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Federal Electronic Information Policy

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FEDERAL ELECTRONIC INFORMATION POLICY*

*Henry H. Perritt, Jr.***

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INTRODUCTION

A growing portion of the universe of government information is stored and communicated in electronic rather than paper form, while statutes, case law, and formal written policies covering government information mainly address paper information. Unless public policy evolves in a suitably comprehensive way to address electronic information, federal policy in this area will apply to a progressively shrinking universe of paper information.

This article advances the idea that the best public information policy is one that promotes a diversity of electronic product offerings because technologies are changing rapidly and consumer preferences are not well understood.¹ Diversity in electronic product offerings requires private investment in adding value to electronic information. Two forces discourage the requisite investment: the possibility that the government will compete with value-added electronic information products² funded publicly and the virtual certainty that the Freedom of Information Act ("FOIA")³ requires that value-added electronic information be released at low prices. Electronic information policy must recognize the competing forces and devise appropriate measures to promote the requisite investment in and diversity of electronic information.⁴ Pricing flexibility, combined

1. This article elaborates on certain parts of the author's work for the Administrative Conference of the United States, which led the Conference to adopt recommendations on December 7, 1989. See *Federal Agency Use of Computers in Acquiring and Releasing Information*, 1 C.F.R. § 305.88-10, at 224 (1989) (guide to agencies considering whether to acquire or release information in electronic form) [hereinafter ACUS Recommendation 88-10]; H. PERRITT, *ELECTRONIC ACQUISITION AND RELEASE OF FEDERAL AGENCY INFORMATION: RESEARCH REPORT PREPARED FOR THE ADMINISTRATIVE CONFERENCE OF THE UNITED STATES 2* (1988) (discusses handling of information under Freedom of Information Act; roles of federal agencies and private sector with respect to electronic acquisition and release; and economic considerations regarding use of electronic information) [hereinafter ACUS REPORT]; Perritt, *Electronic Acquisition and Release of Federal Agency Information: An Analysis of ACUS Recommendations*, 41 ADMIN. L. REV. 253, 254-55 (1989) (legal and policy issues of electronic acquisition and release, including Freedom of Information Act concerns, cost-benefit analysis, public versus private sector roles). See generally H. PERRITT, *HOW TO PRACTICE LAW WITH COMPUTERS* (1988).

2. Adding value refers to enhancing functional utility by (1) changing organization or formats, or (2) developing and making available retrieval software, hardware, or media. See *infra* notes 35-55 and accompanying text for a discussion of adding value in the electronic information contexts.

3. 5 U.S.C. § 552 (1988).

4. See *Committee on Government Operations, House of Representatives, Electronic Collection and Dissemination of Information by Federal Agencies: A Policy Overview*, H.R. REP. NO. 560, 99th Cong., 2d Sess. 2 (1986) (discusses competition between federal agencies complying with statutory mandates to make information available and growing private sector information industry) [hereinafter *House Policy Report*]. The report was authored largely by Robert Gellman, counsel to the Subcommittee on Information. See generally Office of Management and Budget ("OBM") Circular A-130, 50 Fed. Reg. 52,730 (1985) (framework for management of information resources). Legislation is pending to address (1) private versus public funding of electronic information products, (2) the Freedom of Information Act's requirement of easy accessibility, and (3) the need for diverse prod-

with implementation of sound FOIA interpretations, will ensure that the public gets maximum benefit of electronic information technologies at the lowest cost.

The FOIA strongly favors public access to government information, but does not explicitly require or authorize government initiative to disseminate value-added electronic information.⁵ The FOIA, however, does require agencies to release value-added electronic information features developed to serve internal agency needs,⁶ which indirectly forces agencies to support new electronic publishing initiatives. The FOIA also respects intellectual property rights in information,⁷ so carefully crafted incentives for diversity and private investment are viable.

In order to understand the interaction between the FOIA and electronic information policy, one must start with an appropriate conception of electronic information markets. Electronic information release, in contrast to electronic acquisition,⁸ is highly controversial, primarily because of the impact of new government electronic dissemination (publishing) initiatives on established markets for electronic information.⁹ Useful electronic information products ultimately

ucts. H.R. 2381, 101st Cong., 1st Sess. (1989) (introduced on May 16, 1989 by Representative Wise).

5. 5 U.S.C. § 552(a)(4)(A)(iii) (documents shall be furnished at reduced charge if disclosure is in public interest because likely to contribute to public understanding of operations and is not primarily in requester's commercial interest).

6. See *infra* notes 192-201 and accompanying text for a discussion of FOIA requirements.

7. See *infra* notes 202-48 and accompanying text for a discussion of the FOIA and intellectual property rights.

8. This article considers only electronic release because it is more controversial than electronic acquisition, and relates directly to the FOIA. In many cases, the initiative for electronic acquisition has come from filers. Agencies sponsoring electronic acquisition initiatives generally have consulted with affected interests regarding (1) format standards, (2) use of intermediaries to prepare electronic submissions, and (3) whether these initiatives should be voluntary or mandatory. In August, 1987, the OMB released for public comment proposed policy guidance on electronic collection of information. 52 Fed. Reg. 29,454 (1987). When final, this guidance will be issued as an appendix to OMB Circular No. A-130, 50 Fed. Reg. 52,730 (1985). The proposed policy suggests certain conditions favoring electronic collection of information and requires agencies to certify that they have considered use of electronic information collection techniques as a means to reduce burdens on respondents and costs to the government. 52 Fed. Reg. 29,454 para. 1 (1987).

ACUS Recommendation 88-10, *supra* note 1, Recommendation B at 226, addresses acquisition of information in electronic form. It says that agencies should acquire information in electronic form when they use, or will use, the information in that form and when most information submitters already maintain information electronically, or have ready access to intermediaries who will prepare and submit it in electronic form. *Id.*

9. Information release can occur at three levels: access, disclosure, and dissemination. See ACUS Recommendation 88-10, *supra* note 1, at 230 (*electronic access* defined as ability to obtain agency information; *electronic disclosure* defined as making information available electronically to public at one or few places; *electronic dissemination* defined as using electronic means to make information widely available to public at places where it is used). OMB Circular A-130 distinguishes between "access" (§ 6(f)) and "dissemination" (§ 6(g)), and Appendix IV explains the distinction essentially in the same terms as those used in ACUS Recommendation 88-10, *supra* note 1, at 230. See 50 Fed. Reg. 52,730, 52,745 (1985) (*access* refers to situation where agency role is passive; *dissemination* refers to activities in which government provides public with information without public asking for it).

Access is the lowest level and the most passive form of information release. The agency must

are judged according to the type of value desired or needed by the public. Accordingly, this article begins with a discussion of the special characteristics of electronic information as a product, and then redefines product distribution roles such as wholesaling and retailing in terms of the value that can be added to electronic information, using comparisons with conventional printing and publishing technologies.¹⁰

Having postulated a marketplace, the article proceeds to explain how the FOIA protects the public interest in having many suppliers of public information while making it difficult to provide security for private investment.¹¹ The FOIA, by obligating the government to provide access to electronic information, permits private entities to add value and disseminate the information to the public. The FOIA thus is both a barrier and a facilitator of government practices that can shape an appropriate market structure for electronic public information. The article concludes by explaining how government contracting and certain copyright principles can be mobilized to support policy judgments about the most cost-beneficial mix of government and private sector roles.¹²

I. THE MARKET FOR ELECTRONIC INFORMATION

Before considering policy and legal issues, it is appropriate to define the universe within which law and policy operate. The relevant universe is a market

release information upon request but is not affirmatively required to do so. *Id.* Paper information subject to access is kept in regular agency files and indexed and packaged for routine agency use, not for public availability. *Id.* ACUS Recommendation 88-10 uses the term electronic access to refer to the lowest level of electronic release; the ability to obtain agency information through ad-hoc demands. ACUS Recommendation 88-10, *supra* note 1, at 225, 230. Electronic access usually is accomplished by releasing bulk information on tapes or disks in the format used by the agency. A release of information covered by the miscellaneous records provisions of the FOIA, 5 U.S.C. § 552(a)(3), but not by other release obligations, is an example of access level release. *See* ACUS Report, *supra* note 1, § V(F)(4)(a), at 101 (scope of agency access obligations under FOIA limited by FOIA definition of "record," by requirement that requester reasonably describe desired record, and by requirement that request comply with agency rules).

Disclosure is an intermediate level of release, involving some affirmative effort by the agency to make the information easily available to the general public. ACUS Recommendation 88-10, *supra* note 1, at 230. Regulatory dockets, SEC filings, and indices of adjudicatory decisions all are examples of information that is "disclosed." Electronic disclosure involves making terminals and suitable retrieval software available in public reference rooms, and possibly at other fixed locations. *Id.*

ACUS Recommendation 88-10 uses the term *electronic dissemination* to refer to the highest level of electronic release which makes information widely available to the public at places where it is used. *Id.* Electronic dissemination involves making available dial-up links or disks containing data structures and software for easy retrieval on small computers. *Id.* at 330. The National Library of Medicine and the Federal Register are examples of this activity. *Electronic publishing* is the same thing as electronic dissemination. *Id.*

10. *See infra* notes 13-63 and accompanying text for a discussion of electronic information as a product and its product market.

11. *See infra* notes 110-279 and accompanying text for a discussion of the application of the FOIA to electronic information.

12. *See infra* notes 96-109, 202-48 and accompanying text for a discussion of the roles government contracting and copyright principles play in the electronic information area.

in which information is the only good, exchanged according to diverse demand and supply forces.

Communications technologies and the markets for information always have shaped economic, political, and social institutions.¹³ Now the convergence of broadcast, common carrier, and publishing technologies¹⁴ permits enormous quantities of information to be available on demand according to the interests of particular consumers.¹⁵

The electronic information products addressed in this article combine database and telecommunications technologies. The database technologies make it possible for pieces of information to be retrieved quickly and inexpensively from enormous quantities of information.¹⁶ The telecommunications technologies make it possible for the information thus retrieved to be sent nearly instantaneously to the consumer.¹⁷ The combined technologies also are important strategic advantages for business enterprises.¹⁸

The agency initiatives and the policy questions considered in this article are at the core of mobilizing both database and telecommunications technologies to

13. I. DE SOLA POOL, *TECHNOLOGIES OF FREEDOM* (1983). The rise of the newspaper as a medium for commercial advertising and for disseminating information about public affairs is an example of a communications vehicle which shapes economic, political, and social institutions. Commercial advertising was a correlate of, and possibly a precondition for, the geographic expansion of markets associated with the American Industrial Revolution. Dissemination of information about public affairs shaped growing nationalism and sectionalism. Pool explains that improved paper manufacturing technology that significantly reduced the price of paper in the 1830's and 1840's facilitated the important role of the newspaper. *Id.* at 19. (key development was manufacturing paper from wood pulp instead of rags). At about the same time, printing press technologies improved, making truly large scale mass production of newspapers economically feasible in a time frame and at a price that matched the reduced price of paper. *Id.* at 16-18 (steam press and rotary press increased print runs of newspapers from 5,000 copies to 27,000 to 40,000 by 1836).

Pool identifies expanded postal service as another important communications technology. Expanded postal service facilitated widespread distribution of inexpensive newspapers. *Id.* at 17 (post office was first communications common carrier, permanently established in Britain in 1656 and colonies in 1711). Additional commentary regarding the impact of newspapers and other modes of communication in history can be found in R. BROWN, *KNOWLEDGE IS POWER: THE DIFFUSION OF INFORMATION IN EARLY AMERICA, 1700-1865* (1989).

14. I. DE SOLA POOL, *supra* note 13, at 23 ("convergence of modes" blurring lines between point-to-point communications such as post office, telephone, and telegraph and mass communication such as press, radio, and television).

15. McGraw Hill is phasing in a new textual database and book manufacturing technology that can vary the content of a textbook for press runs of as few as ten copies. McDowell, *Facts to Fit Every Fancy: Custom Textbooks are Here*, N.Y. Times, Oct. 23, 1989, at D1, col. 3. This is a major development toward on-demand publishing, representing a convergence of database and print media. The existence of this technology and its adoption by a major publisher, however, do not affect delays and costs associated with communicating consumer desires about book content, or of distributing the finished product to the consumer. *Id.* Notably, McGraw Hill intends to use the technology with textbooks where a single decision maker (the instructor) accounts for a block of product sales. *Id.*

16. See I. DE SOLA POOL, *supra* note 13, at 190-91 (improved search and database techniques lowers cost of electronic information retrieval below that of paper information retrieval).

17. See H. PERRITT, *HOW TO PRACTICE LAW WITH COMPUTERS* Ch. 3 (1988) (telecommunications software permit computers to send and retrieve information through telephone lines).

18. See generally P. KEEN, *COMPETING IN TIME* (1986) (describing how private enterprises can use telecommunications to get competitive edge on competition).

make government information available through new communications channels represented by the convergence of print, broadcast, and electronic media.

A. Information as an Economic Good

Information is an important, although unusual, economic good.¹⁹ The economics of tangible goods are based on property concepts. Property is a bundle of economic rights that is legally protected against interference.²⁰ Modern concepts of property focus on a "bundle of rights"²¹ rather than a unitary concept of ownership.²² An essential attribute of property is the right to exclude.²³ Value is added to property when its utility is increased.

The fact that information can be duplicated at a relatively low cost, without depriving the original owner of his or her use, weakens the validity of the traditional economic assumption of scarcity developed for tangible goods.²⁴ Ease of duplication is a characteristic of all kinds of information whether recorded and communicated on paper or electronically. Electronic media and techniques intensify this duplicative characteristic.

The ease of duplication makes it difficult to set a high price on information unless secondary distribution can be prevented. Copyright is a standard legal mechanism to restrict duplication and secondary distribution.²⁵ Government information cannot be copyrighted,²⁶ but government agencies can exert a variety of controls that prevent certain forms of electronic release and therefore limit

19. *House Policy Report*, *supra* note 4, at 24.

20. *See United States v. Willow River Power Co.*, 324 U.S. 499, 502 (1945) (property is bundle of legal rights to certain benefits enforceable against identifiable persons).

21. *See Nollan v. California Coastal Comm.*, 483 U.S. 825, 831 (1987) (right to exclude others is "one of the most essential sticks in the bundle of rights that are commonly characterized as property").

22. *See Grey, The Disintegration of Property*, XXII NOMOS, PROPERTY 69, 69 (1980) (property no longer coherent or crucial category in legal conceptual scheme).

23. *Nollan*, 483 U.S. at 831.

24. *See House Policy Report*, *supra* note 4, at 24 (different economic considerations apply to sale or disclosure of information since normal rules about scarcity are inapplicable).

The textual description of information suggests that information is a "public good." *See F. MACHLUP, THE ECONOMICS OF INFORMATION AND HUMAN CAPITAL 159, 3 KNOWLEDGE: ITS CREATION, DISTRIBUTION AND ECONOMIC SIGNIFICANCE (1984) [hereinafter ECONOMICS OF INFORMATION]* (to use existing knowledge may be costless). "[A] good is designated as 'private' if the benefit can be withheld from nonpayers (i.e. if it is *appropriable*); it is designated as 'public' if exclusion of nonpayers is impossible, impractical, or inordinately expensive." *Id.* at 130. Information is not a private good like shoes, which can be worn by only one person at a time. *Id.* at 128-31 (public or social goods). A particular chunk of information can be transferred from A to B. After the transfer both A and B have it. This means that information is not appropriable.

25. *See House Policy Report*, *supra* note 4, at 24 (copyright permits sale of information at price reflecting value of information instead of production cost).

26. 17 U.S.C. § 105 (1988) (copyright protection not available for any work of the United States Government, but government can hold copyright transferred to it). *See, e.g., Schnapper v. Foley*, 667 F.2d 102, 108 (D.C. Cir. 1981) (government contractor can copyright Bicentennial films and transfer copyright to government), *cert. denied*, 455 U.S. 948 (1982); *Bell v. Combined Registry Co.*, 536 F.2d 164, 168-69 (7th Cir.) (prose poem authored by government employee was copyrightable because not assigned as part of official duties), *cert. denied*, 429 U.S. 1001 (1976); Public Affairs

the cheapest forms of duplication and redistribution. The most effective form of prevention is to limit the release of government added value,²⁷ thus erecting economic barriers to entry by new producers, a traditional determinant of monopoly. Barriers to entry permit either the agency or an outside possessor of the electronic information to enforce a high price because such an agency or outside possessor has monopoly power in the marketplace for that information.

Many different kinds of value can be added to electronic information.²⁸ Most common is the construction of an inverted index necessary to permit key word search and retrieval of information from a free-text database.²⁹ An electronic information retailer also may sell a total package of communications links and database access.³⁰ A retailer may offer one-stop shopping so that an information consumer can gain access to information from many different agencies through what appears to be a single database.³¹ A retailer may offer useful topical groupings of information or proprietary classification systems.³² A retailer also may reformat information so that it can be fed into an ultimate consumer's computer system.³³

A further distinction between "manufacturing" and "distributing" helps classify certain value-added features. Value-added features such as data structures, indices, and search and retrieval software may be "manufactured" as a byproduct of automating internal agency functions. Distributing these features to the public, however, requires further investment in telecommunications links, or Compact Disk Read Only Memory ("CDROM") production and physical distribution systems, which may be performed more cost effectively by the private sector.

