to avoid potentially inequitable situations.

The comments supporting protection of private development centered around two primary concerns. First, was the concern that a determination by the Government that data was needed for competition could be used as a basis for overriding a contractor's property rights in data pertaining to privately developed items. Similarly, there was concern that the Government's right to negotiate implied that a contractor could be required to negotiate away its rights. Secondly, a number of the comments were related to the relationship of sub-tier subcontractors in dealing with prime and higher tier subs and the Government.

In response to these concerns, the final rule clarified that the Governmnent's needs do not override a contractor's rights and that a contractor cannot be required to negotiate away its rights. Further, the final rule clarified that all rights available to prime contractors is also available to subcontractors and that the responsibility for justifying restrictive markings resides with the contractor asserting the the restriction.

The primary concern expressed by those supporting release of data for competition was that data subject to Government Purpose License Rights (GPLR) would not be available in a timely manner. To overcome this concern, they recommended that GPLR data be made available in advance of a solicitation and through data brokers. Also, they were concerned that large contractors would include unreasonable terms in nondisclosure agreements thereby making the data unavailable or unuseable to potential competitors. For this reason, they recommended that a standard nondisclosure agreement be provided by the Government.

The Council agreed that to be effective in enhancing competition, GPLR data should be made available in advance of a given solicitation and should be available through data brokers. The rule permits the release of GPLR data in advance of Solicitation and through data brokers. Also, the Council agreed that a a nondisclosure agreement should be provided by the Government to protect the interests of all parties. A case has been established to allow public comment regarding such an agreement to be included in the Regulation and in the standard data rights clause.

The commenters predominately representing prime contractors supported protecting the rights of developers. Although it has been observed that their concern is perhaps not so grave, since their competitive advantage normally derives from factors such as their ability to accomplish a complex development project, financed predominantly with Government funding, rather than through retaining proprietary rights in items developed at private expense.

The universities were interested in assuring that the rights accorded commercial entities are also available to universities and other non-profit organizations. As a result of this concern, the final rule includes reference to nonprofit organizations.

The concerns expressed by Government offices, which included two from members of Congress, paralleled those from industry. First, concern was expressed regarding the potential impact of GPLR on the ability of the Government to ensure ensure timely access of the data to potential offerors and the resulting need for effective policy and procedures dealing with nondisclosure agreements. Also, addressed was the need for greater flexiblity in applying the 50 percent rule and the need for guidlines on commercializtion requirements. A case has been estblished to address the commercialization issue.

Several other issues were identified in the comments, which were addressed in the final rule. First, the definition of "Developed" was revised to correct the inconsistency in verb tenses. To be "developed", the item must exist and be workable, but actual operation of the item may take place in the future. The definition of "Private Expense" was revised to delete "or sponsored by", which was confusing and unnecessary. However, many commenters requested that all indirect costs be included as private expense. This was not done, since to do so would lead to numerous disagreements over the allocation, reporting and classification of costs as either direct or indirect. This would be counterproductive, since one of the primary objectives of the new policy is to identify Government needs and contractor rights as early in the development process as possible and to satis- the Government needs through mutually acceptable methods.

In Validation, procedures leading to the Contracting Officer Final Decision and conditions under which the Agency override in unusual and compelling circumstances were clarified and the pro- vision that a contractor's failure to respond to a challenge would be agreement for the Government to strike or ignore the restrictive legends was eliminated. The clear and convincing evidence standard was not reinstated, although several commenters in industry and Government strongly recommended it. In deciding not to specify a definite standard, the Council recognized that the level of evidence needed to justify a restrictive marking would vary depending on the circumstances and that to specify a high standard of proof to be required in all circumstances would be inappropriate. In the past, when the Government's right to review a contractor's records was uncertain and had to be estab- lished by the contract, a requirement for a high standard was needed. However, since the Government's right to access to such records is now established in the statute, this requirement is no longer needed and should not be so imposed.

In summary, the final rule is responsive to the major issues raised in the public comments. The focus of our efforts will now shift to ensuring effective implementation of the new policy. Many of the key impacts lie outside of the area directly controlled by the Contracting Officer. This is of particular concern in the identification of needs process, where there are strong forces driving for competition of identical items as opposed to competition based interchangeable items using form, fit or function data. The full impacts of the new policy will continue to be felt for many months to come.

Also, an effort is underway to develop new DFARS coverage for software to be published in the Federal Register as a proposed rule later this Summer. Finally, we will begin meeting with representatives of the civilian agencies to establish common FAR coverage during the coming year.

BACKGROUND PAPER

ON

MAJOR REVISIONS TO RIGHTS TECHNICAL DATA

SUBJECT

Major revisions to DFARS Tech Data coverage were published in the Federal
Register on 16 APR 87 to implement P.L. 99-500. These changes will impact
the acquisition strategies of many Air Force Programs. A summary of the
most significant changes is provided below.

DISCUSSION

- The Government may no longer require contractors to relinquish their
  rights in tech data as a condition for award of a contract, however
  Government may evaluate impact of limited rights on life cycle cost.

- Clearly states that the Government will only obtain rights to satisfy its
  minimum needs in the least obtrusive manner on the contractor's rights.
  Much greater flexibility is provided to the Contracting Officer to obtain
  only the minimum rights.

- Emphasizes early identification of Government's minimum needs and of
  contractor's proprietary rights so that appropriate program alternatives
  may be considered.

- In identifying its minimum data rights needs, the Government must first
  decide if item or repair/overhaul of the item will be procured competi-
  tively and if so, if it will be a commercial item or procured by Form, Fit
  or Function Data (i.e. by Performance Specs) or by Detailed Manufacturing
  or Process Data.

- Although "Predetermination of Rights" is deleted, the PCO may now enter
  into advance agreements concerning rights. Further, when a contractor
  justifies its assertion that data should be subject to limited rights,
  the PCO may purchase additional rights; negotiate a licensing agree-
  ment (such as direct licensing or expiration of limited rights); or adopt
  a suitable alternative (i.e. modify the spec so as not to require use of
  the privately developed item. However, use of a privately developed item
  may not prohibited).

- Other significant changes include:

  -- A definition of "Developed at Private Expense" Expense" that is less
     stringent on the contractor than the "reduced to practice" standard
     previously used;

  -- A new category of rights, "Government Purpose License Rights"

which specifically includes competitive reprocurement. These rights will normally be used when the item is developed in part at Government expense and in part at Private Expense.

-- Changes to Validation procedures to:

--- Delete the requirement for "Clear & Convincing Evidence". However, but the contractor still may be required to provide "Sufficient Evidence to Justify" the restrictive rights;

--- Require the Government to conduct a thorough review of all restrictive rights legends; and

--- Limit the Government's right to challenge a restrictive marking to three years after delivery of the data or final payment under the contract, whichever is later.

RECOMMENDATION

None - for information only.

Rick Summerour/AQCS/76400/24 APR 87

Major Issues in Comments on DoD Regulations

1. Definition of "developed".

2. Definition of "private expense".

3. Non-disclosure agreements.

4. Mixed funding- 50% cost share.

5. Waiver of rights.

6. Government purpose rights.

7. Validation- standard of proof.

8. Direct licensing.

9. Data rights in source selection.

10. Time limits in legend.

11. Prenotification.

12. Limited rights.

13. Unlimited rights.

14. SBIR

15. Subcontractor flowdown
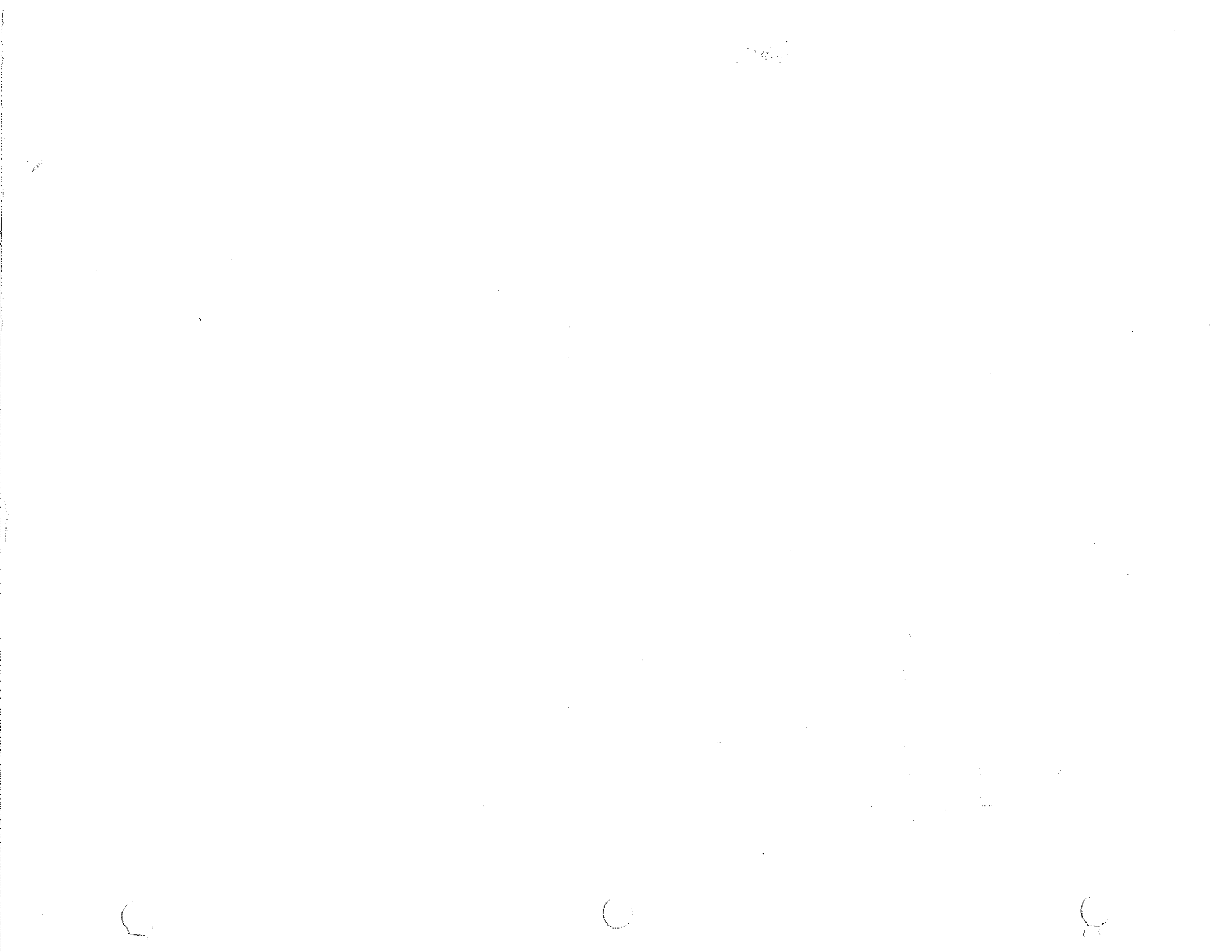
DoD. While definitive information is unavailable as to the number of small business manufacturers of machine tools, it is believed there are few, if any. With regard to contractors who purchase machine tools for use in a Government-owned facility or property under control of the DoD, the rule would impact only those small business contractors who rely on foreign suppliers. Again, definitive information is unavailable; however, it is believed this number is minimal. For the above reasons, an initial regulatory flexibility analysis has not been prepared. Comments from small businesses and other interested parties are invited. Comments concerning the affected FAR Subpart will also be considered in accordance with Section 610 of the Regulatory Flexibility Act. Such comments must be submitted separately and cite FAR Case 87–610 in correspondence.

C. Paperwork Reduction Act Information

The rule does not contain information collection requirements which require the approval of OMB under 44 U.S.C. 3501 et seq.

D. Determination to Issue an Interim Rule

A determination has been made under the authority of the Secretary of Defense to issue this coverage as an interim regulation. This action is necessary in order to implement Section 9118 of the Department of Defense Acquisition Improvement Act of 1987 (Pub. L. 99–500).

