reorganized *DLP* alternative *is* based in part on the proposal developed by the Association of Research Libraries Task Force on Government Information in Electronic Format. For more information see: Association of Research Libraries, *Technology & U.S. Government Information Policies: Catalysts for New Partnerships* (Washington, DC: ARL, October 1987).

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[2]U. S. Congress, Committee on Rules and Administration, *Revising the La ws Relating to Depositor?' Libraries.* Senate Report No. 1587, 87th Cong., 2d sess.,1962,p. 25.

public access to government information via the depository libraries is likely to continue.

OTA has also concluded that the likely introduction of electronic information to the depository library program may require an examination of the current structure of the program and the nature of the relationships between depository participants and the government. Committees of Congress, member libraries, and GPO will need to assess the current organizational structure and operation of the depository **library program and determine if it is the most effective and efficient system for users to access government information. Pilot projects and the like will provide useful information regarding user information needs, financial costs, administrative requirements, and levels of usage.** These pilots will also assist the committees, GPO, and member institutions in designing new delivery and financing arrangements, particularly in light of the evolving nature of both libraries and the telecommunications infrastructure.

An important reason for electronic demonstration projects is to better understand the issue of costs to users, to government, and to depository institutions. If the basic underlying principle of the depository program is to retain free access to government information for users, then Congress needs to appreciate that there may be additional costs associated with the introduction of certain electronic services, and Congress may have to assist depository **libraries and GPO in designing and financing ways to make this information available to the public.** Case studies of two electronic data files, the final or bound *Congressional Record* in CD-ROM format and the *Federal Re~"ster* online, are presented to illustrate possible delivery modes and costs.

Distribution of selected government information products in CD-ROM format such as the bound or final cumulated edition of the *Congressional Record* could improve access to such information, and could be a cost-effective dissemination mechanism for the Library Programs Service (LPS) for certain data files. There could be some additional equipment and training costs associated with this format for

the depository library participants. There will be a need to periodically review depository library policies as new formats are added, especially since budgetary constraints are not likely to permit multiple formats for many government information products. Difficult decisions will need to be made about which formats for the different products should be distributed to depository libraries.

In the longer-term, Congress may wish to consider a reorganization or restructuring of the current depository program in light of electronic information dissemination options now or likely to become available. This assumes that there is a fundamental need to reorganize the depository program to account for changes in how users access information and how libraries provide information to users. A reorganized depository program presumably would incorporate the 'lessons learned' from the pilot projects and demonstrations. To this end, the pilots and other resource-sharing projects would assist depository librarians, GPO, the JCP, and other congressional committees in discussing and redesigning the current structure of the depository program to best serve the end-user—the public. Other issues, such as how best to serve the needs of rural users of government information and whether the depository program should remain within GPO or be moved elsewhere (e.g., to the Library of Congress), also could be examined during the reorganization discussions.

In the final section of this chapter, four closely related policy issues are examined. These issues concern the need for developing a clear information policy on access to government information in electronic format through depository libraries. In formulating policy it will be important to consider the following specific questions or issues:

- Should government information in all electronic formats be disseminated to the public through the depository library program? Are the principles of free access still applicable to the depository program, or are there new costs associated with the introduction of electronically formatted prod-

ucts such that user fees or new funding mechanisms need to be considered?

- Can the current depository system accommodate new responsibilities for electronic formats or should a new institutional structure be considered? and

- Does the increasing shift to electronically formatted information require a reexamination of the composition and relationships of the stakeholders in the depository program, and especially the role of the information industry?

INTRODUCTION

The first three major sections of this chapter explore three possible alternatives for the depository library program. These are maintaining the status quo, establishing an electronic depository library program, and developing a long-term, reorganized electronic depository library program based on new and emerging technologies and the changing nature of libraries and information needs of users.

The analysis of the alternatives and their possible implications is intended to facilitate an understanding of the possible choices available to policy makers. The three alternatives are presented and evaluated in some detail. In evaluating the alternatives, the effects of proposed changes resulting from the use of new technologies are given considerable attention.

Each of the alternatives is structured in terms of the five main functions of the Library Programs Service (LPS):

1. acquisition of materials;
2. classification of materials;
3. cataloging of materials;
4. distribution of materials;
5. monitoring of member depositories.

The discussion of monitoring includes consideration of internal LPS operations and is presented from the perspective of the quality of library service and access to Federal information.

The fourth section in this chapter discusses the possible dissemination of two data files to the depository libraries in electronic formats— the bound *Congressional Record* in CD-ROM format, and the *Federal Register* online. Finally, the fifth and last section in this chapter discusses four key issues relevant to the future of the DLP.

ALTERNATIVE I: STATUS QUO

The status quo is defined as a continuation of the current roles and activities of the DLP as described in chapter 6. The discussion below assumes that no major congressional or executive actions are taken for the next few years and:

- GPO disseminates information in paper and microfiche formats with a few CD-ROMS and a few online files; and

- depository libraries receive information from Federal agencies in paper and microfiche formats with few electronic formats.

DLP, within the Superintendent of Documents (SupDocs) at GPO, would continue to distribute government documents to approximately 1,400 participating depository institutions. The amount of government information that should belong in the program is projected to increase, but the actual amount distributed would probably decrease for two reasons—agencies failing to place paper documents in the program (fugitive documents), and an increase in the percentage of electronic products falling outside the program. The decentralized practice of agencies shipping materials directly to participating depository in-

stitutions would likely increase, as in the case of Department of Energy and Equal Employment Opportunity Commission agreements that are typical of arrangements between GPO, libraries, and the agencies (see ch. 6 for more information).

Classification of materials. There would be no changes in or effects on the classification of materials.

Cataloging of materials. There would be no changes in the cataloging of materials.

Distribution of materials. The bulk of government documents distributed to depository libraries would continue to be in microform format. Dual format (paper and microfiche) would continue for selected congressional and executive branch materials. GPO and the library community would likely revisit the debate over the choice and cost issues raised by dual format.

The Superintendent of Documents would maintain the practice of selling GPO tapes to vendors at a nominal fee. Neither these tapes nor the bulk of electronically-formatted materials from other government agencies would be distributed to depository institutions (except for a few CD-ROMs and online products). Depository institutions in need of electronically-formatted information would presumably purchase this information from vendors or through other arrangements directly with the agencies, for example, Bureau of the Census or National Library of Medicine (NLM).

Monitoring of the member institutions and effectiveness of the program. The budget of the LPS would likely remain relatively constant. If Federal agencies move away from GPO services (for whatever reasons, such as an increase in electronic products in lieu of paper) and, as a consequence, fewer government documents were available to the Sales Program, the GPO sales could be reduced. This could in turn affect the amount of monies redirected from net sales revenues to LPS to partially reduce the need for appropriated funds.

The LPS Information Technology Program (ITP) was established in the summer of 1987 with a charter to initiate agency electronic pilot projects for the depository program. However, no monies were appropriated by Congress for this program. The program focus instead has been on internal operations, such as automated shipping lists, a claims-processing system, and other microcomputer-based systems in support of LPS operations. Additional staff time has been spent gathering information on other agency electronic information programs and a few electronic projects such as the Census Disk. Over the next few years, under the status quo alternative, the role of ITP with respect to dissemination of electronic formats would continue to be limited.

The ability of LPS to accomplish its mission would be eroded to the degree that:

- electronically-formatted government information was unavailable to the public through the depository program;
- the agencies became even more dependent on NTIS rather than GPO/SupDocs as a dissemination mechanism for electronic products; and
- the agencies relied on contractors, interagency agreements, or private sector arrangements rather than GPO for electronic dissemination in general.

Although the number of selective depository institutions in the program would likely increase, several regional libraries (those libraries receiving and permanently maintaining all government documents) would likely drop membership in the depository program (as is happening currently). The increase in membership of selective depositories would be due to the minimum selection requirement that allows participating institutions to select only those government documents as appropriate for their patrons. The decline in the number of regional depositories would be attributed to the growing amount of government information that would need to be maintained permanently and the escalating costs of participation.

As GPO's role diminished, the role of the private sector in the provision of government information to the public would likely expand. An increasing percentage of information in

electronic formats would be available only through private vendors. Depositories would have two choices: either pay vendors for government information not available through the depository program or directly from agencies, or not provide direct access to these materials for their patrons.' The costs to member depositories would increase and continue to rise as agencies moved to greater reliance upon electronic formats and private sector services. The costs to those depositories opting to provide access would continually rise as agencies moved to greater reliance upon electronic formats and private sector services. Also, depositories could incur increased costs for online searching and additional reference services to the extent that librarians and information specialists needed to check a greater number of sources for government information. Regionals could face additional costs to the extent that selective depository institutions were unable to provide specific information to patrons and as a result referred inquiries to the regional libraries.

Under the status quo alternative, public access to government information via depository libraries would likely be continually eroded and reduced. Equity of access would be adversely affected to the extent that patrons of depository institutions would have to pay for access to government information. Also, many of the agency electronic information products could

be more difficult for patrons to locate. To the degree that depository library users were denied effective access to enhanced electronic versions of core governmental process information such as the *Congressional Record,* equity of access would be further reduced. As stated by Frantzich:

> The current hard copy version of the *Record is* particularly inflexible. While users generally want a full picture of a debate on a particular subject or the actions of a particular Member, these are scattered throughout the text and over a number of different documents. The ability to use new technology to "cut and paste" a tailored document would greatly increase the usability of the material in the *Record.*[4]

Under this alternative, overall government costs would likely increase since government at all levels (including Federal as well as State and local depository libraries) would not be receiving needed Federal information through the depository program and would have to maintain it through other more expensive means.

Under the status quo, with a greater number of agency information products available in electronic formats, GPO would be unable to comply fully with a legislative mandate of providing access to government information to the public through the depository library program.

'Not all government information in electronic format would be available through private sector services, since some or many types of information would not be expected to produce monetary benefits for vendors. This information could be permanently lost to the public.

'Stephen Frantzich, "Public Access to Congressional Information in the Technological Age: Case Studies. Draft OTA contractor report, OTA, September 1987, pp. 50-51.

ALTERNATIVE II: ELECTRONIC DEPOSITORY LIBRARY PROGRAM

This alternative assumes that the existing DLP would be extended to include government information products in electronic formats as well as paper and microfiche. The program would be managed as it is now. In addition, this alternative assumes that GPO would serve as the disseminating agency for the depository program, and:

- each depository would select the type and number of formats; and

- OMB would issue a circular requiring agencies to comply with the depository program for all government information regardless of format (within current accepted guidelines for those materials that

are not confidential, administrative, or for internal use).