Significant capital may be required to convert information to electronic form and to develop and operate systems for storing, managing, and retrieving the information. If the investor of the capital releases the enhanced information without restriction, it is possible for other persons to duplicate and distribute it at very low marginal costs thereby undercutting a price sufficient to afford recov-

Assoc., Inc. v. Rickover, 268 F. Supp. 444, 448-49 (D.D.C. 1967) (speech written and delivered by Navy Vice Admiral on own time was personal property of author).

27. See *infra* notes 35-55 and accompanying text for a discussion of government added value; *infra* notes 64-109 and accompanying text for a discussion of public versus private sector roles in the value adding process.

28. The higher the level of release, the greater the value added. The more value that is added, the more the release activity can be described as "retailing" or dissemination. The less the added value, the more the release activity can be described as "wholesaling" or mere access or disclosure. See *supra* note 9 for a discussion of the three levels at which information release can occur.

29. See ACUS REPORT, *supra* note 1, § II(B)(3), at 21 (describing function of structured data).

30. WESTLAW is an example of such a communication package. A subscriber to WESTLAW need not make special arrangements with a Public Data Network in order to access the database via a local telephone gateway.

31. CompuServe, ABA/net, WESTLAW and LEXIS are good examples of "one-stop shopping" systems.

32. West's key number indexing system is an example of a proprietary classification system.

33. ATP's formatting of airline tariff information for inclusion in airline reservation systems is a good example.

ery of capital costs.³⁴ These characteristics of electronic information as an economic good create strong incentives for the first person who creates an electronic database to restrict duplication and redistribution. This is true whether the person creating the electronic information base is an agency or a private sector entrepreneur.

B. Defining New Electronic Information Products in Terms of Value at Five Processing Stages

A major controversy in electronic information policy involves the question of adding value and disseminating value-added electronic information to the public.³⁵ When the debate first started, the dispute over adding value was framed in terms of whether the government should "retail" or only "wholesale" electronic information.³⁶ The terms retailing and wholesaling, although useful to introduce basic policy alternatives, are misleading. These terms refer to stages in the distribution process for tangible goods. Ordinarily, the nature of a tangible product is fixed before it gets to the wholesaling stage. No more features are added at the retailing stage. So the retailing versus wholesaling distinction captures only a part of the value-added debate. Also at issue is how much value the government should "manufacture," in other words, how much value should be in a government product at the wholesale stage.³⁷

It is inevitable, and appropriate, for the government to add value to electronic information.³⁸ The policy challenge is to determine when it is most cost effective for the government to disseminate value already added for its own internal use, to add additional value solely to meet public demand, or to rely on the private sector to add value.

Consider a rule adopted by the Occupational Safety and Health Administration ("OSHA") limiting occupational exposure to benzene.³⁹ There is strong

34. See *infra* notes 202-48 and accompanying text for a discussion of investment incentives.

35. See ACUS REPORT, *supra* note 1, § V(F)(1), at 95 (debate over user fees for value-added vendors pits present vendors against potential consumers and those desiring wide public dissemination against those opposing it).

36. See ACUS Recommendation 88-10, *supra* note 1, at 230. Releasing information with significant added value sometimes is called retailing, while releasing information with significantly less value added is called wholesaling. The ACUS Recommendation defines *retailing* as: "providing information in a format different from that used by the government, or with accompanying analysis, aggregation or segregated subsets, enhanced search or retrieval capabilities, or otherwise tailored to be of value to specialized or individual end users; also may include distribution components of electronic release." *Id.* The ACUS Recommendation defines *wholesaling* as: "providing resellers or large end users information only in the form used by the government or only in bulk form." *Id.*

37. See *infra* notes 171-201 and accompanying text for a discussion of the appropriate levels of added value.

38. See Second Advance Notice of Further Policy Development on Dissemination of Information, 54 Fed. Reg. 25,554 (1989) (OMB's June 15, 1989 response to comments on its January 4, 1989 notice is hospitable to government adding value to electronic information). OMB abandoned its January position that, in publishing a distributing agency's information in CDROM formats, agencies should not include indexes and retrieval software. *Id.* at 25,557. See *infra* notes 171-201 and accompanying text for a fuller discussion of OMB policy development.

39. 52 Fed. Reg. 34,460 (1987) (codified at 29 C.F.R. § 1910). The benzene rule and its pream-

public demand for the information constituting the rule and OSHA's justification for it. Few people would argue that OSHA lacks a legitimate interest in promoting wide public availability of the rule. Employers using benzene are subject to civil and criminal penalties and having their businesses shut down if they do not comply with the rule.⁴⁰ Earlier versions of the rule were litigated in the Supreme Court of the United States because of their importance in implementing certain statutory concepts in the Occupational Safety and Health Act.⁴¹

Now, without regard to electronic media, consider the ways in which value can be added to the raw information representing the rule. Value was added to the paper OSHA rule at five different processing stages. The same five processing stages are involved with different forms of public information, regardless of whether it is processed by the government or the private sector.

At the first processing stage, a basic value is added, one taken for granted by most people, but nevertheless important. This form of value is ordinary typographic format information, such as paragraph breaks, use of italics, footnotes, subtitles, and running headers and footers on multipage material.⁴² These typographic features make it easy for readers to browse the printed material. Labeling particular parts of the benzene rule with subpart designations and section numbers adds a similar form of value. These features permit unambiguous and efficient reference to particular parts of the document.

At the second processing stage, OSHA added a substantive value when the agency reported a statutory authority for the rule⁴³ and specified the titles and sections of the Code of Federal Regulations ("CFR") where the rule eventually will be codified.⁴⁴ These cross references make it possible for people to know of the rule's existence by starting with the statute authorizing it, or by starting with the body of other rules issued by OSHA.⁴⁵

At the third processing stage, an elementary value is added simply by printing the rule on paper in a way that is easy to read. This value was added in the ordinary course of OSHA's rulemaking process before the Assistant Secretary of

ble constitute a substantial document, approximately 130,000 words, the equivalent of 550 typewritten pages, or about the size of a typical hardbound book designed for commercial sale. The rule and its preamble took 119 pages in the Federal Register. 52 Fed. Reg. 34,460-34,578 (1987).

Using an agency rule as an information product example makes it easier to explore the added value concept, without being encumbered by technical aspects of the structure of more specialized information such as a Federal Maritime Commission tariff or an SEC filing. The value concepts explored in the context of an OSHA rule are generic, however, and apply equally to a USDA crop report or to a Supreme Court opinion.

40. See generally 29 U.S.C. §§ 662, 666 (1988) (injunctions and civil and criminal penalties for violation of OSHA standards).

41. See *Industrial Union Dep't v. American Petroleum Institute*, 448 U.S. 607, 662 (1980) (OSHA's reduction of permissible exposure limit not supported by appropriate findings of significant risk of harm required by Act).

42. This is the same as "tagging" elements of a word processing document or textual database. See H. PERRITT, *supra* note 17, at 381, 442 (explaining tagging concept).

43. 52 Fed. Reg. 34,465 (1987).

44. 52 Fed. Reg. 34,562 (1987) (amending 29 C.F.R. § 1910 by adding § 1910.1028).

45. Such cross references are conceptually akin to hypertext links in sophisticated computerized text databases.

Labor for Occupational Safety and Health signed the rule.⁴⁶

At a fourth stage, another kind of value is added when multiple copies of the rule are made so that everyone who wants a copy can have one. This can be done on request by using photocopiers or, in the case of a legislative rule, by printing the rule in the Federal Register.⁴⁷ OSHA added value at this stage by submitting the rule to the Office of Federal Register where it was made available to the public.⁴⁸

At a fifth stage, the Government Printing Office ("GPO") added value by distributing copies of the Federal Register to subscribers, to GPO book stores around the country, and to federal depository libraries.

All of the value added to this information, ranging from simple sentence and paragraph structuring through fairly sophisticated delivery of a printed booklet, was added by the government, but represents steps in processing information that must be undertaken generally, regardless of the actor.⁴⁹

Other types of value, corresponding to the same processing stages, are added by the private sector, again without considering anything other than printed media. Legal research services like the Bureau of National Affairs⁵⁰ ("BNA")

46. The third stage of added value is conceptually different from stages one and two. One could insert text element tags and subtitles, and interpose cross references holographically in unformatted and unannotated documents. Stage three concerns the generation of a "clean" copy with the tags and cross references.

47. 5 U.S.C. § 553 (1988) requires publication of agency rules in the Federal Register. See *Morton v. Ruiz*, 415 U.S. 199, 236 (1974) (invalidating restrictions on Indian benefits for failure to follow Administrative Procedures Act notice and comment procedures).

48. 44 U.S.C. § 1503 (1982).

49. The levels of added value in the text can be thought of as different *processes*. The text compares two *formats*: paper and electronic storage. Professor Compaine, Executive Director of Harvard's program on information resources policy, suggested in 1983 that information policy analysis is enhanced by putting aside conventional categories and thinking about three characteristics of information: content, process, and format. B. COMPAINE, *ISSUES IN NEW INFORMATION TECHNOLOGY* (1988). Content refers to whether the information is intended for entertainment, legal research, or informing citizens. Process refers to activities used at different stages of handling information, such as gathering, creating, storing, and transferring. Closely associated with the process characteristics are conduits for information transfer: broadcasting, cable, and mail. Format includes hard copy, electronic visual presentation (CRT), mechanical visual presentation (celluloid film), optical disk representations, and magnetic representations. Thinking about information in these terms facilitates understanding how policy approaches and institutional models developed in one area may, because of changing technologies, become useful in other areas.

One could differentiate the type of value added at stages one and two more sharply, by limiting stage one to the adding of typographic features such as paragraph and page breaks, headings, tables and summaries, and headers and footers, limiting stage two to the adding of internal finding aids such as cross references, tables of contents, and indices, and defining a new stage three as the adding of external finding aids such as substantive references, citations, and concordances, or generating multiple-document indices. Then stages three through five would be renumbered four through six. The revised stages 1-3 involve knowledge *representation* issues. Stages 4-6 involve *presentational* issues. See generally, H. PERRITT, *HOW TO PRACTICE LAW WITH COMPUTERS* ch. 9 (1988 & Supp. 1990) (explaining pervasiveness of knowledge representation issue in automated legal reasoning).

50. The Bureau of National Affairs publishes the Occupational Safety & Health Reporter (O.S.H. Rep. (BNA)).

and Commerce Clearing House⁵¹ ("CCH") reprint the rule and distribute it as part of their subscription services, adding additional value by superimposing proprietary indexing numbers on the Federal Register and CFR conventions supplied by the government, and by changing type faces, type sizes and pagination, and perhaps adding annotations that help subscribers find related statutory, regulatory, and case law material. These private services may begin with information printed by the government, simply reprinting images of the actual pages produced by the government, or rekeying and retypesetting the information.

Now, consider each processing stage in publishing the same information electronically. Value added at the first two stages is embodied in a computer file with the text of the benzene rule in it, containing typographic information from OSHA word processing software or GPO typesetting software. Next, between processing stages two and three, the electronic text of the rule must be put into a database from which it can be extracted according to pre-existing retrieval tags, such as the Federal Register citation. WESTLAW, for example, permits retrieval by Federal Register citation, by CFR title and section number, and by free text search query. The database structure and retrieval software represent significant added value. Moving from paper formats to electronic formats changes the nature of stage four processing. When information is in an electronic database, and flexible, user-friendly retrieval software is available, on-demand publishing becomes feasible.⁵² Stages three and four merge.

An agency movement from conventional paper methods to electronic methods influences the kinds of value that private sector publishers add. Private sector electronic publishers may begin with a computer file obtained from the GPO or from OSHA, to which they add their own formatting information. Additional electronic value is added when the electronic publisher supplies typographic and topical indexing information to the electronic file. This may be as simple as translating typesetting or word processing codes or it may involve marking and extracting words for an inverted index necessary to permit free text search.

For the third through fifth processing stages (displaying in human readable form, printing multiple copies, and distributing them), an electronic publisher⁵³ must choose between dial-up telephone access or duplication of the information on magnetic or, more likely, optical disks. If dial-up access is the distribution medium, the electronic publisher must arrange for an adequate telecommunications interface to permit the expected number of simultaneous callers to access the database. If duplication by a physical magnetic or optical medium is intended, the publisher must invest in hardware and software for disk mastering and duplication. The communication infrastructure for dial-up access usually is

51. The Commerce Clearing House publishes the Occupational Safety and Health Decisions (O.S.H. Dec. (CCH)).

52. See *supra* note 15 for a discussion of McGraw Hill's experiment with on-demand publishing.

53. The text refers to electronic publishers generally, including both government and private-sector publishers, but most of the activities discussed in the text presently are performed by the private sector.

provided by a public data network such as Tymnet or Telenet. For physical distribution, electronic publishers generally use the same common carriers, such as the U.S. Postal Service or Federal Express, that a paper publisher uses.

Earlier, the article observed that the three levels of electronic release (access, disclosure, and dissemination) are defined in terms of the amount of value added.⁵⁴ Access provides for release after processing stage two, with paper reproduction only on request. Disclosure provides for release at stage three, with reproduction done in advance at facilities readily available to the public. Dissemination implies additional value added at stages four and five.⁵⁵

C. *The Demand for Electronic Information*

Information consumers are diverse and the formats in which they use information differ greatly. Some agency information is highly specialized and is of interest only to narrow segments of the population. Dockets for specific regulatory proceedings, and patent and trademark information are examples. Interest groups regularly promote ideas for new databases at the national level, managed by the federal government.⁵⁶

Other information is of interest to broad segments of the public. National Weather Service forecasts are a clear example. Toxic Release Inventory ("TRI") data is aimed at the general public, although the public's level of interest in it remains to be seen.⁵⁷

References are made throughout this article to "public" availability of agency information. In reality, a relatively small portion of the general public has access to microcomputers and the technological capability to use information in an electronic form. Until every citizen has a microcomputer, the concept of "public" availability really means (1) direct availability to certain technologically sophisticated constituencies, such as investors, inventors and patent attorneys, tariff filers or medical researchers, or well organized interest groups,⁵⁸ or (2) indirect availability to members of the general public using agency public reference rooms or public libraries.⁵⁹

54. See *supra* note 9 for an explanation of the three levels of electronic release.

55. What adds value for one user may subtract value for another. For example, an unsophisticated user wanting only a small amount of information benefits from user-friendly menus providing one screenful of information at a time. But a user who wants to perform statistical analysis of data, such as an environmental activist group desiring Toxic Release Inventory ("TRI") data, wants downloadable batches of data with tagged data elements (data separated into fields or separated by delineates which enables the meaning of a particular element to be determined by a computer) so that the data can be manipulated easily in a spreadsheet or database on the user's computer. An information reseller is more likely to want a flat file of the entire database tagged, but not encumbered by the user-friendly features that might benefit the other two groups of users. A reseller wants to add its own value, and frequently that necessitates reformatting.

56. *National database eyed as tool to assess outcomes*, Hospitals Oct. 20, 1989 at 18.

57. See *infra* note 78 for a discussion of TRI data.

58. Environmental action groups, for example, not the general public, want TRI data in electronic form.

59. See ACUS REPORT, *supra* note 1, § III(H), at 52-53 (discussion of depository library system).

The demand for electronic information now is remarkably like the demand for printed information just after the American Revolution.⁶⁰ This demand, however, is limited by the low proportion of the population that has access to personal computers. As literacy increased during the decades after the American Revolution, the demand for newspapers and magazines exploded.⁶¹ Literacy was necessary, but not sufficient, however, to promote expanded production of newspapers and magazines.⁶² Newspapers and magazines required distribution, and improvements in transportation and other distribution mechanisms, especially the post office, were necessary before even literate members of the population could obtain ready access to printed information at acceptable prices.⁶³

D. Suppliers of Electronic Information: Roles of Private and Public Sectors

Demand for information in electronic form works through the market to stimulate public and private investment in electronic release systems.⁶⁴ A thorough description of all of the agency electronic acquisition and release initiatives would extend the length of this article unacceptably. This section briefly describes the kinds of federal agency activities that raise the policy and legal issues considered in depth in this article.⁶⁵

1. Agency Missions

Agency missions have an important influence on agency acquisition and release initiatives. Missions span a spectrum from acquisition only to release, with a combination of acquisition and release in the middle.

The Internal Revenue Service ("IRS") and Customs Service are examples of agencies concerned primarily with acquisition. The National Library of Medicine, Government Printing Office, Census Bureau, and the National

60. See I. DE SOLA POOL, *supra* note 13, at 16, 21 (colonist's rejection of government authority over press led to free dissemination of printed materials; today use of audio and visual media exceeds use of printed material).

61. See R. BROWN, *supra* note 13, at 12-13.

62. See *id.*

63. See *id.*; I. DE SOLA POOL, *supra* note 13, at 17 (Constitution gave Congress power to establish post offices and roads to aid in dissemination of printed materials).

64. A number of private enterprises take government information in paper or microphotographic forms and translate it into electronic form so that persons may use electronic technology to retrieve such information and manipulate and print it on demand. Enterprises such as Dow Jones, Standard & Poor, and Disclosure, Inc. perform this function with respect to data initially acquired by the SEC. West Publishing Co. and Mead Data make statutes, judicial opinions, and certain agency regulatory information available electronically, primarily to lawyers. CompuServe provides some agency information, including National Weather Service forecasts, in electronic form to the general public. These enterprises generally can be referred to as "value-added electronic information" firms. Obviously, their economic interests are significantly affected by major changes in the way agencies acquire information or release it.