List of Subjects in 48 CFR Parts 225, 245, and 252

Government procurement.

Charles W. Lloyd,

Executive Secretary, Defense Acquisition, Regulatory Council.

Adoption of Amendments

Therefore, the DoD FAR Supplement contained in 48 CFR Parts 225, 245, and 252 is amended as set forth below:

1. The authority for 48 CFR Parts 225, 245, and 252 continues to read as follows:

Authority: 5 U.S.C. 301, 10 U.S.C. 2202, DoD Directive 5000.35, and DoD FAR Supplement 201.301.

PART 225—FOREIGN ACQUISITION

225.7000 [Amended]

2. Section 225.7000 is amended by removing in the penultimate sentence after the parenthetical phrase "(see 225.7005)," the word "and", and adding at the end of the same sentence the words "and the restriction on acquisition of machine tools for Government-owned facilities not manufactured in the United States or Canada (see 225.7008)."

3. Section 225.7001 is amended by adding between the definition "Hand or Measuring Tools" and the definition "Possessions" the definition "Machine tools" to read as follows:

225.7001 Definitions.

* * * * *

"Machine tools" means those tools listed in Federal Supply Classes of metalworking machinery in categories numbered 3408, 3410–3419, 3426, 3433, 3441–3443, 3446, 3448, 3449, 3460, and 3461.

* * * * *

4. Section 225.7008 is added to read as follows:

225.7008 Restriction on Acquisition of Machine Tools.

(a) Pub. L. 99–591 provides that no FY 87 funds appropriated for the Department of Defense may be used to procure the classes of machine tools set forth in 225.7001 for use in any Government-owned facility or property under control of the Department of Defense which machine tools were not manufactured in the United States or Canada.

(b) When adequate domestic supplies of the classifications of machine tools set forth in 225.7001 are not available to meet the needs of the Department of Defense on a timely basis, the procurement restrictions may be waived by the Head of the Component responsible for the procurement on a case-by-case basis. Requests for waivers will contain a full explanation of the facts supporting the waiver and will be submitted in accordance with Departmental procedures.

(c) A machine tool shall be considered to have been manufactured in the United States or Canada if the cost of its components manufactured in the United States or Canada exceeds 50 percent of the cost of all its components. The cost of components shall include transportation costs to the place of incorporation into the end product and duty (whether or not a duty-free entry certificate may be issued).

(d) This restriction does not apply to contracts executed on or before 18 October 1986.

(e) For purchases made by contractors on behalf of DoD, see 245.106(S–70).

PART 245—GOVERNMENT PROPERTY

4. Subpart 245.1, consisting of section 245.106, is added to read as follows:

Subpart 245.1—General

§ 245.106 Government Property Clauses.

(S–70) The clause at 252.245–7000, Acquisition of Foreign Machine Tools, shall be included in all solicitations and contracts that obligate FY 87 funds and that contain FAR clause 52.245–2, Government Property (Fixed-Price Contracts), or FAR clause 52.245–5, Government Property (Cost-Reimbursement, Time-and-Material, or Labor-Hour Contracts). (See also 225.7008.)

PART 252—SOLICITATION PROVISIONS AND CONTRACT CLAUSES

5. Section 252.245–7000 is added to read as follows:

252.245–7000 Acquisition of foreign machine tools.

As prescribed in 245.106(S–70), insert the following clause:

Acquisition of Foreign Machine Tools (Apr 1987)

(a) Machine tools listed in paragraph (b) of this clause acquired by the Contractor, title to which will vest with the Government, shall be manufactured in the United States or Canada.

(b) The requirement for acquisition of machine tools manufactured in the United States or Canada applies to those listed in Federal Supply Classes of metalworking machinery numbered 3408, 3410–3419, 3426, 3433, 3441–3443, 3446, 3448, 3449, 3460 and 3461.

(c) A machine tool shall be considered to have been manufactured in the United States or Canada if the cost of its components manufactured in the United States or Canada exceeds fifty percent (50%) of the cost of all its components. The cost of components shall include transportation costs to the place of incorporation into the end product and duty (whether or not a duty-free entry certificate may be issued).

(d) Acquisition of machine tools as described in paragraph (b) above, manufactured in a country other than the United States or Canada, if required to meet the delivery schedule or other requirements of this contract, shall be approved in advance by the Government.

(End of clause)

[FR Doc. 87–8561 Filed 4–15–87; 8:45 am]

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48 CFR Parts 227 and 252

Department of Defense Federal Acquisition Regulation Supplement; Patents, Data, and Copyrights

AGENCY: Department of Defense (DOD).

ACTION: Final rule.

SUMMARY: The DAR Council has approved the attached revision to Subpart 227.4 and Part 252 of the Defense Federal Acquisition Regulation Supplement to implement section 953 of the Defense Acquisition Improvement Act of 1986 (Pub. L. 99–500).

EFFECTIVE DATE: May 18, 1987. (This is effective as a final regulation for all solicitations and resultant contracts, issued on or after May 18, 1987).

SUPPLEMENTARY INFORMATION:

A. Background

Section 953, Pub. L. 99–500 necessitated that the Department of Defense substantially revise DFARS Subpart 227.4. A proposed rule was published in the Federal Register on January 16, 1987 (52 FR 2082). The present action implements the statutory requirement to publish a proposed final regulation 30 days prior to the effective date of this coverage.

Public comments received in response to the notice of the proposed rule were reviewed and evaluated, and as a result of those comments certain changes were made to the proposed rule. In general, the coverage has been revised to more clearly reflect DoD policy that the Government will only acquire data rights essential to meet its minimum needs. Specifically, changes were made in the following areas:

• The definitions of "developed" and of "private expense" were further clarified,

• Guidance was added to allow contracting officers flexibility to take only Government Purpose License Rights (GPLR) when the funding contribution of large business contractors did not exceed 50 percent,

• The procedures for validation of technical data have been clarified,

• Other less significant changes were also made for purposes of clarification.

Several commentors recommended that the coverage be further revised to address non-disclosure agreements and commercialization in greater depth. The DAR Council generally agreed with those observations, however, because such additional coverage has not been subjected to the public comment process, the DAR Council decided to establish two new cases to fully examine the issues raised. The two cases established for this purpose are entitled, "Non-Disclosure Agreements", DAR Case 87–37, and "Commercialization of Data", DAR Case 87–38. Proposed coverage will be published in forthcoming Notices of Proposed Rulemaking.

B. Regulatory Flexibility Act

A final Regulatory Flexibility Analysis has been prepared and is available upon request by contacting Mr. Owen Green, OASD(A&L)DASD(P)/DARS, DAR Council, c/o Room 3C841, The Pentagon, Washington, DC 20301.

C. Paperwork Reduction Act

The Paperwork Reduction Act (Pub. L. 96–511) does not apply because the proposed changes do not impose any additional reporting or recordkeeping requirements or collection of information from offerors, contractors, or members of the public which require the approval of OMB under 44 U.S.C. 3501, et seq.

List of Subjects in 48 CFR Parts 227 and 252

Government procurement.

Charles W. Lloyd,

Executive Secretary, Defense Acquisition Regulatory Council.

Therefore, 48 CFR Parts 227 and 252 are amended as follows:

1. The authority citation for 48 CFR Parts 227 and 252 continues to read as follows:

Authority: 5 U.S.C. 301, 10 U.S.C. 2202, DoD Directive 5000.35 and DoD FAR Supplement 201.301.

PART 227—PATENTS, DATA, AND COPYRIGHTS

2. Subpart 227.4 is revised to read as follows.

Subpart 227.4—Technical Data, Other Data, Computer Software, and Copyrights

Sec.
227.470   Scope.
227.471   Definitions.
227.472   Acquisition policy for technical data and rights in technical data.
227.472-1   Deferred ordering and deferred delivery.
227.472-2   Establishing minimum requirements.
227.472-3   Early identification.
227.472-4   Statutory prohibitions.
227.472-5   Standard rights in technical data.
227.472-6   Obtaining greater rights in technical data.
227.472-7   Waiving unlimited rights in technical data.
227.472-8   Subcontracts.
227.473   General procedures.
227.473-1   Early identification of Government rights.
227.473-2   Obtaining greater rights in technical data.
227.473-3   Certifications.
227.473-4   Marking and identification requirements.
227.473-5   Validation of restrictive markings on technical data.
227.473-6   Remedies for noncomplying technical data.

Sec.
227.473-7   Non-disclosure agreements.
227.474   Additional methods of obtaining greater rights.
227.474-1   Direct licenses.
227.474-2   Expiration of restrictive rights legends.
227.475   Other procedures.
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227.475-2   Deferred ordering and deferred delivery.
227.475-3   Technical data—withholding of payment.
227.475-4   Warranties of technical data.
227.475-5   Delivery of technical data to foreign governments.
227.475-6   Contracts with foreign sources to be performed outside the United States.
227.475-7   Technical data reflecting engineering changes.
227.475-8   Publication for sale.
227.476   Contracts for acquisition of special works.
227.477   Contracts for acquisition of existing works.
227.478   Architect-engineer and construction contracts.
227.478-1   General.
227.478-2   Acquisition and use of plans, specifications, and drawings.
227.478-3   Contracts for construction supplies and research and development work.
227.478-4   Mixed contracts.
227.478-5   Approval of restricted designs.
227.479   Contracts awarded under Small Business Innovation Research Program (SBIR Program).
227.480   Copyrights.
227.481   Acquisition of rights in computer software.
227.481-1   Policy.
227.481-2   Procedures.
227.482   Solicitation provisions and contract clauses.

Subpart 227.4—Technical Data, Other Data, Computer Software, and Copyrights

227.470   Scope.

(a) Sections 227.470 through 227.482 set forth the Department of Defense policies, procedures, and implementing instructions relating to requirements for the acquisition of technical data and computer software as well as rights in technical data, other data, computer software, and copyrights. These sections ensure that the DoD shall obtain only such minimum technical data and data rights as are essential to meet Government needs (see 227.472–2).

(b) Specific information concerning requirements for the acquisition of computer software is found in DoD Directive 5000.19–L, Volume II, "Acquisition Management Systems and Data Requirements Control List".

(c) These sections do not encompass rights in computer software acquired under GSA authorized ADP Schedule Pricelist contracts. Such rights are

governed by the terms of the GSA contracts.

227.471 Definitions.

"Commercial computer software", as used in this subpart, means computer software which is used regularly for other than Government purposes and is sold, licensed, or leased in significant quantities to the general public at established market or catalog prices.

"Computer", as used in this subpart, means a data processing device capable of accepting data, performing prescribed operations on the data, and supplying the results of these operations; for example, a device that operates on discrete data by performing arithmetic and logic processes on the data, or a device that operates on analog data by performing physical processes on the data.

"Computer data base", as used in this subpart, means a collection of data in a form capable of being processed and operated on by a computer.

"Computer program", as used in this subpart, means a series of instructions or statements in a form acceptable to a computer, designed to cause the computer to execute an operation or operations. Computer programs include operating systems, assemblers, compilers, interpreters, data management systems, utility programs, sort-merge programs, and ADPE maintenance/diagnostic programs, as well as applications programs such as payroll, inventory control, and engineering analysis programs. Computer programs may be either machine-dependent or machine-independent, and may be general-purpose in nature or be designed to satisfy the requirements of a particular user.

"Computer software", as used in this subpart, means computer programs and computer data bases.

"Computer software documentation", as used in this subpart, means technical data, including computer listings and printouts, in human-readable form which (a) documents the design or details of computer software, (b) explains the capabilities of the software, or (c) provides operating instructions for using the software to obtain desired results from a computer.

"Data", as used in this subpart, means recorded information, regardless of form or method of the recording.

"Detailed manufacturing or process data", as used in this subpart, means technical data necessary to enable manufacture of end-items, components and modifications, or to enable the performance of processes.

