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Computer Programs in Government Procurement

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COMPUTER PROGRAMS IN GOVERNMENT PROCUREMENT

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INTRODUCTION

The market for computers is ever expanding as engineers are designing more advanced units having wider and wider applications and businessmen are readily adopting them to accomplish more of their tasks. Computers are finding application in management information systems and assisting in housekeeping duties; in addition, many are being utilized in the design and production of complex components by accomplishing time-consuming tasks previously performed by skilled workmen. In fact, the art has already advanced to a stage, in the area of numerically controlled machine tools, where whole manufacturing processes have been automated. In electronics, computer-aided designs are now solving many of the extraordinary computations needed in building electronic circuits. We are no doubt in the first stages of a new industrial revolution based on expanding capabilities of computers and communications.

The federal government has taken a lead in advancing this new technology, being by far the largest single procurer of computers. It buys outright or leases about ten percent[1] of all computers produced in the United States.[2] To secure their most efficient use in carrying out many of the necessary daily governmental functions, as well as in assisting in the performance of the most complex scientific experiments, the Government[3] must continue to encourage the development of both

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1. ELECTRONIC NEWS, May 6, 1968 at 36.

2. "As of June 30, 1967, Federal Agencies were using 3,692 computers offered by 29 different manufacturers." BUREAU OF THE BUDGET, PROGRESS REPORT ON THE USE AND MANAGEMENT OF ELECTRONIC COMPUTERS IN THE FEDERAL GOVERNMENT (1968).

3. The Bureau of the Budget, General Services Administration, the Department of Defense, the National Aeronautics and Space Administration, and the National Bureau of Standards, representative of only a portion of the Government, are all vitally concerned and intimately involved with computers and computer programs. For example, at the National Bureau of Standards, the Center for Computer Sciences and Technology is carrying out many projects in the area of computers and computer programs. ELECTRONIC NEWS, April 29, 1968 at 62.

"The Bureau of the Budget provides policy and planning guidance, the General

simple and elaborate computer programs[4] through the efforts of its own personnel and government contractors.[5]

More and more of the items procured by the Government will no doubt be described in computer language and be produced by numerically controlled machine tools. Thus, a new type of problem is being created in the area of data management, since contractors will likely evolve elaborate computer programs to operate complicated machines rather than create manufacturing drawings. Many of these new generation machines will be developed, at least in part, with private funds, independent of government support. Therefore, when a government contract requires the delivery of sufficient data to permit competitive procurement, as is the usual practice today, the Government will merely receive complicated computer programs rather than the

Services Administration provides day-to-day support and the Department of Commerce through the National Bureau of Standards provides scientific and technical support plus specific Federal ADP Standards efforts." NATIONAL BUREAU OF STANDARDS, TECH. MEMO. 67-1, *Organization for Federal ADP Standards* (1967). The specific delegations are enumerated in the Federal Property and Administration Service Act section 111 40 U.S.C. § 759 (1967).

4. Definitions to assist the reader:

Computer Program: List of commands, orders, or instructions specifying the sequence of operations which the computer is to execute.

Machine Language: Is that language under which the computer operates and which can be read by the computer.

Source Program: Is that program expressed in one of the programming languages, such as FORTRAN, ALGOL or COBOL.

Object Program: Is that program that can be used directly by a computer inasmuch as it is in the machine language comprehensive to the particular computer for which it will be used.

Compiler or *Assembler:* Is that which converts a source program to an object program or converts the programming language to the machine language.

5. About 2000 companies as well as many universities are now involved in providing programming services. The total software market is estimated to be about $5 billion with 25 percent annual growth. The computer manufacturers' software efforts account for an estimated 80 to 90 percent of this total. To show the Government's involvement in computer software, as compared with all possible users, is much greater than for computer hardware, it is noted that one large independent software house, Computer Sciences, is doing about 70 percent of its business with the federal government and the defense oriented industry. ELECTRONIC NEWS, April 9, 1968 at 67.

Both within the Government and the computer and software industries a move has begun for the separate pricing for the procurement of hardware and software. There is a belief that such a separation would lower the cost of the two items. However, many problems could be magnified because of the need to do business with various manufacturers and to integrate the activities of the vendors carrying out their independent efforts. ELECTRONIC NEWS, May 6, 1968 at 1, 36.

conventional type of data in the form of reports and drawings. In many instances, these programs can be utilized effectively only by a limited segment of the industrial community having the necessary expertise and capital equipment.

The Government is desirous of obtaining sufficient rights to these computer programs to permit and encourage their maximum utilization by all government facilities and the public at large. However, the contractor generating a program may desire to limit such utilization, particularly where he has independently funded the development of the program and is in a position to recoup the expenses of his research by sale, lease, or exclusive use of the computer program.

Due to the complexity of the problem of the intellectual property aspect of computer programs, to both the Government and its contractors, the following discussion is directed to the various avenues available for the protection of the computer programs; the computer program dissemination activities; the application of the government patent policy in the acquisition of computer programs; and the effect of the various data and patent provisions present in most government contracts.

PROTECTION AVAILABLE TO COMPUTER PROGRAMS

Protection of intellectual property is generally accomplished through the statutory means of either a Letters Patent[6] or by copyright,[7] or under the common law concept associated with trade secrets.[8] It is pertinent to examine the suitability of these various avenues of protection as they relate to computer programs and also to make reference to that type of protection which has proven the most practical, namely, contractual agreements such as sale and lease of computer programs or software services.

6. 35 U.S.C. § 101 (1964).
7. 17 U.S.C. § 1 (1964).
8. A trade secret has been defined as follows:
    A trade secret may consist of any formula, pattern, device, or compilation of information which is used in one's business and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacture, treating, or preserving materials, a pattern for a machine or other device, or a list of csutomers. RESTATEMENT OF TORTS § 757(b) (1939).
See also Hulsenbusch v. Davidson Rubber Co., 344 F.2d 730, 734, (8th Cir. 1965); B.F. Gladding & Co. v. Scientific Anglers, Inc., 245 F.2d 722 (6th Cir. 1957); Wessel, *Legal Protection of Computer Programs*, HARV. BUS. REV., 97, 99 (March-April 1965).

Patents

The United States Patent Office for a time[9] considered the question of whether computer programs fell within the subject matter which would legally be protected by patents. However, after the President's Commission[10] published its recommendations,[11] the Patent Office reaffirmed its previous policy[12] that computer programs do not fall within the statutory class of patentable subject matter.[13] It is noted, however, that this is not the case with the computer itself, for it is within a statutory class of subject matter. Also, with properly and carefully drafted claims, patent protection has been available for a system or a process which may be tantamount to a special purpose computer. These, however, are the exception and do not provide an attractive alternative to the patenting of the program per se.[14]

9. *Guidelines to Examination of Programs,* 829 O.G. PAT. OFF. 441 (1966).

10. Exec. Order No. 11215, 3 C.F.R. § 299 (1965).

11. PRESIDENT'S COMMISSION ON THE PATENT SYSTEM, REPORT (1966).

12. Commenting on § 106 of H.R. Doc. No. 5924, 90th Cong., 1st Sess., before the Subcommittee considering the bill, Commissioner of Patents, Edward J. Brenner, stated on April 17, 1967:

> The Patent Office has taken the view that computer programs are not patentable under law, and no patent has been issued in a computer program per se. Section 106 of the Bill would codify this interpretation by providing that computer programs are not patentable.

For the latest patent office policy, *see also Guidelines to Examination of Applications For Patents on Computer Programs* 855 O.G. PAT. OFF. 829 (1968).

13. 35 U.S.C. 101 (1964). Contrary to the position taken by the United States Patent Office, some foreign countries, for example, Great Britain, appear to be issuing patents for computer programs. *See* THE BRITISH COMPUTER SOCIETY LAW GROUP, PATENT PROTECTION FOR COMPUTER PROGRAMS (Interim Report) which states: In the "U.K. . . . an application for patent has been accepted for apparatus which consists mainly of a program." *Id.* at ii.