65. See generally H. PERRITT, *supra* note 1 for a discussion of the author's work for the Administrative Conference.

Weather Service are examples of agencies concerned primarily with release.⁶⁶

An intermediate group includes the Securities and Exchange Commission ("SEC"), the United States Patent and Trademark Office ("USPTO"), the Federal Maritime Commission ("FMC"), the Interstate Commerce Commission ("ICC"), the Department of Transportation's ("DOT") airline tariff function, and the Environmental Protection Agency's ("EPA") Office of Toxic Substances. These agencies acquire information in order to release it to the public to enhance market efficiency.⁶⁷ An even larger group, involving virtually every agency when it makes rules or adjudicates cases, releases information about proposed decisions and acquires information in the form of comments or evidence and argument.⁶⁸

Agencies with missions involving both acquisition and release frequently collect information in electronic form to avoid costs associated with keying the information before it can be used in internal agency information systems. Once internal information management is automated, agencies realize that electronic release may be attractive as an incentive to encourage electronic filing, to generate funds to pay for electronic filing and internal processing systems, or to inform the public.⁶⁹

Moreover, the hardware and software required to automate internal agency use facilitates electronic release. Database structures, indices, retrieval screens, and other information management software for agency personnel provide the same functions that the public needs to access and manipulate electronic information.

2. Agency Acquisition Initiatives

The most prominent electronic acquisition systems are the SEC's Electronic Data Gathering, Analysis and Retrieval System ("EDGAR"),⁷⁰ the IRS's elec-

66. These agencies must acquire information also, but the means of acquisition depends largely on methods other than imposing duties on members of the public.

67. Regulatory agencies also collect information for their own regulatory enforcement and decisionmaking purposes. In some cases, government information also plays a central role in enforcement of federal economic regulation. FMC certification of a tariff, for example, is a statutory prerequisite to enforcing an ocean shipping rate. *Port of Boston Marine Terminal Ass'n v. Rederiaktiebolaget Transatlantic*, 400 U.S. 62 (1970).

68. See *infra* note 70 for a discussion of the SEC's Electronic Data Gathering, Analysis and Retrieval ("EDGAR") System.

69. The SEC's EDGAR system is an example of these forces at work. See ACUS REPORT, *supra* note 1, § III(A), at 20-30 (discussion of EDGAR system).

70. The EDGAR system is the most visible and controversial sophisticated electronic system for acquisition and release of agency information. The system is designed to improve the efficiency of filing and evaluating legally required reports by publicly owned companies, reports which totalled seven million pages, exclusive of copies, annually when EDGAR began operation. U.S. SECURITIES AND EXCHANGE COMMISSION, EDGAR: A STATUS REPORT 1-2 (Dec. 31, 1985) [hereinafter 1985 SEC STATUS REPORT]. Nine million pages currently are involved. See S. REP. NO. 100-105, 100th Cong., 1st Sess. 8, reprinted in 1987 U.S. CODE CONG. & ADMIN. NEWS 2089, 2096. Public disclosure of EDGAR information is provided by means of workstations in the SEC's Washington, New York, and Chicago offices, and by means of telephone connections from state securities agencies.

tronic filing project,⁷¹ and the Customs Service Automated Commercial System.⁷² In addition, the three major tariff agencies, the FMC,⁷³ the ICC,⁷⁴ and the DOT,⁷⁵ embarked on developing electronic tariff systems under which regulated common air, sea, rail, and highway carriers can submit tariffs in electronic form.

3. Agency Release Initiatives

The most prominent electronic release programs are SEC's EDGAR, the three tariff systems, the U.S. Department of Agriculture's electronic bulletin board,⁷⁶ the National Library of Medicine's Medical Literature Analysis and

EDGAR information is provided on an experimental basis to state securities agencies in Georgia, Wisconsin and California. *Id.*

71. The IRS has implemented a system that permits taxpayers to file their returns electronically. Under the expanded Electronic Filing Program, taxpayers can file electronically through participating tax return preparers in all 50 states. 54 Fed. Reg. 28,148 (1989) (describes 1990 Electronic Filing Program). For calendar year 1989, more than 1.95 million electronic returns were filed by late February 1990. *Tax Administration: IRS Says Filing, Processing of Returns Up Compared to Same Period Last Year*, Daily Tax Rep. (BNA) at G-2 (Feb. 23, 1990).

72. The Customs Service Automated Commercial System has three major components that involve electronic acquisition and release: the Automated Broker Interface (ABI), the Automated Manifest System (AMS), and the Line Release System. About 58% of the data required for customs inspection and release activities now are handled through ABI. The AMS handles 40% of all sea carriage bills of lading and manifests which contain information about the merchandise on board vessels. The AMS is both an imported merchandise inventory control system and a cargo release notification system. The Line Release System automates information acquisition in connection with the movement of goods across the Canadian and Mexican borders. Brokers qualifying for participation in the system supply advance data on the nature of a series of repetitive shipments, and customs inspectors use the advance information through personal computers and bar code readers at border stations. ACUS Report, *supra* note 1, § III(c).

73. The Federal Maritime Commission issued a Request for Proposals (RFP) for an Automated Tariff Filing and Information System ("ATFI") in early 1989. 46 U.S.C.A. app. § 1111c (1989) (FMC availability requirements for ATFI). ATFI embodies a database philosophy instead of the current text page philosophy, permitting individual tariffs to be retrieved electronically. Tariffs will be filed via modem/telecommunications links. Public disclosure will be provided through terminals in the FMC's reading rooms, and through public dial-up links. See ACUS Recommendation 88-10, *supra* note 1, at 230 (electronic disclosure examined).

74. The Interstate Commerce Commission has issued a Notice of Proposed Rulemaking for electronic filing of tariffs. Electronic Filing of Tariffs, 54 Fed. Reg. 6403 (1989) (to be codified at 49 C.F.R. §§ 1312, 1314). An electronic filer also must make equipment available at its principal office, at no charge, to permit the public to inspect its tariffs. *Id.* at 6406 (to be codified at 49 C.F.R. § 1314.11).

75. The Department of Transportation is working to define a comprehensive electronic tariff system, 54 Fed. Reg. 2087 (1989) (to be codified at 14 C.F.R. Subpart W), which contemplates electronic filing of passenger fares and other tariff information by establishing and maintaining a database of all such fares. Electronic filers must place one or more computer video display terminals and one or more printers connected with the online tariff base at DOT's tariff reference room. In addition, electronic filers must afford access to their online databases to any member of the public, at a charge that does not exceed a reasonable estimate of the added cost of providing the service. *Id.* at 2096.

76. The U.S. Department of Agriculture ("USDA") utilizes the Electronic Dissemination of Information ("EDI") system. *House Policy Report, supra* note 4, at 63. The EDI System is operated by Martin Marietta Data Systems, a contractor selected through competitive procurement. Under

Retrieval System ("MEDLARS"),⁷⁷ EPA's Toxic Release Inventory ("TRI")⁷⁸ and major activities by the U.S. Department of Commerce agencies,⁷⁹ including the Census Bureau, which distribute electronic information via electronic bulletin boards and CDROM. The GPO releases typesetting files for the United States Code ("U.S.C.") and Federal Register on magnetic tape. TRI's approach is unique. It reflects a disclosure-oriented regulatory strategy, as opposed to a command and control strategy. The idea is that in making information about socially costly activities available to the public, the public can act so as to discourage the activity.⁸⁰

Some agencies, like the SEC, use electronic data in essentially the same formats as existed before automation. The SEC takes full text data in textual form and requires only a limited amount of data tagging.⁸¹ In order to facilitate the retrieval of individual tariffs, the FMC, in contrast, has reformulated textual

its contract with the USDA, the contractor must assure that all customers have equal access to market sensitive data released by the USDA. The contractor only sells computer time and use of retrieval software to retrieve USDA data in the contractor's computer system. Thus, the contractor sells only wholesale information and is prohibited contractually from establishing its own dissemination system. ACUS Report, *supra* note 1, § III(N).

77. MEDLARS stores, indexes, and retrieves medical bibliographic data. *See generally* 42 U.S.C. § 275 (1982) (repealed 1985) (establishing the National Library of Medicine). Direct access to MEDLARS is available by subscription to MEDLINE, an on-line reference retrieval system. *See generally* SDC Dev. Corp. v. Mathews, 542 F.2d 1116, 1117 (9th Cir. 1976) (describes MEDLARS).

78. Toxic Chemical Release Reporting: Community Right-to-Know, 40 C.F.R. § 372.1-.85 (1989). The EPA plans to distribute the TRI containing information on 300 toxic chemicals being released to the environment. ACUS REPORT, *supra* note 1, § III(V), at 64-66. The data collection activity is mandated by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §§ 9601-9675 (1982), amended by Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1728 (1986) (codified as the Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. §§ 11001-11050 (Supp. V 1987)), which requires that TRI be "accessible by computer telecommunications and by other means." 42 U.S.C. § 11023(j) (Supp. V 1987) (describes EPA data management requirements for toxic chemical release forms). On June 19, 1989, the EPA first allowed telephone access to the TRI database maintained by the National Library of Medicine. D.E.R. (BNA) Aug. 11, 1989 at C-1, C-2. The database contains all of the reports from filers, and is searchable by company, facility, chemical, and certain geographic criteria such as city, county, and state. Novice menus are provided but they were criticized as being cumbersome at a conference attended by the author in October, 1989. The EPA also offers TRI data on floppy diskettes, costing fifty dollars per disk, and \$1,525 for the entire set. TRI data also will be released on CDROM through a GPO pilot project. In addition, the TRI data set is available from GPO on magnetic tape, costing \$1,025. The GPO will pay the cost of the software license fees for use of retrieval software.

79. The Department of Commerce sponsors and administers "The Economic Bulletin Board" ("EBB"). The EBB contains economic news and several hundred statistical files published by the Bureau of Economic Analysis, Census Bureau, International Trade Administration, National Technical Information Service, Federal Reserve Board, Bureau of Labor Statistics, and the Internal Revenue Service.

80. *See* S. BREYER, REGULATION AND ITS REFORM 161 (1982) (describing disclosure strategy as alternative to regulation of production, output, and price).

81. *See* ACUS REPORT, *supra* note 1, § III(A)(5), at 29-30 (outlines SEC's approach to structuring data for electronic retrieval).

data to a relational database format.⁸² Few agencies have grappled aggressively with the integration of graphical images into agency databases or dissemination systems, although the U.S. Geological survey CDROM experiment apparently incorporates graphical images. These three data format approaches obviously affect both acquisition and release.

Four other electronic release initiatives are of interest in connection with using electronic media to facilitate participation in agency decision making: the Nuclear Regulatory Commission's ("NRC") Licensing Support System ("LSS"),⁸³ the Federal Energy Regulatory Commission's ("FERC") Electronic Posting System,⁸⁴ the Food and Drug Administration's ("FDA") regulatory bulletin board⁸⁵ and an experimental FDA system for using electronic data in support of new drug applications.⁸⁶

Finally, the Department of Commerce's USPTO has implemented an Automated Trademark Search system, used during the examination process to search USPTO records for registered and pending trademarks, and an Automated Patent System which presently makes available to examiners the full text of some

82. See ACUS REPORT, *supra* note 1, § III(E)(1), at 40-41 (discussion of FMC's Automatic Tariff Filing and Information System).

83. The NRC is considering revisions to its Rules of Practice. Rules of Practice for Domestic Licensing Proceedings, 10 C.F.R. § 2.1-2.1117 (1989). This will permit use of LSS, an electronic information management system, in proceedings for licensing of receipt and possession of high level radioactive waste. The licensing proceeding for the high level permanent nuclear waste repository, scheduled for the early 1990's, is expected to be one of the largest administrative litigation matters ever to come before the NRC. The case is likely to involve 16 million discovery documents and about 20 parties. See Cotter, *When the Electronic Judge Meets the Electronic Lawyer*, JUDGES J., Spring 1989, at 2, 4.

NRC administrative law judges are already making extensive use of microcomputer technology to facilitate licensing panel proceedings. Pleadings and other materials are filed by litigants on diskette, transcripts of testimony are provided on diskette, while administrative law judges have full text indexing software and microcomputers and ready access to electronic mail and computer aided legal research databases. See generally Cotter, *supra*.

84. The FERC, an independent regulatory commission within the Department of Energy, offers the Commission Issuance Posting System ("CIPS"), a bulletin board service that distributes the full text of the latest FERC issuances, press releases, and the Commission agenda; a daily listing of all filings made at the Commission; formal FERC documents such as proposed, interim, and final rules; and initial decisions of administrative law judges, opinions, notices and a variety of orders. See 42 U.S.C. § 7171 (1982) for a general discussion of the establishment of FERC. See, e.g., 53 Fed. Reg. 32,035 (1988) (final rule for assessing civil penalties, CIPS mentioned as "supplementary information"). FERC requires natural gas companies to use an electronic medium when filing certain rate filings, certificate and abandonment applications, and FERC forms. Rate Schedules and Tariffs, 18 C.F.R. § 154.1-154.310 (1989) (outlines FERC filing requirements); Natural Gas Data Collection System, 53 Fed. Reg. 15,023 (1988) (to be codified at 18 C.F.R. pt. 154, 157, 260, 284, 385, 388), amended by Natural Gas Data Collection System, 53 Fed. Reg. 30,027 (1988) (to be codified at 18 C.F.R. pt. 154, 157, 260, 268).

85. The FDA provides press releases, the weekly recall list, the Drug and Device Product Approvals List, the Drug Bulletin, the FDA Consumer, Veterinary Medicine News, summaries of FDA federal register documents, congressional testimony, and speeches delivered by FDA officials on an electronic bulletin board operated by a commercial vendor. *House Policy Report*, *supra* note 4, at 62.

86. Computer-Assisted New Drug Application ("CANDA") is a computerized database which allows an FDA reviewer on-line access to information on the drug being reviewed. Speech by Frank Young to the Association of Food and Drug Officials (June 20, 1988).

900,000 patent files for patents granted since 1975, and is available online to all patent examining groups.⁸⁷

There are a number of activities in the early stages of conceptualization or pilot testing. On April 9, 1987, the Joint Committee on Printing adopted a resolution urging the GPO to initiate a series of pilot projects to test disseminating government publications to depository libraries in electronic format. The plan adopted pursuant to the resolution envisions five pilot projects, three involving distribution via CDROM and two involving online dissemination.⁸⁸ The Census Bureau project involves distributing CDROMs containing data and Census-developed retrieval software and hard copy documentation for the 1982 retail trade agricultural data.⁸⁹ The GPO will distribute the final bound edition of the Congressional Record on CDROM. Plans are uncertain about full text retrieval capability and other technical issues. The Department of Commerce will provide on line disclosure of the Economic Bulletin Board sponsored by the department.⁹⁰ The Department of Energy will offer a "gateway" providing about twenty depository libraries online access to bibliographic abstracts on energy subjects.⁹¹

A number of state courts around the country are expanding their use of telecommunications.⁹² Many concentrate on linking their own computers together to permit electronic exchange of draft opinions or case management information. Some state courts have developed systems that permit practitioners to access dockets and other court information via telecommunications. Also, there is growing support for possible electronic filing systems.⁹³

The electronic information systems of several federal courts are pertinent to the subject of this article because they confront essentially the same technology and policy issues as federal agency programs.⁹⁴ With respect to court informa-

87. See ACUS REPORT, *supra* note 1, § III(F), at 44-49 (USPTO automation plan and its sub-systems described).

88. Cover Letter from Representative Frank Annunzio and Senator Wyndall H. Ford to "Members of the Information Community" (July 13, 1988).

89. The CDROM disk is the same one used in a direct Census Bureau project with participating depository libraries. See generally ACUS REPORT, *supra* note 1, § III(W) at 65 (discusses Census Bureau's use of disks for information distribution). The project will help the Census Bureau to decide whether parts of the 1990 Decennial Census should be published on CDROM.

90. See ACUS REPORT, *supra* note 1, § III(O), at 60-61 (Commerce Department's service provides access to economic news and various federal statistical files).

91. ACUS REPORT, *supra* note 1, § III(H).

92. See generally M. CLIFFORD & L. JENSEN, COURT CASE MANAGEMENT INFORMATION SYSTEMS MANUAL (National Center for State Courts 1983).

93. Appellate Judges Conference, Judicial Administration Division, American Bar Association, Appellate Courts in the Technological World 26 (1986) (some state appellate judge support for electronic filing and inquiry systems).

94. The Supreme Court has solicited proposals for a pilot program for electronic distribution of slip opinions. *Modernizing the Court*, N.Y. Times, Aug. 24, 1988, at A16, col. 5. The federal courts use several sophisticated electronic mail systems. These systems permit transfer of documents among judges and support personnel but most do not permit external access. The Third, Fourth, Ninth, and Tenth Circuits presently use electronic mail, and the Fifth and Eighth Circuits have point-to-point telecommunications capabilities. Few district courts have electronic mail yet. ACUS REPORT, *supra* note 1, § III(Y)(2).

tion systems, a distinction exists between highly structured data, such as that involving parties, schedules, and dockets, and free text data, such as that involved in motions, briefs, and judicial opinions. A broader class of consumers desire access to structured data. For example, creditors and potential creditors want to know if a particular debtor or potential debtor has filed for bankruptcy. Creditors of a bankrupt may want to know the schedule for the bankruptcy proceeding and to obtain information from the bankruptcy case docket. In contrast, a forty page memorandum of law filed in support of a summary judgment motion is likely to be read only by other parties and by the assigned judge. Thus, the demand is much greater to automate structured data than to automate free text data.