Under this alternative, the Superintendent of Documents would approve the inclusion of electronic products from Federal agencies for dissemination to depository institutions, in addition to paper and microfiche products. Under this alternative, it is likely that microfiche would still account for the bulk of products within the program. Dual format would probably continue for a minimum number of products, and fewer paper documents would be available to member institutions. LPS would be able to provide a choice of files in a variety of formats to members of the program, but these files would not always be available in all formats.

This alternative could have the following effects on the five major functions of LPS.

Acquisition of materials. Many of the current procedures for acquiring materials would continue. GPO would receive tapes, disks, or diskettes from the issuing agency, duplicate the new media in-house or via a contractor, or depositories would receive the materials directly from the agency or an agency contractor pursuant to an interagency agreement.

The information format would require individual decisions by the agencies and GPO to determine if GPO would operate in a centralized or decentralized mode. For example, a data file developed by or for an agency could be received by the depository via GPO, from the issuing agency directly, or from an agency contractor. This data tape could also be a "raw" data tape or one with "value-added" software included. Each mode of delivery to the depositories and each format has advantages and disadvantages to the program, the participating institutions, and the agencies. Thus, it could be more advantageous for libraries to work directly with the Bureau of the Census for certain data tapes. This could require additional infrastructure within agencies where the amount of electronically formatted information is significant. Another example would be CD-ROMs of the bound *Congressional Record* or of Bureau of the Census materials, where

it might be more advantageous for GPO to ship the CD-ROMs directly to the depositories.

Classification of materials. The introduction of electronically formatted materials should not require any significant changes in current LPS classification procedures. The format type –paper, microfiche, CD-ROM disk, diskette, or online tape—would need to be noted as it is now. It would be necessary for the originating agencies to clearly define the source and nature of the electronic material so it can be properly classified and assigned a correct number.

Cataloging of materials. GPO employs AACR-2 (Anglo-American Cataloging Rules), the accepted standard for cataloging developed by the library community. The cataloging of new media is already an accepted practice in the library community. GPO's integration of new media into the depository program would require training of LPS cataloging staff and informational assistance to depository institutions to make library catalogers aware of the changes in format. GPO has developed *Cataloging Guidelines* that describe preferred routines for inputting records into the Online Computer Library Center (OCLC), use of AACR-2, serials procedures, and the like. GPO would be required to update these guidelines to include procedures for handling electronic formats.

Distribution of new materials. Overall, the current distribution procedures would remain with some modification for materials in an online format. Diskettes and CD-ROMS would present few, if any, new distribution problems to LPS. However, distribution of online data files could present a variety of problems, depending on whether the mode of operation was centralized or decentralized.

The addition of electronic formats might affect the selectivity of the depositories. Depository institutions are becoming increasingly selective in the number of and kind of government information products they receive. The inclusion of electronic products in the program would not change this trend, and might even increase selectivity. As with paper and micro-

fiche, librarians would need to examine the government materials available in electronic format and explore the choices for their- patrons. Whereas the initial cost of adding a document in microfiche is minimal (not counting the costs of storage and maintenance), the cost of equipment and software development for electronic formats could be higher, at least initially. With electronic formats, depositories would have new choices to make concerning the information needs of users.

Monitoring of member institutions and effectiveness of the program (as it relates to quality of service and access). The introduction of electronic files to the depository program and to GPO would require the development of additional GPO in-house expertise in information technologies. For example, GPO could contract for the mastering and production of CD-ROMs, produce CD-ROMs in-house (equipment permitting), or obtain the necessary number of CD-ROMs from the agencies. Regardless of the choice, an overall understanding of CD-ROM technology, production, and use would be needed to ensure an effective program.

The Information Technology Program (ITP) would need to be expanded. The new responsibilities of this office could include development of training programs for depository libraries that focus on equipment purchases, use of new electronic services, and awareness of electronic information products available from the government. This training component would be critical to the success of this alternative, and would require increased funding.

Overall, large institutions such as the Association of Research Libraries (ARL) members, academic institutions, and State libraries (which collectively account for over 50 per cent of the depositories) would be better prepared than smaller institutions to accept products in electronic format. These institutions already have much of the needed equipment and ongoing training programs for staff. Acceptance of electronic products probably would be slower at smaller institutions, primarily due to lack of necessary equipment, training, and an adequate financial base. The GAO Survey

of Federal Information Users noted a growing technology base in depository institutions. If GPO were to provide electronically formatted materials, it is likely that more and more depositories would, over time, invest in needed equipment just as they did for microfiche.

Each depository institution would be in a different stage of development concerning the use of information technologies in support of depository library programs. For example, many university libraries already have CD-ROM equipment, whereas many smaller libraries do not. On the other hand, CD-ROM technology is inexpensive, very user-friendly, and requires minimal staff and user training. It does, though, require some training and knowledge in order to use different software packages effectively.

A determination would need to be made on what kind and level of support GPO should provide including, costs and other implications. For example, GPO could offer the depository libraries a series of comprehensive seminars on equipment and training, and/or form a team of information technology consultants similar to the current depository inspectors. This team would assist member institutions introduce electronic formats to the library staff and users.

Congress could consider a one-time equipment grant for depository library CD-ROM equipment but would need to address standardization issues. Depository participants and GPO are likely to be unable to regularly upgrade their CD-ROMs (for financial constraints alone), yet, at the same time, CD-ROM technologies are constantly changing (both hardware and software capabilities). One possible side effect of an equipment grant, if made, would be to encourage and accelerate standardsetting, since the government would be buying for up to 1,400 institutions.

Some reconsideration of retention policies would be necessary with the introduction of electronic files. These *new* policies would be applicable to regional depositories that are now required to retain all government materials permanently. There are over 50 regional institu-

tions—a mix of public and private institutions and academic, public, and State libraries. Storage guidelines for new formats at these institutions, particularly for online files, would be an issue if the old requirements were retained. The two key issues that would need to be addressed would be the development of guidelines for online storage, and the development of guidelines regarding the costs to regionals for provision of online information to other institutions.

A new institutional structure for the depository program is evolving with the emergence of a set of "supra" regionals. The role of some regional depositories has developed into one of providing service support to other depositories, including staff time and equipment. Also, some regional institutions do not house all government materials received, but instead assume responsibility for these documents regardless of the location. This change has occurred due to increased cooperation among members, with "statewide" institutions expanding their participation. There are a number of advantages to this emerging structure:

- increased integration of government documents into library collections,
- greater resource sharing,
- spreading out the "burden" of the service support functions and costs, and
- improved flexibility of storage requirements.

This growth in cooperation and flexibility within the depository system is very important and should be beneficial as the amount of electronic information increases.[5]

Other impacts of Alternative II. Under Alternative II, there could be substantial savings in GPO production and distribution costs if more government information products were available in CD-ROM format and not produced in paper and microfiche (e.g., for certain Bureau of the Census materials). There could be additional costs incurred depending on the number of products distributed in an online format as this format can be more expensive.

"Based on discussions with GPO, LPS staff, November 1987.

There would be some reduction in other current costs, such as for storage of paper and microfiche. For example, the cost of microfiche cabinets is very high-$3,000 per year, including maintenance and space considerations—and the reduction in the amount of microfiche could be a benefit to regional depository institutions.

All depository institutions that accept electronically formatted products might face additional costs from participating in the program. These costs would result from one or more of the following: 1) staff training, 2) equipment purchase (beyond that possibly provided by GPO, 3) costs of online searching, 4) local mounting and/ or downloading of government information, and 5) increased user support. The specific electronic format would affect the level of costs to the user, the library, or the government. For example, providing the Congressional *Record* retrospectively on a CD-ROM disk to all depository institutions (if mastered by GPO, replicated by a contractor, and distributed by the depository program), would likely impose some additional financial responsibilities on depositories and actually reduce costs to the government if provided in lieu of paper or microfiche. However, access to an agency online data file might involve additional costs to the depositories and/or the government when telecommunication costs are factored in.

Some regional depositories would face additional financial burdens, and some depositories might reconsider membership as the costs of resource-sharing increased. An increasing number of depositories not receiving certain electronic files might turn to the regional depository libraries for that information. If this occurred, it could be difficult for these regional libraries to maintain policies of free access to government information.

Under alternative II, overall access to government information would be expected to improve. But access would be enhanced only if depository libraries could accommodate and support electronic formats and develop resource-sharing procedures for those libraries

that did not have the necessary technologies, funding, and training within a State or region.

This alternative would increase the need for clarification of the roles and legal authorities of GPO, the depositories, and the agencies. Agencies presumably would be required to provide electronically formatted information to the depository program. Clear guidelines and possibly legislation would be necessary.

A Subalternative for Distributing Electronic Formats

A subalternative of Alternative II would make selected electronic products available to specified depositories not via GPO but via an agreement with private sector or not-for-profit services. The Public Printer has previously proposed a pilot project whereby private sector and not-for-profit services would disseminate selected government generated tapes to a subset of depository libraries at little or no cost to the government.[h] The private sector service would add value to five suggested databases: congressional bills, Congress~onal *Record, Federal Register, Code of Federal Regulations,* and the *Monthly Catalog of Um"ted States Government Publications,* in return for free receipt of the tapes. The private sector service would be required to accept all five tapes, because the total value of the five tapes would provide increased access for users and increased value to the vendor. The cost of the tapes would be debited to the depository program.

For this or similar proposals to be seriously considered, a number of issues would require clarification. For example:

- GPO would need to determine a level of public access to the electronic information that would be considered viable and appr~priate. Would the combined value of the tapes minus the va.badded costs provide a sufficient level of access to the public and sufficient incentive to the vendors?

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[h]Letter from Ralph E. Kennickell, Jr., Public Printer, to Honorable Frank Annunzio, Chairman, Joint Committee on Printing, Dec. 10, 1987.

- GPO would need to design criteria for selection of library participants. Telecommunications permit access to online information regardless of geographic location, so geographical concerns need not limit the libraries selected. The type of library, the facilities, equipment and training programs in the library, and the networking capabilities to other depositories are examples of criteria or factors that could be employed by GPO to select participants.
- GPO would need to specify the responsibility of participating libraries regarding the need to maintain paper and microfiche copies of these data files to guarantee access to government information, and for archival purposes.
- GPO would need some assurance (on behalf of all participants) of length and level of commitment by the vendor, and the vendor would require some assurance as to the commitment by GPO to the continuation of this program. For example, would this be a pilot project or a program that would seek congressional endorsement and financial support for, say, the next 3 years?
- For an option such as this to be successful, the vendor would likely already have considerable market share in one or several of the data files and within the library community.
- The value of the duplicated tapes and the "charge" against the depository program would need to be factored into the overall costs of the program.
 A determination of proprietary rights in the 'value added' information and ensuing use by libraries would be necessary.
- Previous "barter" agreements between agencies and private sector services generally have been unsuccessful, and congressional committees with relevant jurisdiction generally have not supported projects of this nature. Congressional concerns would need to be alleviated prior to implementation of such a proposal.
 Arrangements concerning telecommunications charges and the like would need to be specified.