14. Four recent decisions—*In re* Tarczy-Hornoch, — C.C.P.A. —, 158 U.S.P.Q. 141 (1968); *In re* Bekey, — C.C.P.A. —, 158 U.S.P.Q. 260 (1968); *In re* Naquin, — C.C.P.A. —, 158 U.S.P.Q. 317 (1968); and *In re* Prater and Wei, 158 U.S.P.Q. 583 (1968) —while more concerned with side issues, may very well have a future bearing on the question of the patentability of computer programs. The issuing on April 23, 1968 of *Goetz* Patent No. 3,380,029 (directed to a system for sorting data), has caused some speculation that the United States Patent Office policy with respect to computer programs has been altered, *i.e.,* that patent protection is now available for software as well as hardware. An informed official of the Patent Office has indicated that there has been no change in policy; their opinion is that the *Goetz* patent is merely directed to a special purpose machine. In viewing the claims of this patent, there is no doubt that they cover apparatus. Some, however, think, looking beyond the claims and viewing more the specifications, that the general description of the patent is to a software rather than to a hardware concept. Others are of the opinion that the patent covers the system and therefore either the software or hardware ap-

Statutory Copyrights

In 1964, the Register of Copyrights granted the first copyright registration for a computer program. Shortly thereafter, Circular No. 31D[15] was issued stating the conditions under which computer programs would be accepted for registration. Computer programs are registered by the Copyright Office, in the words of Circular No. 31D, "in accordance with its policy of resolving doubtful issues in favor of registration wherever possible. . . ." [16] Copyright registration of the computer program, even if established to be valid by the courts, only protects against unauthorized *copying* of the program and does not protect the concepts embodied therein as would a patent.

While the door is open for copyright registration of computer programs, there have been no judicial decisions on either the validity or scope of protection such registration would provide. Therefore, there are many unanswered questions and uncertainties as to the type of protection actually accomplished through copyright registration.

While a printed version of a computer program would clearly ap-

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proach. The better view, it appears, especially in view of the Patent Office position, is that coverage is merely limited to hardware and that the patent would be unenforceable against software.

THE ELECTRONIC NEWS, June 17, 1968 at 1, 4, in making reference to Patent No. 3,380,029, states: "It is the first instance of patent protection granted to a computer system embodied in a computer program or software." Further on in the article, Richard C. Jones, President of Applied Data Research, Inc., assignee of the patent and long-time advocate of software patent protection, is quoted as saying:

> Patent Office's action indicates that software systems and programs are entitled to patent protection in much the same way as computer hardware. A computer system is patentable whether in the form of software or hardware and whether made by a software company or a hardware company. The issuance of a software system patent is another milestone in the coming to maturity of the software industry.

See also Unprecedented Patent, FORTUNE, Aug. 1968, at 34.

The *In re* Prater and Wei decision has been interpreted by some to mean that computer programs are patentable subject matter and that patents should be granted if the computer programs meet the other criteria of patentability. A rehearing on this decision was conducted March 3, 1969. The Commissioner of Patents has suggested that the Patent Office may ask for Supreme Court review if the decision is reaffirmed.

15. Originally issued January 1965, latest copy is dated 1967.

16. But it should be noted:

> Contrary to the assumption of many people, however, the Copyright Office's action does not establish a rule that can be relied on. In announcing its new position, the Copyright Office itself stated that the registrability of computer programs was doubtful and that all it was doing was making it possible for there to be a future judicial determination of copyrightability. Wessel, *supra* note 8, at 103.

pear to be a "writing" and therefore copyrightable, there is much doubt as to whether or not the same program on a magnetic tape would be considered to be a "writing," particularly since the notations on the tape cannot be directly perceived and understood by human beings. Although programs on magnetic tapes may prove to be uncopyrightable, they may still be protected against copying in that form if a reproduction on tape is found to constitute an infringement of a valid copyright on a printed program. Doubt on copyright protection of a tape results from the decision in *White-Smith Music Publishing Company v. Apollo Company,*[17] wherein the Court held that a punched paper tape, a piano roll, was not a copy of printed musical composition. With respect to programs represented by punch cards, they appear to be in an intermediate category since they can be visually read. In addition to the lack of judicial resolution as to which, if any, of the various media for carrying the computer programs are copies, there are possible difficulties in the usage of the computer program by the computer, particularly as to the means and methods of manipulating information within the computer to produce the output and the programming of the computer.[18]

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17. 209 U.S. 1 (1908), apparently reaffirmed in part by Fortnightly Corp. v. United Artists Television, Inc., 88 S. Ct. 2084 (1968).

18. Following are some of these problems:

(a) "The Program is clearly protected against an outright copyright or a copying even with minor or small alterations. . . . The program is also protected against a translation into other computer languages, and is probably protected against duplication in other data processing formats such as punched cards and magnetic tape. However, the copyrighted program is not protected against copying of the principal ideas or against the creation of a similar work by someone working independently who does not copy from the original . . . . Unlike a patent, a copyright does not protect against a subsequent original creation." McOustra, *Legal Protection for Computer Programs,* 8 COMPUTER J. 289, 292 (1966).

(b) ". . . [E]ven though a program might be copyrighted as a means of 'teaching' a new algorithm, the use of that or any other program in order to use the algorithm would almost certainly not be an infringement of the copyright." Puckett, *Protecting Computer Programs,* DATAMATION, Nov. 1967, at 56.

(c) In addition to the copyright problems relating to computer programs, computer information storage and retrieval systems present other substantial copyright problems. These are: to what extent is there a copyright infringement when material is placed into the machine as input; and is the output of the machine an infringement, especially when such output is not in a "printed" form? For discsusion of all these copyright problems, *see generally* Note, *Copyright Law Revision: Its Impact on Classroom Copying* and *Information Storage and Retrieval Systems,* 52 IOWA L. REV. 1141 (1967); Note, *Copyright Protection for Computer Programs,* 64 COLUM. L. REV. 1274 (1964).

Accordingly, because of the lack of judicial precedent and the ease of obtaining the copyright registration, it would appear desirable to seek copyright protection for the entire computer program documentation, including source and object programs (in all forms), flow charts, print outs, operator's and user's manuals, test problems, etc.

During the hearings and the examination of S.597,[19] the proposed revision of the Copyright Law, Senator McClellan recognized an urgent need for copyright modernization.[20] He also noted a lack of sufficient information for Congress to base an informed judgment with respect to the Copyright Law, particularly in light of scientific advances in information and retrieval technology. For this reason, he suggested that consideration of the pending copyright revision bill should proceed; and in addition, he introduced S.2216[21] to provide for the establishment in the Library of Congress of a National Commission to study the copyright implications of technological advances and to make recommendations to the President and Congress concerning the need for any changes in copyright law procedure. As a result of the hearings, it appears that copyright protection for the various media (tapes, discs, cards, etc.) on which the computer program is placed may be made available by future legislation if these media are machine readable.[22]

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19. S. Doc. No. 597, 90th Cong., 1st Sess. (1967), equivalent House Bill, H.R. Doc. No. 2512, 90th Cong., 1st Sess. (1967).

20. 113 Cong. Rec. 10567 (daily ed. August 2, 1967); and *Comm. on the Judiciary, Subcomm. on Patents, Trademarks and Copyright*, S. Doc. No. 1168, 90th Cong., 2d Sess. (1968).

21. S. Doc. No. 2216, 90th Cong., 1st Sess. (1967).

22. *See* H.R. Doc. No. 2512, *supra* note 19, at § 101, which states in part:
     Copies are material objects other than photorecords in which a work is fixed by any method now known or later developed and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device . . . . A work is fixed in a tangible medium or expression when its embodiment in a copy . . . is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory nature.
     See id. at § 102, which states in part:
     Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device.

Trade Secrets

Another possible avenue for the protection of proprietary computer programs, other than the statutory protections just discussed, is under the law of trade secrets. This common-law concept would hold one liable who wrongfully discloses or uses a trade secret. This wrongful disclosure may be from a breach of a confidential relationship or from use of improper means to discover the trade secret. Thus, if a computer program is treated as a trade secret, there should be imposed a requirement not to divulge such a program contrary to the agreed upon restrictions on use, duplication, etc.[23] Such a procedure, it is believed, will still permit the program innovator to retain his common-law copyright in those portions of the computer program susceptible to this type of protection.