Most structured information is shorter than free text information and is intrinsically easier to retrieve based on the contents of particular data elements.⁹⁵ All of these factors combine to encourage the courts to automate public access to structured data, and to discourage them from hurrying automation of free text information. The only important exception is direct electronic access to the full text of appellate opinions, a form of electronic information release possible through the word processing and publishing components of appellate court automation systems. Otherwise, the center of gravity of electronic release activities by the federal courts is structured data.

4. Shaping Agency Release Initiatives

The foundation of a sound electronic information policy is a definition of information product characteristics that meets public needs. Product characteristics should be defined according to customer wants, making maximum appropriate use of features already available from private markets.⁹⁶ The distinction between structured and free text information in the court system illustrates the definitional process.

ACUS Recommendation 88-10⁹⁷ describes an agency decision process for defining the most appropriate configuration of added value for government generated electronic information.⁹⁸ Agencies should inventory existing reports and documents made available to the public in terms of the types of value added at processing stages one through five. The types of value should be understood in terms of the needs of specific user communities. Features of successful products should serve as a guide to the types of value that can be added within the technological state of the art, and the types of value that information consumers view favorably.

The agencies should then evaluate the potential for providing the same content and same value-added features in electronic form. The costs of creating

95. See ACUS REPORT, *supra* note 1, § II(B)(3), at 21-23 (discussion of difference in storage of structured and free text information).

96. See *infra* notes 252-70 and accompanying text for a discussion of the utility of prices as sources of information.

97. See ACUS Recommendation 88-10, *supra* note 1, Recommendation C, at 227.

98. See *infra* notes 276-79 and accompanying text for a discussion of principles covering public/private sector roles.

new retrieval systems and updating or otherwise revising software should be weighed against benefits, such as the savings from eliminating paper products, improved retrieval speed, and wider availability of information to the public.⁹⁹ Agencies should also make electronically disclosed information available in electronic form that would be easily usable by information resellers.¹⁰⁰ Such availability permits the private sector to add value at stages four and five.

An agency should not offer an electronic information product unless the cost-benefit analysis demonstrates that the electronic alternative analyzed is likely to be superior to existing means of obtaining information.¹⁰¹ Policy makers should avoid the risk, however, of defining appropriate levels of added value in a way that would freeze present technologies. Using existing product features as starting points should not cause electronic information product designers to ignore what technology promises for the future. For example, the debate about adding value and user convenience frequently limits attention to one of only two alternatives: a flat file that transfers much or all of a database for the adding of further value and resale,¹⁰² or access to a screen full of information at a time through menus.¹⁰³ These are both mainframe/dumb terminal time sharing models. Current microcomputer networking and client/server models emphasize distributed processing.¹⁰⁴ Under these models, an agency might transfer a

99. See ACUS Recommendation 88-10, *supra* note 1, Recommendations C(2) & C(3), at 227, which recommend electronic publishing and adding value electronically at stage five, when a statute or agency policy mandates electronic publishing of information, or when the agency presently adds value at stage five by publishing the information on paper. Electronic publishing means either dial-up access to information or distribution of magnetic or optical media easily usable on small computers. *Id.* The ACUS Recommendation does not explicitly refer to separate stages at which value can be added. This article correlates the ACUS Recommendation with the value-added stages.

ACUS Recommendation 88-10, Recommendation C(3), recommends electronic disclosure, that is, adding value at stage three, when a statute mandates public reference room disclosure, or paper products presently are made available through a public reference room. *Id.* Recommendation C also suggests that agencies consider the costs and benefits of upgrading the electronic value-added, moving from beyond stage three to stages four or five with respect to information presently disclosed but not disseminated, and moving from conventional methods of adding value to electronic methods for a stage two or lower level of added value. Recommendation C(4) also suggests evaluating adding additional value to information only made accessible in response to FOIA requests. *Id.* Materials accessible under the FOIA do not necessarily have extensive typographic formatting (stage one); nor do they have legal cross references (stage two). Their utility could be improved by adding such value, and electronic methods may make it cheap to add such value in some cases.

100. ACUS Recommendation 88-10, *supra* note 1, Recommendation C(3), at 227.

101. Cost and benefit assessment should consider at least the categories identified in Recommendation E of ACUS Recommendation 88-10, *supra* note 1, at 228-29 (listing of costs and benefits agencies should consider in decisionmaking processes suggested in Recommendations B, C, and D). See *infra* notes 249-75 and accompanying text for further discussion of cost/benefit analysis.

102. This provides pre-stage one agency material for someone else to add value at stages one through five.

103. This delivers to consumers value-added features at stage three. If a dial-up link is provided, this adds value at stages four and five.

104. H. PERRITT, *supra* note 17, at 147-240, 369-460. Another example of distributed processing is the SEC's initiative to provide software to filers so that most of the error checking can occur on the filer's computer before a filing is transmitted to the SEC. One of the major problems during the EDGAR pilot project was the high level of rejections of filings because of errors determined only

group of data meeting certain criteria which then would be further processed on a user's computer, for example, in a spreadsheet, a microcomputer database, or a desktop publishing program.¹⁰⁵ The user could manipulate data, perform statistical tests, retrieve information meeting certain criteria, and determine idiosyncratic presentation formats. These are all broadly conceived examples of on-demand publishing. Agency release programs must be designed to facilitate this kind of distributed processing and on-demand publishing, for example, by permitting block transfers or downloads of information on telephone links and by providing for transfer on magnetic and optical media easily readable on small computers.¹⁰⁶

Deciding what electronic value should be added to information products does not answer the question of whether the public or private sectors should add the value. It may be more appropriate for the government to add some kinds of value than other types. Government agencies routinely depend upon the U.S. Postal Service, United Parcel Service and Federal Express to add value at the physical distribution step (stage five) of paper publishing. No one would seriously propose that an agency with a new paper information product should start up its own postal service from scratch. Yet, suggesting that agencies depend upon the private sector for performing a similar distribution function with electronic information sometimes is attacked as being too deferential to the private sector.¹⁰⁷

On the other hand, agencies routinely add value at stages one and two in the form of typographic features and indexes, yet similar types of electronic value-added activities are attacked as representing inappropriate incursions into private sector domains.¹⁰⁸ In its latest release on developing executive branch electronic information policy guidelines, the Office of Management and Budget ("OMB") quite appropriately recognizes that the government should add value to electronic information in certain cases, including software development.¹⁰⁹

Making higher levels of government-added value available to the public may be appropriate because of low marginal cost. In most instances, the government has already invested in value-added features at stages three and four because an agency needs data structures, indices, and retrieval menus for internal use.

Moreover, as the next section explains, when the government has added value to electronic information, the FOIA conceptually requires releasing that

after the electronic file reached the SEC over a telephone link. Catching errors at this stage necessitates resending the file, which can take some time over a moderate speed telephone link. *See ACUS REPORT, supra* note 1, § III(A), at 26-30 (discussion of EDGAR).

105. *See, e.g., supra* notes 58 and 78 regarding demand from TRI data.

106. Such possibilities recognize that stage three added value for electronic information need not be limited to display for human processing through reading.

107. *See* OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, *INFORMING THE NATION* at 261-70 (1988) (criticizes OMB deference to private sector).

108. *See id. But see* Second Advance Notice of Further Policy Development on Dissemination of Information, 54 Fed. Reg. 25,554, 25,557 (1989) (OMB abandons initial position on CDROM indexes and software and favors government adding of value to electronic information).

109. *Id.*

value on request. A more coherent and, therefore, more useful flow of information results if these forms of added value are made available in a preplanned way rather than on an ad-hoc basis.

II. THE FREEDOM OF INFORMATION ACT AS A CONSTRAINT AND A STIMULUS FOR POLICY

An appropriate electronic information policy for the federal government must consider these issues:

1. What kinds of electronic information products are needed by information consumers, working from the products that already exist in the federal establishment and in the private sector?
2. Who should supply the need for electronic information as between public and private sectors?
3. What costs, benefits, prices and contractual relations are appropriate to implement policy determinations as to product features and public/private sector roles?

The Freedom of Information Act ("FOIA")¹¹⁰ is the baseline policy declaration regarding the government as an information supplier. The FOIA articulates a strong policy in favor of public access to government information, but it neither requires nor authorizes affirmative government steps to disseminate information at the higher stages of processing with associated higher levels of added value. But certain interpretations of the FOIA are incompatible with an agency's limiting its role in release of electronic information. Agencies almost certainly cannot transfer raw electronic information only to a preferred intermediary, excluding others. Nor is it clear how agency indexing and retrieval software, paradigmatic value-added items, can be exempted from FOIA disclosure. Therefore, the FOIA can pose a threat to private entrepreneurs who fear that they may not recover investments in adding value to public information because of a free ride by competitors who use publicly developed added value.

A. The Freedom of Information Act Compels the Government to Supply Certain Types of Electronic Information, Including Significant Amounts of Added Value

FOIA concepts can be applied to electronic information with little change to the Act itself; under the FOIA electronic information ought to be treated as though it were paper information. The FOIA establishes a policy in favor of releasing government information to the general public. Although it does not specifically address information in electronic form, the FOIA presumptively favors public access to information stored in electronic form. It does not, however, resolve the question of who bears the cost of formulating queries appropriate to retrieve information according to a FOIA request, and it is unclear whether software, as opposed to raw data, must be made available by the government.¹¹¹

110. 5 U.S.C. § 552 (1988).

111. See *infra* notes 171-201 and accompanying text for a discussion of access to software for

The FOIA obligates federal agencies to release information falling into three categories. First, agencies must publish substantive rules, statements of general policy, and information on agency organization and procedures in the Federal Register.¹¹² Second, agencies must make final adjudicatory opinions, statements of policy not published in the Federal Register, and administrative staff manuals and instructions available for inspection and copying.¹¹³ Third, agencies must make available upon request other records not falling within the first two categories.¹¹⁴ The Act contains nine exemptions, protecting from access, disclosure, or dissemination records pertaining to (1) national security, (2) agency personnel matters, (3) matters specifically exempted from access by another statute, (4) commercial secrets, (5) agency deliberations, (6) private personal matters, (7) law enforcement investigations, (8) financial institution examinations, and (9) geological surveys.¹¹⁵

The scope of agency access obligations under the FOIA is limited by the definition of "record" and by two conditions precedent.¹¹⁶ The first condition is that the request must be for identifiable records, which obligates the requester to describe reasonably the desired records.¹¹⁷ The required description should be specific enough so that "a professional employee of the agency who was familiar with the subject area of the request [could] locate the record with a reasonable amount of effort."¹¹⁸ If a request does not reasonably describe the desired records or is too indefinite, the FOIA does not mandate an open-ended search by the agency and the request may be denied.¹¹⁹

Second, the request must comply with the published rules and procedures of that agency.¹²⁰ This second rule-compliance requirement influences electronic FOIA concerns because agency rules are the means by which fee requirements are imposed. Section 552(a)(4)(A) requires agencies to promulgate rules setting uniform fee schedules, establishing only those fees necessary to cover the "direct costs" of searching and copying.¹²¹ If both prerequisites are satisfied

electronic information. *See also* ACUS REPORT, *supra* note 1, § V(F)(4)(a), at 101-11 (discussion of FOIA requirements for electronic release).

112. 5 U.S.C. § 552(a)(1). 5 U.S.C. § 553 also requires proposed rules to be published in the Federal Register to provide an opportunity for public comment. Such publication implicates electronic docket issues discussed in ACUS REPORT, *supra* note 1, § IV(C), at 7-8 and ACUS Recommendation 88-10, *supra* note 1, Recommendation H, at 229.

113. 5 U.S.C. § 552(a)(2).

114. 5 U.S.C. § 552(a)(3).

115. 5 U.S.C. § 552(b).

116. *See* 5 U.S.C. § 552(a)(3) which excludes records made available under (a)(1) and (a)(2) from the scope of agency access obligations. *See infra* notes 125-46 for a discussion of whether "record" includes information kept in electronic form.

117. 5 U.S.C. § 552(a)(3)(A).

118. H.R. REP. NO. 876, 93d Cong., 2d Sess. 5-6 (1974), *reprinted in* 1974 U.S. CODE CONG. & ADMIN. NEWS 6267, 6271.

119. *See, e.g.* *Electronic Memories & Magnetics Corp. v. United States*, 431 F. Supp. 356, 360 (C.D. Cal. 1977) (request for Customs Service opinions insufficiently specific and therefore denied).

120. 5 U.S.C. § 552(a)(3)(B).

121. 5 U.S.C. § 552(a)(4)(A). *See infra* notes 249-70 and accompanying text for a discussion of electronic retrieval fees.

and the request does not fall within any of the nine exemptions, the agency must provide access to the information.¹²²

The FOIA was written with paper records in mind. Thus, application of the Act to information maintained in electronic form is problematic. It is not appropriate for agencies to frustrate FOIA access by automating. Nor is it appropriate for FOIA requesters to dominate the design of database schemes, the allocation of programmer resources, or to force agencies to perform sophisticated statistical analysis or data comparisons. Unavoidably, a period of experimentation will be necessary as new concepts under the FOIA are developed that fit the nature of electronic information and retrieval technology.¹²³

Agency databases should be designed to take FOIA obligations into account.¹²⁴ When this is done, FOIA access can be provided more cheaply than through paper methods. In addition, the nature of the electronic information product may resemble disclosure more than access, and it may be feasible in some instances to upgrade to dissemination, permitting FOIA requesters to obtain information by dial-up telephone link directly with an agency or through a private sector intermediary. In such a way, the most cost-effective method of providing legally mandated access may be to disseminate the information.

Evaluating that and more modest possibilities, however, requires assessment of what the FOIA obligations *are* in connection with electronic information. Several specific questions are important.

1. Is an Electronic Document or Record a FOIA "Record?"

At first, many FOIA interpreters were concerned with whether information possessed by the agency in electronic form—on tape, magnetic disks, or optical media—was a "record" within the meaning of section 552(a)(3). The starting point for sound FOIA interpretation, as the Administrative Conference of the United States ("ACUS") recommends, is to recognize that a *record* includes information maintained in electronic form.¹²⁵ A change in the form in which information is kept, indexed, and retrieved should not erode the spirit of the FOIA. The prevailing view now is that computer-stored information is considered an agency record under FOIA just the same as paper documents.¹²⁶

122. See *United States Dep't of Justice v. Tax Analysts*, 109 S. Ct. 2841, 2846 (1989) (judicial remedy if agency (1) improperly (2) withholds (3) agency records).

123. See *Yeager v. Drug Enforcement Admin.*, 678 F.2d 315, 327 (D.C. Cir. 1982) (FOIA must be contoured to characteristics of agency computer records). The American Bar Association's ("ABA") House of Delegates is considering recommendations by the ABA Administrative Law and Regulatory Practice Section on treatment of electronic information under the Freedom of Information Act. The recommendations comport with Recommendation A of the Administrative Conference recommendations. ACUS REPORT, *supra* note 1, at 3.

124. ACUS Recommendation 88-10, *supra* note 1, Recommendation E(3), at 228 (agencies should consider FOIA obligations when engaging in cost-benefit analysis and in designing electronic database).

125. ACUS Recommendation 88-10, *supra* note 1, Recommendation A(1), at 226.

126. See *Long v. IRS*, 596 F.2d 362, 365 (9th Cir. 1979) (FOIA applies to computer tapes as well as any other documents), *cert. denied*, 446 U.S. 917 (1980), *superseded by statute as stated in King v. IRS*, 688 F.2d 488 (7th Cir. 1982).

In *SDC Development Corp. v. Mathews*,¹²⁷ the United States Court of Appeals for the Ninth Circuit, in an opinion written by now Supreme Court Justice Kennedy, held that MEDLARS information did not constitute "records" or "agency records" required to be made available at nominal charges under the FOIA.¹²⁸ The court found that the information was not primarily of the type intended to be covered by FOIA access requirements and also found a conflict between FOIA access and fulfillment of the statutory mandate of the National Library of Medicine.¹²⁹

While *SDC Development Corp.* is generally understood to say that electronic data are not FOIA records, the opinion can be harmonized with viewing electronic information as records in general. The crux of the problem confronting the Ninth Circuit was the conflict between the nominal fee that could be imposed under the FOIA as it existed then,¹³⁰ and express statutory authority in the National Library of Medicine Act¹³¹ for the setting of fees for electronic library materials.¹³² So the case can be understood as standing only for the proposition that Congress may, by enacting specific legislation, restrict the availability of electronic information that otherwise would be accessible under FOIA.

There is growing agency acceptance of the proposition that information kept in electronic form is a "record."¹³³ Almost no one advocates extending the Ninth Circuit's decision in *SDC Development Corp.* beyond the special facts and the statutes at work in that specific case.¹³⁴ The OMB FOIA fee guidelines imply that the FOIA covers records kept in computer-readable form.¹³⁵ Several agency FOIA regulations provide that computer records are FOIA "records."¹³⁶ A recent conference of State Freedom of Information Act admin-

127. 542 F.2d 1116 (9th Cir. 1976).