"Developed", as used in this subpart, means that the item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed", the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component or process be actually reduced to practice within the meaning of Title 35 of the United States Code.

"Form, fit, or function data", as used in this subpart, means technical data pertaining to items, components, or processes for the purpose of identifying sources, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements (e.g., specification control drawings, catalog sheets, envelope drawings, qualification requirements, etc.).

"Government purposes license rights", as used in this subpart, means rights to use, duplicate, or disclose technical data (or in the SBIR Program only computer software), in whole or in part and in any manner, for Government purposes only, and to have or permit others to do so for Government purposes only. Government license rights include purposes of competitive procurement but do not grant to the Government the right to have or permit others to use technical data (or the SBIR Program only computer software) for commercial purposes.

"Limited rights", as used in this subpart, means rights to use, duplicate, or disclose technical data, in whole or in part, by or for the Government, with the express limitation that such technical data shall not, without the written permission of the party asserting limited rights, be: released or disclosed in whole or in part outside the Government; used in whole or in part by the Government for manufacture, or in the case of computer software documentation, for preparing the same or similar computer software; or used by a party other than the Government, except when:

(a) Release, disclosure, or use is necessary for emergency repair or overhaul: provided that such release, disclosure, or use thereof outside the Government shall be made subject to a prohibition against further use, release, or disclosure, and that the party asserting limited rights be notified by the contracting officer of such release, disclosure, or use; or

(b) Release or disclosure of to a foreign government, that is in the interest of the United States and is required for evaluational or informational purpose under the conditions of (a) above. except that such release or disclosure may not include detailed manufacturing or process data.

"Private expense", as used in this subpart, means that the cost of development has not been paid in whole or in part by the Government and that such development was not required as an element of performance under a Government contract or subcontract; provided, however, independent research and development and bid and proposal costs are deemed to be at private expense.

"Restricted rights", as used in this subpart, means rights that apply only to computer software, and include, as a minimum, the right to—

(a) Use computer software with the computer for which or with which it was acquired, including use at any Government installation to which the computer may be transferred by the Government;

(b) Use computer software with a backup computer if the computer for which or with which it was acquired is inoperative;

(c) Copy computer programs for safekeeping (archives) or backup purposes; and

(d) Modify computer software, or combine it with other software, subject to the provision that those portions of the derivative software incorporating restricted rights software are subject to the same restricted rights.

In addition, restricted rights include any other specific rights not inconsistent with the minimum rights in (a)–(d) above that are listed or described in a contract or described in a license or agreement made a part of a contract.

"Technical data", as used in this subpart, means recorded information, regardless of the form or method of the recording of a scientific or technical nature (including computer software documentation). Such term does not include computer software or data incidental to contract administration, such as financial and/or management information.

"Unlimited rights", as used in this subpart, means rights to use, duplicate, release, or disclose, technical data or computer software in whole or in part.

in any manner and for any purpose whatsoever, and to have or permit others to do so.

"Unpublished", as used in this subpart, means that technical data or computer software has not been released to the public nor been furnished to others without restriction on further use or disclosure. For the purpose of this definition, delivery of other than unlimited rights technical data or computer software to or for the Government under a contract does not, in itself, constitute release to the public.

227.472 Acquisition policy for technical data and rights in technical data.

227.472-1 General.

The acquisition of technical data and the rights to use such data requires a balancing of competitive interests.

(a) *The Government's interests.* The Government has extensive needs for many kinds of technical data and the rights to use such data. Its needs may well exceed those of private commercial customers. For defense purposes, millions of separate equipment and supply items, ranging from standard to unique types, must be acquired, operated, and maintained, often at points remote from the source of supply. Functions requiring varied kinds of technical data include training of personnel, overhaul and repair, cataloging, standardization, inspection and quality control, packaging, and logistics operations. Technical data resulting from research and development and production contracts must be obtained, organized and disseminated to many different users. Finally, the Government must make technical data widely available in the form of contract specifications in the interest of increasing competition, lowering costs, and providing for mobilization by developing and locating alternate sources of supply and manufacture.

(b) *The contractor's interest.* Commercial and non-profit organizations have property rights and a valid economic interest in technical data pertaining to items, components, or processes which they have developed. Such technical data is often closely held in the commercial sector because its disclosure to competitors could jeopardize the competitive advantage it was developed to provide. Public disclosure of such technical data can cause serious economic hardship to the originating company and would not be in the interest of the United States in encouraging innovation as well as encouraging contractors to develop at

private expense items, components, or processes for use by the Government.

(c) *The balancing of interests.* (1) There is no necessary correlation between the Government's need for technical data and a contractor's economic interest therein. However, in balancing the Government's requirements for technical data against a contractor's interest in protecting its technical data, there may be a considerable identity of interest. This is particularly true in the case of innovative contractors who can best be encouraged to develop at private expense items of military usefulness where their rights in such items are scrupulously protected.

(2) It is equally important that the Government foster successful contractual relationships and encourage a ready flow of data essential to Government needs by confining its acquisitions of technical data to cases of actual need. Certainly the Government must not be barred from bargaining and contracting to obtain the technical data that it needs, even though that technical data may not be disclosed in commercial practice. Moreover, when the Government pays for research and development work which produces new knowledge, products, or processes, it has an obligation to foster technological progress through wide dissemination of the new and useful information derived from such work and where practicable to provide competitive opportunities for supplying the new products and utilizing the new processses.

(3) At the same time, acquiring, maintaining, storing, retrieving, protecting and distributing technical data in the vast quantities generated by modern technology is costly and burdensome for the Government. For this reason alone, it is necessary to control closely the extent and nature of technical data acquisition. Such control is also necessary to ensure Government respect for its contractors' economic interest in technical data relating to their privately developed items.

227.472-2 Establishing minimum Government needs.

It is the policy of the Department of Defense to obtain only such minimum technical data and data rights as are essential to meet Government needs. Consideration shall be given to such factors as: whether or not the item, component, or process will be competitively acquired; whether repair and overhaul work will be contracted out or serviced in-house; whether the repair or replacement parts will be commercial items, or acquired by form, fit or function data, performance

specifications, or by detailed engineering drawings. Once the Government's technical data needs are properly established, the appropriate technical data rights to meet those needs can be identified. Whether the Government already has or will need to acquire the necessary rights in the technical data or will need to consider alternate procurement procedures, will depend on either the category of the data or whether the items, component, or process was developed exclusively with Government funds, exclusively at private expense, or in part with Government funds and in part at private expense (see 227.472-5). In deciding how to acquire such data and data rights, or how to otherwise achieve the Government's purposes, it is the policy of the Department of Defense to use procedures that are the least intrusive on the contractor's economic interests as is practicable. (See Subpart 217.72 for additional guidance.)

227.472-3 Early Identification.

In order to determine what minimum technical data and data rights to obtain in each acquisition, it is necessary for the Government to identify its various uses of and needs for technical data as early as is practicable in the acquisition of any item, component, or process. Such identification should be made before contract award or, for major weapons systems, prior to entering Full Scale Development. It is also important that contractors be required to provide early identification of any technical data that they intend to deliver with any restrictions on its use.

227.472-4 Statutory prohibitions.

In accordance with 10 U.S.C. 2320(a)(2)(F), a contractor or subcontractor (or a prospective contractor or subcontractor) may not be required, as a condition of being responsive to a solicitation or as a condition for the award of a contract, to sell or otherwise relinquish to the United States any rights in technical data beyond those to which the Government is entitled under 10 U.S.C. 2320(a)(2) (C) and (D). It is permissible, however, to consider in the evaluation of offers such factors as the impact on life cycle costs of limitations on the Government's ability to use or disclose the technical data. Further, nothing prohibits the Government from mutually agreeing with the contractor or a subcontractor to provide the Government with greater rights than it would normally be entitled to, for a fair and reasonable price. This price may be expressed in terms of a lump sum fee,

royalty fees, or other consideration depending upon the terms and conditions negotiated (e.g. a licensing agreement.)

9227.472-5   Standard rights in technical data.

The three categories of standard rights in Technical Data are Limited Rights, Government Purpose License Rights and Unlimited Rights. The standard rights to which the Government is entitled are determined as follows:

(a) If the Government has funded or will fund the entire development of the item, component, or process, then the Government is entitled to and will normally obtain unlimited rights in the technical data.

(b) If the Government has funded or will fund a part of the development of the item, component, or process, then the Government is entitled to unlimited rights in the technical data. However, the Government should not acquire more data rights than it needs. Therefore, unless the contracting officer determines, during the identification of needs process, that unlimited rights are required, the Government will obtain Government Purpose License Rights if the contractor has or will contribute more than 50 percent of the development cost of the item, component, or process, or if the contractor is a small business firm or nonprofit organization that agrees to commercialize the technology. (Note: The requirement to commercialize the technology, as delineated in this paragraph and in 227.472-7, exists because in agreeing to less than unlimited rights, the Government establishes a proprietary interest for the contractor and assumes an administrative burden to safeguard this interest. Further, by encouraging commercialization, the Government intends to promote wider application of such technologies.) The Government will normally obtain unlimited rights in all other cases. However, if the contractor is a large business whose share of development cost has not exceeded or will not exceed 50 percent, the contracting officer should give consideration to obtaining less than unlimited rights as provided in 227.472-7.

(c) If the item, component, or process is developed by a contractor or subcontractor exclusively at private expense, the Government is entitled to limited rights. Such data must be unpublished and identified as limited rights data. However, if the Government determines that it needs rights in technical data greater than limited rights, the contracting officer may negotiate, pursuant to 227.472-6, with a

contractor or subcontractor to acquire additional rights necessary to meet the Government's needs, provided that the additional rights are necessary to enhance competition by developing alternative sources of supply and manufacture. As an alternative, the contracting officer may consider alternate proposals from the contractor or subcontractor to enhance competition.

(d) Notwithstanding (a), (b), and (c) above, the Government is entitled to unlimited rights in the technical data in the following categories:

(1) Technical data prepared or required to be delivered under any Government contract or subcontract and constituting corrections or changes to Government-furnished data;

(2) Form, fit or function data pertaining to end-items, components, or processes, prepared or required to be delivered under any Government contract or subcontract;

(3) Manuals or instructional materials (other than detailed manufacturing or process data) prepared or required to be delivered under a Government contract or subcontract necessary for installation, operation, maintenance, or training purposes; and

(4) Technical data which is otherwise publicly available or has been released or disclosed by the contractor or subcontractor without restriction on further release or disclosure.

227.472-6   Policy for obtaining greater rights in technical data.

If the Government determines that it needs rights in technical data greater than limited rights, the contracting officer may negotiate with a contractor or subcontractor to acquire the additional rights necessary to meet the Government's needs, provided that the additional rights are necessary to develop alternative sources of supply and manufacture (see 227.473-2). As an alternative to acquiring additional rights, the contracting officer may consider other proposals from the contractor or subcontractor as to how to achieve the same objectives (e.g. see 227.474).

227.472-7   Waiving unlimited rights in technical data.

In those cases under 227.472-5 where the Government would normally obtain unlimited rights, the Government may agree to waive these unlimited rights, provided that, in accordance with 10 U.S.C. 2320(a)(2)(G)(ii), the United States receives, as a minimum, a royalty-free license to use, release, or disclose the data for purposes of the United States, including purposes of

competitive procurement (i.e., Government Purpose License Rights). In considering whether to waive unlimited rights, the contracting officer should consider substantial contributions by the contractor to the development of the item, component or process even though such contributions do not exceed 50 percent. Also, the contracting officer should consider, where appropriate, such factors as unique contractor qualifications or expertise contributing to the configuration management or development of the item, component or process. However, such lesser rights may only be obtained under this paragraph after a determination by the contracting officer that the Government does not need unlimited rights and if the contractor agrees to commercialize the technology.

227.472-8   Subcontracts.