Since protection of computer programs by patents appears to be precluded at the present time, the choice between copyright or trade secret protection might very well turn on the durability (uses and expected life) and the type of program under consideration. Trade secret protection would generally be more applicable for programs having a limited use and a relatively short life expectancy, while copyright protection would be more suitable for programs having broad application and a relatively long life.[24]

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23. "The owner of a trade secret does not really own a property right at all. All he has is the right to prevent others from taking the trade secret from him in an unfair or improper way." McOustra, *supra* note 18, at 289.

24. The value of copyright protection to software houses may not be all that one might expect since in obtaining such protection there is a public disclosure, which in turn permits competitors to have easy access to computer programs. With programs being quickly outdated, the usefulness of the original protectable program would frequently be lost long before a judicial dispute could be resolved. On the other hand, computer program developers may very well find adequate protection in copyright registration because the distribution of programs to customers often is so wide as to make trade secrecy protection inapplicable. Wessel, *supra* note 8, at ·103.

It might be well to point out that through the use of trade secret protection there is the result that programs are hoarded. With copyright registration there is generally no likelihood for a "road block" monopoly to be achieved since others could develop the program independently. Where copyright protection may be adequate for complex programs containing no particular original ideas, but which represent substantial investments of time and money in testing and development, it is inadequate to protect truly inventive program techniques. On the other hand, if patent protection were available, it could protect the underlying principle, since independently arriving at the same program is no defense. However, such protection would only be available if the program would meet the requirement of nonobviousness. Bender, *Computer Programs: Should They be Patentable?* 68 COLUM. L. REV. 241 (1968).

Contractual Arrangements

It is readily apparent that all of the aforementioned modes of protection for computer programs have serious disadvantages. For this reason, contractual arrangements have recently become the primary means for maintaining rights to computer programs. Such contractual arrangements include sale and lease agreements, based on a fixed price or rental fee, respectively, wherein a program is delivered to users under agreements of confidentiality.[25] Another option open to the program owner is a lease agreement based on rental fees, wherein the owner retains possession of the program but makes the fruits thereof available to users.[26] The latter type of lease agreement is particularly applicable to both a real-time access concept, where a central computer is programmed and each customer is equipped with a terminal usable on a time-sharing basis, and to a service bureau access concept, where the program owner processes the raw data for the customer. The advantages of contractual agreements are that they provide a meaningful mode of protection since the provisions can be very specific as to the terms—such as non-disclosure, limitations, and restrictions of use, etc.— applicable to the program.

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25. Such agreements should cover, for instance, the price of rental or royalty, the use to which the program may be put, and the obligations on the purchaser not to disclose the program to anyone else. They have a weakness in that they are difficult to police and they cannot bind a third party who did not sign the agreement; *i.e.*, a program supplier cannot enforce the secrecy undertaking against a third party who obtained the program from the purchaser even though he obtained it in breach of the purchaser's contractual undertaking. McOustra, *supra* note 18, at 295.

In the area of leasing agreements for computer programs, the General Services Administration has already entered into such an agreement (Contract No. GS-OOS-67151) with Applied Data Research, Inc. for a computer program, entitled AUTO-FLOW. This program is designed to aid in the documentation of the other programs by producing high-quality flow charts thereof. It is interesting to note, in accordance with one of the provisions of the agreement, that title to the leased AUTOFLOW system and any reproductions thereof, furnished to the Government by the contractor, shall remain with the contractor. Also there is contained the following statement: "Since AUTOFLOW programs are copyrighted and patent has been applied for, all provisions relating to copyrights necessarily apply." Further, where there is a leasing of a single AUTOFLOW system, the use thereof is limited to a specific computer, location, and organizations normally served by the specified computer, and the using agency is to refrain from flow charting programs for other organizations on a service basis.

26. For further discussion, *see* McOustra, *Software: Copyright and Other Kinds of Control*, 8 COMPUTER BULL., No. 3, Dec. 1964, at 96, 97; Dansinger, *Proprietary Protection of Computer Programs*, COMPUTERS AND AUTOMATION, February 1968, at 32.

GOVERNMENT USE AND DISSEMINATION OF COMPUTER PROGRAMS

Whenever a computer program is developed for, or is purchased by, the Government, sufficient rights must be obtained by the Government to the program to permit its use in accordance with the desired governmental purpose. This will include, for most instances, the right in the Government to use the program in-house and to permit its contractors to use it on the Government's behalf. Further, in line with the information dissemination activities actively pursued by many government agencies, the release of these programs to the public may also be a part of the overall government purpose.

This does not mean that unlimited rights to use or disseminate computer programs always will be obtained. There are many variations in the use or dissemination by the Government of a particular program. These variations stem from the nature of the program, the purpose for which it was developed, the costs of obtaining the use rights desired, and the mechanism available for the retrieval of the documentation describing the program and for its sharing and dissemination. With regard to rights, if a computer program is completely developed by or for the Government, its free use, either by or for the Government, is obtained as a part of the negotiated contract. Whenever a proprietary program is purchased, or further developed under contract, restricted use rights are usually obtained. These restrictions range from limiting the program's use to a particular computer facility to permitting any use by or for the Government.

The extent to which the Government obtains, through its contracts, the right to disseminate the computer programs that it develops is discussed in the next section. However, a brief review of the Government's present efforts to share or disseminate computer programs may aid in explaining the pertinent government contract provisions.[27]

27. There are at least two commercial dissemination organizations:

(a) International Computer Programs (ICP). International Computer Programs, located at Indianapolis, Indiana, catalogs computer programs which are available for sale, exchange, lease, franchise, or "give away" from their original sources. This catalog, called the ICP Quarterly, is a communication device or media created for users, large and small, to facilitate the marketing and exchange of software items. It contains programs listings, is updated every three months, and lists the software items on a no-charge basis. Each listing includes: the program title, a narrative abstract, an identification of the hardware used and programming language, a reference to terms (sale, lease, "give away," etc.); and the individual to contact for further information. By this publication, ICP acts as a lister and leaves it up to the program owners to ultimately handle all transactions relative to the computer programs.

(b) Joint Users Group (JUG) Program Library. Joint Users Group Program

The basic purpose for establishing facilities for storing and disseminating computer programs is to effect a saving of scarce manpower and resources. While computer hardware companies freely supply basic software libraries to purchasers of their machines,[28] computer users must generally broaden this software base if they are to achieve the effective utilization of their machines. The Government in its many roles in research and development relies upon the use of computers, and, as noted before, has been a principal stimulant to the entire computer industry. In expending public funds for research and development activities, the Government traditionally has been concerned with disseminating the results of this research for the benefit of all of · its citizens. Thus, the Government has provided dissemination facilities for much of the technical information produced under its grants and contracts. Likewise in the computer area, special facilities to store and disseminate computer programs developed for the Government are now evolving.

The dissemination activities of the National Aeronautics and Space Administration (NASA), one of the leading government agencies which has recognized the importance of sharing computer programs, will be briefly described. NASA has a statutory requirement to "provide for the widest practical and appropriate dissemination of information concerning its activities and the results thereof." [29] In carrying out this statutory mandate,[30] NASA uses two major roads for the dissemination of general scientific information. These are: its abstract services [Scientific and Technical Aerospace Report (STAR), and the International Aerospace Abstracts (IAA)];[31] and NASA Tech Briefs.[32] In

Library has as its purpose the establishment of a program documentation · interchange service between user groups through (1) the publication of a combined user group catalog, and (2) a users group interchange service via user group distribution centers. Reasonable charges are made for the catalog, and each user group · furnishes information for entry in the catalog, which is updated quarterly. Each user group distribution center handles the distribution of computer programs for its group and makes requests from other user groups when necessary. In addition, each user group states in the catalog what its practices are with respect to charges and fees.

28. Recent concern has been raised that the free supply of computer programs with the sale of the computer is an illegal tie-in arrangement under the antitrust laws.