128. *Id.* at 1120.

129. *Id.*

130. *See infra* notes 252-70 and accompanying text regarding new FOIA fee provisions.

131. 42 U.S.C. §§ 275-280a-1 (repealed by Pub. L. No. 99-158, 99 Stat. 879 (1985)).

132. *See* 542 F.2d at 1116-18 (to read "records" broadly enough to include MEDLARS would obliterate part of National Library of Medicine Act giving wide discretion to set charges).

133. *See* *Yeager v. Drug Enforcement Admin.*, 678 F.2d 315, 321 (D.C. Cir. 1982) (computer stored records, whether stored in central processing unit, on magnetic tape, or in some other form are FOIA "records"; agency not obligated to compact information to satisfy request). In late 1989, the Justice Department surveyed federal agencies, soliciting their views on electronic FOIA questions. Most agencies agreed that electronic data are FOIA records, but fewer agencies conceded that programs and other value added features were covered by the FOIA. *See* U.S. Department of Justice, "Electronic Record" Survey: Synopsis of Results at 2 (Nov. 30, 1989) (unpublished memorandum) (75.71% of responding agencies say that FOIA does not require access when access requires programming).

134. *See, e.g., House Policy Report, supra* note 4, at 33 (*SDC* court found tapes not agency records).

135. Uniform Freedom of Information Act Fee Schedule and Guidelines, 52 Fed. Reg. 10,012, 10,017 (1987) (FOIA fees may be charged for searches done by hand or by computer).

136. *See* Neighborhood Reinvestment Corporation, 24 C.F.R. § 4100.4(d) (1989) (FOIA records searches via computer methods discussed); Federal Home Loan Bank Board, 12 C.F.R. § 505.4(e) (1989) (FOIA records can be retrieved by computer methods); Department of Transportation, 49 C.F.R. § 7.5 (1988) (FOIA record includes material stored by computer). The Veterans Administration has proposed amendments to its regulations permitting public access to legal opin-

istrators resulted in agreement that "a variable definition of public record based on the medium in which the information is stored is unacceptable," and that computerized records should be considered to be "records."¹³⁷ ACUS Recommendation 88-10, Recommendation A proposes that agencies not rely on *SDC Development Corp.*, and treat electronic data as FOIA records.¹³⁸ Otherwise the FOIA will be nullified as more and more agency information is kept in electronic form.

In *Armstrong v. Bush*,¹³⁹ there was little controversy over treatment of electronic files as statutory "records." In *Armstrong*, public interest groups sued to enjoin erasure of electronic mail files at the end of the Reagan administration.¹⁴⁰ The United States District Court for the District of Columbia denied the government's motions to dismiss and for summary judgment.¹⁴¹ The court, while noting that the FOIA imposes no records creation or retention obligations, nevertheless treated the FOIA and the federal records statutes¹⁴² as collectively evidencing congressional intent to limit agency discretion in destroying or otherwise withholding public records.¹⁴³ Although the Supreme Court has held that there is no private right of action to enforce the Presidential Records Act or, by analogy, the Federal Records Act,¹⁴⁴ the *Armstrong* court nevertheless concluded that these statutes, together with the FOIA, impose nondiscretionary duties, the performance of which can be reviewed under the general provisions of the Administrative Procedure Act ("APA").¹⁴⁵ The court also concluded that disputed issues of material fact existed necessitating denial of the government's motion for summary judgment.¹⁴⁶ The case is still pending in the district court.

2. Who Chooses Between Paper and Electronic Access?

A second question is whether an agency can refuse to provide access to information in computer form because the information is readily available in some other form from the agency or from a third party. If electronic information is a record, must the agency make it available in the form in which it is kept? Conversely, if such electronic information would be difficult for a requester to access, must the agency transfer it to paper media? As more and

ions of the agency's general counsel maintained on the general counsel's computerized database. See 53 Fed. Reg. 8471, 8472 (Mar. 15, 1988) (to be codified at 38 C.F.R. § 14.507(b)).

137. 1 PUBLIC RECORDS DIVISION, OFFICE OF THE MASSACHUSETTS SECRETARY OF STATE, REPORT OF THE FIRST NATIONAL CONFERENCE ON ISSUES CONCERNING COMPUTERIZED PUBLIC RECORDS 17 (1987) [hereinafter STATE FOIA REPORT].

138. ACUS Recommendation, *supra* note 1, Recommendation A, at 226 (in interpreting FOIA, agencies should recognize "record" includes electronic data).

139. 721 F. Supp. 343 (D.D.C. 1989).

140. *Id.* at 344.

141. *Id.*

142. 44 U.S.C. §§ 2201-07, 2901-3107 (1982 & Supp. 1987).

143. 721 F. Supp. at 345, 352-53, 352 n.15.

144. See *Kissinger v. Reporters Comm.*, 445 U.S. 136, 148-50 (1980) (Federal Records Act, 44 U.S.C. §§ 2901-3107 (1982 & Supp. 1987) construed).

145. 721 F. Supp. at 352-53. The APA is codified at 5 U.S.C. §§ 551-559, 701-706 (1988).

146. 721 F. Supp. at 354-55.

more opinions, orders, policies, interpretations, manuals, and instructions are kept in electronic form, does section 552(a)(3) require that such documents be made "available for public inspection and copying"¹⁴⁷ in paper form, or may they be made available for public inspection and copying in electronic form, via computer access devices?

Many agencies take the position that, even when information is requested in electronic form, the agency has the discretion to insist upon disclosing it in paper form. Conversely, there may be other instances in which requesters want the information in paper form, especially individuals or small businesses, but an agency wishes to provide access to it only in electronic form.

In *Dismukes v. Department of the Interior*¹⁴⁸ the United States District Court for the District of Columbia directly addressed an agency holding records in two separate forms. In *Dismukes*, the Department of the Interior denied a FOIA request for a copy of a computer tape listing of the names and addresses of participants in a federal oil and gas lottery, instead offering the requested information on microfiche, which was the usual medium for dissemination.¹⁴⁹ The dispute was not whether the computer tape constituted an agency record, but whether a request for information on computer tape could be satisfied by the release of the same information on microfiche.¹⁵⁰

The court conducted a two part analysis in deciding the issue. First, the court considered whether a requester could designate the format of the information.¹⁵¹ Because the FOIA deals with the content of information, not its form, the court held that a requester does not have an absolute right to designate the format of the information as long as the variation in format does not reduce the quantum of information available to that requester.¹⁵² The court concluded that the information would be the same, whether provided on computer tape or on microfiche; therefore, the quantum of information available in either form was not reduced by limiting the requester to microfiche.¹⁵³

Second, the court considered whether the release of information in a form other than that requested would unreasonably hamper plaintiff's access to that information.¹⁵⁴ The court found that even though the microfiche was slightly more expensive than the computer tape, it was a satisfactory alternative because it was most useful to the general public and did not erect unreasonable barriers to plaintiff's access to the information.¹⁵⁵ The agency need only provide information in a "reasonably accessible" form.¹⁵⁶

By negative implication from *Dismukes*, an agency could violate the FOIA

147. 5 U.S.C. § 552(a)(2).

148. 603 F. Supp. 760 (D.D.C. 1984).

149. *Id.* at 760-61.

150. *Id.* at 761.

151. *Id.*

152. *Id.* at 762.

153. *Id.*

154. *Id.*

155. *Id.* at 763.

156. *Id.*

by declining to provide computer readable forms of information when the alternative forms actually offered are significantly more difficult for the requestor to use. Conversely, if the quantum of information is the same in computer and noncomputer media, and if the noncomputer medium is reasonably accessible, the *Dismukes* court provides that the disclosing agency need not release the information in electronic form.

The *Dismukes* facts apply to agencies which possess information in more than one form, but do not deal directly with an agency's right to deny the release of information because it is publicly available outside that agency. The Supreme Court in *United States Department of Justice v. Tax Analysts*,¹⁵⁷ answered this question in the negative. In *Tax Analysts*, the Justice Department denied plaintiff's request for district court tax decisions, claiming that they were already publicly available for inspection and copying almost immediately from the issuing court.¹⁵⁸ Although the plaintiff alleged that court access was inadequate, the lower court refused to shift the administrative burden and expense of supplying copies of the tax decisions to the Justice Department.¹⁵⁹

The United States Court of Appeals for the District of Columbia, in reversing the lower court, concluded that the Justice Department must make district court tax decisions available upon a proper FOIA request.¹⁶⁰ The court of appeals held that the availability of the same information outside the agency does not relieve the agency of its duties under FOIA.¹⁶¹ The Supreme Court affirmed, concluding that availability of information elsewhere does not negate either the *withheld* or the *improper* element of a FOIA violation.¹⁶² The Court rejected the argument that the structure of the FOIA demonstrated a congressional intent to avoid redundant disclosure, but the Court left open the possibility that disclosure by the agency in another form would entirely fulfill FOIA obligations.¹⁶³

The holdings in *Dismukes* and *Tax Analysts* provide a helpful framework when information is available in both electronic form and some other form. If it is the agency that holds the information in two or more forms, a *Dismukes* analysis comparing the utility and content similarity of the different forms would be proper. *Dismukes* also should control the analysis when a FOIA request covers information contained both in a structured database and in unstructured free text. The requester might prefer one or the other depending on whether the requester has software to take advantage of the database structure. If, on the other hand, both an agency and a third party such as a value-added reseller of electronic information supplied by the agency, hold the same information, the

157. 109 S. Ct. 2841 (1989).

158. *Id.* at 2843.

159. *Id.* at 2845.

160. *Id.*

161. *Id.*

162. *See id.* at 2851-53 (withholding information improper unless § 552(b) exemption applied or agency under court order not to disclose).

163. *Id.* at 2851-52.

Court's holding in *Tax Analysts* mandates that the agency release its information, assuming it constitutes an agency record.

Exemption 5 of the FOIA¹⁶⁴ is interpreted as incorporating certain concepts from federal civil discovery rules.¹⁶⁵ Federal discovery rules have been interpreted as compelling the disclosure of information in computerized form in response to a request for production of documents.¹⁶⁶ The same logic should apply to the requirements of section 552(a). Indeed the indexing requirement of that section might be served better by an electronic index than by paper indices.

Case law suggests that the FOIA is intended to make information available to the public without unduly burdening requesters. Moving from the basic idea that records in electronic form are FOIA "records," agencies should avoid artificial interpretations of FOIA concepts that increase the frequency with which agencies decline access altogether, or force requesters to take data in gross in forms usable only by the technologically sophisticated. Requiring an agency to make information available in electronic form when that would not burden the agency greatly and when utilizing paper or other non-electronically accessible forms of the information would burden the requester is consistent with the spirit of the FOIA.

Conversely, because the purpose of the FOIA is to make information available, a requester unable to read electronic information almost certainly would be entitled to the information in some kind of form that the requester could read. There is no obvious reason, however, why this requirement might not be satisfied by presenting the desired information on a video display device, as long as the requester could make a copy—perhaps through a collocated printer.

Agencies should permit FOIA requesters to specify whether they want records in electronic or paper form, recovering any disparate costs of satisfying requests for particular media from the requester. If an agency normally keeps information in electronic form and the requester wants it on paper, it ought to be sufficient if the agency provides a public terminal with an attached printer.¹⁶⁷ To follow the United States District Court for the District of Columbia's opinion in *Dismukes* can deny the public the benefits of information technology.

Permitting FOIA requesters to specify media frustrates agency decisions to

164. 5 U.S.C. § 552(b)(5).

165. See *NLRB v. Sears, Roebuck & Co.*, 421 U.S. 132, 149 (1975) (Exemption 5 exists coextensively with civil discovery exclusions). Because Exemption 5 is analogous to privileges in civil discovery, however, does not mean that there is a policy rationale for a more general borrowing of civil discovery concepts for interpreting other FOIA exemptions. But there is no clear reason why electronic information should not be covered by both the civil discovery obligations and the FOIA.

166. See *Williams v. E.I. DuPont deNemours & Co.*, 119 F.R.D. 648, 650-51 (W.D. Ky. 1987) (EEOC compelled to disclose database even though original information in possession of requester). See generally Advisory Committee Note to FED. R. CIV. P. 34 (rule 34 applies to electronic data compilations).

167. But see ACUS REPORT, *supra* note 1, § III(F), at 48 (citing Memorandum in Support of Plaintiffs' Motion for Partial Summary Judgment at 10, *International Computaprint Corp. v. United States Dep't of Commerce*, 8 U.S.P.Q.2d (BNA) 1507 (D.D.C. 1988) (plaintiff allegations that use of public terminal is unduly burdensome way of obtaining information)).

withhold value-added electronic information system features from the public.¹⁶⁸ Agencies should shape their roles, however, in supplying value-added information products to the public through (1) design of access and dissemination products,¹⁶⁹ and (2) the relative pricing of access/dissemination products to make those products more attractive than FOIA access.¹⁷⁰ They should not seek to limit their roles by artificial and unsustainable interpretations regarding media on which FOIA requests will be granted.

3. "Programming" and Who Pays for It

If agencies must make electronic records available in electronic form, must they make available internal software or programming services to retrieve information according to the request? If they must, who pays the cost and how should it be calculated? This is a superset of a significant controversy over applying the FOIA's user fee limits to electronic information.¹⁷¹ If the FOIA requires programming, it forces agencies to add a qualitative form of value at the stage three level. But it is hard to draw principled distinctions between adding only that amount of value necessary to permit information to be displayed to a human, and a larger amount of value that threatens the value of investment by other suppliers.¹⁷² Because programming requirements have greater potential for distorting agency resource allocation, the programming requirement is of more serious concern to agencies than the issue over access to existing software and indexes.¹⁷³

Assuming that electronic information comprises a "record" covered by the FOIA, such information in its raw form rarely is useful. For example, modern database systems organize individual records to meet the needs of the hardware. Ordering and selecting information of interest to a user depends upon sophisticated query formulation, optimization, and retrieval techniques. A useful automated information system makes such software available to agency personnel. If an outside person requests information, however, use of agency software, and frequently a certain degree of programming, is necessary to retrieve information corresponding to the request.

Some retrieval systems, especially on older mainframe database technology, require an activity that legitimately could be called "programming" to retrieve anything. Under such systems, a certain amount of "programming" would be

168. See ACUS REPORT, *supra* note 1, § V(F)(4)(a)(vi), at 109, (permission frustrates policy choice between wholesale and adding value).

169. See *supra* notes 96-109 and accompanying text for a discussion of product design in terms of amount of value added.

170. See *infra* notes 249-70 and accompanying text for a discussion of cost-benefit analysis for adding value to electronic information and the pricing of such products; ACUS REPORT, *supra* note 1, § V(F)(3), at 101 for a discussion of the impact of pricing on FOIA end runs.

171. See ACUS REPORT, *supra* note 1, § V(F)(4)(a), at 102-03 (describes how FOIA limits fees).

172. See *infra* notes 202-48 and accompanying text for a discussion of encouraging investment in information.

173. See *infra* notes 179-91 and accompanying text for a discussion of how programming costs should be allocated.

required to respond to any FOIA request. Other systems employing newer relational database technology, Query-By-Example software, and menuing approaches, permit some types of information as well as traditional "records" to be retrieved simply by selecting a menu choice and pressing a key.

In some cases, retrieval requires little more than formulation of a single query in the query language of the database.¹⁷⁴ At the other extreme, a FOIA requester might desire data sorted and retrieved according to complex and unanticipated criteria, necessitating extensive programmer hours to satisfy the request. Some agencies take the position that no FOIA request need be satisfied if any programming is required to satisfy the request.¹⁷⁵ The rationale for this position is that the FOIA does not obligate agencies to create records, but only to provide access to existing records. Other agencies are willing to perform the programming, or to make available agency software, but refuse to cover the full cost of such programmer or software availability.¹⁷⁶ Litigation is presently underway between Public Citizen Inc. and OSHA on these issues.¹⁷⁷

The need for "programming" to satisfy FOIA requests is a good example of the difficulty of applying certain analytical concepts developed in the law for paper records. It is easy to understand what it means to create a new paper record. It is harder to know what it means to create a new electronic record. Is retrieval programming a "search" or is it creation of a new record? Agencies are obligated to perform searches, but are not obligated to create new records.¹⁷⁸ Is selecting a dozen records meeting criteria defined on a single screen menu a "search?" Is it programming? Is it generating a new record? Intuitively, this is not "programming," nor is it generating a new record. Is a statistical analysis of the underlying data "generating a new record," a "search," or is it "programming?" Intuitively, this seems like programming or creating new information.

It is more desirable to charge requesters the actual costs of retrieval, or provide them with retrieval hardware, software and documentation,¹⁷⁹ than to decline FOIA requests for electronic information because they require "programming" or generating new records. In 1986, the FOIA was amended to authorize agencies to prescribe fee schedules for three levels of agency activity: document duplication alone, search time, and review time.¹⁸⁰ The agency fees

174. See generally H. PERRITT, *supra* note 17, at 389-90 ("Structured Query Language" provides good model for understanding other types of database management software).

175. U.S. Department of Justice, "Electronic Record" Survey: Synopsis of Results at 2 (Nov. 30, 1989) (unpublished memorandum) (75.71% of responding agencies say that FOIA does not require access when that requires programming).