Under this subalternative, public access to government information would appear to increase. Electronic information would be available to the depositories at little or no immediate cost to participating institutions. Some insight would be gained concerning usage levels and the overall costs that would be associated with a larger electronic program. There would be minimal costs to government, at least at the outset.

There are also disadvantages associated with this subalternative. With the pilot project, only a selected number of libraries would participate and even those would have only a minimum level of access. It is unclear whether and under what conditions this suba.lternative could be extended to all depository libraries. The costs to the government while minimal with the pilot project would increase substantially over time as the number and types of files expanded. The question of proprietary

rights in the value added by vendors would need to be addressed. Should or could these rights be waived, or should restrictions on public use of such value added information be accepted? Any restrictions could adversely affect the ability of libraries to share this information with other depositories and users. Overall, this subalternative would change the current relationships between the government and the depository libraries. Congress, GPO, and the libraries would need to consider carefully the implications of including new "partners' in the depository library program. Finally, barter-type arrangements such as this suba.lternative have not been successful in other agencies, for example, the Patent and Trademark Office (PTO) and the Securities and Exchange Commission (SEC). Another possibility would be for the government to simply pay the vendor for services rendered at a bulk discount rate.

ALTERNATIVE III: REORGANIZED ELECTRONIC DEPOSITORY SYSTEM

This alternative presents one of many possible future directions for the depository program once electronic pilots have commenced and user needs, usage patterns, and cost factors are more fully understood. This alternative seeks to describe a longer-term reorganized view of the LPS incorporating current and emerging technologies and reflecting the changing roles of libraries. The composition of participating libraries could be reviewed and reorganized, consistent with meeting user needs and optimizing use of resources. This alternative is based on the recent Association of Research Libraries (ARL) proposal for restructuring the depository program. This proposal has been put forth by the ARL Task Force on Government Information in Electronic Format for discussion purposes only. The ARL proposal defines a three-tiered system of libraries and library responsibilities. Three new levels of service would be designated: Basic, Intermediate, and Full:

- Basic Service–libraries with small government document collections and gateway access to electronic information located elsewhere. Basic service would be characterized by self-help, on-demand service, and high cost per transaction, but small fixed cost.
- Intermediate Service—libraries with a larger government document collection, including some electronic information and gateway access to other electronic information located elsewhere. Intermediate service would be characterized by some vah.wadded information development and increased mediation between information resources and information users.
- Full Service—libraries with a complete government document collections and a full range of electronic information and gateways to other resources. Full service would be characterized by support from "related, locally available databases, "

value-added services, development of software packages and similar "approaches which would change wholesale Government information into retail Government information, higher fixed costs, and lower per transaction costs."[7]

Under this alternative, LPS would continue to distribute government information to participating institutions. Electronic products from Federal agencies would be included in the depository program (and the *Monthly Catalog of United States Government Publications)* in addition to paper and microfiche products. Dual format would continue for a minimum number of products. Microfiche would probably continue to account for the bulk of materials in the program. LPS would be able to provide a choice of files in a number of formats, but these files would not always be available in all formats. The full-resource institutions would be assuming many new responsibilities, for example, local mounting of tape files. The new focus would be on the ability to access information as required from a host of available resources. With the reorganized structure LPS:

- would not require the same amount of printed or microfiche products from GPO;
- would need to expand the functions oft he ITP;
- would determine with depository institutions the "core" collection for basic and intermediate services; and
- would work closely with depository members in developing criteria and infrastructure for the reorganized system.

Acquisition of Materials. Most of the current procedures for acquisition of materials would remain in effect. The discussion in Alternative II would apply to this alternative.

Classification of Materials. The previous discussion of Alternative I I would apply to this reorganized electronic alternative. LPS and the intermediate-and full-service depositories could consider the value of devising a system whereby LPS would be notified of any value-added products, software products, or the like cre-

'Association of Research Libraries. op. cit., footnote 1, p. 22.

ated by a member institution. LPS would then, in turn, notify other participants in the program (e.g., through Administrative Notes) that the products were available. The depository institutions could also rely on other networks and bulletin boards to convey this information.

Cataloging of Materials. The cataloging discussion found in the previous section would apply to this reorganized electronic option.

Distribution of New Materials. In addition to the distribution mechanisms discussed in the previous section, a core collection of materials for basic and intermediate levels of service would need to be developed by LPS in concert with the depository institutions. Distribution systems or new resource-sharing procedures between basic, intermediate, and full service libraries would need to be developed by participating institutions and the LPS. These procedures would include a description of the responsibilities of each service level, financial obligations, interlibrary loan procedures, and the like. ITP could be responsible for assisting intermediate-and full-service institutions with new technological applications, and providing current information on activities in Federal agencies, such as the development of new electronic information products and applications.

Monitoring of member institutions and effectiveness of the program (as it relates to quality of service and access). Most of the new tasks noted in the previous discussion of Alternative II would apply here as well—the expansion of ITP to assist libraries in choice of formats, technological applications, and liaison with other Federal agencies; new retention policies for electronic formats; and the possible provision of CD-ROM equipment. Overall, policies for bibliographic searching, cooperative acquisition, interlibrary loan, document delivery services, reciprocal borrowing privileges, referral and reference services, and the storage and preservation of government materials would need to be modified or created.

The establishment of a new infrastructure for the depository program would probably require changes in the monitoring responsibili-

ties of LPS. Depository members and GPO together would need to define the goals and objectives of the new system, define the responsibilities of each level of service, and define the responsibilities of GPO and an overall framework for monitoring performance of the depository program. The current system employed in a number of regions, whereby regional depositories have assumed some responsibilities for the level of service in their region or State, might be applicable in the new system. In this instance, full service libraries would with intermediate libraries assist new libraries wishing to join the depository system and would regularly evaluate the services needed and those already provided for the region.

The depository institutions would need to consider carefully which level of service under the reorganized system would best serve their organization and patrons. There is a wide variance in technological sophistication among the libraries in the current depository system. The same variance would be evident in a reorganized system, and many libraries would not be capable of providing "gateway" services without guidance and support from affiliated depository members. The reorganized structure would likely streamline the current program and permit the development of a network or system of depository institutions, recognizing that there is a need for different levels of service.

Other impacts of Alternative III. It is difficult to determine if there would be savings to government under this alternative, without detailed cost-benefit studies. Reducing distribution of paper and microfiche would save money. However, there would be transition costs as well as new equipment and training costs (e.g. resulting in the shifting of funds from distribution functions to ITP within LPS).

Access to government information would be improved under this alternative. A reorganized electronic program would: 1) facilitate access to print-based materials and electronic information, 2) expand and improve access to a host of online information services and products, and 3) encourage a new level of sophisticated manipulation of information electronically (government and nongovernment information). The reorganized structure would permit an information network to develop among depositories, allowing for increased efficiency and access to information resources on a national, State, and local scale.

This alternative would increase the need for clarification of the roles and legal authorities of GPO, the depositories, and the agencies. Agencies presumably would be required to provide electronically formatted information to the depository program. Clear guidelines and possibly legislation would be necessary.

DISSEMINATING ELECTRONIC INFORMATION PRODUCTS–TWO CASE STUDIES

The previous sections examined three possible alternatives for the depository library program: maintenance of the status quo, an electronic depository library program, and a reorganized electronic depository library system. This section will examine two formats (online and CD-ROM) and delivery mechanisms for specific government data files as test projects for disseminating electronic formats through the DLP. The data files described are the *Congressional Record* in CD-ROM format for the bound, cumulated file, and the *Federal*

Register online. These files were selected for several reasons. First, the Congressional *Record* and the *Federal Register* represent core or process government information. Second, these files: have been identified by depository librarians as useful and/or desirable in electronic format; are extremely popular with high or regular usage; and are files found in most depositories. Third, providing these files in electronic formats clearly improves and enhances public access, and in some cases timeliness, compared to paper and microfiche for-

mats. The bound or final *Congressional Record* in CD-ROM format and the *Federal Register* online could be made available to depositories as described in Alternatives II or III. Finally, the JCP recently announced that the bound *Record* will be available on CD-ROM through GPO.

Congressional Record on CD-ROM

In the 1983 Ad Hoc Committee on Depository Library Access to Federal Automated Databases survey of depository institutions, depository librarians identified the *Congressional Record* as a key data file which, if available in electronic format, would enhance access by patrons to government information. The *Congressional Record* is received by most depositories, is currently available in paper or microfiche (dual format) from GPO, and is available online for a fee through several commercial vendors.

The *Congressional Record* contains the daily record of House and Senate floor proceedings as well as schedules of other congressional activities and actions. A new *Record* is produced nightly and is available to the public the following morning. It has been stated that, "a distinguishing feature of the *Record* is its timeliness."[8] GPO receives scheduling information, prepared remarks and inserts from Members, floor debate transcripts, bill texts, and other documents and melds this material into a 200-to 300-page document every night that Congress is in session.

The material is accepted by GPO in numerous formats (electronic, printed, and handwritten) which are then entered in the database by GPO staff. This new electronic version is used to produce the printing plates for the printing of the *Congressional Record* in hard copy.[9] The electronic database in the form of magnetic computer tapes is corrected and then made available for purchase through the Superintendent of Documents within 24

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[8] Frantzich, op. cit., footnote 4,
[9] Due to time constraints of the printing process, errors in the electronic tapes are not corrected immediately. For more information see Frantzich, op. cit., footnote 4, p. 35.

to 72 hours after the printing of each *Record.* A number of vendors acquire these tapes from the GPO, add value to the existing version, and sell this enhanced information to clients. A yearly subscription to the *Congressional Record* tape service costs $29,300, and each tape can be purchased for $175. Microfiche copies of the *Record are* produced by a GPO contractor and are then distributed by GPO. These microfiche copies are not available as quickly as either the paper or electronic formats.