29. The National Aeronautics and Space Act of 1958, 42 U.S.C. § 2473 (a) (3) (1964).

30. The National Aeronautics and Space Act of 1958, 42 U.S.C. §§ 2451, 2473 (1964).

31. STAR is a comprehensive abstracting and indexing journal published semimonthly and covering worldwide report literature ' on the science and technology of space and aeronautics. It includes abstracts of scientific and technical reports of the National Aeronautics and Space Administration and its contractors, government agencies,

addition, NASA has established two activities to carry out its dissemination of computer programs to the various NASA facilities, NASA contractors, other government agencies, and to the public at large. These activities are the Automatic Data Processing (ADP) Resources Sharing Library and the Computer Software Management Information Center (COSMIC).

For these activities to carry out their functions satisfactorily, computer programs resulting from both NASA contractual and in-house efforts are made available to either or both of the activities, depending upon the particular value of the computer program and the rights obtained therein. To accomplish this, it is essential that due consideration be given, in every procurement requiring the delivery of computer programs, to proper scheduling of sufficient documentation to enable use of the program by others. As a minimum, this documentation, to permit sharing, should include: program identifiers, an abstract, an introduction including intended usage, technical description, program run instructions, special machine requirements, application limitations, diagnostic messages, data formats, running time, accuracy characteristics, flow charts, subroutine documentation, listings, and the magnetic tape, disc, or card deck.

The ADP Resources Sharing Library, established at the NASA Manned Spacecraft Center (MSC), has been distributing to NASA installations, NASA contractors, the General Services Administration, the National Bureau of Standards, and the Bureau of the Budget (the latter three for possible government-wide use) a bulletin containing abstracts of the various NASA developed computer programs. This bulletin includes a retrieval system based on key words, and each abstract states the objectives of the program, the methods used in achieving it, the language and machines that are to be utilized, and the actual person who developed the program. The users of the abstracts may contact the programmer or the government technical officer having cognizance over the program for more detailed information. This

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universities, and research organizations throughout the world.

IAA is an abstracting and indexing publication issued semimonthly and covering the world's published literature—books, journals, and proceedings—in the field of aeronautics and space science and technology.

32. NASA TECH BRIEF is an announcement medium which briefly describes innovations, including computer programs, and explains the concepts and principles underlying the innovations. Interested readers can obtain additional information—including test data, drawings, specifications, and the like—by writing to the Technology Utilization Officer at the NASA installation from which the innovation originated.

provides not only program sharing, but also a free flow of thoughts and ideas between the users.

The Computer Software Management Information Center (COS-MIC) has been established by NASA at the University of Georgia to receive all computer programs made available through the NASA Technology Utilization program (TUP)[33] from NASA innovators and contractors. The University of Georgia evaluates the computer programs to determine their utility to industry in general. Abstracts of selected routines are disseminated through Tech Briefs and special COSMIC listings, and programs are furnished to interested parties at cost. COSMIC also handles the distribution of the ADP Resources Sharing Library's program abstracts to the general public. However, these abstracts do not include the name of the programmer and the originating NASA center. These same abstracts are made available to public users, other government agencies, and to all contractors of federal agencies through the Department of Commerce (Clearinghouse for Scientific and Technical Information).

GOVERNMENT ACQUISITION OF COMPUTER PROGRAMS

The Government acquires computer programs from two sources—in-house and contractor development. Those computer programs originating in-house generally do not raise any property rights problems, for they are the property of the Government.[34] However, those developed under a government contract do pose rights problems, especially when they are developed as a subsidiary to the basic contractual effort.

In every government research and development (R&D) contract and some limited number of supply contracts, there are included two types of provisions for enumerating the Government's rights in intellectual property, including the rights to computer programs developed in the contract performance. These are the patent and data provisions.

The patent provision, usually entitled the "Patent Rights" clause

33. See NASA publication "THE TECHNOLOGY UTILIZATION PROGRAM," (1967); See also NASA MANAGEMENT ISSUANCE (NMI) 1052.116 (July 1, 1968) and NASA NEWS RELEASE No. 68-212 (Dec. 11, 1968) which announced that DOD had joined with NASA in submitting computer programs to COSMIC.

34. While EXEC. ORDER No. 10096, 14 C.F.R. § 1245.302 (1967), governs employees' rights in inventions, there is no Executive Order governing such rights in copyright. Even without any established guidance, it is believed that most government agencies apply the same theory to both types of intellectual property.

by most government agencies, requires the government contractor to furnish the Government a written disclosure of each invention conceived or first actually reduced to practice in the course of the contract. The particular rights (title or royalty-free license) acquired by the Government in the invention and in the written disclosure thereof are specifically spelled out in the clause. At least one government agency (NASA) has adopted a broader patent provision referred to as the "New Technology" clause,[35] rather than the "Patent Rights" clause, to further its policy of obtaining and then making available to the general public the fruits of its technological efforts. The "New Technology" clause requires, in addition to the reporting of inventions, the reporting of innovations.[36] Further, it specifically sets out the rights NASA acquires in reported inventions, innovations, and written reports relating thereto.

The data provision, usually entitled the "Rights in Data" clause by most government agencies, is used in government contracts where data is specified for delivery. This clause does not call for the acquisition of any data but rather defines the rights the Government acquires in that data specified to be delivered in the schedule of the contract.

The delivery of contractor computer programs may be required specifically in the schedule of a government contract or, surprisingly, as an item to be reported under the general patent provision. Where the computer programs are called for in the schedule of the contract, the Government's rights in them are generally governed by the contract data provision. When they are reported in accordance with the contract patent provision, that provision defines the rights in the programs. Thus, the rights of the Government in computer programs developed under contract depend to a large extent on whether the patent or the data provision of the contract is applicable.

It is to be remembered that the potential value and scope of use of computer programs were not fully comprehended at the time the patent and data provisions were originally drafted. Accordingly, little or no concern was given to the applicability of these provisions to computer programs. Now that computer programs have suddenly acquired importance as valuable property, these same provisions are being used

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35. 41 C.F.R. § 18-9.101-4 (1968).

36. In a limited number of contracts—those "for basic or applied scientific research at nonprofit institutions of higher education or at nonprofit institutions whose primary purpose is the conduct of research"—NASA uses a patent clause entitled "Property Rights in Inventions." 41 C.F.R. § 18-9.101-5 (1968).

to acquire computer programs and to define the rights therein of the respective parties. Obviously then, these provisions will have certain shortcomings with respect to the new subject matter which they are to encompass. An attempt will be made to point out the failings and merits of these provisions as they relate to computer programs.

The following discussion of government contract patent provisions relate to the "Patent Rights" clauses used by the Department of Defense and to similar clauses used by the Department of Commerce and the Federal Aviation Agency. Also, the "New Technology" clause applicable to NASA contracts will be discussed in more detail.

"Patent Rights" Clauses

The Armed Services Procurement Regulations (ASPR), used by the Department of Defense (DOD), enumerates three basic "Patent Rights" clauses—the "Patent Rights" (Title),[37] "Patent Rights" (License),[38] and the "Patent Rights" (Deferred).[39] These clauses, in defining "Subect Invention" [40] as those inventions conceived or first actually reduced to practice in the course of or under the contract, contain such language as: "whether or not patentable;" includes, but is not limited to;" and "which may be patentable under the patent laws of the United States of America or any foreign country." [41] On the basis of this language, there are ample grounds for considering a computer program to fall within the definition of "Subject Invention." The fact that the United States Patent Office has not knowingly granted a patent for a computer program does not mean necessarily that a computer

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37. ASPR, 32 C.F.R. § 9.107-5(a) (1967).

38. *Id.* at § 9.107-5(b).

39. *Id.* at § 9.107-5(c).

40. "Subject Invention" means any invention or discovery *whether or not patentable,* conceived or first actually reduced to practice in the course of or under this contract. The term "Subject Invention" *includes, but is not limited to,* any art, method, process, machine, manufacture, design or composition of matter, or any new and useful improvement thereof, or any variety or plant, *which is or may be patentable under the patent laws of the United States of America or any foreign country. Id.* at § 9.107-5(a) (emphasis added).

41. *See* AMP Inc. v. United States, 389 F.2d 448, 454 (Ct. Cl. 1968), for comments relative to the language "whether or not patentable" in the definition of "Subject Invention," specifically as to the interpretation of the definition of "Subject Invention" given by the court, *i.e.,* that the definition is not limited to a particular patent or patents but rather encompasses ideas or conceptions.

program is not encompassed by the term "Subject Invention," particularly since a computer program may be patentable in some foreign countries.