It is the policy of the Department of Defense that prime contractors and higher-tier subcontractors shall not use their power to award subcontracts as economic leverage to acquire rights in the technical data of their subcontractors for themselves. Accordingly, a subcontractor, who would have the right pursuant to 227.472-5 to furnish technical data with limited rights, may furnish such limited rights data directly to the Government rather than through the prime contractor.

227.473   General procedures.

#### 227.473-1   Early identification of Government rights.

(a) *Prenotification of limitations on Government rights.* In order for the Government to make informed judgments concerning the competitive reprocurement potential of items, components, processed, or computer software developed at private expense that an offeror intends to deliver under a resultant contract, offerors shall identify to the maximum practicable extent in their responses to solicitations such privately developed items, components, processes, or computer software and the technical data which they:

(1) Intend to deliver with limited or restricted rights;

(2) Intend to deliver with Government Purpose License Rights; or

(3) Have not yet determined if such rights should apply.

If delivery of technical data under a resultant contract is expected, the provision at 252.227-7035, Prenotification of Rights in Technical Data, shall be included in the solicitation. If an offeror asserts other
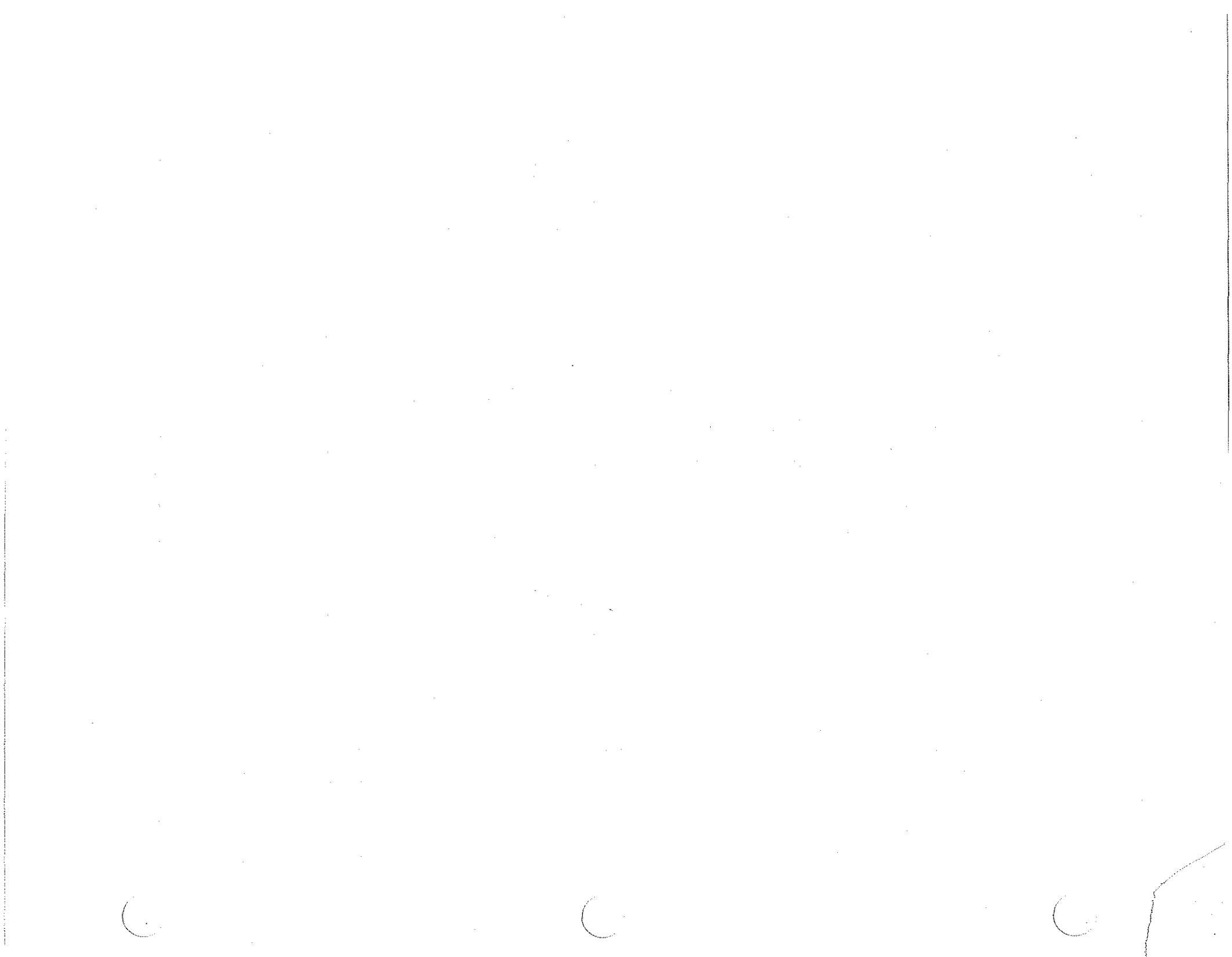
than unlimited rights to any technical data in its proposal responding to this requirement. Government failure to object to or reject any such assertion shall not be construed to constitute agreement to any such data rights assertion. Offerors will furnish, at the written request of the contracting officer, evidence supporting any such assertion. The contracting officer may enter into an agreement with the contractor that the Government is entitled to Government Purpose License Rights or limited rights (See paragraph b(1)(i) and b(2)(ii) of the clause at 252.227–7013). The contracting officer should not request supporting evidence unless the Government intends to enter into an agreement.

(b) *Notification of limitations on Government rights.* Because continuing information is needed under a contract about a contractor's intention to use in the performance of the contract any items. components, processes, or computer software for which technical data or computer software would be subject to other than unlimited rights, the contractor will be required to advise the contracting officer of this fact promptly prior to committing to the use of the privately developed item, component, or process. If possible, the schedule should indicate the specific areas to which limited or restricted rights are of concern, and the notice requirements should only address those areas.

(1) Under the clause at 252.227–7013, the contractor is not required to advise the contracting officer as to items, components, processes, or computer software for which notice was previously given in the same contract pursuant to the prenotification procedure, or with respect to standard commercial items that are manufactured by more than one source of supply. Also, the contractor need not obtain contracting officer approval to use any item, component, process, or computer software in the performance of the contract. If Government control on the contractor's use of privately developed items. components, processes, or computer software is desired. special provisions must be included in the contract.

(2) Subsequent to contractor notification, if the contracting officer agrees that certain technical data would be subject to other than unlimited rights, the contracting officer may then decide to negotiate for a licensing arrangement, the purchase of additional rights. or to adopt another suitable alternative. Such alternatives may include modifying the specifications so as not to require (but

see 227.472–4) use of the privately developed items. components, processes, or computer software.

227.473–2 Procedures for obtaining greater rights in technical data.

(a) In accordance with 227.472–6, the Government may obtain greater rights or options for such rights in any technical data pertaining to items, components, or processes developed exclusively at private expense for which the Government would otherwise only be entitled to limited rights. These greater rights may be obtained by negotiation of a lump sum fee, royalty, or other consideration, and where appropriate, should also include access to such technical assistance as may be necessary to qualify additional sources. These negotiations may be conducted either by the Government, or upon Government request by the prime contractor or higher-tier subcontractor. However, refusal to negotiate by a contractor or subcontractor shall not constitute the basis for disqualification for award of a contract or subcontract (See 227.472–4). Such greater rights shall be stated in the contract schedule as a separate item with a specific price and shall not be obtained under this paragraph unless it is determined after a finding upon a documented record that—

(1) There is a need or requirement for disclosure of such technical data outside the Government for purposes such as for reprocurement or evaluation of the item, component, or process to which the technical data pertains; and

(2) If the specific rights obtained are for reprocurement, then the anticipated net savings in competitive reprocurements from additional sources will likely exceed the acquisition cost of the technical data and rights therein.

(b) In contracts for major systems or major subsystems, it may be in the best interest of the Government to acquire repair parts of components directly from a subcontractor, rather than obtaining greater rights in technical data. In such cases, the clause at 252.227–7017, Rights in Technical Data—Major System and Subsystem Contracts, may be used. Also, the Government's right to purchase such items directly from subcontractors shall be without the payment of any fee or royalty by the Government or subcontractor for the use of the prime contractor's technical data.

227.473–3 Certifications.

(a) The provision at 252.227–7028, Requirement for Technical Data Certification, shall be included in a solicitation that may result in a negotiated contract when information is

needed to establish whether an offeror has delivered or is obligated to deliver to the Government under any contract or subcontract the same or substantially the same technical date included in the offer (see 215.406 and FAR 15.406–5(a)). This solicitation provision requires the offeror to submit with the offer a certification as to whether the same or substantially the same technical data that is included in the offer has been delivered or is obligated to be delivered to the Government under any contract or subcontract. If so, the offeror will be required to identify one such contract or subcontract under which such technical data was delivered or will be delivered, and the place of such delivery.

(b) If technical data is required to be delivered under a contract, the clause at 252.227–7036, Certification of Technical Data Conformity, shall be included in solicitations and any resultant contract. The clause requires the contractor to certify in writing that, to the best of its knowledge and belief, technical data delivered under the contract is complete, accurate, and complies with all requirements of the contract. The clause states that technical data deliverable under the contract may be reviewed by the Government both before and after Government acceptance. The clause also contains some illustrative examples of such reviews.

227.473–4 Marking and identification requirements.

(a) Technical data delivered to the Government pursuant to any contract requirement shall be marked in accordance with 252.227–7029 with the number of the prime contract, and the name of the contractor and any subcontractor who generated the technical data. Each piece of technical data submitted with other than unlimited rights shall also be marked with—

(1) The authorized restrictive legend; and

(2) An indication (for example, by circling underscoring. or a note) of that portion of the piece of technical data to which the legend is applicable. The Government shall include such identifying markings on all reproductions thereof.

(b) The contractor has the responsibility to assure that no restrictive markings are placed on technical data except in accordance with the "Rights in Technical Data and Computer Software" clause at 252.227–7013. Copyright notices as specified in Title 17 United States Code, Sections 401 and 402, are not considered "restrictive markings". When the clause

at 252.227–7013, "Rights in Technical Data and Computer Software", is required, the clause at 252.227–7018, "Restrictive Markings on Technical Data", shall also be included in the contract. The contractor's procedures required by this clause shall be reviewed by the Contract Administration Office. In addition to the rights afforded to the Government by the clause at 252.227–7018, "Restrictive Markings on Technical Data", the following actions are available to ensure proper marking of technical data:

(1) Failure to establish, maintain and follow such marking procedures may be deemed to render technical data nonconforming and subject to FAR Section 46.102 and to withholding of payments under the "Technical Data—Withholding of Payments" clause.

(2) When a pre-award survey is requested by the purchasing office, the review shall include as an item of special inquiry an examination of the prospective contractor's procedures for complying with the "Restrictive Markings on Technical Data" clause.

(3) The contractor's procedures for complying with the "Restrictive Markings on Technical Data" clause shall be reviewed when holding post-award conferences pursuant to FAR Part 42.

(c) *Unmarked or improperly marked technical data.* Pursuant to the Validation Procedures of 227.473–5 and the clause at 252.227–7037, "Validation of Restrictive markings on Technical Data", the Government has the right to require the contractor or subcontractor to furnish sufficient evidence to justify the propriety of any restrictive markings used by the contract or subcontract. Technical data received without a restrictive legend shall be deemed to have been furnished with unlimited rights. However, within six months after delivery of such data, the contractor may request permission to place restrictive markings on such data at its own expense and the Government may so permit if the contractor—

(1) Demonstrates that the omission of the restrictive marking was inadvertent;

(2) Justifies that the use of the markings is authorized; and

(3) Relieves the Government of any liability with respect to the use or disclosure of such technical data.

(d) If technical data is received with restrictive markings which the Government believes are not justified, the Government will nevertheless honor the restrictive legend until the issue is resolved in accordance with the Validation procedures.