The *Congressional Record* is recorrected and new printing plates are created to produce the bound, permanent copy or final edition of the *Congressional Record.* The bound *Record* is a number of years behind. The most recent bound volumes published cover 1982 (volume 128) and 1985 (volume 131), with current efforts focused on 1983, 1984, and 1986. The most current index available is for 1980. The 1981 index is in production and expected in 1988; the 1982 index is scheduled for completion in late 1988. The cumulated, final, bound *Congressional Record* represents the only corrected edition of the *Record* and is important for archival, historical, and sometimes legal purposes. (For more information on the issues relating to the *Record, see* ch. 8.)

Bound *Congressional Record* on CD-ROM

There are a number of possible options for mastering and replicating a CD-ROM disk of the bound *Record;* for example, by GPO, by a commercial vendor, or by a combination of the two. Several new internal production steps will be necessary to produce a disk. Once complete, the yearly cumulative *Congressional Record* on CD-ROM, produced either by GPO or a contractor, could then be shipped to the depositories through normal distribution channels. The disk could also be available through the Superintendent of Documents for a fee (the usual cost plus 50 per cent).

The corrected daily *Record* tapes produced by the GPO Office of Information Resources Management will be the digitized data used for the creation of the CD-ROM. GPO management is currently considering the lease of

a CD Publisher system that is capable of reconfiguring (reindexing) a file structure and preparing the file for one or more disks. This file would then be ready for a contractor to master and replicate CD-ROMs for GPO distribution to the depository libraries and/or sale through the Superintendent of Documents.[10] GPO management has determined that GPO staff will not develop the needed retrieval software itself, but will purchase the software from a vendor. Producing the software on CD-ROM *may* eliminate the need for a separate index to the Record because of the search and retrieval capabilities inherent in CD-ROM software. On the other hand, it is also argued that there may be the need for both the *Congressional Record* Index and the CD-ROM search and retrieval software because the index provides additional reference points and "human judgment" not found in the software.

The average amount of data in the *Record* per year is: 37,594 pages representing over 500 million bytes of information (for 1985 as a sample year). These figures do not include an index to the bound version. GPO is considering many possibilities. Two under consideration are: one year, one volume of the bound version of the *Record,* without the index, plus required/necessary software on one CD-ROM; and one year of the *Record* on one CD-ROM, plus a floppy disk that would contain the software for accessing and manipulating the data residing on the CD-ROM. Because GPO has not developed such a disk before, staff are uncertain as to the amount of data that can fit on the disk and what constitutes the "best" approach.

Certain crosscutting criteria can be applied to each data file and delivery mode to describe and present the opportunities and drawbacks of each format option. These criteria are:

- data requirements—including completeness, size, and use of data, timeliness, etc.;
- delivery mode—including format, equipment needs, training needs, etc.; and
- costs—including startup, equipment, staff, operational needs, etc.[11]

Data requirements. Under the current guidelines, GPO only offers to depositories the microfiche format with a paper index of the bound final *Congressional Record.* If the CD-ROM bound *Record* were available, libraries could choose among the two formats (microfiche or CD-ROM) for a limited amount of transition time. This transition time would provide data to determine user preferences regarding the format of the bound or final *Record.* (A limited number of printed copies would be available for purchase through the Superintendent of Documents.) The bound *Congressional Record* serves as an important historical, archival, and legal tool. Member institutions would need to determine their institutions' needs regarding access (printed or electronic) and transition time between different formats if switching from paper and microfiche to CD-ROM or microfiche to CD-ROM. Many libraries may be in the position of housing paper, microfiche, and electronic versions of the *Record* for archival purposes.[12] Many of the same transition issues addressed in the late 1970s and 1980s, as libraries incorporated microfiche into their collections, would apply here.

There is no agreement on the longevity of optical disks, with estimates ranging from as little as 10 years to as long as 100 years. Also, although CD-ROMs may endure for up to several decades or longer, the equipment used to "read" these products may quickly become outdated. Format longevity is important for archival purposes because one goal of some depositories is to provide a continuous and complete record of government information. The importance of maintaining a usable and complete *Record* file reflects several needs—

10 At this time, GPO does not intend to master and replicate CD-ROM products. GPO believes that it would not be cost-effective for the agency to invest in such equipment or necessary manpower at this time. If the need for and use of CD-ROM products by the Federal Government increased radically and requires substantial production capabilities, then GPO would reconsider its position.

11 These criteria are based in part on questions proposed by the ARL Task Force on Government Information in Electronic Format for use in evaluating pilot projects; Report No. 1, App. 1, Oct. 30, 1986, Draft No. 1.

12 GPO could begin production of CD-ROM formats beginning with the 1983 bound *Record.* However, GPO would be unable at this time to retrospectively convert earlier (pre-1983) *Record* tapes to CD-ROM products.

historical research, research on a political position, and, increasingly, determination of legislative intent by the courts, agencies, lawyers, and others.

Timeliness is not a critical issue for the bound *Record,* though use of the CD-ROM format probably would reduce the current backlog. As with the replication of microfiche, GPO would rely on private sector contractors to master and replicate the disks. The schedules and reliability of the firms chosen as well as GPO contract specifications would, in many respects, determine the turnaround time from GPO to the depositories.

The availability of the bound *Record* in a CD-ROM format would enhance and improve access by users to those files. The number of users simultaneously using *Congressional Record* information would not necessarily increase, but ease of access to the file would increase dramatically. This would be particularly true when compared to the microfiche format. In addition, by its very nature, indexing would be built into the disk file, whereas with microfiche there is a separate index (still maintained in paper for congressional and depository use), and searching is more cumbersome and time-consuming. The CD-ROM format would include print-on-demand capabilities similar to those in use today for microfiche reader/printers. It has been noted that:

> A major limitation of using the *Record* in its current form is the limited indexing and the difficulty of finding materials. Whereas, the ability to create new subsets of data makes an electronic database very powerful and much more valuable than a paper catalog. Searches of the database become easier, faster, cheaper, and more thorough. [13]

In general, the bound *Record* is not one of the most heavily used items in a depository, but it is one that 1,305 of the 1,393 libraries maintain and one that is used by patrons. It is expected that improved indexing and easier re-

trieval of information would increase the use of the *Record.*

Delivery and costs. There would be few, if any, new requirements or equipment needs for LPS to deliver this information in CD-ROM to the depositories. As noted in Table 7-1 the estimated per-library cost for provision of the bound *Congressional Record is* $632.83 for paper format; $33.74 for a hard copy of the index of the *Record; $83.62* for a microfiche copy; and $10.05 for a CD-ROM plus floppy disk (one of two possibilities under investigation). If GPO used commercial access software with the disk, there might be an additional software license fee, although it would likely be minimal. According to GPO, the overall cost of producing the microfiche master of the bound *Record* is $5,047.50, and the estimated production cost of the CD-ROM master for the bound Record is $1,700. GPO would not require supplemental funding to produce the CD-ROM for the bound *Record,* if this were the only format produced.

However, member depository libraries would need to assess their CD-ROM information access and equipment needs. The GAO Survey of Federal Information Users found that over 40 per cent of those surveyed have a CD-ROM player or access to one. Those libraries without CD-ROM players would need to invest about $600-$700 per player. The GAO survey also found that 283 of 451 depository libraries have (or have access to) a microcomputer without a modem, and 337 of the 451 have a micro-

Table 7-1 .—Estimated Costs Per Library Per Year for Distribution of the Bound *Congressional/ Record* to Depository Libraries, Various Formats

	Paper Copies	Paper Index	Microfiche Copies	CD-ROM Copies
Printing Cost ...	.	$569,70	$30.30	– –
Production Costs	—	—	$28.27	–
Duplication Costs				
CD-ROM ...	...	–	–	–	$3.00
Floppy Disk	—	—	—	$5.00
Postage	$55,30	$3.13	$.85	$1.49
Handling	$7,83	$.31	$54,50	$.06
Documentation . . .	—	—	—	$.50
Total . . , ...	$632.83	$33,74	$83.62	$10,05

SOURCE: U.S. Government Printing Office 1987

[1]³Frantzich, op. cit., footnote 4, p. 42 and, Stephen Frantzich, "Public Access to Congressional Information: The Potential and Pitfalls of Technology Enhanced Access" OTA contractor report, January 1987, p. 17.

computer with a modem for online access (many libraries have more than one microcomputer). Those libraries not having a microcomputer, or not having adequate access if the equipment is located elsewhere, would need to invest in a microcomputer as well, at a cost of about $1,200 to $1,400. If CD-ROM becomes a major format for depository distribution, many libraries may wish to invest in a complete CD-ROM system (player, microcomputer, and printer, at a total cost about $2,500-$3,000 per system) for dedicated use.

GPO/LPS training needs would be rather minimal. The LPS training role could be directed toward assisting member libraries choose equipment, providing or developing additional software applications, and arranging training seminars for participating library staff.

Depository library training requirements would be greater. Libraries would need to provide both hands-on training sessions for staff and at least minimal assistance to users. The amount of training and assistance required would depend, in part, on the software package provided or developed by GPO and its ease of use. Libraries that have provided some user CD-ROM training and instruction note improvements in user capabilities and search-strategy success.[14]

An important consideration with the introduction of any service is to factor in, as well as possible, the life cycle costs. The shift to a CD-ROM format for the bound *Record* could result in a three-format collection for many institutions (for archival and preservation purposes): 1) maintenance of paper format for current information, 2) microfiche for the retrospective collection, and 3) CD-ROM for the bound *Record.* The combination of formats would require the use of different equipment and possible upgrading of equipment (particularly for CD-ROM players), all with associated purchase, lease, and/or maintenance costs.

[14] For more information see K.J. Pearce, "CD-ROM: caveat Emptor, *Library Journal,* vol. 113, No. 2, Feb. 1, 1988, pp. 37-38; and Linda Stewart and Jan Olsen, "Compact Disk Databases: Are They Good For Users?, *Online,* vol. 12, No. 3, May 1988, pp. 48-52.

However, this equipment would be used for numerous tasks and many information products, not just the *Record.*

In summary, there appear to be numerous advantages to using the CD-ROM format for the bound *Congressional Record:*

- the large textual database lends itself to the CD-ROM format;
- the information is not current data and, therefore, does not require regular updating;
- the efficiency and ease of access to the information would improve with this format, compared to either paper or microfiche products;
- library shelving needs would be reduced;
- there could be substantial cost savings for the GPO/Library Programs Service, depending on the format options; and
- for some libraries, the ability to combine the historical data on disk and current data online would present exciting new access possibilities and potential.

The disadvantages of adopting the CD-ROM format would be:

- the need for some libraries to purchase one or more pieces of equipment;
- the need to provide physical space for CD-ROM work stations for microcomputers, printers, and CD-ROM players; and
- finally, the need for some or many libraries to maintain collections of the *Record* in paper, microfiche, and CD-ROM formats.