However, a close observation of the section of the "Patent Rights" clauses, relating to the reporting requirements for a "Subject Invention," indicates that a "Subject Invention," "which is obviously unpatentable under the patent laws of the United States," [42] need not be reported to the Government. Although a computer program may be within the broad definition of a "Subject Invention," the contractor in all likelihood does not have to furnish a written disclosure of the computer program as a "Subject Invention," since it is "obviously unpatentable under the patent laws of the United States." (Query as to what changes may occur as a result of the *In re Prater and Wei* decision discussed in footnote number 14) Accordingly, it would appear that a complete description of the computer program cannot be required through the reporting provision of the "Patent Rights" clauses even though the computer program may be a "Subject Invention."

While the DOD "Patent Rights" clauses will undoubtedly present future problems with respect to computer programs, particularly because of the reporting requirements section, this is not the case with the "Patent Rights" clauses being used by two other government agencies—the Department of Commerce (DOC) and the Federal Aviation Agency (FAA). In the DOC "Patent Rights" clauses[43] the definition of "Subject Invention" contains, as does the DOD ASPR, the phrase "which is or may be patentable under the patent laws of the United States of America or any foreign country." These clauses do not have, however, the limiting language of ASPR in their invention reporting requirements. The FAA "Patent Rights" clause,[44] while not including the language just quoted, does contain the modifying phrase "whether or not patentable." Just as with the DOC, the FAA clause has no limiting language. Accordingly, it would appear that both DOC and FAA could readily require the reporting of computer programs as inventions under their "Patent Rights" provisions even though they would not be patentable in the United States. However, because the "Patent Rights" clauses of these government agencies merely apply to inventions, they would not be applicable to computer

42. ASPR, 32 C.F.R. § 9.107-5 (a) (c) (1) and (b) (c).
43. Administrative Order 208-14, Dept. of Commerce, Appendix A and Appendix B (1967).
44. FAA PROCUREMENT MANUAL, 41 C.F.R. § 2-9.5102-1 (1967).

programs developed under a government contract which does not
possess the required inventive degree of novelty, unobviousness, and
utility.

"New Technology" Clause

NASA's approach to a patent provision is its "New Technology"
clause which requires the reporting of new technology generally. This
clause does not otherwise put any limitation on "reportable items,"
which are defined as:

> . . . any invention, discovery, improvement, or innovation,
> *whether or not the same is susceptible of protection under the
> United States Patent Laws*, which is made in the performance of
> work under this contract. . . . (Emphasis added.)

It is quite apparent from this language that a "reportable item" is not
restricted to the requirement that it must be susceptible to patent pro-
tection in the United States. In addition, the clause indicates that a "re-
portable item" can be an innovation[45] as well as an invention. Accord-
ingly, computer programs determined to be inventions or innovations
are appropriately "reportable items." [46] The reporting provision of
this clause states that a contractor shall furnish:

> . . . *a written report* concerning each reportable item promptly
> upon the making thereof. Such report shall include such technical
> detail as is necessary to identify and describe *fully* the nature,
> purpose, operation and physical (electrical, chemical, etc.) char-
> acteristics of the reportable item. (Emphasis added.)

As there are no limitations in this provision, NASA can require the
reporting of innovative computer programs, be they patentable or
unpatentable in the United States.[47]

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45. Not defined in 35 U.S.C. § 100 nor 41 C.F.R. § 18-9 (1967).

46. NASA has granted a waiver of title to an invention reported under its "New
Technology" clause. Waiver No. W-376, to Booz-Allen Applied Research, for an in-
vention entitled "GSFC Semiconductor Information Retrieval System," NASA PETI-
TIONS FOR PATENT WAIVER, FINDINGS OF FACT AND RECOMMENDATION OF THE NASA
INVENTIONS AND CONTRIBUTIONS BOARD, 119 (NHB 5500.1A, 1966).

47. A NASA publication, NASA MANAGEMENT GUIDELINES FOR NEW TECHNOLOGY
REPORTING TO NASA (NHB 2170.1, 1966), furnished to NASA contractors, states in the
preface:
    The NASA Technology Utilization Program is a planned continuing

It has been established that a computer program may fall within the definition of "reportable item," and that the reporting provision requires the contractor to identify and describe *fully* the nature, purpose, operation, and physical characteristics of the computer program. There is no doubt that the operationally complete computer program, including tape and its associated documentation, will meet the requirements. However, there have been no specific decisions with respect to the "New Technology" clause on whether or not NASA can require the delivery of the operationally complete computer program in lieu of the "written report." Although the contractor might not have to deliver the operationally complete computer program, it may be easier and cheaper and perhaps to his advantage to do so rather than provide the extraneous documentation required under the reporting provision of the clause.

In regard to a computer program that is reported in accordance with the "New Technology" clause, NASA has the right, as defined by paragraph (j)(1) of the clause, to:

> ... duplicate, use and disclose in any manner and for any purpose whatsoever, and have others do so all reports furnished pursuant to paragraphs (b), (c), and (h)(2) of this clause.

effort to locate aerospace related innovations, new scientific knowledge and new technical skills and to make them broadly available to industry for non-aerospace use.

Further on in this same publication it is stated:

A "reportable item" is defined by the Space Act as "any invention, discovery, improvement or innovation" whether or not patentable, that is conceived or first reduced to practice in the performance of work under the contract. . . . Scientific and technical programs, for example, are reportable items.

In another NASA publication, NASA REPORTABLE ITEMS UNDER THE NEW TECHNOLOGY CLAUSE (NHB 2170.2, 1967), furnished to NASA contractors, it is stated in the Introduction to Appendix A:

The following examples of disclosure of New Technology set forth in this Appendix are for use of NASA contractors, scientists, engineers and technicians as guidance in the submission of their disclosure of Reportable Items. The details and scope of the information submitted should be at least as complete as these examples, since items are to be evaluated by specialists at industrial research institutes and elsewhere to determine whether they merit publication.

Exhibit 3 of Appendix A is directed specifically to a computer program. Accordingly, it is apparent that NASA considers a computer program a "reportable item" and intends that a contractor furnish computer program documentation which can be freely disseminated.

Thus, even if this program was copyrighted (as permitted by the NASA "Rights in Data" clause), NASA would still have the right to broadly disseminate it, and the recipient of the program could likewise make copies. Should this occur, the value of any copyright protection retained by the contractor would be essentially destroyed.

So far the discussion of the "New Technology" clause has been directed to the situation where the computer program is entirely developed in the performance of a NASA contract. There is little difference, respecting NASA's rights, between a program so developed and one which is a modification of a proprietary contractor program. If the modification of the proprietary program is carried out in the performance of a NASA contract, NASA's rights in the completed program may essentially result in the loss of ownership by the contractor in his proprietary program. This loss will depend upon the extent that the proprietary program is disclosed by the modified program and to the extent that it is necessary that the contractor furnish the modified program under the "New Technology" clause.

If a contractor is aware that his modification of a company-originated program could result in NASA having the right to give it widespread distribution, he might decide not to carry out the modification. Instead he would develop a program, independent of the company-originated one, which may be less efficient and/or less effective and which may result in a higher price to the Government.

Data Provisions

Until recently, most government agencies' procurement regulations included data provisions similar to those presently used by NASA. In 1965, DOD incorporated new data provisions into its Armed Services Procurement Regulations (ASPR).[48] A significant difference between these two sets of data provisions is that DOD now uses the concept of "developed at private expense" in indicating the class of data which the contractor must deliver, but in which DOD only has limited rights. For all other data, DOD obtains unlimited rights. In contrast, NASA uses the concept of proprietary data in indicating the class of data which the contractor need *not* deliver.

"Rights in Technical Data" Clauses of ASPR.[49] Discrepancies between several subparts of ASPR data provisions appear to create

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48. ASPR, 32 C.F.R. § 9.200 (1967).
49. *Id.* at § 9.203(b) and (d).

one of the major problem areas respecting rights in computer programs. For example, in ASPR 9-201, the basic definition of "Data" is:

> ... writings, sound recordings, pictorial reproductions, drawings, or other graphic representations and *works of a similar nature*, whether or not copyrighted. . . . (Emphasis added.)