(e) If technical data which the contractor is authorized by the contract

to furnish with restrictive markings is received with non-conforming markings, the technical data shall be used according to the proper restriction, and the contractor shall be required by written notice to correct any such markings to conform with those specified in the contract. If the contractor fails to correct the markings within 60 days after notice, Government personnel may correct the markings at the contractor's expense, notify the contractor in writing, and will thereafter use the technical data accordingly.

227.473–5 Validation of restrictive markings on technical data.

(a) *Policy and Procedures.*—(1) *General.* 10 U.S.C. 2321 sets forth rights and procedures pertaining to the validation of restrictive markings asserted by contractors and subcontractors on the use, duplication, or disclosure by the Government and others of technical data delivered under contracts or subcontracts for supplies or services. 10 U.S.C. 2320 provides authority for the Department of Defense to establish remedies when data delivered or made available under a contract is found to not satisfy the requirements of the contract (e.g., contains unjustified or non-conforming restrictive legends). The Government may review the validity of any restriction on technical data, delivered or to be delivered under a contract, asserted by the contractor or subcontractor. Such review should be accomplished, if possible, before acceptance of the technical data. During the period within three years of final payment on a contract or within three years of delivery of the technical data to the Government, whichever is later, the contracting officer may review and make a written determination to challenge the restriction. The Government may, however, challenge a restriction on the release, disclosure or use of technical data at any time if such technical data (i) is publicly available; (ii) has been furnished to the United States without restriction; or (iii) has been otherwise made available without restriction. Whenever the contracting officer finds it appropriate to question the validity of restrictive markings on data provided by contractors or subcontractors, the contracting officer shall follow the procedures set forth below. Only the contracting officer's final decision resolving a formal challenge by sustaining the validity of a restrictive marking constitutes "validation" as addressed in 10 U.S.C. 2321. A decision by the Government, or a determination by the contracting officer, to not challenge the restrictive

marking or asserted restriction shall not constitute "validation".

(2) *Prechallenge request for information.* (i) Prior to making a written determination to challenge, and to assure that the formal challenge process is not unduly or prematurely invoked, the contracting officer should request the contractor or subcontractor to furnish information explaining the basis for any restriction asserted by the contractor or subcontractor on the right of the United States or others to use technical data developed, delivered, or to be delivered, under a contract. In this regard, if the information provided is incomplete, the contracting officer may request the contractor or subcontractor to furnish additional information in the records of, or otherwise in the possession of or available to, the contractor or subcontractor to justify the validity of the restrictive marking (e.g., a statement of facts accompanied by supporting documentation). Such requests from the contracting officer should be in writing and should state a reasonable time for submission of the required data.

(ii) The contracting officer should also request information and advice from the cognizant Government activity having interest in, or control of, the data regarding the validity of the markings. If the contracting officer receives advice that the validity of restrictive markings on technical data is questionable, the contracting officer shall request that the individual or office raising the question provide written rationale for the assertion.

(iii) If the contracting officer, after reviewing the information provided pursuant to paragraphs (a)(2) (i) and (ii) above, or any other available information, determines that reasonable grounds exist to question the current validity of a restrictive marking, and that continued adherence to the marking would make impracticable subsequent competitive acquisition of the item, component, or process to which the technical data relates, the contracting officer shall proceed in accordance with paragraph (a)(3) of this section. If, when requesting information under paragraph (a)(2)(i) above, the contractor or subcontractor fails to respond to the contracting officer's written request within a reasonable period, the contracting officer shall proceed in accordance with paragraph (a)(3) of this section.

(3) *Challenge.* (i) If the contracting officer determines that a challenge to the restrictive marking is warranted, the contracting officer shall promptly send a written challenge notice to the
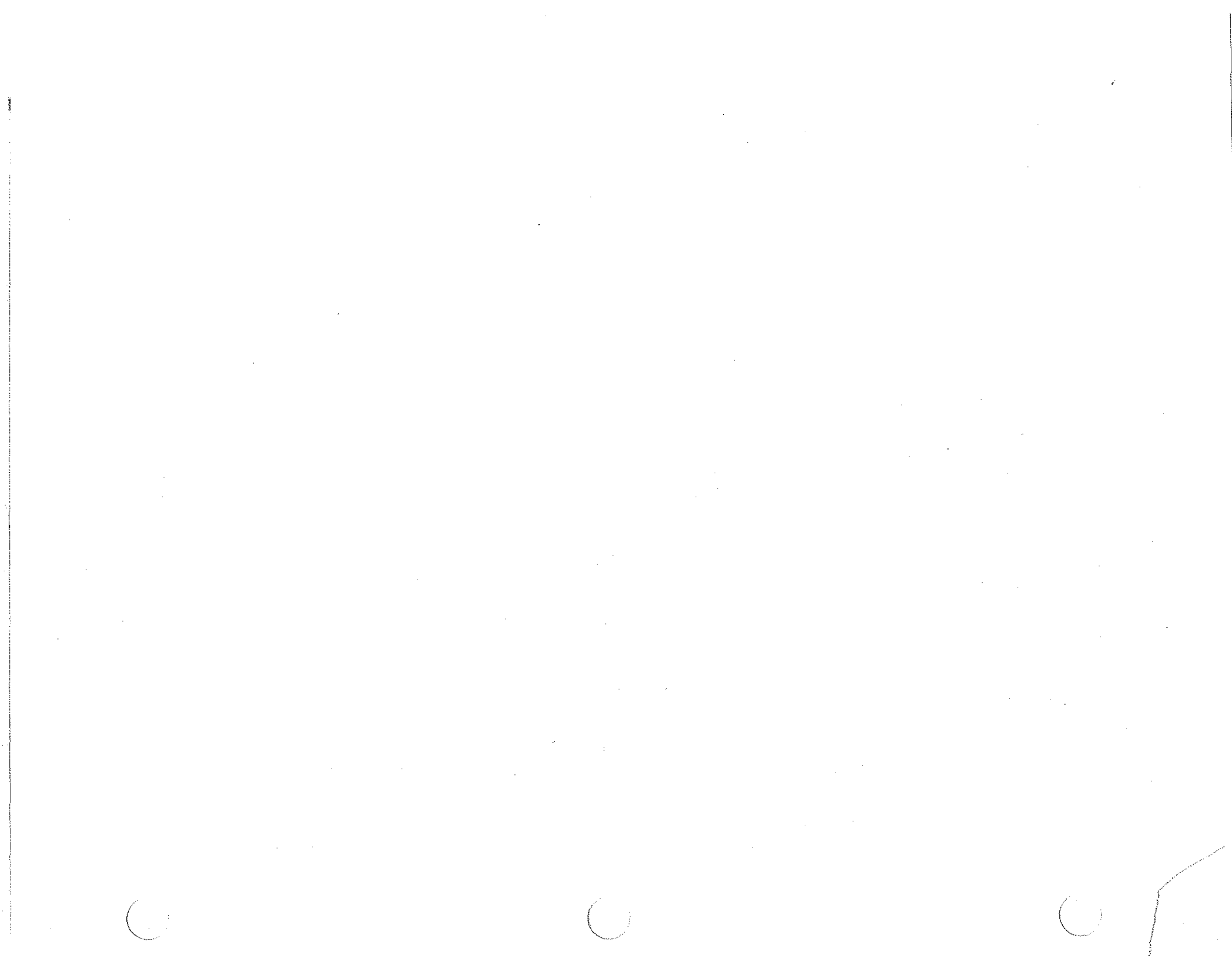
contractor or subcontractor. The contracting officer's determination to challenge shall be in writing and shall be made within the three-year period cited in paragraph (a)(1) above. The challenge to the restrictive legend shall be issued by the contracting officer in a written notice, to the contractor asserting the marking, that shall:

(A) State the specific grounds for challenging the asserted restrictions;

(B) Require a response within 60 days justifying and providing appropriate evidence as to the current validity of the asserted restriction;

(C) State that a DoD contracting officer's final decision, issued pursuant to paragraph (f) of the clause at 252.227–7037, sustaining the validity of a restrictive marking identical to the asserted restriction, within the three-year period preceding the challenge, shall serve as justification for the asserted restriction if the validated restriction was asserted by the same contractor or subcontractor (or any licensee of such contractor or subcontractor) to which such notice is being provided;

(D) State that a response will be considered a claim within the meaning of the Contract Disputes Act of 1978 and must be certified in the form prescribed in FAR 33.207, regardless of dollar amount; and

(E) State that failure to respond to the challenge notice may result in the issuance of a final determination pursuant to paragraph (e) of the clause at 252.227–7037.

(ii) The contracting officer shall extend the time for response as appropriate if the contractor or subcontractor submits a written request showing the need for additional time to prepare a response.

(iii) Any written response from the contractor or subcontractor shall be considered a claim within the meaning of the Contract Disputes Act of 1978 (41 U.S.C. 601 et seq.), and must be certified in the form prescribed by FAR 33.207, regardless of dollar amount.

(iv) If a contractor or subcontractor has received challenges to the same restrictive markings from more than one contracting officer, the contractor or subcontractor is to notify each contracting officer of the existence of more than one challenge. This notice shall also indicate which unanswered challenge was received first in time by the Contractor or subcontractor. The contracting officer who initiated the first in time unanswered challenge is the contracting officer who will take the lead in establishing a schedule for the resolution of the challenge to the restrictive markings. This contracting

officer shall coordinate with all the other contracting officers, formulate a schedule for responding to each of the challenge notices, and distribute such schedule to all interested parties (all appropriate contracting officers and contractors and subcontractors). The schedule shall provide to the contractor or subcontractor a reasonable opportunity to respond to each challenge notice. All parties will be bound by this schedule.

(4) *Final decision.*—(i) *Final decision when contractor or subcontractor responds.* If the contractor or subcontractor fails to respond to the challenge notice, the contracting officer will then issue a final decision, under the Disputes clause at FAR 52.233–1, that the restrictive markings are not valid and that the Government will either strike or ignore the invalid restrictive markings. This final decision shall be issued as soon as possible after the expiration of the time period of (a)(3)(i) or (ii) above. Following the issuance of the final decision, the contracting officer will comply with the procedures in paragraph (a)(4)(ii)(B) (2) through (5) below.

(ii) *Final decision when contractor or subcontractor responds.* (A) If, after reviewing the response from the contractor or subcontractor, the contracting officer determines that the contractor or subcontractor has justified the validity of the restrictive marking, the contracting officer shall issue a final decision to the contractor or subcontractor sustaining the validity of the restrictive marking, and stating that the Government will continue to be bound by the restrictive markings. This final decision shall be issued within 60 days after receipt of the contractor's or subcontractor's response to the challenge notice, or within such longer period that the contracting officer has notified the contractor or subcontract of the longer period that the Government will require. The notification of a longer period for issuance of a final decision will be made within 60 days after receipt of the response to the challenge notice.

(B)(1) If, after reviewing the response from the contractor or subcontractor, the contracting officer determines that the validity of the restrictive marking is not justified, the contracting officer shall issue a final decision to the contractor or subcontractor in accordance with the Disputes clause at FAR 52.233–1. Notwithstanding paragraph (e) of the Disputes clause, the final decision shall be issued within 60 days after receipt of the contractor's or subcontractor's response to the challenge notice, or within such longer period that the

contracting officer has notified the contractor or subcontractor of the longer period that the Government will require. The notification of a longer period for issuance of a final decision will be made within 60 days after receipt of the response to the challenge notice. Such a final decision shall advise the contractor or subcontractor of the rights of appeal under the Contract Disputes Act.

(2) The Government will continue to be bound by the restrictive marking for a period of 90 days from the issuance of the contracting officer's final decision under (a)(4)(ii)(B)(1) of this section. The contractor or subcontractor, if it intends to file suit in the United States Claims Court, must provide a notice of intent to file suit to the contracting officer within 90 days from the issuance of the contracting officer's final decision under (a)(4)(ii)(B)(1) of this section. If the contractor or subcontractor fails to appeal, file suit, or provide a notice of intent to file suit to the contracting officer within the 90-day period, the Government may cancel or ignore the restrictive markings, and the failure of the contractor or subcontractor to take the required action constitutes agreement with such Government action.