Federal Register Online

The *Federal Register* is one of the core or process documents included in the collections of most depository institutions. The *Federal Register* is a dual format item (available in microfiche or paper from the GPO), and is available online (all or parts thereof) through several commercial services for a fee. The *Code of Federal Regulations* (CFR) is also available in CD-ROM format from VLSOPTEXT. VLS plans to offer a combination *CFR* and *Federal Register* on disk quarterly with "seamless" access to an online *Federal Register* file.

The *Federal Register* is a daily publication of the government that documents executive branch regulations (proposed and final), presidential directives, meetings, and policies (proposed and final). The classes of documents found in the *Register are* grouped under four headings or categories:

1. the President's section consisting of executive orders, proclamations, and other presidential documents;
2. rules and regulations, which include the administrative actions pursuant to statutory law;
3. proposed rules, that provide an avenue for notification of new rulemaking and for interested parties to comment on draft rules; and
4. notices, which include miscellaneous agency material, advisory activities and opinions, meetings, and the like. [15]

Like the *Congressional Record,* the *Federal Register* is produced daily by GPO, and an electronic database is created by GPO for use in the printing process. Also, like the *Record,* the hard copy of the *Federal Register* takes precedence over both electronic and microfiche versions. The microfiche version is replicated (by a GPO contractor) and distributed 24 hours following the printing, and the corrected electronic tapes are available up to 72 hours following the hard copy release. Final corrections are made by GPO in the electronic database during a lull in the printing process. These data tapes, once corrected, can be purchased on a yearly subscription basis for $37,500, or on a daily basis for $175 per tape from the Superintendent of Documents. The daily *Register* contains an index, and a cumulated index is produced monthly. Indexing of the *Reqister* is automated. The average number of pages per year in the *Federal Register* is *52,000,* representing 416 million bytes of information, including the GPO printing codes.

Frantzich has noted that:

It is unreasonable to expect individuals and organizations to comply with the rules and regulations of government without timely access to the relevant details. A prime purpose of the Federal *Register is* to solicit comments and inform the interested public about meetings on proposed regulations. [16]

The *Federal Register* is regularly cited by depository librarians as a key document that is needed on an up-to-date basis; 1,040 libraries receive paper copies of the *Register* and 363 receive microfiche copies, both via LPS. In the GAO survey, depository librarians identified the *Federal Register* online as one of the most useful electronic services that could be provided. The *Federal Register* has been described as one item received by depositories that can "never arrive soon enough. " If not received in paper format, it is clearly less useful in microfiche due to the time lag and the inherent limitations of the microfiche format.

LPS requests that depository members retain at least the current and previous year's editions of the *Federal Register* on file. Member libraries also retain the current year of the *Code of Federal Regulations* (except for Title 3). Much of the pertinent material printed in the daily *Register is* eventually included in the *Code of Federal Regulations.* Some regional depository libraries keep retrospective microfiche collections of the *Federal Register.* Use of these back files has been described as minimal due, in part, to the difficulty in using the microfiche format.

Federal Register Online Delivery

If the *Federal Register* were to be provided online to depository libraries, there are several possible delivery options:

Option 1: Centralized delivery. Depositories would have direct access to the *Federal Register* data file maintained by GPO, with GPO providing minimal value-added enhancements to the basic data and with

15 Frantzich, "Public Access to Executive Agency Information in the Technological Age: Case Studies, OTA contractor report, February 1988, p. 8.

16 Frantzich, Ibid.

libraries using commercial dial-up tele-communication lines;[17]

Option 2: Decentralized delivery. GPO would duplicate and provide *Federal Register* computer tapes to a select number of depositories; these depositories would, in turn, locally mount the data and make the information available online to participating libraries in a designated region; and

Option 3: Subscription basis. Depository libraries would access the *Federal Register* data file via a commercial or not-for-profit vendor with a subscription subsidy (full or partial) provided by GPO.

Each of these options will be considered in terms of the same criteria applied in the previous discussion of the *Record* on CD-ROM: data requirements, delivery, and costs. The bulk of the information presented in the discussion of centralized delivery applies to the discussions of decentralized and subscription delivery. Choice of these three delivery options for discussion does not preclude other possible options. It is important to note that decisions concerning the *Federal Register are* made by the Office of the Federal Register (OFR). Decisions relating to format and dissemination are determined by the Administrative Committee of the *Federal Register,* whose members are the Archivist, Public Printer, a representative of the Department of Justice, and the Director of the Federal Register.

Centralized Delivery

The daily *Federal Register* computer tapes, plus minimal search and retrieval software developed by GPO's Office of Information Resources Management, would be the basic service provided by GPO to the depositories. The GPO would provide the data via telecommunication facilities online to depositories. The information provided to the depositories would be the same as that found in the paper and microfiche formats, except for the electronic format indexing aids, and would likely be avail-

able within hours of the printed *Register.*[18] GPO would need to determine how much data to maintain online-for example, the past year or two of the *Register.* Users would be required to use paper or microfiche copies of the *Register* for certain dated materials-for example, those more than 6 months or a year old—instead of relying on the online file.

Data requirements. Online access to the *Federal Register* would greatly improve and enhance access to and timeliness of the information for patrons. Receipt of the *Register* in a timely fashion is one requirement of its use. Unlike direct access with CD-ROM technology, online access could require a trained information specialist. Although there are user-friendly software packages available, the telecommunication costs associated with online access can be high, and these costs could be reduced if a trained librarian performed the search.

Although access to the information in the *Federal Register* file would be improved, unless the libraries have high speed modems, users' searches would likely be limited and the information would be downloaded and printed offline. This adds an additional step to accessing the information.

Libraries choosing to access the *Federal Register* online via GPO would still need to retain some archival copies of the *Federal Register* for retrospective information. For example, these libraries could elect to maintain microfiche copies of *the Federal Register* for archival purposes and access the *Federal Register* online from GPO for current information.

It is difficult to estimate the average usage of the *Federal Register* file per library, or even by type of library, due to the diversity and mix of the depository members. While lacking concrete data, several general observations can be made. First, for many libraries, the *Register* is used most heavily when first received, and then usage drops off. Second, for those libraries choosing to access the GPO database, with microfiche as the format maintained for

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[17] Minimal value-added enhancements would mean adding sufficient search and retrieval capabilities to the database to permit access and use. Anything beyond this level could be left to the private sector to develop and market.

[18] GPO is striving to improve the turn-around time for correcting the tapes for the *Record* and *Register.*

archival purposes, there would be greater reliance on the online system due to ease of access and improvement in timeliness. Third, without a certain "cap" placed on usage by depositories, GPO could face ever increasing telecommunication costs. The recent experience of the PTO with a similar online service is illustrative (see Table 7-3 and discussion below).

Fourth, if an overall online usage level were set, guidelines would be necessary for allocating access throughout the month so that the allocation would not be used up in the first few days. Law school libraries are heavy users of the *Register,* as are large urban public libraries. Other depository members have stated that use of an online *Federal Register* would be minimal, perhaps as little as once every other month. Usage of the online service would be quite disparate among the depository library members, with some employing the service less than once a month and some requiring daily use. Fifth, the enhanced access and capabilities of such an online file could increase usage by patrons, which would, in turn, increase the value of the file to users.

Data Delivery. A microcomputer, modem, and printer would be the necessary components for a library electing to access the GPO database. This would be no different than current access to online services such as DIALOG, BRS, and others.

Costs. The *Federal Register* is funded through the publishing agencies, not the depository library program. As seen in Table 7-2, the cost of printing, postage, and handling per year, per library subscription to the *Federal Register, is $339.67.* The cost of the microfiche master, again paid by the publishing agencies, is $7,238, and microfiche copies are $103.12. There are no comparable figures for online costs for a GPO *Register* file. However, the online commercial service of Federal Register Abstracts from Capitol Services Inc., available through DIALOG, ITT, and SDC, costs $75 per hour, plus $.20 per full record printed offline.

Table 7-2.— Estimated Costs Per Library Per Year for Distribution of the Federal Register, by Format

	Paper Copies with Index, CFR Sections[a]	Paper Index Only	CFR Sections Only	Microfiche Copies[b]
Printing Cost	$209.01	$5.66	$8.45	
Production Costs .	—			$23.74
Postage	$61.16	$3.06	$3.06	$1.21
Handling	$69.50	$3.00	$3.00	$78.17
Total	$339.67	$11.72	$14.51	$103.12

a Includes relevant sections of the Code of Federal Regulations (CFR).

ᵇIncludes *Federal Register,* Index, and relevant sections of the CFR.

Source U S Government Printing Office, 1988

The recent experience with the Classification and Search Support Information System (CASSIS) at PTO is useful in evaluating the delivery of an online information service to libraries, although the information is different and the number of libraries within the Patent Depository System is much smaller. The provision of online patent information to the patent depository libraries direct from PTO resulted in spiraling costs of over one-half million dollars in 1987 at over $120 per hour (see Table 7-3) and a partial termination of the program. PTO has, instead, offered a CD-ROM disk with the same information to participating patent depository libraries. The CASSIS system does not require constant or timely updating; therefore, a CD-ROM is an appropriate technology for this information. Overall, the cost to GPO and the government or to the libraries in delivering an online file could be high, depending on who pays the computer and telecommunication charges and how the development costs are allocated and recovered.

Table 7-3.—Queries and Cost Data for Online Patent Information, 1987

Total Queries:	151,808
Total Connect Time:	4,315.4 hours
Total Cost:	$552,066
Average Cost per Inquiry . .	$3.64
Average Cost per Connect Hour	$128 including telecommunication costs of about $20 per hour

SOURCE: Patent and Trademark Office, 1987

If GPO were to provide online access to a *Federal Register* database, it would be important to evaluate necessary capacity to serve a broader constituency. GPO is planning an upgrade of their computer facilities. This upgrade is designed for several reasons, one of which is to add capacity to accommodate access by congressional users to an online *Congressional Record* database. (See ch. 8 for more information.) If the *Federal Register* were available to depositories online, GPO would need to examine whether this system could accommodate both congressional and depository access and for more than one data file. The introduction of such a service would place GPO in the position of an information provider for another agency's data file. Presumably, either GPO would be providing this online service for the OFR on a reimbursable basis or GPO would receive appropriations to provide such a service.