The "Rights in Technical Data" clauses of ASPR 9-203 (b) and (d), incorporated into DOD contracts, differ in that the term "Technical Data" is defined by these clauses as:

> ... technical writing, sound recordings, pictorial reproductions, drawings, or other graphic representations and *works of a technical nature*, whether or not copyrighted. . . . (Emphasis added.)

The difference between these two definitions is that instead of the phrase "works of a similar nature" there is the phrase "works of a technical nature" in the contract clause. While the phrase "works of a similar nature," as used in the basic definition of ASPR 9-201, is considered to encompass computer programs on tapes, discs, and card decks, it can be argued that computer program media are not within the definition of "Technical Data." If this reasoning is followed, the question as to what rights attached to the tapes, discs, or card decks, delivered pursuant to the schedule of the contract, is left open. Of course, this should not be interpreted as meaning that the "Rights in Technical Data" clause precludes defining the rights in computer programs, for it certainly would be applicable where the program is in written form.

The basic definition of "Limited Rights," as given in ASPR 9-201, includes the following language:

> ... such technical data may not be released outside the Government, *or* used, duplicated, or disclosed, in whole or in part, for manufacture or procurement, ... (Emphasis added.)

In the "Rights in Technical Data" contract clause of ASPR 9-203(b), this same language is contained in the reproduction of the legend to be placed on limited rights technical data by the contractor. However, in defining the term "Limited Rights" in paragraph (a)(2) of this contract clause, the "or" italicized in the quote is omitted. Since

the series of terms preceding the phrase "manufacture or procure-
ment" merely act as modifiers of this phrase, a strict interpretation
of the definition of "Limited Rights" in this clause, written without
the italicized "or," would appear to permit the release outside the Gov-
ernment of a computer program having nothing to do with "manu-
facture or procurement."

The specific rights the Government acquires, in that portion of an
operationally complete computer program to which the "Rights in
Technical Data" contract clause is applicable (writings, drawings, and
graphic representations) are enumerated in paragraph (b) of the clause.
With respect to the other portions of an operationally complete com-
puter program, such as tape, disc, or card deck, to which the applica-
bility of the clause is questionable, it would appear that the rights
thereto would be unclear unless the schedule of the contract contains
specific provisions spelling out such rights. Where the "Rights in Tech-
nical Data" clause is applicable to the program as "Subject Data," the
Government obtains the same rights in that portion of the operationally
complete computer program covered by the clause as it would to any
other data specified to be delivered by the schedule of the contract.
More particularly, the Government obtains "unlimited rights" to data
where:

(1) It results directly from the performance of the contract;
(2) It is necessary to enable the manufacturer of a hardware
item or the performance of a process when they are being
developed under the contract, or specified as an element of
the contract performance, except if the hardware or process
are developed at private expense; or
(3) It is predetermined to be furnished in such a manner by an
agreement incorporated into the schedule of the contract;

and "limited rights" where:

(1) It is predetermined to be furnished in such a manner and so
specified in the schedule of the contract; or
(2) It is developed at private expense or pertains to a hardware
item or process developed at private expense;

provided, however, such portions of the computer program that are
furnished and to which "limited rights" are to be asserted, must be
marked with the legend provided in the clause.

In the case where either the contractor or another has copyrighted a portion of an operationally complete computer program to which the "Rights in Technical Data" clause is applicable, then, in accordance with paragraph (c) (1)[50] of the clause, the Government obtains only "limited rights" therein, *i.e.*, it is limited to only governmental use.

NASA Procurement Regulations (NPR)[51]

While it is recognized that there are some differences in the respective data clauses of the various other government agencies, this discussion for the most part is confined to the NASA data clauses,[52] because what is said concerning these clauses will generally apply to the similar clauses of the majority of government agencies other than DOD.

"Rights in Data" Clauses. NASA utilizes essentially two different types of "Rights in Data" contract clauses[53] in most of its contracts— one for research and development (R&D) contracts[54] and the other for supply contracts.[55] In both of these "Rights in Data" clauses, the rights of the Government and its contractors are enumerated, as to all data specified to be delivered in the schedule of the contract. This data, termed "Subject Data," is defined as follows:

> The term "Subject Data" as used herein includes writings, sound

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50. Notwithstanding the provisions of (b) above, the Contractor agrees to and does hereby grant to the Government, and its officers, agents, and employees acting within the scope of their official duties, a royalty-free, nonexclusive and irrevocable license throughout the world for *Government purposes* to publish, translate, reproduce, deliver, perform, dispose of and to authorize others so to do, all technical data now or hereafter covered by copyright. *Id.* at § 9.203(c) (1) (emphasis added).

51. 41 C.F.R. § 18-9.000 (1968).

52. It might be appropriate to point out here the definition of the term "Data" as set forth in the 41 C.F.R. § 18-9.201, which is as follows:

> (a) "Data" means writings, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of any similar nature whether or not copyrighted. The term does not include financial reports, cost analyses, and other information incidental to contract administration.

Data, as used in the commercial or industrial sense, generally means ancillary data, data in connection with something else, for example, an instruction manual, a production drawing, or a process flow chart. Only a limited set of intangibles have been both data and end-products. However, with the burgeoning growth of software, data as an end-in-itself may outstrip tangible machinery in value. McOustra, *supra* note 18, at 294.

53. 41 C.F.R. § 18-9.203 (1968).

54. *Id.* at § 18-9.203-1.

55. *Id.* at § 18-9.203-2.

recordings, pictorial reproductions, drawings, or other graphical representations, and *works of any similar nature* (whether or not copyrighted) which are specified to be delivered under this contract. . . .[56] (Emphasis added.)

Computer programs can be considered as "Subject Data" under the catch-all words "works of any similar nature." From this interpretation and by the fact there is no indication that these clauses in any manner include restrictions with respect to "Subject Data," it is quite apparent they cover the various media which contain the data, *e.g.*, tapes, discs, punch cards, etc.

With the exception of one paragraph, normally referred to as the failsafe provision,[57] the two "Rights in Data" clauses are identical. The failsafe provision used in R&D contracts essentially spells out the data which is protected and need not be delivered by the contractor—namely, "proprietary data" and data relating to standard commercial items and processes. In addition, there is a statement that the item, to which the "proprietary data" relates, must have been developed at private expense and previously sold or offered for sale. The failsafe provision used in supply contracts bears an important difference from the one used in R&D contracts; it allows the Government to acquire a contractor's "proprietary data," but only if it is suitably identified in the schedule of the contract as being required. Both provisions contain the same definition of "proprietary data."

A reading of this definition gives the impression that "proprietary data," in essence, relates to information and drawings dealing with manufacturing techniques used for the production of end products. While some computer programs will no doubt fall into this category, there are many valuable computer programs which have nothing to do with manufacturing processes. A strict interpretation of this definition would indicate that computer programs of the latter type are not encompassed by the failsafe delivery exception. However, from a more liberal reading of the definition, particularly in view of the language:

. . . data providing information concerning the details of a contractor's secrets of manufacture, such as may be contained in *but not limited to* its manufacturing methods. . . . (emphasis added),

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56. *Id.* at § 18-9.203-1(a).

57. *Id.* at § 18-9.203-1(i).

it is conceivable that such computer programs are included within the intent of the definition.

While not part of the "Rights in Data" clause used in supply contracts, the NASA Procurement Regulations do permit the delivery of "proprietary data" with limitations on the government use if such data is suitably identified in the schedule of the contract.[58] Accordingly, should it be desired to procure a program considered to be "proprietary," the utilization of this provision assures the contractor that the program will not be released outside the Government, other than to enable timely performance of repair or overhaul where an item is not procurable commercially. Also, in accordance with this provision, the program will bear a restrictive legend.

It has been established that the NASA "Rights in Data" clauses encompass computer programs and therefore set forth the rights obtained in those computer programs scheduled to be delivered within the terms of a contract. If the computer program is copyrighted by the contractor, then in accordance with the terms of these clauses, the Government obtains only limited rights in the program, because the clauses state that the contractor grants the Government:

> . . . a royalty-free, nonexclusive, and irrevocable license throughout the world for Government purposes, to publish, translate, reproduce, deliver, perform, dispose of, and to *authorize others so to do,* all Subject Data now or hereafter covered by copyright.[59] (Emphasis added.)