176. *Id.* (24.29% take no position or would treat FOIA as requiring programming; 31.43% would treat software as covered by the FOIA). See *infra* notes 180-91 and accompanying text for a discussion of the recovery of costs of programming under the OMB guidelines.

177. Public Citizen v. Occupational Safety and Health Administration, No. 86-0705 (D.D.C.).

178. NLRB v. Sears, Roebuck & Co., 421 U.S. 132, 161-62 (1975).

179. See ACUS REPORT, *supra* note 1, § VII(c)(3), at 127 (encourages agencies to consider costs and benefits of upgrading FOIA disclosure to access through reading room terminals).

180. Freedom of Information Reform Act of 1986, Pub. L. No. 99-570, 1986 U.S. CODE CONG. & ADMIN. NEWS (100 Stat.) 3207-48 (amending 5 U.S.C. § 552(a)(4)(A) (1982)).

must conform to uniform fee guidelines issued by the OMB.¹⁸¹ Commercial requesters can be charged for review time, search time and duplication;¹⁸² most other requesters can be charged for search time and duplication;¹⁸³ and a limited category of requesters can be charged only for document duplication.¹⁸⁴ The OMB promulgated a uniform FOIA fee schedule,¹⁸⁵ which, among other things, explicitly covers computer searches "using existing programming,"¹⁸⁶ defines duplication to include making "machine readable documentation" including tapes and disks,¹⁸⁷ and establishes a costing method for computer searches for records.¹⁸⁸ The OMB guidelines help apply FOIA fee concepts to automated records.¹⁸⁹

These fee concepts offer a partial solution to the FOIA programming issue.¹⁹⁰ Agencies should not deny access to electronic data on the grounds that retrieval of the electronic information is equivalent to creation of a *new* record, or that retrieval requires programming. Agencies should use a standard of reasonableness in defining the level of programming appropriate to fulfill FOIA requests and in determining the extent to which FOIA requesters may ask the agency to produce data organized in formats other than those used by the agency in the regular course of its operations. Agencies should be able to recover the costs, including programming costs, of complying with FOIA requests in a manner consistent with the Freedom of Information Reform Act of 1986 and related OMB guidance.¹⁹¹

4. Access to Indices and Software

Closely related to the question of whether the FOIA requires programming¹⁹² is the question of whether existing coding schemes, computer programs, and computer indices must be made available as FOIA "agency records." Resolution of this issue determines whether the FOIA imposes a limit on agency policy decisions to limit release of value added to electronic information. If the FOIA requires that indices and software be made available, agencies are forced

181. 5 U.S.C. § 552(a)(4)(A)(i) (1988).

182. 5 U.S.C. § 552(a)(4)(A)(ii)(I).

183. 5 U.S.C. § 552(a)(4)(A)(ii)(III).

184. 5 U.S.C. § 552(a)(4)(A)(ii)(II) (sets forth fees charged to educational organizations, non-commercial scientific organizations, and news media).

185. Uniform Freedom of Information Act Fee Schedule and Guidelines, 52 Fed. Reg. 10,012, 10,017 (1987).

186. *Id.* at 10,017.

187. *Id.*

188. *Id.* at 10,018.

189. *Id.* at 10,017.

190. The FOIA fee schedule is not a complete solution because it does not prevent misallocation of agency resources if private sector FOIA requesters force agencies to allocate programmer resources to meet private sector programming needs even if the requesters pay for the cost.

191. *See supra* notes 180-90 and accompanying text for a discussion of cost recovery possible under the Act.

192. *See supra* notes 171-91 and accompanying text for a discussion of what may constitute "programming."

into higher levels of adding value to electronic information products.¹⁹³

The first question in deciding whether existing coding schemes, computer programs, and computer indices must be accessible is whether software and indices are FOIA "records." Assuming the electronic form of the underlying data is a record,¹⁹⁴ there is no apparent reason why software and indices are not records also.¹⁹⁵ Because software and indices probably are FOIA records, these value-added features of agency information can be withheld only if they qualify under an exemption to the FOIA.¹⁹⁶

The strongest argument for an obligation to provide access to indices and retrieval software would be: (1) such information constitutes an "agency record" and (2) the information is not a third party's trade secret or confidential information within Exemption 4, and is not otherwise protected as intellectual property.¹⁹⁷ Under *Dismukes v. Department of the Interior*, the agency could provide access either in paper form or in computer readable form, assuming a listing of the indices and program codes are reasonably usable by the requester in either form.¹⁹⁸

The second issue is whether an agency may deny a FOIA request for database indices or program codes under Exemption 4 of the Act, which protects trade secrets and commercial information from access, disclosure, or dissemination, or on the grounds that copyrighted interests never became agency records in the first place.¹⁹⁹ The answer to this question determines whether a federal agency can protect the copyright of a contractor in proprietary indices or software.

The strongest argument against access would be that a third party developed the indices or other software and retained an intellectual property interest in it, such as a copyright, or a trade secret.²⁰⁰ A somewhat weaker argument would be that the underlying data, and not the indices and other software are

193. See *id.* for a discussion of forcing agencies to make programming services available.

194. ACUS REPORT, *supra* note 1, § V(F)(4)(a)(i), at 103-04.

195. See *Windels, Marx, Davies & Ives v. Department of Commerce*, 576 F. Supp. 405, 411 (D.D.C. 1983) (computer program to evaluate steel import prices would be disclosable record but for qualification under Exemptions 2 and 7 of the FOIA, 5 U.S.C. § 552(b) (1988)).

196. See 5 U.S.C. § 552 (once status as agency record established, burden on agency to show that exemption applies). See also *supra* note 115 and accompanying text for the list of exemptions under the FOIA. See generally *United States Dep't of Justice v. Julian*, 486 U.S. 1, 10-11 (1988) (while rule limits access to reports in certain instances, its general thrust is toward disclosure).

197. See ACUS REPORT, *supra* note 1, § V(B)(1), at 81 (delineates standards for deciding if Exemption 4, 5 U.S.C. § 552(b), applies (records pertaining to commercial secrets protected from access, disclosure or dissemination)).

198. See 603 F. Supp. 760, 763 (D.D.C. 1984) (provision of information on microfiche satisfies FOIA requirement that it be "reasonably accessible"). *Dismukes* is discussed *supra* notes 148-57 and accompanying text.

199. See ACUS REPORT, *supra* note 1, at 81 for a discussion of Exemption 4 under the FOIA, 5 U.S.C. § 552(b).

200. See *United States Dep't of Justice v. Tax Analysts*, 109 S. Ct. 2841, 2847-48 (1989) ("agency record" designation requires that (1) agency created or obtained the information and (2) the agency presently controls it).

the "agency record."²⁰¹

5. The FOIA Protects Private Investment—To Some Degree

Release of electronic information raises some of the same concerns about protection of privacy and proprietary commercial interests that release of information in any form raises.²⁰² The protection of commercial interests is especially important in defining public and private sector roles because of the need to encourage private investment.²⁰³

The FOIA has the potential to protect commercial interests in three ways: by excluding such interests from the definition of agency records,²⁰⁴ by recognizing commercial interests as trade secrets under Exemption 4,²⁰⁵ and by protecting commercial interest via the copyright laws under Exemption 3.²⁰⁶

The broadest proprietary protection results from a conclusion that electronically added value is private intellectual property and therefore cannot be an agency record, unless it is transferred to the agency. This conclusion would not be based on a distinction between paper and electronic formats, but on a distinction between information belonging to an agency and information belonging to someone else.²⁰⁷ Two 1980 Supreme Court cases, *Forsham v. Harris*²⁰⁸ and *Kis-*

201. See *infra* notes 239-42 and accompanying text for a discussion of *International Computaprint Corp. v. United States Dep't of Commerce*, 8 U.S.P.Q.2d 1507 (D.D.C. Aug. 16, 1988).

202. Privacy interests are protected from disclosure under Exemption 3 of the FOIA. 5 U.S.C. § 552(b)(3). They are also protected by the Privacy Act of 1974, 5 U.S.C. § 552a (1988). Subsection (a)(2) of the FOIA, which covers final agency opinions, adjudicatory orders, "statements of policy and interpretations . . . not published in the Federal Register," and "certain administrative staff manuals and instructions," also provides: "To the extent required to prevent a clearly unwarranted invasion of personal privacy, an agency may delete identifying details when it makes available or publishes an opinion, statement of policy, interpretation, or staff manual or instruction." 5 U.S.C. § 552(a)(2). The Privacy Act of 1974 limits access to information within a system of records, 5 U.S.C. § 552a(b), ensures that individuals have access to records about them, 5 U.S.C. § 552a(d), permits agencies to establish regulations restricting access to systems of records covered by FOIA "Exemption 1" or to law enforcement activities or federal employee evaluation, 5 U.S.C. § 552a(k), and otherwise specifically prohibits agency reliance on any FOIA exemption to withhold from an individual information pertaining to him or her. 5 U.S.C. § 552a(q).

203. See *infra* notes 276-79 and accompanying text for a discussion of the underlying goal of encouraging private investment.

204. See *Weisberg v. United States Dep't of Justice*, 631 F.2d 824, 828 n.29 (D.C. Cir. 1980) (citing *Forsham v. Harris*, 445 U.S. 169 (1980) (no access allowed to material assembled by private group receiving federal aid because not "agency record.")). See also *Kissinger v. Reporters Comm.*, 445 U.S. 136, 151 (1980) (records not physically within control of agency are not agency records).

205. 5 U.S.C. § 552(b)(4).

206. 5 U.S.C. § 552(b)(3) (Exemption 3 protects records pertaining to matters specifically exempted from access by another statute). See generally *Chrysler Corp. v. Brown*, 441 U.S. 281, 319 n.49 (1979) (hinting that 18 U.S.C. § 1905, which bars disclosure of trade secrets, covered by Exemption 3, exempting information specifically exempted from disclosure by statute, but refusing to decide issue).

207. See *SDC Dev. Corp. v. Mathews*, 542 F.2d 1116, 1120 (9th Cir. 1976) (reference materials in electronic form not "agency records;" no mandate to provide at nominal duplication charge under FOIA).

208. 445 U.S. 169 (1980).

singer v. Reporters Committee for Freedom of the Press,²⁰⁹ circumscribe the concept of a FOIA agency record based on the nature of the responding agency's property interest in the information.²¹⁰

The most certain protection for proprietary commercial interests exists under FOIA Exemption 4, which shields records that constitute trade secrets or confidential commercial information from FOIA access.²¹¹ If a trade secret is involved, Exemption 4 applies without further factual inquiry.²¹² Even if a trade secret is not involved, Exemption 4 nevertheless may apply if the information is commercial in character and the agency can demonstrate that the release of the information either would hamper the agency's future ability to get similar information, or would cause substantial competitive harm to the person supplying the information.²¹³

The problem with exclusive reliance on Exemption 4 is that many value-added features to public information may not qualify under the exemption because they do not qualify as trade secrets or are not confidential material.²¹⁴ In such circumstances, the only available protection would be found under appropriate constructions of the agency record concept or under Exemption 3.²¹⁵

209. 445 U.S. 136 (1980).

210. *See Forsham*, 445 U.S. at 171 (data generated by private federal grantee were not agency records even though federal agency had right of access); *Kissinger*, 445 U.S. at 150-51 (State Department did not violate FOIA in failing to provide access to telephone conversation summaries because documents were not within possession or control of Department). The *Forsham* court stated: "We hold here that written data generated, owned, and possessed by a privately controlled organization receiving federal study grants are not "agency records" within the meaning of the Act when copies of those data have not been obtained by a federal agency subject to the FOIA." 445 U.S. at 171. *See also* *General Electric Co. v. United States Nuclear Regulatory Comm'n*, 750 F.2d 1394, 1400-01 (7th Cir. 1984) (*Kissinger* and other cases only stand for proposition that documents never possessed by agency or possessed by agency only through unofficial actions of employees are not FOIA "agency records;" should not muddy threshold "agency record" determination by dividing control rights too finely). *Cf. RCA Global Communications, Inc. v. FCC*, 524 F. Supp. 579, 582-83 (D. Del. 1981) (applied "control" test and concluded that "function" of information rather than "control" is determinative in compelling FCC to release subpoenaed records on practices of common carrier).

211. 5 U.S.C. § 552(b)(4). *See ACUS REPORT*, *supra* note 1, § V(B)(1), at 80-81 (sets forth standards for implementing Exemption 4).

212. *See Aries Information Sys., Inc. v. Pacific Management Sys., Inc.*, 366 N.W.2d 366, 368 (Minn. Ct. App. 1985) (computer program was trade secret). *See generally* *Public Citizen Health Research Group v. FDA*, 704 F.2d 1280, 1286-87 (D.C. Cir. 1983) (trade secret for FOIA Exemption 4 purposes is defined as "an unpatented commercially valuable plan . . . formula, or process . . . used for the making, preparing . . . or processing of articles . . . which are trade commodities").

213. *Public Citizen Health Research Group*, 704 F.2d at 1290-91.

214. *See generally* M. EPSTEIN, *MODERN INTELLECTUAL PROPERTY* 215-16 (1984 & Supp. 1986) (explains why mass marketing of computer software may defeat confidentiality necessary for trade secret protection).

215. 5 U.S.C. § 552(b)(3) (materials explicitly covered by another statute exempt). A claim of copyright protection may be conceptually inconsistent with a claim of trade secret protection. *Compare* *Warrington Assoc., Inc. v. Real-Time Eng'g Sys., Inc.*, 522 F. Supp. 367, 369 (N.D. Ill. 1981) (registration of user manual may undercut trade secret claim) *with* *Management Science Am., Inc. v. Cyborg Sys., Inc.*, 6 Computer L. Serv. Rep. 921, 924 (N.D. Ill. 1978) (merely affixing copyright notice does not preclude secrecy claim).

*In re Inslaw*²¹⁶ shows how a private creator's reservation of intellectual property interests in value-added features for electronic information might prevent the features from being available to competitors under the FOIA. *In re Inslaw* involved a debtor's effort to establish its proprietary interest in computer software and to enjoin the Justice Department from "misappropriating" its interest, in part by releasing it under the FOIA.²¹⁷ The debtor, Inslaw, had contracted with the Justice Department to develop software connected with the PROMIS system.²¹⁸ A dispute arose when the Justice Department asserted ownership of enhancements to the PROMIS system added by Inslaw on Inslaw's own initiative but which were paid for with government funds.

In negotiations between the Justice Department and Inslaw over the allocation of property rights in the software, the Justice Department proffered that its contract with Inslaw covered the enhancements and it, therefore, could consider FOIA requests for the software.²¹⁹ Earlier the Justice Department had declined a request under the FOIA for PROMIS programming code and software documentation on the grounds (1) that they were "trade secrets and commercial or financial information obtained from a person and privileged or confidential," and thus exempt from access under Exemption 4 of the FOIA, and (2) that release of the information was prohibited under 11 U.S.C. § 362(a), the automatic stay in bankruptcy proceedings.²²⁰ Under the second argument, the FOIA request for software could have been denied under Exemption 3, which prohibits the release of information protected by a statute other than 5 U.S.C. § 552.²²¹ The bankruptcy court concluded that Inslaw's software enhancements were proprietary and constituted trade secrets which the Justice Department could not copy, use, sell, or disseminate.²²²

The threat by the Justice Department to release the PROMIS software upon receipt of a request under the FOIA was never litigated because the software enhancements were not the property of the Justice Department, and thus could not be "agency records" covered by FOIA access obligations.²²³ Additionally, earlier Justice Department denials of requests under FOIA Exemptions 3 and 4 were never contested by the requester, so it is unclear as to how a reviewing court would have ruled on the soundness of the Justice Department's FOIA decisions.

Inslaw is not a FOIA case, but the opinion does offer two conclusions of law

216. 83 Bankr. 89 (Bankr. D.D.C. 1988), *aff'd*, 113 Bankr. 802 (D.D.C. 1989).

217. *Id.* at 108.

218. *Id.* at 94, 113 ("PROMIS" (Prosecutor's Management Information System) is software product developed by the Institute for Law and Social Research in 1970's to assist state and local prosecutors; monitors cases and handles law enforcement record-keeping).

219. *Id.* at 153, 155.

220. *Id.* at 155 n.29.

221. 5 U.S.C. § 552(b)(3).

222. 83 Bankr. at 159.