(3) The Government will continue to be bound by the restrictive marking where a notice of intent to file suit in the United States Claims Court is provided to the contracting officer within 90 days from the issuance of the final decision under (a)(4)(ii)(B)(1) of this section. The Government will no longer be bound and may strike or ignore the restrictive markings if the contractor or subcontractor fails to file its suit within one year after issuance of the final decision. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, that urgent or compelling circumstances significantly affecting the interest of the United States will not permit waiting for the filing of a suit in the United States Claims Court, the agency may, following notice to the contractor or subcontractor, authorize release or disclosure of the technical data. In appropriate circumstances, use of a non-disclosure agreement may be considered. Such agency determination may be made at any time after the issuance of the final decision and will not affect the contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(4) The Government will be bound by the restrictive marking where an appeal

or suit is filed pursuant to the Contract Disputes Act until final disposition by an agency Board of Contract Appeals or the United States Claims Court. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, that urgent or compelling circumstances significantly affecting the interest of the United States will not permit awaiting the decision by such Board of Contract Appeals or the United States Claims Court. the agency may, following notice to the contractor or subcontractor, authorize release or disclosure of the technical data. In appropriate circumstances, use of a non-disclosure agreement may be considered. Such agency determination may be made at any time after issuance of the final decision and will not affect the contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(5) *Appeal or suit.* (i) If the contractor or subcontractor appeals or files suit and if upon final disposition the contracting officer's decision is sustained, the restrictive markings on the technical data shall be cancelled, corrected, or ignored. If, upon final disposition, it is found that the restrictive marking was not substantially justified, the contracting officer shall determine the cost to the Government of reviewing the restrictive marking and the fees and other expenses incurred by the Government in challenging the marking. The contractor is then liable to the Government for payment of these costs unless the contracting officer determines that special circumstances would make such payment unjust.

(ii) If the contractor or subcontractor appeals or files suit and if, upon final disposition, the contracting officer's decision is not sustained, the Government shall continue to be bound by the restrictive markings. Additionally, if the challenge by the Government is found not to have been made in good faith, the Government shall be liable to the contractor or subcontractor for payment of fees or other expenses incurred by the contractor or subcontractor in defending the validity of the marking.

(6) *Privity of contract.* These procedures for reviewing the validity of restrictive markings on technical data do not create or imply a privity of contract between the Government and subcontractors.

227.473–6 Remedies for noncomplying technical data.

(a) The Government may suffer injury when data required to be delivered or made available under a contract is incomplete, inadequate, or fails to satisfy established requirements. The contracting officer shall consider all available remedies to the Government including, but not limited to, reduction of progress payments, withholding, termination, and decrease in contract price or fee. The contracting officer shall consult with counsel, as appropriate, to foster selection of a suitable remedy.

227.473–7 Non-disclosure agreements.

Technical data obtained with rights other than unlimited shall not be released outside the Government unless the recipient of the data agrees to sign the non-disclosure and/or non-use agreement consistent with the conditions of the restrictive rights. Normally, non-disclosure agreements should be provided by the contractor or subcontractor asserting the restrictive rights. However, such agreements must not be used to impose unreasonable constraints on the ability of other contractors to gain access to the technical data in order to compete for Government contracts. Moreover, it should be clearly stated in the agreement that the Government shall incur no liability for unauthorized use or disclosure by any third party of any such data.

227.474 Additional methods of obtaining greater rights.

227.474–1 Direct licenses.

Direct licensing is another approach to enhance competition in privately developed items, components, or processes. In this approach, an acquisition strategy is use that calls for a contractor to transfer data and technology directly to another source. While this approach has the advantage of allowing the contractor to maintain direct control over the use of its limited rights data, it may not be useful when the Government needs to maintain direct control over the data to support the competitive procurement. Such .direct licensing arrangements are most useful in special situations such as in leader company contracting in accordance with FAR Subpart 17.4. For this reason, direct licenses are generally not appropriate for the acquisition of items, components, or processes having an estimated total acquisition cost of less than $50 million of RDT&E funds or $200 million of production funds.

227.474–2 Expiration of restrictive rights legends.

(a) As an alternative to obtaining greater rights in limited rights technical data, the Government may negotiate a time limitation during which limited rights are applicable to such data. Time limits shall be negotiated on a case-by-case basis and shall balance the contractor's economic interest in the data with the Government's need for competition and an enhanced defense industrial base. The negotiation objective will not exceed seven years. At the expiration point, the Government will normally obtain Government purpose license rights.

(b) If it is agreed to establish a time period for the expiration of limited rights legends, the clause at 252.227–7013, "Rights in Technical Data and Computer Software", and its Alternate I, shall be included in solicitations and any resultant contract. The time period, the expiration date of the limited rights, and the rights to be obtained by the Government shall be specified in the contract. Each piece of data furnished under the contract with limited rights shall be marked with the special legend and expiration date set forth in Alternate I to the basic clause at 252.227–7013, "Rights in Technical Data and Computer Software".

(c) If it is agreed that only a portion of the limited rights data delivered under a contract will be acquired with a time period for the expiration of the special legends, the contract shall specifically identify that portion of the data, and Alternate I to the basic clause at 252.227–7013, "Rights in Technical Data and Computer Software", may be appropriately modified to limit its application only to that portion.

227.475 Other procedures.

227.475–1 Data requirements.

(a) The clause at 252.227–7031, Data Requirements, shall be included in all solicitations and contracts, except that the clause need not be included in—

(1) Any contract, of which the aggregate amount involved does not exceed $25,000 and in any blanket purchase agreement and purchase order utilizing the DD Form 1155 (however, the DD Form 1423 shall be used with orders issued under a basic ordering agreement);

(2) Any contract awarded to a contractor outside the United States, except those under Subpart 225.71, Canadian Purchases;

(3) Any research or exploratory development contract when reports are

the only deliverable item(s) under the contract;

(4) Any service type contract, when the contracting officer determines that the use of the DD Form 1423 (Contract Data Requirements List) is impractical for use with respect to records prepared by a contractor in performing operation and maintenance under the contract;

(5) Any contract under which construction and architectural drawings and specifications are the only deliverable items;

(6) Any contract for commercial items when the only deliverable data is such an item, or would be packaged or furnished with such items in accordance with customary trade practices; or

(7) Any contract for items containing material which, by virtue of its potentially dangerous nature, requires controls to assure adequate safety to life and property, when the only deliverable data is the Materials Safety Data Sheet (MSDS) submitted in compliance with Federal Standard 313A and the clause at FAR 52.223–3, Hazardous Material Identification and Material Safety Data, and when such clause is included in the contract.

(b) The clause at 252.227–7031, Data Requirements, states that the contractor is required to deliver only the data items listed on the DD Form 1423 and the data items identified in and deliverable under any contract clause of Subpart 252.2 and FAR Subpart 52.2 made a part of the contract.

(c) Other than the data items falling within the exceptions set forth in paragraph (a) above, and the data items identified in and deliverable under any contract clause of Subpart 252.2 and FAR Subpart 52.2 made a part of the contract, the requirement for delivery of any data items under the contract can be established only by listing the data items on the DD Form 1423 (see Section 253.270). The clause at 252.227–7031, Data Requirements, shall be inserted in all contracts in which the DD Form 1423 is used. The DD Form 1423 need not be used to list data or software requirements in any of the contracts falling within the exceptions set forth in paragraph (a) above.

227.475–2   Deferred delivery and deferred ordering.

(a) *General*. (1) Technical data and computer software is expensive to prepare in the required form and to maintain and update. Every effort, therefore, should be made to avoid placing a requirement upon a contractor to prepare and deliver technical data or software unless the need is positively determined. By delaying the delivery of technical data or software until needed for a specific purpose, storage requirements within DoD of technical data and computer software items are reduced, the handling of technical data and software superseded by updated versions is greatly decreased, and the purchase of technical data or software which may become obsolete by pending hardware changes is minimized.

(2) Economy in the purchase of technical data and software and the probability of greater currency may be achieved by deferring the delivery, and in some cases deferring the ordering, of technical data or software until an operational need is determined, or until stability of design or production is reached during contract performance. The application of the deferred delivery and deferred ordering principles, as explained further, should be made only after a careful evaluation on a case-by-case basis of the anticipated operational uses of technical data or computer software and any other relevant considerations. When it is expected that technical data or computer software may be required, but the precise need at time of contracting has not been determined, deferred ordering will be used to avoid the cost of preparation but allow the ordering of the technical data or software at some point downstream in contract performance should the need arise. When the need but not the time of delivery can be determined, deferred delivery will be used. When deferred delivery is used, it is expected that the contractor will price the technical data and software at the time of contracting and incur the cost of preparation prior to the call for delivery. Therefore, it is important that deferred ordering rather than deferred delivery be used where the need for technical data or software is doubtful. Whether the technique of deferred delivery or deferred ordering is used, the receipt of technical data or software by the Government should be scheduled to be in phase with a specific and planned use of the technical data or software.

(b) Deferred delivery refers to the practice of timing the delivery of technical data or computer software specified in a contract to a firm, operational need. This technique should be used only when a technical data or software requirement can be determined at the time of contracting and therefore is specified on the DD Form 1423, but the time or place of delivery is not firm. The dates for the delivery of data and software should be scheduled to coincide with the needs of the Government. The contractor, however, must be notified sufficiently in advance of a delivery data to enable the contractor to provide the technical data or software in specified form on time. Thus, in any contract the Government may defer the delivery of all or any portion of the technical data or computer software specified in the contract until actual need can be economically determined. The Government may require the contractor to deliver any such data or software, or portions thereof, at any time during the performance of the contract or within two years from either acceptance of all items (other than data and software) under the contract or termination of the contract, whichever is later. However, the contractor's obligation to deliver technical data pertaining to any item obtained from a subcontractor shall cease two years after the date on which it accepts the item. The Government's rights in deferred delivery data and software are as prescribed in the contract under which the data or software is to be delivered. When the delivery of technical data or computer software is to be deferred, the clause at 252.227–7026, "Deferred Delivery of Technical Data or Computer Software", shall be included in the contract.