On the other hand, where the computer program is not copyrighted, the Government obtains unlimited rights in the program since the clauses state:

> . . . the Government may duplicate, use, and disclose *in any manner and for any purpose whatsoever,* and *have others so do,* all Subject Data delivered under this contract.[60] (Emphasis added.)

Accordingly, if in procuring a computer program it should be desired that the Government have unlimited rights with respect to use and dissemination of the program, it is necessary to modify these clauses so that the contractor is not permitted to copyright the program. Un-

58. *Id.* at § 18-9.203-3.
59. *Id.* at § 18-9.203-1(b).
60. *Id.* at § 18-9.203-1(f).

der the NASA Procurement Regulations, this would be a deviation from normal policy. Thus, if NASA seeks unlimited rights in computer programs, the "Rights in Data" clauses should be modified to eliminate the rights of the contractor to copyright those computer programs resulting from the performance of work under the contract.[61] However, this change may well be reflected in an increase of the contract price to the Government. If the program has commercial value, it would appear that the contractor would probably ask a lower price were he able to obtain commercial rights in the program. Therefore, it is important in procuring computer programs that the rights which the respective parties want in the program be determined.

So far reference has been made to the "Rights in Data" clauses used in the majority of contracts where data is scheduled for delivery. There is an additional "Rights in Data" clause referred to as the "Production of Motion Pictures" clause.[62] Although it is primarily used in contracts for the production of motion pictures, histories, and other similar works,[63] it can appropriately be utilized for the procurement of computer programs, particularly where it is desirable that the contractor not copyright computer programs first produced under the contract.[64] In accordance with this clause, there are no restrictions on the reproduction and dissemination of data specified to be delivered and which is first produced under the contract. Even in the case where the data is not first produced or composed under the contract, the

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61. It is apparent that such a modification would not be contrary to the guidelines set forth by the Bureau of the Budget concerning copyright registration by contractors of data developed in the performance of government contracts. The following quote is from the guidelines promulgated by the Bureau of the Budget, as recited in correspondence of December 3 and 4, 1964, to the heads of departments and agencies, relevant to permitting government contractors or grantees to secure copyright in the area of data developed in the performance of a government contract.

A Government Contractor or Grantee should ordinarily not be permitted to secure copyright in a work which is:
    (1) produced for the Government as the primary object of the contract or grant;
    (2) intended for use by the Government alone; or
    (3) intended primarily for general use by the public.
Just preceding this quote there is the following statement:
At all times, however, the contractor's interest in acquiring proprietary rights must be subordinate to the Government's interest in using the work and making it available to the public.
62. 41 C.F.R. § 18-9.204-2 (1968).
63. Id. at § 18-9.204-3.
64. Cf. ASPR, 32 C.F.R. § 9.204-2 (1967).

Government has substantially unlimited rights therein as long as such data is incorporated in the final work.

A similar clause with only a slight modification, in that computer programs are specifically mentioned, has been adopted by the Department of Health, Education and Welfare (HEW)[65] for use in contracts where computer programs are to be procured without copyright protection being available to the contractor. The National Institute of Health (NIH) of HEW has supplemented this clause (which only defines the rights in the computer program) with a schedule provision[66] which specifies the particular computer program data to be delivered.

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65. HEW, PROCUREMENT MANUAL, Subpart 3-16.5004 (1964), provides:
  (8) In the event that the contracting officer is advised by the project officer or the appropriate program officer that it is in the best interest of the Government that the *contractor not be permitted to secure copyright in any work resulting from the contract,* or that the regulations or policy of the operating agency concerned provide that the *contractor not be permitted to secure copyright in such work,* the "Rights in Data" clause set forth below shall be substituted for the "Rights in Data" clause in HEW Forms 313, 314, 315, or 316. This clause is appropriate in contracts for the production of motion pictures with or without accompanying sound, contracts for the preparation of motion picture scripts, musical compositions, sound tracts, *computer programs,* translations, adaptations and the like.
    Rights in Data
      (a) The term "Subject Data" as used herein, includes writings, sound recordings, pictorial reproductions, drawings or other graphical representations, *procedural manuals, forms, diagrams, work flow charts, equipment descriptions, data files and data processing or computer programs,* and works of any similar nature (whether or not copyrighted), which are specified to be delivered under this contract. The term does not include financial reports, cost analysis, and other information incidental to contract administration. (Emphasis added.)
  66. H. KETTL, OBTAINING DATA FROM CONTRACTS INVOLVING AUTOMATIC DATA PROCESSING, (NIH Memo 1965):
    III. *CLAUSE TO BE USED*
    The substitute "Rights in Data" clause with the following supplemental provision will be used in the appropriate contracts:
      The Contractor will keep NIH fully advised as to the systems and procedures employed in carrying out the contract requirements, including procedural manuals, forms, diagrams, work flow charts, equipment descriptions, *data processing machine instructions (including computer programs,* if prepared), and upon request provide detailed written records of such systems and procedures. In addition, *one copy of principal data files and computer programs in machine processable form, if such programs are fully checked out and generally usable, shall be delivered together with sufficient written documentation to allow for independent understanding of organization, content and coding of such files and programs.* (Emphasis added.)

This latter provision may be utilized with either of their "Rights in Data" clauses, depending on whether or not HEW desires to permit the contractor to secure a copyright in the program. HEW and NIH appear to be the only government organizations which have an established data rights policy specifically with respect to acquiring computer programs.[67] Conversely, most other government organizations are handling the procurement of computer programs just as they would other data items, i.e., handling problem areas as they arise on a case-by-case basis.

Both the NASA Procurement Regulations, part 9.205-1, and ASPR, section 9-205.1, states that no "Rights in Data" type of clause need be included in contracts for the separate, sole procurement of data that "exists prior to the initiation of a request for purchase . . . unless the right to reproduce such data is an object of the contract." Accordingly, if a copyrighted computer program is purchased as an off-the-shelf item and the contract lacks provisions specifically stating that the Government can duplicate and/or disseminate the program, the Government obtains the right only to use it. Should the Government later desire to duplicate and/or disseminate the program, such acts, although not strictly prohibited, could subject the Government to paying compensation.[68]

It might be appropriate to include in a contract of this type the terms and conditions under which the program is to be delivered by indicating, for example, that it is being purchased with the intention of being utilized in a particular manner, and that its input into the computer, the registry that takes place within the computer, and/or the output taken from the computer (the readout) would not amount to an infringement of any protectable legal rights of the contractor.

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67. FAA has essentially two "Rights in Data" clauses: one, called "Unlimited," is used where data is specified to be delivered under the contract and such data is incidental to or a by-product of the contract; and the other, called "Title," is used where data is specified to be delivered under the contract *and the preparation of such data is the primary object or end item of the contract.* One difference between the two clauses is that the "Rights in Data—Unlimited" clause would permit the contractor to obtain a copyright in the data generated for the first time under the contract whereas the "Rights in Data—Title" clause specifically prohibits such action. These clauses, for the most part, are substantially the same as NASA's "Rights in Data" clause and "Rights in Data" clause (Production of Motion Pictures), respectively, as far as concerning the rights in computer programs.

68. 28 U.S.C. § 1498(b) (1964).

DATA CONSIDERATIONS IN PROGRAM PROCUREMENT

Thus far it is readily apparent that computer programs, as an item of government procurement, possess a variety of data problems. Many of these can be easily resolved if due consideration is given in advance to determining the documentation and rights needed by the Government for its intended use and probable dissemination of the program.

Air Force Project LITE (Legal Information Through Electronics)[69] is a recent example of a government procurement in which due consideration was not given in the contract to the respective rights of the parties in the system being developed. In an early contract for the development of a data search base containing the entire United States Code, the contract documentation lacked provisions to delineate some key rights in the system. At the conclusion of this effort, it was not entirely certain what rights were obtained by the Air Force or the contractor in the data search base. In view of the commercial value of the Project LITE effort and the Air Force's desire to lease the data search base to the public, special provisions had to be negotiated subsequent to the original contract.