223. *See generally id.* at 159, 163 (since DOJ had no rights to PROMIS enhancements it could not copy, use, sell or disseminate software). *See also Kissinger v. Reporters Comm.*, 445 U.S. 136, 151-52 (1980) (possession or control is prerequisite to designation as "agency record").

useful to FOIA analysis: (1) computer programs can be trade secrets,²²⁴ and (2) trade secret protection for a private government contractor is not lost when the contractor licenses the program to the government.²²⁵ Because trade secrets qualify for protection under Exemption 4 of the FOIA, *Inslaw* is support for the idea that a FOIA requester would not be entitled to FOIA access to contractor-developed software when the contractor has retained intellectual property rights. *Inslaw* also reinforces the notion that mere possession of a document does not necessarily mean that it is an agency "record" subject to FOIA access.²²⁶

There is little case law on the treatment of copyrighted information under the FOIA. In *Weisberg v. Department of Justice*,²²⁷ the United States Court of Appeals for the District of Columbia raised doubt about the efficacy of the *Inslaw* court's approach.²²⁸ *Weisberg* raised, but did not resolve, the property interest and Exemption 3 questions before the court.²²⁹ The Justice Department argued that copyrighted Time Magazine photographs and materials related to the Martin Luther King assassination requested under the FOIA were not agency records within the meaning of the Act, and that they were exempted from disclosure pursuant to FOIA Exemption 3²³⁰ and 4,²³¹ and under the Copyright Act.²³² The United States District Court for the District of Columbia ruled that the photographs were agency records and that neither Exemption 3 nor 4 precluded disclosure.²³³ The court of appeals affirmed the district court's conclusion that the photographs were agency records, but declined to reach the issue whether the copyright laws precluded disclosure under Exemptions 3 and 4 because it concluded that Time, Inc. should have been joined as a

224. 83 Bankr. at 158 (citing *Dickerman Assoc., Inc. v. Tiverton Bottled Gas Co.*, 594 F. Supp. 30, 35. (D. Mass. 1984) (unique computer program developer seeks to protect is trade secret)).

225. *Id.* at 159 (citing *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 475 (1974) (secrecy of trade secret not destroyed if revealed to another in confidence)).

226. *See* *Center for Nat'l Security Studies v. Central Intelligence Agency*, 577 F. Supp. 584, 586 (D.D.C. 1983) (copy of congressional document in agency files not "agency record").

227. 631 F.2d 824 (D.C. Cir. 1980).

228. *See id.* at 831 (materials copyrighted by third party *may* constitute agency records). *See also* *RCA Global Communications, Inc. v. FCC*, 524 F. Supp. 579, 584 (D. Del. 1981) (court has "serious doubts" about "whether a private party can demand or receive sufficient restrictions on agency use of its documents to preclude their classification as 'agency record' . . . ;" failure of agency to reserve sufficient control in private submitter makes it unnecessary to decide).

229. The *Weisberg* court stated: "In this case a novel question is presented: whether administrative materials copyrighted by private parties are subject to the disclosure provisions of the Freedom of Information Act (FOIA)." 631 F.2d at 825.

230. 5 U.S.C. § 552(b)(3) (matters specifically exempted from disclosure by statute).

231. 5 U.S.C. § 552(b)(4) (trade secrets are exempted from disclosure).

232. 17 U.S.C. §§ 101-810 (1976).

233. 631 F.2d at 826. The district court decided that the Copyright Act was not a statute exempting disclosure for the purposes of Exemption 3, and that even if it were, only three of the 107 requested photos had been registered for statutory copyright protection. *Id.* The district court also held that even if all the photos were protected by copyright, they would be accessible under the "fair use" doctrine because the requestor "intended to use them solely for scholarly purposes." *Id.* at 827. The district court then concluded that the photographs were not shielded from access under Exemption 4 because they "were not 'confidential' or 'privileged' by virtue of a copyright." *Id.*

party in the action pursuant to FED. R. CIV. P. 19(a).²³⁴ On appeal after remand, the court further stated that “[o]n remand, the parties resolved the dispute without further litigation and Time, Inc. permitted Mr. Weisberg to copy its photographs.”²³⁵

In affirming the district court’s conclusion that copyrighted materials obtained from a third party are “agency records” subject to disclosure, the court of appeals distinguished medical library materials, which are not available in ways that would intrude on intellectual property interests,²³⁶ by pointing out that the nature of the material requested related to governmental decisionmaking.²³⁷ This rationale, embraced to some extent by the Supreme Court,²³⁸ would not permit the broad range of copyrighted value-added features to be withheld as not constituting agency records.

International Computaprint, Inc. v. United States Department of Commerce,²³⁹ involved a claim by a contractor to the United States Patent and Trademark Office (“USPTO”) that release of computerized trademark files under the FOIA would violate the contractor’s intellectual property interests in the compilation of public trademark data. The United States District Court for the District of Columbia granted summary judgment for USPTO in a consolidated reverse FOIA suit²⁴⁰ after concluding that the contractor had failed to make a factual showing that the contemplated FOIA access would involve any of its proprietary information, and the case was withdrawn before the merits were litigated.²⁴¹ In its summary judgment opinion, the district court said that proof of breach of contract or copyright infringement would not justify withholding information under the FOIA.²⁴²

Inslaw, Forsham, Reporters Committee, and Weisberg together support the following two kinds of protection for proprietary value-added features under the

234. *Id.* at 828-30.

235. *See Weisberg v. Dep’t of Justice*, 745 F.2d 1476, 1481 n.7 (D.C. Cir. 1984) (appeal after remand) (citing Transcript of Hearing, Aug. 15, 1980, 3-4).

236. 631 F.2d at 828. *But see* 17 U.S.C. § 106(3) (1988) (reserves in copyright owner right to distribute copies to public by lending).

237. 631 F.2d at 828 (court distinguishes King investigation materials from medical reference data sought in *SDC Dev. Corp.*). *See supra* notes 127-38 and accompanying text for a discussion of *SDC Dev. Corp.*

238. The Supreme Court recently considered the nature of information in connection with the purposes of the FOIA in limiting access. *United States Dep’t of Justice v. Reporters Comm.*, 109 S. Ct. 1468, 1472, 1481 (1989) (criminal record summary not available because interest in disclosure to “open agency action to the light of public scrutiny” insufficient to override privacy interest of subject of report protected by 5 U.S.C. § 552(b)(7)(C)).

239. 8 U.S.P.Q.2d (BNA) 1507 (D.D.C. 1988). *See also* ACUS REPORT, *supra* note 1, § III(F)(3)(b), at 48 (case discussion).

240. 8 U.S.P.Q.2d at 1508.

241. Other issues raised included whether computerized compilations constitute a FOIA record, whether availability of electronic disclosure on public reference room terminals relieves an agency of a FOIA obligation to provide access to the contents of a database in bulk electronic form, whether contractor proprietary interests in database software can prevent FOIA access under Exemption 4, and whether FOIA access can be prevented by contract. *Id.* at 1511. *See* ACUS REPORT *supra* note 1, at 48 (discusses case).

242. *Id.*

FOIA. If a private entity develops the feature and never transfers control of it to the government, the FOIA confers no right of access. If a private entity retains a trade secret in a value-added feature, it may be able to transfer control of the feature to the government without losing its trade secret protection under the FOIA.

While retention of copyrighted nontrade secret information may not prevent access under the FOIA to whatever the government has,²⁴³ the owner of the intellectual property interests may have a third option: to prevent commercial exploitation after FOIA access. Commercial exploitation is likely to infringe one's copyright, regardless of how access to the copyrighted material is obtained, so the owner of the intellectual property could obtain injunctive relief and damages against the exploiter.²⁴⁴ The possibility of a copyright infringement action is beyond the scope of this article, but the availability of such protection may undercut claims that copyrighted information is protected under the FOIA to the same extent as trade secrets because public access destroys the intellectual property in a trade secret, but access does not destroy a copyright.²⁴⁵

Even if one or more of the three bases for shielding proprietary information from FOIA access can be established, the raw public data still should be accessible. The FOIA resolves the conflict between public access to agency records and proprietary interests by permitting an agency to delete proprietary material from records made available. The term used for this selective deletion is "redaction."²⁴⁶ So, even though compilations generally are subject to copyright pro-

243. For example, if the private developer transfers object code to the government but not source code, the object code constituting the user accessible features would be accessible under the FOIA, but not the source code, which never came under the government's control. See *Forsham v. Harris*, 445 U.S. 169 (1980); (data generated by private organization not accessible under the FOIA, even though the organization received federal grants).

244. See generally *Williams Elecs. v. Artic Int'l, Inc.*, 685 F.2d 870, 876-77 (3d Cir. 1982) (infringement on software copyright shown by proof of access; copying inferred from similarity; injunctive relief proper; prevents infringement on valid copyright). Common law protection against the exploiter might be available as well. See *Pottstown Daily News Publishing Co. v. Pottstown Broadcasting Co.*, 411 Pa. 383, 393-94, 192 A.2d 657, 663 (1963) (recognizes limited property right in "commercial package" or news items protectable against wrongful invasion by broadcast competitor, and distinguishes copyright which seeks to encourage creativity).

245. Once a trade secret becomes public, trade secret protection may be lost. Reasonable steps to preserve the secrecy of a trade secret must be shown though the person asserting the trade secret is not required to do the impossible. See *Robert S. Weiss & Assocs., Inc. v. Wiederlight*, 208 Conn. 525, 537-38, 546 A.2d 216, 223 (1988) (where evidence conflicts, not clearly erroneous to find no trade secret in how customer lists and expiration dates for insurance policies were generated and whether they were kept in locked files or generally available throughout the office); *Junkunc v. S.J. Advanced Technology & Mfg. Corp.*, 149 Ill. App. 3d 114, 119, 498 N.E.2d 1179, 1183 (1986) (preliminary injunction denied after evidence on both sides reviewed concerning degree of secrecy afforded alleged trade secrets) *appeal denied*, 113 Ill. 2d 575, 505 N.E.2d 353 (1987). See also *Aries Information Sys., Inc. v. Pacific Management Sys., Inc.*, 366 N.W.2d 366, 368-69 (Minn. Ct. App. 1985) (review of steps taken at each communication of trade secret to notify the recipient of information as to confidential nature).

246. See 5 U.S.C. § 552(b) which provides in pertinent part: "Any reasonably segregable portion of a record shall be provided to any person requesting such record after deletion of the portions which are exempt under this subsection."

tection,²⁴⁷ any tension between intellectual property interests and FOIA policies should be resolved by requiring agencies to redact proprietary portions of information systems, such as retrieval software, indexes, and sophisticated data structures, and release at least the raw underlying public information as a "flat file."²⁴⁸

B. The FOIA Stimulates Good Information Policy, Promoting a Diversity of Product Offerings

The preceding sections show that the FOIA requires agencies to release value-added electronic information features developed to serve internal agency needs, which indirectly forces agencies into supporting new electronic publishing initiatives. Moreover, as the preceding sections also reveal, the FOIA respects intellectual property rights in information, so that carefully crafted incentives for diversity and private investment are viable. The combination of the pro-access and the protective interpretations of the FOIA should be used in a conscious way to support sound electronic information policy.

The best public policy for electronic information is one that promotes a diversity of product offerings, especially in a situation, as the present, where technologies are changing rapidly and consumer preferences are not well understood. Private sector sources of legal information sometimes are better than government sources. For example, the official version of the United States Code is published only about once every seven to eight years, while both West and the U.S. Code Congressional Service publish versions of the Code much more frequently. The official Supreme Court reporter, United States Reports, rarely is available sooner than two years after the Supreme Court decides cases, while West and Lawyer's Edition make their reporters available much more quickly.

Promoting diversity of information product offerings is not a matter of ideology or some crabbed notion of preference for the private sector; it is in the public interest because historical experience suggests that sole reliance on the government to disseminate information will cause it to be disseminated erratically, late, and imperfectly.²⁴⁹ Relying on a sole source or a single approach incurs too much risk that one has misunderstood the best institutional arrangements or consumer preferences. Multiple approaches increase the likelihood of finding at least one approach that meets public needs as they are redefined over

247. *Callaghan v. Myers*, 128 U.S. 617 (1888); *Harper House, Inc. v. Thomas Nelson, Inc.*, 889 F.2d 197, 203 (9th Cir. 1989).

248. A flat file is a sequential output of the contents of a file that has structure permitting access at multiple points.

249. The FOIA is not the only authority for seeking diversity. The House Policy Report provides that agencies should support a diversity of information distribution mechanisms. *House Policy Report, supra* note 4, at 11 (Recommendation A(2)). Section 2 of H.R. 2381 requires executive branch policy to "reflect the importance of maintaining a diversity of sources for, and a competitive market in, public information products and services . . .," and requires that agencies make available to depository libraries public information in electronic form. H.R. 2381, 101st Cong., 1st Sess. (1989) (pending legislation).

time. As the redefinition occurs, less favored approaches can be brought into line with the one preferred by the public.

Even if the government becomes an electronic publisher of some information products, choices still can be made regarding public and private sector roles, and diversity can be preserved. The government not only can retail to some degree but also can wholesale to private sector information resellers who create retail information products different from those offered by the government. This is expressly contemplated by ACUS Recommendation 88-10 C(2), and indirectly required by the FOIA obligations to release added value.²⁵⁰ For example, agencies might publish particular electronic information products, while still preserving opportunities for private enhancements such as "one stop shopping" for wider categories of information or improved search and retrieval techniques. The market might support higher private sector prices because of demand for products with more value added.

Diversity is the most appropriate organizing principle for defining public/private sector roles. Because the FOIA prohibits withholding government-added value, value added by the government at information processing stages one through four to meet internal agency requirements legally is available to private sector entrepreneurs so they can innovate at stages four and five.²⁵¹ Each sector should operate where it has comparative advantages. The comparative advantage idea supports evaluation of costs and benefits, pricing, contracts, and other tools to promote diversity. A more coherent electronic information marketplace that meets the needs of information consumers better results from rational strategies for releasing government-added value rather than responding on an ad-hoc basis.

1. Pricing as a Signal and a Tool

Prices can be powerful policy tools as well as important sources of information about costs and benefits. Pricing flexibility, combined with implementation of sound FOIA interpretations, is the best way to assure that the public gets maximum benefit of electronic information technologies at the lowest cost.

One of the investment-inhibiting concerns of private sector information providers is that the public sector will engage in a kind of dumping by pricing its value-added electronic information products below a level that permits private sector firms to recover their investments.²⁵² A concern of proponents of more

250. ACUS Recommendation 88-10, *supra* note 1, Recommendation C(2) provides in pertinent part: "When a statute or agency policy mandates the publishing of information, the agency should itself electronically publish the information or facilitate its electronic publication by others, unless the cost-benefit analysis suggests the desirability of restricting publishing to the paper medium, possibly accompanied by a lower level of electronic release." *Id.* at 227. See 5 U.S.C. § 552.

251. See *supra* notes 35-55 and accompanying text for an explanation of the information processing stages.

252. "Dumping" is selling a product below cost. See *Carlisle Tire & Rubber Co. v. United States*, 622 F. Supp. 1071, 1075 n.4 (Ct. Int'l Trade 1985) (concept of fair value in antidumping proceeding); *Badger-Powhatan v. United States*, 608 F. Supp. 653, 656-57 (Ct. Int'l Trade 1985) (explains statutory elements in antidumping case).

active government dissemination efforts is that high private sector prices for public information will reduce public availability. These interest groups want government information products priced lower than current private sector prices, and perhaps below cost.²⁵³ Marginal cost pricing, generally encouraged by policy formulators, does not resolve the obvious tension.²⁵⁴ In most instances, the government has already invested in value-added features, so marginal cost pricing does not reflect any increment necessary to cover investment and a suitable return. A private entrepreneur cannot price at such levels because he must attract private capital for investment.

The FOIA constrains fee policies for electronic information made available under the FOIA.²⁵⁵ This article explains that sound interpretations of the FOIA are incompatible with an agency withholding from the public its own investment in value-added features.²⁵⁶ Suppose an agency establishes a policy that it will sell its raw data on magnetic tape, but will not add value or provide on-line disclosure. This, essentially, is the position that existing vendors of electronic information products urge on agencies. Then suppose someone requests specific material from the electronic database under FOIA, taking the position that the agency is obligated to use its software and to do any necessary programming to retrieve the requested information.²⁵⁷ If the FOIA requires the agency to accede, charging only the actual cost of the retrieval, the agency has effectively been forced to breach its policy only to wholesale and not to add value. Alternatively, if the FOIA requires an agency to provide access to its retrieval software along with the raw data,²⁵⁸ agencies effectively are obligated to add value to their electronic information products at stages three and four, presumably at cost.

These hypotheticals, more or less parallel the facts in *International Computaprint, Inc. v. United States Department of Commerce*²⁵⁹ and *SDC Develop-*

253. The library community is a prime example.

254. Second Advance Notice of Further Policy Development on Dissemination of Information, 54 Fed. Reg. 25,554, 25,558 (1989) (OMB discussion of objections to cost-based charges for electronic information; not using term "marginal cost," but implying that charges should not necessarily cover investment recovery); OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, INFORMING THE NATION 270 (1988) (enumerated item five, suggesting limiting user fees to marginal costs).

255. See 5 U.S.C. § 552(a)(4)(A)(ii)(III) (limits fees for certain types of information to standard charge for search, duplicating); ACUS REPORT, *supra* note 1, § V(F)(3), at 101 (policy choices regarding public/private sector roles, especially the retailing/wholesaling distinction, can be implemented through price structure).

256. See *supra* notes 125-201; ACUS REPORT, *supra* note 1, § V(F)(2), at 96, regarding the distinctions between wholesaling and retailing.

257. See STATE FOIA REPORT, *supra* note 137, at 6, 12, 13 (controversy over whether programs are disclosable under state FOIA statutes and whether agency must write a program to retrieve computerized information summarized).

258. See ACUS REPORT, *supra* note 1, § V(F)(4)(A)(iv), at 107 (assuming electronic data is FOIA record, no apparent reason why software and indices are not records also).