There would be additional costs to some depositories if this service and format were added. These costs might include training costs associated with learning to use the data file, and equipment costs for those libraries without an available microcomputer and modem. The GAO user survey found that 283 of 451 depositories surveyed have access to a microcomputer without a modem and 337 have access to a microcomputer with a modem for online access. Thus, for some libraries, online access to the *Federal Register* would require the purchase of a modem ($200-$300) and, for some, a microcomputer.

Another variation on this option would be to provide online access to a *Federal Register* database modeled after the National Library of Medicine (NLM) system. The NLM access policy provides that "users share in the costs of access to online services and tapes, " and that "appropriations . . . bear the cost of building the database, the creation cost."[19] Paper or microfiche products would be required in concert with this electronic option to guarantee "free" access by those who choose to use the traditional formats. Users would be expected

to pay a minimal fee for access to government information in an additional, but optional, format, and users would be given a choice. The average hourly search cost for the NLM databases is between $17 and $22. This is significantly less than the commercial or PTO costs and merits further consideration, especially given the responses to the GAO Federal Information User Survey. Most depository library respondents expressed willingness to pay at least a minimal fee ($1-$24 per hour) for online access to the *Register* data.

Decentralized Delivery

Here, GPO would duplicate magnetic computer tapes of the *Register* for those institutions participating in a distributed regional access program. Daily tapes would be duplicated (in-house or via duplication services) and shipped by overnight mail to depositories for mounting on local computer facilities (or could be downloaded directly by electronic data transfer). These libraries would be responsible for providing at least a minimal, agreed-upon level of service/access to depositories within their region. Libraries, not GPO, would be responsible for developing usage policies and resource-sharing principles. In consultation with depository libraries, GPO would determine the needed regional distribution and number of libraries required for such a plan. Delivery of information between participating institutions would require interconnections with local, State, and regional networks.

Data requirements. The computer tapes provided to the depositories would consist of daily *Federal Register* data. Minimal retrieval capabilities would be provided by GPO with licensed software, or the participating institutions could choose to license another software product with comparable or enhanced capabilities to meet local requirements. Storage requirements for the local institutions would likely require that one year's data be kept online. The libraries could choose to mount the data in one of two ways: one file with full text data online; or two files with the indexing aids on one for the initial search, and the full text file on the second for follow-on search, if nec-

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19 NLM, Pricing Policy and Medlars Fees, May 1985.

essary. Inquiries for information more than 6 months to 1 year old (or whatever period chosen) could be referred to paper, microfiche, or CD-ROM collections of archival data. Most of the discussion found in option 1 (centralized delivery) pertains to this option as well.

As with option 1, usage of this data file would likely increase at certain institutions, with little change at others. There would be enhanced access to information in the daily Register, and the value of the information to the user would increase due to improved timeliness and accessibility. The number of patrons using the online system might increase because the local costs per inquiry would be reduced compared to option 1, and user-friendly software could assist local users. The number of users of an online system would likely increase, if microfiche were the only other format available. Use of the library's "full" collection of government documents would likely increase as a result of the Register being online and the integration of government information with the rest of the library's collection.

Access to information found in the online Federal Register would be improved due to the electronic format. However, as in option 1, unless the library has a high speed modem and can download quickly, the library would likely limit long searches and request that printing of the file be done offline. In this case, with the file as a local resource, many of the same time constraints would apply.

Archival copies of the Register would likely not be in tape format due to the size of the database and ensuing storage requirements. In concert with other local institutions, archival plans could be formulated, possibly permitting a sharing of archiving resources, including consideration of CD-ROM products.

Data delivery. For libraries participating as "hosts" in the regional access program, affiliation with a computer center, either resident within the library or within a university or local government community, would be required. It is likely that the needed computer facilities, for example, mainframe computers, would already be in place in the host institution, so that

the addition of one more database would be minimal. Of the 451 depository institutions responding to the GAO Survey of Federal Information Users, 149 have access to a mainframe computer. To appreciate the cost undertaken by a library to support such an effort, the up-front cost of a database management system could be as much as $300,000, plus approximately $300,000 per year to maintain and run the software package. This level of a database management system could accommodate many online services and up to 50 concurrent individual searches employing complex searching (boolean) techniques. The cost of adding additional files to such a system could range from several to tens of thousands of dollars.

Equipment needs within a region would be as they are now—varied and uneven. Decisions concerning access within a region would be required to determine hardware and software necessary for connectivity, for example, dedicated phone lines from depositories to the "host" library. A minimum level of service, as set forth by the GPO, would be required of all participants so that the "host" institution, in concert with other local, regional, State, and national networks, could accommodate depositories. Additional services and responsibilities would be determined by the host institution.

There would be training needs at the host institution as well as those institutions electing to access the online file. This would entail training on use of the file and, in some cases, training on use of equipment for access to files. Database management packages available are "user friendly, " and these packages permit users to perform searches without assistance. Additional staff would be required for maintenance of the file and for training programs.

Costs. There would be minimal additional costs to GPO under this option and increased costs for the host depository institutions. As shown in Table 7-4, it would cost GPO a maximum of $62.70 to prepare and ship a tape to a depository, and this estimate may be quite high. A more realistic cost is about $30 per tape if tapes are recycled and some of the loading

Table 7-4.—Estimated Reproduction and Distribution Costs, Per Magnetic Tape

Initial loading of the tape.	$7.00'
Computer duplication	$23.25[a]
Packaging and labelling	$10.00'
Cost of tape	$14.75[b]
Postage	$7.70
Total	$62.70

[a] Does not create new expenses for GPOlf the tasks can be performed with existing personnel and no overtime is required

[b] This is expense can be avoided if the vendor/user is required to return the tape to GPO for reuse,

SOURCE. U.S. Government Printing Office, 1987.

and duplication costs are provided in the course of normal GPO operations.

The host depository costs would likely entail initial expenses for mounting and yearly maintenance and access costs. With computer facilities and storage capacity already in place, the other new costs would be for additional telecommunication and administrative support. The costs noted previously for a database management package and yearly maintenance would be the approximate investment necessary per institution if the facilities were not already in place. Once in place, the costs of including another database would be incremental. Local usage costs would be less, given the reduced telecommunication costs. The uncertainty involves comparing host institution costs for access charges to information resident elsewhere, and the costs of mounting locally and permitting access by other depository institutions. Other local costs would likely reflect increased use of the library collection and resources, including costs associated with expanded interlibrary loan and additional equipment, and space requirements for work stations.

The costs to the host library in providing this service to other "local" institutions would require careful evaluation by GPO and by the host library to ensure that the benefits of mounting the file are not outweighed by greater than anticipated usage, additional staff and training costs, and equipment needs. Participation would likely require careful coordination with and support from local, State, regional, and national networks.

Subscription Basis

Here, GPO would, on a subscription basis, provide online Federal Register information to depositories. GPO would contract with a vendor or not-for-profit institution for a minimum period of time (e.g., 3 years) to provide online Federal *Register* data to all depositories. GPO would provide a full or partial subsidy to the depositories for use of this system.

GPO would, through a solicitation process, select a vendor to provide depository members with access to an online data file of the Federal *Register* for a minimum of 3 years to provide some continuity. The vendor or not-for-profit service would provide search and retrieval capabilities within the file comparable to that described in options 1 and 2 (centralized and decentralized GPO delivery). The information provided to the depositories would be the same as that found in the paper and microfiche format, except for electronic format indexing aids, and would likely be available within hours of the printed *Federal Register.* One year of *Federal Register* data could be included within the data file. Much of the discussion found in option 1 applies to option 3. And as with option 2, reliance on local, State and regional networks would be important to the success of this option.

Data requirements. As with options 1 and 2, users would have enhanced access to *Register* data in electronic format. The timeliness of the data would also increase the benefit to users. Under this option, there could be some difference between the types of use possible. Once the data file was mounted at an institution (as in option 2), there could be unlimited downloading or manipulation of that file by users. This may not be the case with option 3 due to telecommunication costs, possible restrictions placed on this file by the vendor, and the type of search and retrieval software employed.

Concerns for archiving the data would be the same as with options 1 and 2. Archival copies would need to be retained in some format. A combination of online and CD-ROM might provide the optimal mix of access and archival requirements. The preservation needs of the li-

brary would not be the same as those of the vendor. Consequently, maintenance by libraries of an alternative format would be required. As with options 1 and 2, local resource-sharing policies could be considered.

The extent of usage of this file would be similar to one provided by GPO, with the improved timeliness and ease of access increasing the number of users. Also, these improvements would increase the value of the file to users.

Data delivery. As with option 1, there would be few new requirements beyond a microcomputer and modem for those libraries electing this format. Accessing this data file would be like accessing any other online information service. Depending on the vendor selected, there could be a need for depository library staff training. The telecommunication costs would likely drive the need for a trained information specialist to perform searches for patrons in order to contain search costs, even if user-friendly software were used.

Unlike option 1 where GPO would add value to the existing tapes, a vendor would perform this service in option 3. This could decrease the amount of control that could be exercised over the data file and its use—depending upon the contract. Although government information is not copyrightable, format is. The value added to government information by the vendor would be format-related and this could– but, depending on the contract, need not

necessarily-restrict the type of *use* by depositories.

Costs. There are additional costs associated with this option for GPO and member libraries. GPO would subsidize either full, or a specified level of, access to an online data file. In consultation with the libraries, GPO would need to determine an equitable level of access per month to this data. Again, some libraries would actively and regularly use this *Register* file; others would perform just a few searches.

Vendors providing online congressional information and other governmental data have suggested that given the size of the program, a special rate for depository access could be provided, and that these same vendors already provide service to many of the libraries. In a somewhat similar arrangement, special rates online could be negotiated through FEDLINK (under the auspices of the Federal Library and Information Center Committee). This access could also include files other than the *Register.*

Libraries participating in this service would need a microcomputer modem and printer; and, to be successful, this equipment should be within the depository collection. Training costs would be minimal. Finally, there would still be the costs of retaining archival copies of the *Register* for 2 years, unless GPO reconsidered its current requirements.

ISSUES DISCUSSION

In this final section, four issues are discussed. These issues concern the need for developing a clear information policy on access to government information in electronic format through depository libraries.

Dissemination Formats in the Depository Program

Should government information in electronic format be disseminated to the public through the depository library program?

There are already many government information products in electronic formats that are unavailable to the public through the depository program. Congress needs to determine whether extensive electronic access to government information should be available through the depository library system, or if the current depository access to paper and microfiche printed products, and perhaps a few CD-ROMS and online datafile demonstrations, is an acceptable level of access, recognizing that increasing amounts of government information are available only in electronic formats.