(c) Deferred ordering refers to delaying the ordering of technical data or computer software generated in the performance of the contract until such time as a need can be established and the requirements can be specifically identified for delivery under the contract. In many instances it is difficult to determine during solicitation and negotiation stages exactly what data or software is needed. The information available at these stages may suggest the need for some data or software but further information may be needed to identify the specific data or software items. In such situations, and also when it is desired to delay the ordering of technical data or computer software until such time as the production design becomes firm, the clause at 252.227–7027, Deferred Ordering of Technical Data or Computer Software, is appropriate. The requirement for technical data or computer software under these circumstances is not listed on the DD Form 1423 until the specific need is determined. Whenever the clause at 252.227–7027, Deferred Ordering of Technical Data or Computer Software, is used, the clause at 252.227–7013, Rights in Technical Data and Computer Software, shall also be included. When data or software items are ordered, the delivery dates shall be negotiated and the contractor shall be compensated for converting the data or software into the prescribed form, for reproduction and delivery to the Government. Compensation to the
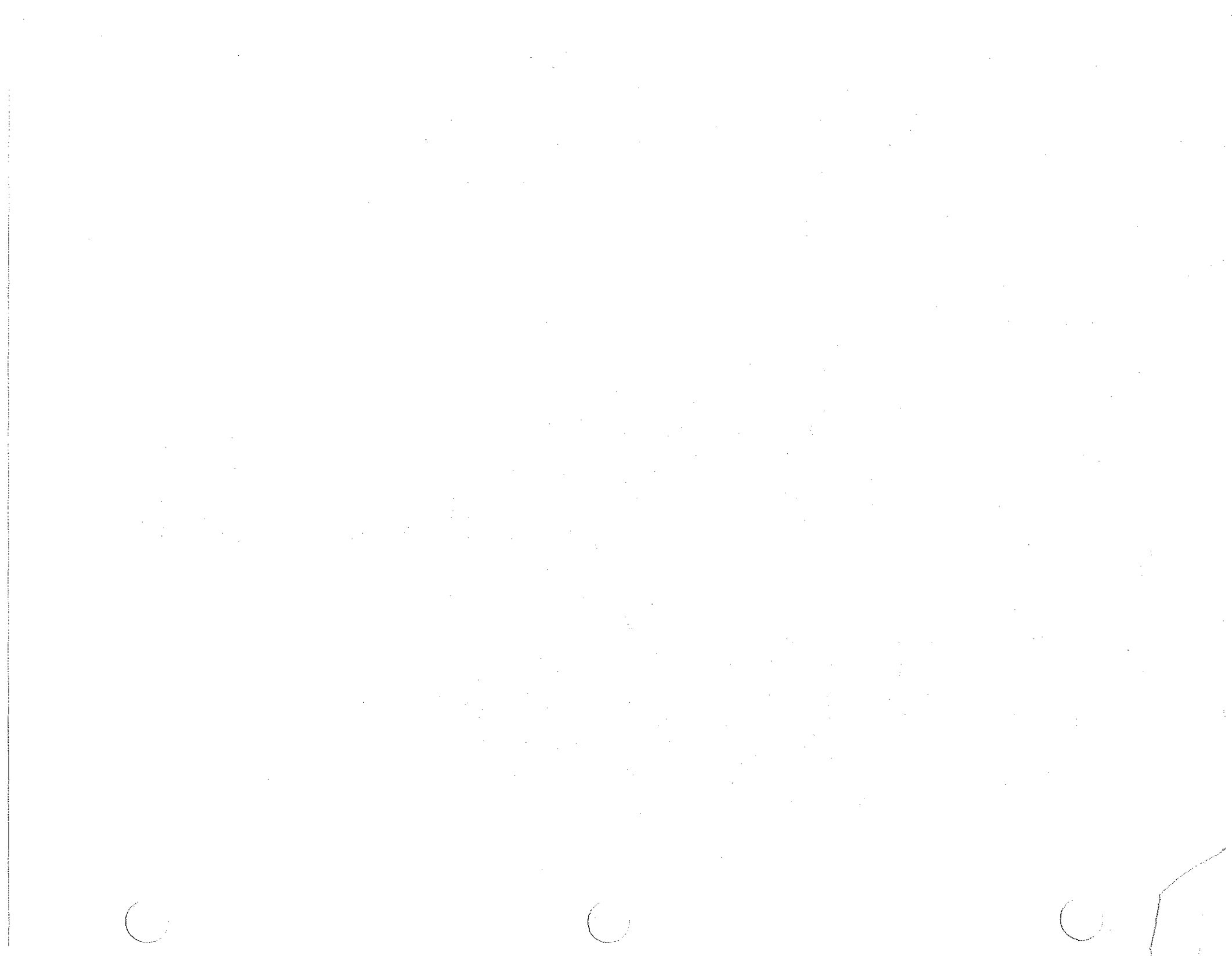
contractor shall not include the cost of generating such data or software since it was generated in the performance of work for which the Government has already agreed to pay the contractor.

227.475-3 Technical data—withholding of payment.

(a) Timely delivery of technical data is particularly important to the operation and maintenance of equipment as well as competitive procurement of follow-on quantities of contract items and of items broken out from an assembly or equipment. The clause at 252.227-7030, Technical Data—Withholding of Payment, is designed to assure timely delivery of technical data. The clause permits a withholding not exceeding 10 percent of the total contract price or amount, but the contracting officer may specify a lesser amount in the contract if circumstances warrant. A case-by-case determination as to the amount to be withheld shall be made by the contracting officer after considering the estimated value of the technical data to the Government. No amount shall be withheld when the failure to make timely delivery arises out of causes beyond the control and without the fault or negligence of the contractor.

(b) Withholding action under paragraph (b) of the clause should be taken only when the contractor has failed to make timely deliveries of acceptable technical data on other contracts or if the contracting officer has information which would cause the contracting officer to anticipate late delivery of technical data or delivery of deficient technical data. The amount of withholding should be based on the estimated value of the technical data to the Government.

227.475-4 Warranties of technical data.

The factors contained in Subpart 246.7, Warranties, shall be considered in deciding whether to provide for warranties of technical data delivered under contracts calling for technical data. The basic technical data warranty clause is set forth at 252.246-7001, Warranty of Data. There are two alternates to the basic clause. The basic clause and the appropriate alternate should be selected in accordance with section 246.708.

227.475-5 Delivery of technical data to foreign governments.

As provided in the definition of limited rights in section 227.471, limited rights include the right of the Government to deliver the technical data to foreign governments as the national interest of the United States may require, subject to the same

limitations which the Government accepts for itself. When the Government proposes to make technical data subject to limited rights available for use by a foreign government, it will, to the maximum extent practicable, give reasonable notice thereof to the contractor or subcontractor asserting the rights in the technical data.

227.475-6 Contracts with foreign sources to be performed outside the United States.

Normally, the clause at 252.227-7032, Rights in Technical Data and Computer Software (Foreign), is used in solicitations and contracts with foreign sources, except that the clause shall not be used in contracts for special works (see section 227.476), contracts for existing works (see section 227.477), or contracts for Canadian purchases (see Subpart 225.71, Canadian Purchases). This clause should be inserted when the Government is to acquire unlimited rights in all technical data, including reports, drawings and blueprints, and all computer software, specified to be delivered to the Government. The clause at 252.227-7013, Rights in Technical Data and Computer Software, shall be inserted when the same rights are to be obtained as would be obtained if contracting with United States firms. Notwithstanding paragraphs 227.403-3(a) and 227.481-2(a), the clause may be modified to meet the requirements necessary for and peculiar to the foreign acquisition; *Provided,* it agrees with the policies and principles of sections 227.403-2 and 227.481.

227.475-7 Technical data reflecting engineering changes.

A DD Form 1423 shall be included in contracts which shall require delivery of suitable revisions to technical data provided under that or a predecessor contract which are needed to portray and take into account engineering changes ordered under that contract that affect form, fit, and function of items specified in the contract. A delivery schedule shall be indicated in the contract for the revisions. Such revisions need not be provided for, however, if the contracting officer determines that there is no requirement justifying their purchase.

227.475-8 Publication for sale.

The paragraph of Alternate II may be added to the clause at 52.227-7013, Rights in Technical Data and Computer Software, for use in contacts for research when the contracting officer determines, in consultation with counsel, as appropriate, that public dissemination of a work, or certain designated parts of a work, specified to

be delivered under the contract is in the best interest of the Government and would be facilitated by the Government relinquishing its right to publish the work for sale, or to have others publish the work for sale on behalf of the Government. This paragraph shall not be used otherwise.

227.476 Contracts for acquisition of special works.

(a) The clause at 252.227-7020, Rights in Data—Special Works, shall be used in all contracts for special works, including technical data and computer software, where ownership and control by the Government is desired, for example, in contracts—(1) primarily for the production of audiovisual works including motion pictures or television recordings with or without accompanying sound, or for the preparation of motion picture scripts, musical compositions, sound tracks, translations, adaptations, and the like; (2) for histories of the respective Departments for services or units thereof; (3) for works pertaining to recruiting, morale, training, or career guidance; (4) for surveys of Government establishments; (5) for works pertaining to the instruction or guidance of Government officers and employees in the discharge of their official duties; and (6) primarily for production of technical reports, studies, or similar documents.

(b) Contracts for audiovisual works may include limitations in connection with music licenses, talent releases, and the like which are consistent with the purpose for which the works are acquired.

227.477 Contracts for acquisition of existing works.

(a) *Off-the-shelf acquisition of books and similar items.* Notwithstanding the instructions of any other paragraphs in this part, no contract clause contained in this part need be included in contracts for the separate, sole acquisition of data, other than motion pictures, in the exact form in which such material exists prior to the initiation of a request for acquisition (such as the off-the-shelf acquisitions of existing products) unless the right to reproduce such technical data is an objective of the contract.

(b) *Acquisition of existing audiovisual works.* (1) The clause at 252.227-7021, Rights in Data—Existing Works, shall be used in contracts exclusively for the acquisition of existing motion pictures, television recordings, or other audiovisual works. The contract may set forth limitations consistent with the purposes for which the material covered by the contract is being acquired.

Examples of these limitations are—(i) means of exhibition or transmission; (ii) time; (iii) type of audience; and (iv) geographical location. Paragraph (c) of the clause should be modified to make the indemnity coextensive with the rights acquired under paragraph (b) of the clause as limited by the contract.

(2) In contracts which call for the modification of existing motion pictures, television records, or other audiovisual works through editing, translation, or addition of subject matter, the clause at 252.227–7020, Rights in Data-Special Works, appropriately modified, shall be used.

227.476   Architect-engineer and construction contracts.

227.476-1   General.

This section sets forth policies, procedures, implementing instructions, solicitation provisions, and contract clauses pertaining to data, copyrights, and restricted designs unique to the acquisition of construction and architect-engineer services.

227.476-2   Acquisition and use of plans, specifications, and drawings.

(a) *Architectural designs and data clauses for architect-engineer or construction contracts.*—(1) *Plans and Specifications and As-Built Drawings.* (i) Except as provided in (a)(1)(ii) below, insert the clause at 252.227–7022, Government Rights (Unlimited), in solicitations and contracts calling for architect-engineer services or in contracts for construction involving architect-engineer services.

(ii) When the purpose of a contract for architect-engineer services or for construction involving architect-engineer services is to obtain a unique architectural design of building, a monument, or construction of similar nature, which for artistic, aesthetic or other special reasons the Government does not want duplicated by anyone else, the Government may desire to acquire exclusive control of the data pertaining to such design. In those cases only where the contracting officer determines for the foregoing reasons that it is desirable to maintain exclusive control over the design and data, the clause at 252.227–7023, Drawings and Other Data to Become Property of Government, shall be used in solicitation and contracts. If the contract is for architect-engineer services, the clause at 252.227–7022 shall be deleted and the clause at 252.227–7023 substituted therefor. If the contract is for construction involving architect-engineer services, only the clause at 252.227–7023 shall be included.

(2) *Shop drawings for construction.* In acquiring shop drawings for construction, the Government shall obtain the unlimited right to use and reproduce such drawings, but shall not exclude a similar right in the designer or others. Accordingly, in solicitations and contracts calling for delivery of such drawings, insert the clause at 252.227–7033, Rights in Shop Drawings.

227.476-3   Contracts for construction supplies and research and development work.

The solicitation provisions and contract clauses in Subpart 227.4 relating to technical data, other data, computer software, and copyrights and prescribed for use in solicitation and contracts for the acquisition of other than construction or architect-engineer services are applicable when the acquisition is limited to either (a) construction supplies or materials as such, as distinguished from construction as defined in FAR 36.102; (b) experimental, developmental, or research work, or test and evaluation studies of structures, equipment, processes, or materials for use in construction; or (c) both. The right of the Government and others to use, duplicate, or disclose such technical data, other data, or computer software will be determined by the terminology of the applicable clauses in the contracts or the terminology of agreements recited-in or made part of the contracts.

227.476-4   Mixed contracts.

When solicitations and resulting contracts call for (a) supplies or materials, (b) experimental, developmental or research work, or (c) both, in addition to either construction or architect-engineer work, the solicitation provisions and contract clauses in Subpart 227.4 relating to technical data, other data, computer software, and copyrights and prescribed for use in solicitations and contracts for the acquisition of other than construction or architect-engineer services shall be included in such solicitations and resultant contracts in addition to the appropriate solicitation provisions and contract clauses prescribed for use in solicitations and contracts for construction or architect-engineer services. In such cases, the solicitations and resulting contracts shall clearly indicate which of the solicitation provisions and contract clauses apply only to the supplies or materials being acquired, or to the experimental, developmental, or research work, or to both, and which of the solicitation provisions and contract

clauses apply only to the construction or architect-engineer work.