259. See *supra* notes 239-42 and accompanying text for a discussion of *International Computaprint, Inc.*, 8 U.S.P.Q.2d 1507 (D.D.C. 1988). See also ACUS REPORT, *supra* note 1, § III(F)(3)(b), at 48 (case discussion).

ment Corp. v. Mathews,²⁶⁰ except that in *SDC Development* a restrictive interpretation of FOIA obligations was applied to protect the agency's own market position rather than the role of private sector retailers. Of course, delays associated with information released under this hypothetical method might significantly reduce the value of the information released compared with on-line dissemination or routine distribution of the information of magnetic disks or CDROM.²⁶¹

Merely because an agency releases value-added information, however, does not necessarily mean that the government competes in a way that discourages private investment. The effect on investment depends on the prices for the government's added value. Aside from the FOIA, the law only slightly constrains pricing for electronic disclosure in public reference rooms and electronic dissemination via dial-up links or sale of tapes and disks.

The User Fee Act²⁶² and a 1959 OMB circular set general guidelines for establishing user fees for government services.²⁶³ Basically, these guidelines provide that the cost of services or things of value provided by an agency to a person should be offset through user charges.²⁶⁴ The statute requires the charges be "fair" and based on four factors: costs to the government, the value of the service or thing to the recipient, public policy or interest served, and other relevant facts.²⁶⁵

These legal criteria embody conflicting considerations, and provide ample authority for agencies to price electronic information in accord with policy judgments.²⁶⁶ The cost criterion suggests that the government should price information products at a level sufficient to cover fully and fairly allocated capital costs; the OMB circular accordingly suggests that users should pay their fair share of the full cost to the government.²⁶⁷ Following this criterion to its limits, however, could result in high prices, based on part of the capital costs of hardware and software necessary for internal agency storage, management, and retrieval of information. Such prices would reduce competition with, and enlarge the role of, the private sector. The government's capital costs are likely to be higher than the private sector's because of complex procurement procedures and the cost of providing internal agency data management and retrieval capability which need

260. See *supra* notes 127-38 and accompanying text for a discussion of *SDC Dev. Corp. v. Mathews*, 542 F.2d 1116 (9th Cir. 1976).

261. See ACUS REPORT, *supra* note 1, § III(N), at 59-60 regarding pricing policy of the USDA's Electronic Dissemination of Information ("EDI") system.

262. 31 U.S.C. § 9701 (1988).

263. See OMB Circular A-130, 50 Fed. Reg. 52,730, 52,748 app. IV (1985) (reiterates 1959 guidelines and discusses factors relevant to user fees for electronic dissemination).

264. See 31 U.S.C. § 9701(b) (1982 & Supp. V 1987) (agencies can issue regulations establishing charges, subject to policies prescribed by President).

265. 31 U.S.C. § 9701(b).

266. See ACUS REPORT, *supra* note 1, § V(F)(3), at 101 (law flexible enough to permit agency discretion in setting prices for information).

267. See OMB Circular A-130, 50 Fed. Reg. 52,730, 52,741-42 app. II (1985) (agencies directed to distribute full cost of providing service to users). See also *House Policy Report*, *supra* note 4, at 37.

not be part of a private sector information product. On the other hand, such prices would provide few direct benefits to information consumers.

The value criterion suggests that government information should be priced according to the value to the recipient.²⁶⁸ FOIA obligations, however, tend to undercut a value-based or a full capital recovery pricing policy.²⁶⁹

The cost-to-the-government criterion could be interpreted to require that information be priced at marginal costs, exclusive of costs for that portion of an information system that provides utility to the government itself. Public policy, for some types of information, also might militate in favor of free or below cost pricing. But below cost pricing would result in much greater competition with the private sector when public funds pay capital costs for the hardware and software, and produce value-added electronic information products as a result of internal agency automation.

Government prices for electronic information products cannot be determined by research into legal authority. Policy makers must determine where prices *should* be set to serve public needs and to implement policy judgments about the desirable roles of public and private sectors. The FOIA effectively sets a floor.

Moreover, prices charged by private sector electronic information producers can be important indicators of the comparative costs and advantages of publicly provided, versus privately provided, electronic information.²⁷⁰ Existing or projected private sector prices for proposed electronic information products should be compared with agency estimates of information product costs.

Government costs that are higher than private sector prices for the same electronic information product indicate the existence of private sector efficiencies or cross subsidies that cannot, or should not in most cases, be matched by the government. Competing government information products at higher cost based prices either will not be used or will result in higher costs to information consumers for products providing the same benefits as lower priced private products. The government should not compete with respect to such products. Exceptions to this rule of thumb must be justified by the peculiar nature of the information and special needs for its wide dissemination.

Government costs significantly lower than private sector prices indicate either oligopolistic or monopolistic pricing by the private sector, or government efficiencies resulting from capital investment in internal processing systems. In either event, such a disparity between costs and prices suggests public gain from direct government electronic publishing initiatives.

The prices charged by the government for electronic information products also can be effective ways of managing competition and defining roles. For ex-

268. Cf. *House Policy Report*, *supra* note 4, at 37 (pricing of information on basis of value, rather than cost, is practically unsupportable in absence of authority for government to copyright information). See ACUS REPORT, *supra* note 1, § V(B)(8), at 101 (high fixed charges, combined with low variable charges benefit high volume users at the expense of low volume users).

269. See ACUS REPORT, *supra* note 1, § V(F)(4)(a)(vi), at 107.

270. See ACUS REPORT, *supra* note 1, §§ V(F)(3), V(F)(4)(c), at 101, 116.

ample, substantial discounts for large volumes of information reinforce the government's role as a wholesaler and make it likely that private sector providers will offer retail information products that make government information more widely available in formats and using distribution techniques most useful to particular markets. On the other hand, higher prices for larger quantities of information reinforce the government's role as a retailer and discourage private parties from using the government's information to launch their own retail electronic information products. Charging high prices for increasing quantities of information runs the greatest risk of conflict with FOIA fee provisions.

2. Implementing Electronic Release and Pricing Policies by Contract under the FOIA

Several sections of this article, along with ACUS Recommendations C and D, urge agencies to consider the role of the private sector in disseminating electronic information. The preceding sections suggested that an agency might implement its electronic publishing policy by contracting with a private electronic information reseller to provide desired levels of availability at appropriate prices, while limiting the agency's competition with the reseller.

Ensuring the availability of a private sector information product in conjunction with a government decision to limit government information product offerings is difficult legally. The government conceptually could contract with a private sector information provider, obligating the provider to make the product under contract available for a particular term. In exchange, the government could commit itself not to compete with the private sector product. The government promise would be not to add value. The government still would be free, and would be obligated, to provide access to information in bulk. In other words, the government would be obligated to wholesale information to any potential competitor.²⁷¹

The difficulty is not that the government would be unable to enforce the private provider's part of the bargain; the government could do so. The private sector provider, however, could not enforce the government's part of the bargain. The contract could be enforced to preclude the government from directly offering a competing product, but it could not be enforced to prevent a private competitor from using government information in electronic form to compete with the private contractor. For example, suppose an entrepreneur files a FOIA request with the contracting agency for data in electronic form and for retrieval and telecommunications software developed for internal agency use. The government would be obligated to make the requested electronic information available under the FOIA, unless it could sustain a narrow construction of agency record, or show Exemption 3 or 4 protection, to protect intellectual property in

271. See generally ACUS REPORT, *supra* note 1, § V(F)(2), at 96 (discussion of retailing versus wholesaling; public/private sector roles); *supra* notes 110-44 and accompanying text for an explanation of why FOIA requires wholesale information release. Wholesale corresponds to low levels of added value—say stage 1 only. Retail corresponds to release of high levels of added value, for example, stages 4 or 5.

value-added features created by a private provider.²⁷²

The new competitor, therefore, could begin competing with the private contractor, presumably with much lower start up costs, because it has the benefit of agency-created data and software. No apparent legal theory based on the contract would permit the contractor to prevent public access to the information covered by the FOIA request.²⁷³

If the indexing, retrieval, and telecommunications software were proprietary and not owned by the government, its release might be preventable, because the proprietary elements would not be an agency record. If the contract obligates the private contractor to reduce prices in exchange for the protected market, incentives for new private sector competition would be reduced.

Part of the protection to the contractor under this concept also may be derivable from copyright. There is no barrier to a government contractor acquiring copyright protection for work produced under government sponsorship.²⁷⁴ Indeed the contractor could transfer the copyright to the government, protecting the information to some extent against reproduction even if the government has ownership.²⁷⁵

272. See 5 U.S.C. § 552(a)(3) (FOIA requires agency to make certain records promptly available to those following request procedures). See also ACUS REPORT, *supra* note 1, § V(F)(4)(a)(iv) at 107 (discussion of when access to indices and software required).

273. An agency lacks authority to withhold information to which the FOIA requires access. Lacking unilateral authority, the agency could not create authority by contract with a private party.

274. *Schnapper v. Foley*, 667 F.2d 102, 108 (D.C. Cir. 1981) (new copyright act clearly permits a copyright in a work commissioned by government and permits government to be assigned that copyright), *cert. denied*, 455 U.S. 948 (1982).

275. The contractor's purpose in transferring ownership, however, must not be to subvert the general prohibition on copyright of government information. See *Schnapper*, 667 F.2d at 109 (no subterfuge by assignment of copyright in government commissioned film at least when government employees did not produce work not normal part of agency business). First amendment problems may exist if the process were used to eliminate public availability. See *id.* at 113 (claim for compulsory license of copyrighted government commissioned file on first amendment grounds rejected with hint that outcome might be different on allegations that public was denied access).

In *Building Officials & Code Adm'rs Int'l, Inc. v. Code Technology, Inc.*, 628 F.2d 730 (1st Cir. 1980), an organization that held the copyright to a model building code, sued another publisher for copyright infringement. The Commonwealth of Massachusetts has adopted and enacted the model code with only minor changes. *Id.* at 732. The plaintiff published a book containing the Massachusetts version of its model code. *Id.* The defendant copied and published its own edition of the Massachusetts building code, without obtaining the plaintiff's permission. *Id.* The Court of Appeals felt the crucial question was whether adoption of the copyrighted material into the official Massachusetts regulations had the effect of rendering the plaintiff's materials, like the rest of the Massachusetts building code, freely available for copying, notwithstanding the copyright. *Id.* The Court of Appeals did not rule definitively on the question, getting the case at the preliminary injunction stage. The Court of Appeals did conclude, however, that the need for citizens to have free access to their laws militated strongly against recognizing a copyright interest in such laws once they are adopted. *Id.* at 735 (citing *Wheaton v. Peters*, 33 U.S. (8 Pet.) 591 (1834) (no reporter has any copyright in written opinions of Supreme Court)).

3. Principles for Defining Public and Private Sector Roles under the FOIA

This article previously offered principles by which agencies can define the most appropriate value-added features for electronic information products desired by the public. This subsection offers principles that synthesize the factors regarding appropriate public and private sector roles and the use of pricing to implement those role definitions. The section emphasizes affirmative use of FOIA concepts and obligations.²⁷⁶

a. *Define Public and Private Sector Roles*

The delineation between the roles of the public and private sectors in providing information and related products (including telecommunications facilities, indices, and retrieval software, as well as raw data) must consider cost effectiveness, product diversity, and resources for expansion. Any allocation to the government of information activity must be made with the explicit understanding that the FOIA grants private information providers access to those electronic value-added features developed for internal agency use.²⁷⁷ When an agency decides an electronic information product is desirable, it then should look at what is available in the private sector, and weigh the costs and benefits of public versus private dissemination, including dissemination through depository libraries. Deciding that an electronic information product is desirable does not necessarily mean a direct, retail, electronic publishing and distribution role for the government, if private sector electronic publishing activities and commitments are more cost effective.²⁷⁸

When private electronic publishers are well established and their prices are not much higher than the government's costs for undertaking electronic publishing itself, the government should stay out of electronic publishing. WESTLAW and LEXIS are the best examples. In addition, agencies should explore placing the data with existing electronic publishers who sell many different kinds of information and, therefore, risk little by adding another governmental database—even if there is no obvious market for it. In general an agency should not approve arrangements for electronic dissemination unless the agency information will be available on at least two multi-service “one-stop-shopping” services, such as CompuServe, WESTLAW, or LEXIS. Moreover, agencies should use public data networks rather than developing their own communications links for public filers or consumers.

Regardless of whether agencies publish at the retail level, they should not resist their FOIA obligations to disclose wholesale electronic information. This will allow other vendors with new ideas for providing an even better electronic

276. These rules are derived primarily from ACUS Recommendation 88-10, *supra* note 1, Recommendations D-F.

277. *But see supra* notes 202-48 and accompanying text for an explanation of how intellectual property belonging to a private contractor could be withheld under the FOIA.

278. ACUS Recommendation 88-10, *supra* note 1, Recommendation D.

information service to offer the public the benefits of public investment in electronic information.

An agency should determine whether private sector providers are willing to supply electronic products having features (for example, user friendly menus) that will give the public greater benefits or lower costs than would electronic publishing by the agency. When an agency relies on the private sector for electronic publishing of agency information, the agency should seek to establish by contract the nature of the products to be provided. It may be appropriate for the government to induce a private company to enter the electronic retailing market by providing incentives, such as donated software or subsidies.

b. *The Government as Information Provider*

When an agency determines that its mission warrants new electronic means of information release, and the private sector will not commit to provide them at appropriate prices, the agency should provide them if clearly identified noneconomic and economic benefits outweigh the capital and marginal costs. Agencies should recognize, however, that there may be circumstances where the costs to an agency would suggest the wisdom of creating incentives for the private provision of the desired electronic information product.

When there is no apparent retail market for the information, and officials believe that electronic publishing will serve the public interest, the government should fill the gap. If the agency concludes that a new government product should be offered, it should negotiate with private sector providers to determine if they are willing to provide the product in a form and at a price that will encourage wide use, in exchange for the agency limiting its role in operating the system.²⁷⁹

An agency generally should not grant a private party the exclusive control, acquisition, or release of its electronic information. Nor should the agency itself, as a general matter, maintain such control in the absence of a compelling public purpose. Where an agency has, and wishes to exercise, authority to enter into an exclusive arrangement providing a private sector vendor with a preferential right to electronic information, the agency should first consider if efficiencies can be achieved through such an arrangement. The agency should also guard against the possibility that the arrangement may be inconsistent with its responsibilities under the FOIA or may impair the ability of the agency and the public to benefit from subsequent technological developments.

c. *Government Use of Existing Private Sector Infrastructures*

Agencies should rely on public data networks to manage dial-up telephone access. The networks are in place and the agency should concentrate on the development of its own data structures and indices.

Moreover, agencies should use existing standards. Agencies should seek to

279. For example, the Department of Transportation contemplates requiring airlines to provide public electronic access to tariffs filed with the Department rather than constructing its own dial-up electronic system.

base electronic information formats on existing standards such as American National Standards Institute Standards on Electronic Business Data Interchange and the International Standards Organization's Standard Generalized Markup Language before developing their own distinctive format definitions.

CONCLUSION

Without regard to the specific market characteristics for particular electronic information products, agencies should adopt the following practices, supported by the spirit of the FOIA. They should release raw electronic information in whatever formats they maintain, as well as the formats selected by the requester. They should release indices, data structures, and documentation that may be helpful in using the electronic information. They also should release database management and retrieval software, including source code in which no private person has intellectual property interests.

They should make available to the public value-added features developed for internal agency use, at least in public reference room terminals, and possibly through dial-up access or in easily usable secondary storage media like optical disks and magnetic disks depending on the characteristics of the market for the particular electronic information product. In determining the need for government added value at stages four and five, agencies should work from a presumption that the public interest is served best by the availability of public information on private sector "one-stop-shopping" consumer oriented electronic services. Agencies should seek to develop direct links to agency managed databases only when "one-stop-shopping" services are unwilling to carry the particular information product or are unwilling or unable to distribute the product in appropriate form at appropriate prices.

It also is appropriate for the federal government to force technology enhancements that improve the public availability of public information over the long term. For example, communications technologies for distributing large quantities of information, such as those involved with graphics images, and hypertext and other tagging, coding, and formatting strategies for making textual information searchable in more intelligent and efficient ways would benefit from government sponsored initiatives. In these instances, an agency should sponsor the development of specific value-added features which embody the desired technology, and make it useful in connection with specific agency information. In such cases, agencies should construct appropriate partnerships with the private sector to add value. These partnerships should be designed to use a combination of public funding and incentives to induce private investment. Market incentives should be preserved by ensuring that a private developer retains appropriate intellectual property interests in the value and that the agency does not defeat the developer's value by releasing it under the FOIA without appropriate protections.

Although intellectual property can be protected under the FOIA, it should not be protected in a way that eliminates public benefits from government funded development or restricts the availability of public information. For example, members of the public should be permitted to use value-added features at

least to facilitate the release of disclosure level information, much as libraries are permitted to disclose copyrighted works to consumers while not interfering with copyright owner rights, by prohibiting commercial exploitation by a library borrower.

Over time, as greater experience is developed in creating appropriate public/private sector partnerships, and in disaggregating the property interests constituting value-added electronic information products, amendments to the FOIA may be appropriate to permit market incentives, while ensuring the benefits from publicly funded technological progress.

This article addresses only a part of the universe of electronic information policy issues. Its focus has been the interface between the public and the federal government across which electronic transfer of information can produce large efficiency gains for private generators, consumers of information, and for the government.