Congress has repeatedly endorsed and supported the concept and the continuation of the depository program. As noted earlier, congressional support is evident for a number of reasons, but particularly because of:

- the recognition of the relationship between access to government information and the principles of a democratic form of government;
- the need for a guaranteed channel of access by the public to government information;
- a recognition, in part, that Congress should not rely solely on the agencies and the marketplace to provide channels of access to Federal information; and
- the acknowledged modest investment of approximately $20 million in disseminating this information through the GPO depository program, compared to the estimated several billion dollar cost of creating the information.[20]

As noted by members of the Subcommittee on the Library during the 1962 hearing on revising the laws relating to the depository libraries:

After a publication serves its primary purpose in the functioning of the Government, what more useful additional purpose can it serve than to keep the American public informed on the workings of its Government and extending to private endeavors the benefits and advantages of the information compiled? The depository library system was specifically established to perform that vital function.[21]

Congress has also endorsed and supported, through the appropriations process and congressional oversight, agency dissemination programs employing information technologies. Implicit in this approval process is the ac-

knowledgment by Congress that use of the technologies is necessary to accomplish agency missions or perform agency functions and represents a change in how agency business is and will be conducted.[22] This is also true for congressional operations as described in chapter 8. An April 8, 1987, resolution by the JCP accepted the recommendations of the Ad Hoc Committee on Depository Library Access to Federal Automated Databases and urged GPO to initiate pilot projects. By following this course, the JCP hoped to ensure that the depository program would keep pace with electronic information applications within the rest of the Federal Government and in the private sector. The June 17, 1987 JCP resolution authorizing GPO to treat publications in electronic format the same as paper and microfiche for the purposes of sale to the public is pertinent. The recent June 29, 1988 JCP approval of a series of demonstration projects is also important.

GPO policy on electronic dissemination to depository institutions is under revision due to a recent letter from the Chairman of the JCP supporting the position that:

GPO's responsibility to print and disseminate Government information, as required by Title 44, clearly extends to the production and distribution of Government publications in these new formats.[23]

And the House Committee on Appropriations, Subcommittee on Legislative, recently approved distribution of CD-ROMs to depository libraries.

Congress has also recognized the overall importance of ensuring that government infor-

30 For discussion, see Peter Hernon and Charles McClure, *Federal Information Policies in the 1980's: Conflicts and Issues* (Norwood, NJ: Ablex Publishing Corporation, 1987); U.S. Congress, Committee on Rules and Administration, Senate Rept. No. 1587, 87th Cong., 2d. sess. (1962); and U.S. Congress, Committee on Rules and Administration, Subcommittee on the Library, *Hearings on S. 2029 and H.R. 8141 to Revise the Laws Relating to Depository Libraries,* Mar. 15-16, 1962, 87th Cong., 2d sess.

21 U.S. Congress, Committee on Rules and Administration, Senate Rept. No, 1587, 87th Cong., 2d. sess. (1962) p. 18.

[22] OMB also recognizes the benefits of electronic information technologies: "We believe that there are substantial savings to the public and to the government; that the government can operate more efficiently and more effectively by moving to electronic media; and that there will ultimately be less burden on the public, ultimately less cost to the public, by moving toward electronic media. " From Timothy Sprehe, "Developing a Federal Policy on Electronic Collection and Dissemination of Information, *Government Publications Review, No.* 11, 1984, pp. 353-362.

[23] Letter from the Honorable Frank Amunzio, Chairman, Joint Committee on Printing, to the Honorable Ralph Kennickell, Jr., Public Printer, Mar. 25, 1988.

mation is publicly available. The 1986 House Committee on Government Operations Report, *Electronic Collection and Dissemination of Information by Federal Agencies: A Policy Overview,* noted the need:

> . . . to make certain that government data in the public domain-information that has been compiled using taxpayer funds and that is not classified or sensitive or exempt from public disclosure–will remain freely accessible and easily reproducible, whether the data is maintained in paper form or in electronic form.[24]

The legislative history and recent interpretations of the 1962 Depository Library Act and related provisions of Title 44 appear to support the inclusion of electronic products in the depository program. Clarification of congressional policy to this end would help to eliminate confusion on the part of users, depository libraries, private sector and not-for-profit information services, the agencies, and GPO.

In summary, the increasing use of electronic information services by all sectors of government, as is evident from the results of the GAO surveys of Federal agencies and Federal information users (see chs. 2, 4, and 5), requires new dissemination decisions by Congress and GPO concerning depository library distribution format options. Many information products will no longer be available solely in paper or microfiche format, may only be available in electronic format, and may incur additional costs associated with creating multiple formats.

Changing Costs of the Depository Program

Are the principles of free access still applicable, or are there new costs associated with the introduction of electronic access such that user fees or new funding mechanisms need to be considered?

Free access by the public to government information is an essential component to the current depository program. Depository members have always assumed financial responsibilities to provide users with free access to government information. Current estimates project that, on average, for every dollar spent by the Federal Government in depository appropriations, 10 dollars are invested in public access by each participating library.[25] Some of the responsibilities of the libraries include provision of space, materials processing, storage and retention of materials, reference service, interlibrary loan, and necessary equipment such as microfiche reader/printers.[26] A recent survey by the American Library Association of 16 depositories estimated that these institutions spend over $1 million on staff salaries per year to provide public access to their collections. This same survey noted that 8 libraries invested almost $750,000 per year in space and utilities, 15 libraries spent an additional $268,000 in acquisition costs beyond government-provided materials (e.g., additional copies of documents, indexes and reference tools, and the like), 11 libraries spent over $17,000 in telecommunication costs, and 14 libraries invested over $45,000 in supplies, copying, and the like. Users typically pay only copying fees for paper and microfiche materials, and, in some institutions, copying of diskettes. The financial contribution of GPO and the source agencies to the program is the cost of printing, publishing, and dissemination of government materials to the depository libraries.

The introduction of electronic information to the program may result in the need for a reexamination of the current relationship between libraries and the government. Because there are new costs associated with provision of electronic information, depository members

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25 American Library Association, Survey data from Questionnaire to Federal Depository Libraries, February 1988.

26 For information on costs assumed by depositories see: Francis Buckley, "Cost Elements of a Federal Depository," Detroit Public Library, July 1976; Sandra Faull, "Cost and Benefits of Federal Depository Status For Academic Research Libraries," New Mexico State Library, May 1979; and Ann Bregent, "Cost of Regional Depository Library Service in the State of Washington," Washington State Library, July 1979.

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24 U.S. Congress, Committee on Government Operations, *Electronic Collection and Dissemination of Information by Federal Agencies: A Policy Overview.* House Report 99-560, 99th Cong., 2d sess. (Washington, DC: U.S. Government Printing Office, 1986) p. 9.

and GPO will need to determine if the level of support currently provided by libraries and GPO will be sufficient for and applicable to providing electronic information. It has been stated that:". . . it has become quite clear that to take full advantage of computer and telecommunications technologies will require added funds on the part of the library."[27] The nature of the relationship between the libraries and the government is one of cooperation. If the introduction of a new service or technology shifts the balance of the program and places even greater financial and/or administrative burdens on libraries, the cooperative infrastructure of the program could be changed or diminished. This shift in costs is already occurring as institutions increasingly move to using information technologies.

Libraries, like the Federal agencies, are employing information technologies in support of their programs and in support of their users' information needs. The amount and types of information technologies used by libraries will continue to expand and change. As the newer technologies are introduced, the role of the library will become more of a gateway to information versus a repository for information, and more and more librarians will be asked to act as intermediaries for accessing information. Although there will continue to be a growing amount of "user-friendly" software to assist the user in employing information technologies, there will be an even greater need for information specialists to perform searches on sophisticated search services and technologies.[28] This evolving role of libraries also affects current resource-sharing practices by shifting access from a print-based to a "bimodal environment of a library providing access to document-based and electronic information-

based resources."[29] With this shift comes new costs or reallocation of old costs to accommodate the expenses of electronic information. These trends are forcing librarians to recognize that there are additional costs associated with electronically formatted information and that these costs must be reconciled with current library practices and budgets.

There would be some reallocation of costs within libraries as more information and services become available electronically. For example, staff costs for the processing of incoming microfiche and paper would be reduced, as would storage needs. However, the costs of training, increased staff intervention, and equipment for electronic-based services would increase. Agencies will experience similar shifts in services and financial obligations.

Depository institutions now provide access to government information "free" of charge to users. Policies concerning government information available through online services to which value has been added vary from library to library. Some provide a minimum level of free access by number of citations or search time, whereas others charge the user for the full cost of the search. Depository librarians note the different kinds of access afforded by the different media, and these differences (in addition to cost) are taken into consideration during the mediation/reference process.

When considering the introduction of electronic products, it is also important to reexamine all formats and the criteria or guidelines employed in determining which format(s) are used for each government information product. Many government information products may not be available in more than one format due to budgetary and fiscal restraints. These restraints affect the depository program as

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[27] Susan K. Martin, "Technology and Cooperation: The Behaviors of Networking." *Library Journal,* vol. 112, No. 16, October 1987, p. 44.
[28] Association of Research Libraries, *Task Force on Government Information in Electronic Format,* Report No. 2, Apr. 21, 1987, p. 19.

[29] 1 bid., p. 20, and Barbara Moran, *Academic Libraries: The Changing Knowledge Centers of Colleges and Universities* (Washington, D. C., Clearinghouse on Higher Education, 1984), p. 24; and Cline and Sinnott, *The Electronic Library* (Lexington, MA: Lexington Books, 1983).

well as other governmental programs. The depository community and LPS need to collectively determine which products can be provided in one format to effect savings for the program and, thereby, permit the inclusion of other information products in the program. The appropriate format for one library may not be the best format choice for another institution but, given the number of products entering the program and the cost of many of the new electronic products, budgetary constraints require further format decisions.

If the basic underlying principle of the program is to retain free access by the public to government information, then Congress needs to recognize that there maybe additional costs associated with the introduction of electronic information, and assist depository libraries and GPO in designing and financing new ways to make this information available to the public.

Reorganized Depository Program

Can the current depository system accommodate new responsibilities for electronic formats or should a new institutional structure be considered?