From the lesson of Project LITE,[70] it is plain that the rights of the

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69. *House Comm. on Gov't Operations, Air Force Project LITE (Legal Information Through Electronics)*, H.R. REP. No. 1133, 90th Cong., 2d Sess. (1968). This project is an automatic data processing system for the storage and retrieval of legal information. The procurements called for development of a data base of the full text of various existing bodies of law, including, but not limited to, the United States Code (1964 ed.), all published decisions of the Comptroller General of the United States, manuscript (unpublished) Decisions of the Comptroller General from 1954, and the Armed Services Procurement Regulation, as well as the computer programs to function therewith. The end result achieved was a data base and programs capable of being used by electronic computers for searching a full text of a particular body of law, in accordance with selected words and phrases, to provide a readout of every decision within the data base that contained the selected words and phrases. For use of Project LITE by persons or organizations outside of the federal government, leasing arrangements will be made. See 1 LITE Newsletter, No. 6 (June 1968) (AFRP 110-3).

70. A specific lesson from this procurement is noted in this Report:

The lesson is plain that all contracting officers concerned with development of ADP systems should be alerted to the need to provide clearly for the ownership and rights in system concepts, software, and data base, as well as such matters as patents and proprietary data pertaining to the equipment.

Further, the Report recommends that:

6. The committee recommends that the LITE contract problems should be brought to the attention of contracting officers, particularly those which handle ADP contracts, in order to emphasize the importance of clearly defining the rights of the parties in computer programs and software. H.R. REP. No. 1133, *supra* note 69.

respective parties in a computer program should be specified in the contract. In ascertaining the rights to be acquired in the computer program, it is desirable to determine to what extent the program has been previously developed; what modification will be made under the contract; the cost to the Government; and the use and probable dissemination of the program by the Government. If the program has been previously developed by the contractor, the price to the Government generally should be governed by its intended use and dissemination. Conversely, if the program is to be developed for the first time under the contract, the Government should have broad rights with respect to its use and dissemination.

It also appears desirable for a standard acquisition clause to be composed for inclusion in every contract calling for the development and/ or delivery of a computer program. This clause should specifically recite the media, *e.g.*, tape, card deck, etc., for containing the program, as well as the documentation, including user's and operator's manual, flow charts, abstracts, test problem or problems, results, definitions, etc.

Another example where the rights to a computer program was a major consideration in a contract negotiation was the government sponsored development of a program capable of flowcharting other programs. The company, an originator of automatic flowcharting programming techniques, informed the Government that it had invested considerable private capital in developing both general programming concepts and a specific existing program, and that the program desired by the Government would essentially use the company developed concepts. The cost of the contract effort was estimated to be modest compared to the company's investment. For this reason, the company indicated it would furnish the desired program at a reasonable price if the use thereof would be restricted to only governmental purposes. On the other hand, if the Government wanted to have unlimited rights to the program, the price would be considerably more for the Government would then be purchasing the entire company effort. Giving due consideration to use, cost, etc., the Government determined that its best interests would be served by a deviation from its normal procurement policy, and that the program should be acquired only for governmental use. The resultant contract, in addition to containing the appropriate "Rights in Data" clause, permitted the contractor to submit its data bearing the following legend: "The data contained herein shall be used

by or on behalf of the U.S. Government for Government purposes only." This legend would control the disposition of the submitted data (computer program) notwithstanding the "Rights in Data" clause of the contract. Further, to protect the company, the Government agreed to mark this legend on any reproduction of the data, but assumed no obligation to enforce the restriction with respect to third parties working on behalf of the Government.

In another contract negotiation, it was the Government's intention that the contractor modify a company financed program to accommodate three additional programming functions. This was decided as an alternate approach to that of developing an individual program for each function since the latter approach would exceed four times the cost involved in modifying the currently available program. With the modified program, however, consideration had to be given to the contractor's legal rights in the program and to the restrictions that would be imposed on its use. The contractor had a pre-existing market for its program, including a government leasing agreement. Therefore a problem arose with regard to the rights that the Government could expect in the modified program. Although a simple solution would have been for the contractor to carry out the modifications at its own expense and offer the modified program for lease under a GSA Schedule Contract, the contractor could not justify such an independent effort.

The question of concern, both to the Government and to the contractor, was directed toward what rights the Government would derive in the modified program. It was the contractor's position, because its financial contribution far exceeded that of the Government, that the modified program would be furnished for the exclusive use of one installation of a government agency; it would not be available to other installations of that agency nor to other government agencies (except through the established leasing arrangement). Accordingly, the contractor did not find it acceptable to utilize the normal R&D "Rights in Data" clause in the contract, nor was it satisfied with the prospect of obtaining a deviation to the clause which would restrict the use of the modified program only to the Government.

The Government recommended that it be provided with rights to use the modified program only for governmental purposes, with the added restriction that the modified program would be used exclusively for the purpose of carrying out the three newly added functions, and not for performing the original functions. Also, if the Government

used the modified program to perform any of the original functions, it would make the necessary payments to the contractor in accordance with the schedule in the GSA Leasing Agreement. It was emphasized that the modified program would be more marketable than the original, and that any government agency in possession of it, no doubt, would desire to utilize its full capabilities.

This was unacceptable to the contractor, and, as an alternative, it suggested that it would furnish a separate program containing only the modifications to the current one, and that this program would form a separate package to which the Government would have complete title. This program package was of limited utility for it was incapable of use to perform any of the three functions that were the basis of the contract. Finally, the parties agreed to the following solution. The company was to develop a preprocessor program which would co-operate with the existing program to perform the three new functions. Although there were some slight disadvantages using the preprocessor program in cooperation with the existing program, the handicap was insufficient to prevent the acceptance of the new approach. The pro-posed solution would protect the company's large capital investment by not destroying the effectiveness of its leasing agreement. Also, the Government would receive a useful preprocessor program bearing no restrictions with respect to use, duplication, and dissemination.

With this agreement being found acceptable, the data problem no longer existed. Then the standard R&D "Rights in Data" contract clause was appropriate for the contract with no deviation being re-quired. Further, the Government was provided with a usable pre-processor program that could be both used by and disseminated to government activities and the general public, while the contractor was able to maintain its rights in its existing program.

CONCLUSION

It should now be apparent that the current limitations in the patent and copyright laws and the difficulties encountered under the trade secret concept have resulted in the use of contractual provisions as the most attractive alternative to contractors for the protection of their proprietary computer programs. In addition to contractor protection, this latter approach is a satisfactory vehicle for the Government to procure computer programs for its use and to carry out its desired dissemination policy.

In drafting such contracts, the contributions and rights of the respective parties can be considered as well as contract price. Hopefully more appropriate boilerplate provisions (data and patent) will evolve that will better define the rights of the parties. In unusual circumstances, specific rights restrictions can be incorporated into the schedule of the contract. Also, an acquisition provision should be included in the schedule to define adequately the documentation that is to be delivered to provide an operationally complete computer program.

Where it is desired to disseminate computer programs to the general public, as well as to government activities, the existing "Rights in Data" clause can be modified so that the contractor is precluded from obtaining copyright protection. The NASA "Rights in Data" clause (R&D) of the NASA Procurement Regulations, part 9.203-1, as an example, could accomplish this if section (b) is changed by adding to the end thereof the following:

> provided, however, the contractor agrees not to assert any rights and not to establish any claim to copyrights in any computer program or documentation thereof first produced under this contract.

Rather than modifying the "Rights in Data" clause (R&D) there is the alternative choice of using a slightly amended version of the "Rights in Data" clause (Production of Motion Pictures). However, a better approach would be to use this latter clause only in procurements where the computer program is the end item of the contract, and the former, modified as suggested, when the development of the computer program is subsidiary to the contract end item.

If in the performance of a contract an existing company-developed computer program is to be modified, it would be appropriate to have a standard restrictive provision limiting the developed program only for governmental use. Should further restrictions be desired by the contractor, such as limiting use of the developed program to a particular computer facility, special negotiations must be conducted.

The foregoing comments illustrate, that for the present, most contracts involving procurement of computer programs are quite unique and should not be processed in a routine manner.