The current depository system is composed of a mix of organizations with diverse needs and clienteles. Members are at different stages of introducing information technologies, ranging from the highly sophisticated institutions with a broad array of electronic services to libraries just introducing OCLC services. *Any discussion of either a reorganized depository program, or a system that would include new formats, must consider this diversity.*

The current system can accommodate new responsibilities for the dissemination of electronic products, regardless of format, through the depository program. The current structure *may not necessarily be the most efficient or effective,* but many member institutions have some experience with electronic formats from providing other electronic services to patrons

and/or incorporating electronic technologies into their operations.[30] More information concerning the effectiveness and user needs of the depository program will be available following the completion of a GPO study of the depository program. Fry noted in 1978 that the effectiveness of the depository program could only be: ". . . a matter of conjecture, because there is a lack of reliable descriptive and statistically significant data upon which to base policy decisions."[31] This remains true today. An evaluation of the effectiveness of the GPO depository library program may be merited. This evaluation could take place at the same time as the pilot and demonstration projects that will introduce and evaluate the delivery of electronic products. This is an opportunity to examine the future directions and organization of the depository program.

If electronic files are included, it is likely that many depository libraries will continue to select only those products and files most germane to their patrons. For some, this may not include electronic files for the foreseeable future. Individual libraries will decide whether or not electronic access to certain government files is a necessary addition to the collection. More and more government information will be produced in electronic formats. Some libraries may not accept these formats immediately, but will require electronic data in the near future to supplement paper and microfiche collections.

The level of resource-sharing and cooperation among depository libraries varies throughout the country. Generally, it has been noted that: "using technologies and databases already in place, librarians are beginning to iden-

[30] For more information, see: Peter Hereon, Charles McClure, and Gary Purcell, *GPO Depository Library Program: A Descriptive Analysis* (Norwood, NJ: Ablex Publishing Corp., 1985); and Peter Hernon and Charles McClure, *Public Access to Government Information: Issues, Trends, and Strategies.* (Norwood, NJ: Ablex Publishing Corp., 1984.)

[31] Bernard Fry, Government *Publications: Their Role in the National Program for Library and Information Services* (Washington, DC: NCLIS, December 1978.)

tify the benefits and procedures of cooperative collection development and cooperative preservation of library materials."[32] In some States, such as New York, there is a very unified system, with the State library (a regional depository) taking a lead role in the operation of the program. In this case, the State library assists new libraries wishing to gain depository status, implements resource-sharing policies throughout the State, and seeks to achieve a consistent level of service throughout the State for access to government documents. Some regionals share resources, whereby a regional will accept responsibility for government documents, but the documents themselves are processed and housed elsewhere. This practice enhances collection development and resource-sharing within a State or region. Within this "system," it is also recognized that the degree of technological sophistication is varied (as are user needs); not all libraries need on-site access to all electronic files, nor do they have the capabilities to access these files. However, there is an infrastructure in place that can accommodate these institutions if access to electronic files or other data is needed. Other areas and States do not have a "collective" system and operate on a more independent basis.

Some of those States and regions already employing cooperative arrangements have developed or are planning systems similar to the Association of Research Libraries' proposal for restructuring the depository library system. The ascending levels of responsibilities of basic, intermediate, and full service describe an informal network already in place in many parts of the depository system. This is just one *of many* possible directions that the depository library program could take as new technologies and electronic information applications are introduced.

Careful evaluation of the effects of these new information services on users, libraries, agencies, and GPO will be needed. When these effects are better understood, discussion could begin on possible reorganization alternatives. A mechanism for evaluating these effects might be helpful, such as a committee with representatives from LPS, the JCP and other relevant congressional committees, agencies with electronic products in the program, depository librarians, and members of the Depository Library Council.

Transition to a reorganized depository system would take time and effort. Current depository members would need to consider carefully a new system that would best serve the needs of libraries and users, and ensure that the resources within the region would be sufficient to satisfy resource-sharing requirements.

Changing Roles **of** Stakeholders

Does the increasing shift to electronically formatted information require a reexamination of the composition and relationships of the stakeholders in the depository program?

As noted in chapter 6, the depository program is a: ". . . cooperative program between the Federal Government and designated major libraries throughout the United States . . . "[33] Three participants are identified by Congress in this depository program relationship: the government, selected libraries throughout the United States, and the public. Throughout the history of the program, Congress and GPO have maintained this partnership and have relied on other services-both private sector services, such as Congressional Information Service, Inc. (CIS), and not-for-profit services, such as OCLC—to improve government information resources and to serve as other sources of access to government information. The different avenues of access–directly from an agency, through a depository library, or through a private sector information source— ensure access for a variety of constituencies, each with differing needs.

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32 Op. cit., P. Martin, footnote 27, p. 43.

33 Senate U.S. Congress, Committee on Rules and Administration, Subcommittee on the Library. *Depository Libraries, Hearings on S. 2029 and H.R. 8141 to Revise the Laws Relating to Depository Libraries,* 87th Cong., 2d. sess., Mar. 15-16, 1962, p. 25.

The depository library program represents one of several marketplace opportunities for private sector services, and this marketplace is expanding. Private information vendors perform numerous roles in the government information marketplace. Vendors reprint government materials (since there is no government copyright). For example, *The Effects of Nuclear War, an* OTA publication, was reprinted commercially under that title and as *After Midnight: The Effects of Nuclear War.* Private sector services design and create databases for Federal agencies and may even disseminate the data files for agencies. Private sector firms also add value to government data in all formats— paper, microfiche, and electronic. For example, CIS, Inc. develops indexes to congressional information, and the *Code of Federal Regulations* is available through OPTEXT on CD-ROM. Depositories and other institutions purchase and/or subscribe to these products for several reasons:

- to enhance existing government materials, for example, the CIS Congressional indexes;
- to have access to information in a more timely fashion; or
- to access value-added information that is not available through the government depository program.

The increasing shift by agencies to electronic information products is presenting new opportunities for private sector involvement in the information practices of government. Office of Management and Budget (OMB) Circulars A-76 and A-130 encourage agencies to employ private sector services when possible to minimize competition between government and the private sector and for reasons of economy and efficiency .[34] Generally, private sector firms support OMB policies because they advocate an expanding private sector role in government information practices. The Commission on Freedom and Equality of Access to Information noted in 1986 that:

The Information Industry Association and other organizations representing information providers have vigorously opposed expansion of government publishing programs, advocating a policy that would forbid government entry into competition with existing private sector services and discourage the Government undertaking new information dissemination programs using the new media unless there was an overriding national need and a demonstrated unwillingness or inability of the private sector to offer a service meeting that need.[35]

In the past, the Information Industry Association has opposed "direct distribution' of government information in electronic format to depository libraries by GPO, taking the position that information in electronic format does not fall within the statutory authority of the depository library program, and if distribution were to occur, ". . . the Government should rely upon the private sector."[36] Members of the Information Industry Association have voiced concern that, if GPO were to disseminate government information in electronic format, there would be direct competition with existing or prospective private sector services, and that some of these services would be forced out of business or otherwise suffer adverse economic consequences.

On the other hand, the Commission on Freedom and Equality of Access noted that:

. . . libraries and university interests have wished to see the Government expand its publishing programs using the new media in order to offer broad and inexpensive access. They have felt that the principle of the depository library system developed for printed materials should be applicable to information in other forms as well.[37]

"Hereon and McClure, *Federal Information Policies,* op. cit., footnote 20, pp. 244-246.

35 Commission on Freedom and Equality of Access to Information, *Freedom and Equality of Access to Information* (Chicago, ALA, 1986), p, 75.
36 Information Industry Association, Public Policy Activities *of the Information Industry Association,* (Washington, DC: 11A, June 1987), p. 49, and (January 1988), pp. 43-44.
37 Commission on Freedom and Equality of Access to Information, *Freedom and Equality of Access to Information* (Chicago, IL: ALA, 1986), p. 75.

An expanded role for the information industry in the dissemination of electronic information in the depository library program is cause for further concern within the library community, due to the lack of explicit information policies.[38] As the information industry looks to OMB for leadership on electronic dissemination, the library community looks to the JCP. The separation of power issue causes additional tension because the agencies are caught between OMB's policies that emphasize the private sector role and JCP policies that emphasize a governmental and GPO role. The information industry tends to view government information as an economic commodity that should, to the extent possible, be sold for profit in an unregulated free market. In contrast, the library community (as represented by the American Library Association [ALA]) views government information as a public good and believes that reliance on market forces will not adequately ensure access to government information.

Several groups, including the National Commission on Libraries and Information Science Public Sector/Private Sector Task Force, the Commission on Freedom and Equality of Access to Information, and the ARL Task Force on Government Information in Electronic Format, have developed broad-based principles and/or key considerations that describe, clarify, and/or determine the roles of stakeholders in the government information creation, processing, and dissemination cycle. Some have suggested that it maybe impossible to develop overall guidelines for electronic products, and that a case-by-case review may be needed for each data file.

There are several underlying principles of this overall debate on which most major stakeholders appear to agree and from which further congressional policy can be developed. First, public access to government information (regardless of format) is a basic right of U.S.

society and is vital to the functioning of our democratic form of government. Second, there are different stakeholders in this public access process, all of whom contribute to its success. Third, the roles of the stakeholders are both complementary and competitive, and none can be completely excluded from the process. Fourth, the depository program, a key avenue of public access, is a unique dissemination program of the Federal Government, and is necessary to the continuation of the principles of public access.

An examination of the changing roles of the stakeholders in the depository program is important as new formats are introduced and demonstration projects commence. The recent controversy over an initiative by the Public Printer to "enlist the cooperation of non-government information service providers for the delivery of online information services to selected depository libraries" is one example of the need for a clearly stated congressional policy.[39] Reliance on a non-governmental service or government-contracted service to provide depository library program access to government information would signify a change in the depository program and would alter the current relationships.

Moreover, the basic premise of free access to government information in the depository program may conflict with a private sector value-added role. For example, once a government-generated database is purchased by a vendor, the vendor "adds value" to this data file, creating a new enhanced product. The vendor now may have proprietary rights associated with this new product or format (although not the information per se). If this product is the electronic file made available to the depositories, conditions may be placed on the use of that file. This would be a departure from current practice of unrestricted use that is primarily due to the nature of the format—paper and microfiche versus electronic. For the value

38 Letter from Duane Webster, Interim Executive Director, Association of Research Libraries, to Ralph Kennickell, Jr., Public Printer, Dee, 28, 1987; and phone conversations with members of the depository library community and information industry, December 1987.

39 Letter from Ralph Kennickel], Jr., Public Printer, to Honorable Frank Annunzio, Chairman, Joint Committee on Printing, Dec. 10, 1987.

added to the government information, the vendor deserves compensation. At the same time, the public's right to free and unrestricted access to government information is a cornerstone of the depository program. To the extent the private sector is directly involved in electronic dissemination to depository libraries, new kinds of pricing and access arrangements maybe needed to preserve the basic objectives of the depository program.