#### 227.476-5   Approval of restricted designs.

(a) Specifications for construction should allow for maximum latitude in the use of various types of commercially available products, materials, equipment, or processes which will meet objective Government requirements. However, Government requirements may necessitate, or the architect-engineer may contemplate the use of structures, products, materials, equipment, or processes which are available only from a sole source. In such event, the architect-engineer should report to the contracting officer the items known to be sole source, and the reasons therefor, and advise the contracting officer of the extent to which such items are considered necessary to meet the Government's requirements. This will make possible timely planning and arrangements for the use of sole source items, or where appropriate, consideration of alternate items.

(b) This procedure is not intended to restrict the use of patented or copyrighted items, but is meant to give the Government an opportunity to consider whether the specifications being drawn by the architect-engineer, in regard to any one item, are unnecessarily restricted, according to objective Government requirements to a single sole item. The procedure is primarily for use in instances where the proposed design is expected to be conventional or standard and where the design may be used in subsequent acquisitions. For this purpose, the clause at 252.227–7024, Notice and Approval of Restricted Designs, may be inserted in architect-engineer contracts.

227.479   Contracts awarded under Small Business Innovation Research Program (SBIR Program).

(a) Public Law 97–219, "Small Business Innovation Development Act of 1982", requires certain agencies to establish a Small Business Innovation Research Program (SBIR Program). The public law also includes terminology providing for "retention of rights in data generated in the performance of the contract by the small business concern". The Small Business Administration (SBA) issued Policy Directive No. 65–01 on 19 November 1982 to provide policy direction for the conduct of the Small Business Innovation Research Programs within the federal agencies. The Policy directive was issued pursuant to the authority contained in the public law.

(b) In the policy directive, the SBA in essence recommended that, except for
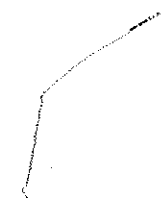
program evaluation, agencies should protect technical data and computer software generated under an SBIR Program contract (funding agreement) for a period of two years from the completion of the contract under which the technical data and computer software were generated, unless the agencies obtained permission to disclose such data and software from the contractor. The SBA also recommended, that, effective at the conclusion of the two-year period, the Government shall have a royalty-free license in the technical data and computer software for Government use. This license has been amended pursuant to Public Law 99–500 and Public Law 99–591 to specifically include the right to use the technical data for competitive procurement. The SBA further recommended that the contractor, with prior written permission of the contracting officer, be afforded ownership of copyright in technical data and computer software generated under an SBIR Program contract and that the contractor be allowed to publish (subject to national security considerations, if any) such data and software. The policy directive considered it appropriate that the Government should receive a royalty-free license under any copyright and that each publication should contain an appropriate acknowledgement and disclaimer statement.

(c) The clause at 252.227–7025, Rights in Technical Data and Computer Software (SBIR Program), incorporates the coverage recommended by the SBA policy directive and shall be included in all contracts awarded under the SBIR Program in which technical data or computer software is required to be prepared, originated, developed, generated, or delivered. The clause differs from the clause at 252.227–7013, Rights in Technical Data and Computer Software, in that it provides for the two-year period of limited rights after which the Government receives a Government purpose license in certain technical data and computer software that would otherwise be subject to unlimited rights. While use of the clause is limited to contracts awarded under the SBIR Program, contracting officers may use the basic concept when negotiating for greater rights in limited rights technical data.

227.480 Copyrights.

(a) In general, the copyright law gives an owner of copyright the exclusive rights to—

(1) Reproduce the copyrighted work in copies or phonorecords;

(2) Prepare derivative works;

(3) Distribute copies or phonorecords to the public;

(4) Perform the copyrighted work publicly; and

(5) Display the copyrighted work publicly.

(b) In view of the exclusive rights in subparagraphs (a) (1)–(5) above, any technical data, other data, or computer software that is protected under the copyright law is not in the public domain, even though it may have been published, because acts inconsistent with these rights may not be exercised without a license from the copyright owner.

(c) Department or Defense policy affords the contractor ownership of copyright in any work of authorship first prepared, produced, originated, developed, or generated under a contract, unless the work is designated a "special work" in which case ownership and control of the work is retained by the Government and the contractor is precluded by the terms of the contract from asserting any rights or claim to copyright in the work. Department of Defense policy also requires that the contractor grant to the Government and authorize the Government to grant to others a nonexclusive, paid-up, worldwide license for Government purposes in any work or authorship (other than a "special work") first prepared, produced, originated, developed, or generated and, in addition, requires that the contractor grant to the Government and authorize the Government to grant to others the same license in any work of authorship acquired by the Government under the contract (not first prepared) in which the copyright is owned by the contractor.

(d) Under the clause at 252.227–7013, Rights in Technical Data and Computer Software, the contractor grants to the Government and authorizes the Government to grant to others a nonexclusive, paid-up, worldwide license for Government purposes, under any copyright owner by the contractor in any technical data or computer software prepared for or acquired by the Government under the contract. Under the clause at 252.227–7020, Rights in Data—Special Works, any work first produced in the performance of the contract becomes the sole property of the Government, and the contractor agrees not to assert any rights or establish any claim to copyright in such work. Under this clause, the contractor similary grants to the Government and authorizes the Government to grant to others a nonexclusive, paid-up, worldwide license for Government purposes in any portion of a work which is not first produced in the performance

of the contract but in which copyright is owned by the contractor and which is incorporated in the work furnished under the contract.

(e) Under both of the clauses at 252.227–7013 and 252.227–7020, unless written approval of the contracting officer is obtained, the contractor also agrees not to include in any work prepared, produced, originated, developed, genrated, or acquired under the contract, any work of authorship in which copyright is not owned by the contractor without acquiring for the Government and those acting by or on behalf of the Government a nonexclusive, paid-up, worldwide license for Government purposes in the copyrighted work.

227.481 Acquisition of rights in computer software.

227.481–1 Policy

(a) The Government shall have unlimited rights in:

(1) Computer software resulting directly from or generated as part of the performance of experimental, developmental, or research work specified as an element of performance in a Government contract or subcontract;

(2) Computer software required to be originated or developed under a Government contract, or generated as a necessary part of performing a contract;

(3) Computer data bases, prepared under a Government contract, consisting of (i) information supplied by the Government (ii) information in which the Government has unlimited rights; or (iii) information which is in the public domain;

(4) Computer software prepared or required to be delivered under this or any other Government contract or subcontract and constituting corrections or changes to Government-furnished software; or

(5) Computer software which is in the public domain or has been or is normally furnished by the contractor or subcontractor without restriction.

(b) When the Government has unlimited rights in computer software in the possession of a contractor, no payment will be made for rights of use of such software in performance of Government contracts or for the later delivery to the Government of such computer software, *provided* however, that the contractor shall be entitled to compensation for converting the software into the prescribed form for reproduction and delivery to the Government.

(c) It is Department of Defense policy to acquire only such rights to use, duplicate, and disclose computer software developed at private expense as are necessary to meet Government needs. Such rights should be designed to allow the Government flexibility while, at the same time, adequately preserving the rights of the contractor. Computer software developed at private expense may be purchased or leased. Restrictions may be negotiated with respect to the right of the Government to use, duplicate, or disclose computer programs or computer data bases developed at private expense. As a minimum, however, the Government shall have the rights provided in the definition of restricted rights in Section 227.471.

(d) Patented or copyrighted computer software will not be subject to any agreement prohibiting the Government from infringing a patent or copyright. Title 28, United States Code, Section 1498 provides that the Government is liable only for reasonable compensation for use of a patented invention or for infringement or copyright. However, see Section 227.7011.

(e) When computer software is developed at private expense and acquired with restricted rights, the associated computer software documentation will be acquired with limited rights to the extent provided in the definition of limited rights in Section 227.471, and will not be used for preparing the same or similar computer software.

(f) Commercial computer software and related documentation developed at private expense may be leased, or a license to use may be purchased, by the Government subject to the restriction in paragraph (c)(1)(ii) of the clause at 252.227–7013, Rights in Technical Data and Computer Software.

227.481-2 Procedures.

(a) *Deviations.* All requests for deviations from this Section 227.481 shall be submitted to the DAR Council in accordance with the procedures in FAR Section 1.404.

(b) *General.* (1) Except as provided at 252.227–7031, Data Requirements, any computer program or computer data base to be acquired under a contract shall be listed on the Contract Data Requirements List (DD Form 1423). Also, if a contract requires the conversion of data to machine-readable form, the editing or revision of existing programs, or the preparation of computer software documentation, the products of this work, if required to be delivered, shall be included on the DD Form 1423.

(2) The clause at 252.227–7013, Rights in Technical Data and Computer Software, shall be included in every contract under which computer software may be originated, developed, or delivered. That clause establishes the circumstances under which the Government secures unlimited rights in both technical data and computer software, limited rights in technical data, and restricted rights in computer software. In negotiated contracts where the clause at 252.227–7013, Rights in Technical Data and Computer Software, is required, the provision at 252.227–7019, Identification of Restricted Rights Computer Software, shall be included in the solicitation.

(3) Contracts under which computer software developed at private expense is acquired or leased shall explicitly set forth the rights necessary to meet Government needs and restrictions applicable to the Government as to use, duplication and disclosure of the software. Thus, for example, such software may be needed, or the owner of such software will only sell or lease it, for specific or limited purposes such as for internal agency use, or for use in a specific activity, installation or service location. In any event, the contract must clearly define any restrictions on the right of the Government to use such computer software, but such restrictions will be acceptable only if they will permit the Government to fulfill the need for which such software is being acquired. The recital of restrictions may be complete within itself or it may reference the contractor's license or other agreement setting forth restrictions. If referencing is employed, a copy of the license or agreement must be attached to the contract. The minimum rights are provided in the Rights in Technical Data and Computer Software clause at 252.227–7013, and need not be included in the recital.

(4) When computer software developed at private expense is modified or enhanced as a necessary part of performing a contract, only that portion of the resulting product in which the original product is recognizable will be deemed to be computer software developed at private expense to which restricted rights may attach.

(5) The scope of the restrictions on or, conversely, the scope of the use which the Government is permitted to make of such software shall be taken into account in determining the reasonableness of the contract price for the computer software.

(c) *Computer software subject to restricted rights.* (1) Because of the widely-varying restrictions which are likely to be encountered in the purchase or lease of computer software developed at private expense, a standard recital setting forth specific restrictions and rights suitable for all cases is not feasible. If the standard set of restrictions and rights set forth in section 227.481–1(f) for commercial computer software is not appropriate, personnel are urged to consult counsel in any case in which the proposed contractor requests the Government to accept other restrictions on the use of such software.

(2) To apprise user personnel of the restrictions on use, duplication or disclosure agreed to by the Government with respect to such software sold or leased to the Government, the contractor is required to place the following legend on such software:

Restricted Rights Legend

Use, duplication or disclosure is subject to restrictions stated in Contract No. _____ with _____ (Name of Contractor).

For commercial computer software and documentation, the contract number may be omitted and replaced by "paragraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at 252.227–7013", and the contractor's address added. The Government shall include the same restrictive markings on all its reproductions of the computer software unless the Government cancels such markings pursuant to the procedures in 227.473–4(c).

(3) A statement setting forth the restrictions imposed on the Government to use, duplicate, and disclose computer software subject to restricted rights is required to be prominently displayed in human-readable form in the computer software documentation. The reference to the Rights in Technical Data and Computer Software clause in the Restricted Rights Legend on commercial computer software and documentation satisfies this requirement.

(4) Except as provided in paragraph (b) above, computer programs, computer data bases, and computer software documentation delivered to the Government pursuant to a contract requirement must be identified with the number of the prime contract and the name of the contractor.

(5) All markings, (notice, legends, identifications, etc.) concerning restrictions on the use, duplication, or disclosure of computer software required or authorized by the terms of the contract under which delivery is made are required to be in human-readable form that can be readily and visually perceived and, in addition may
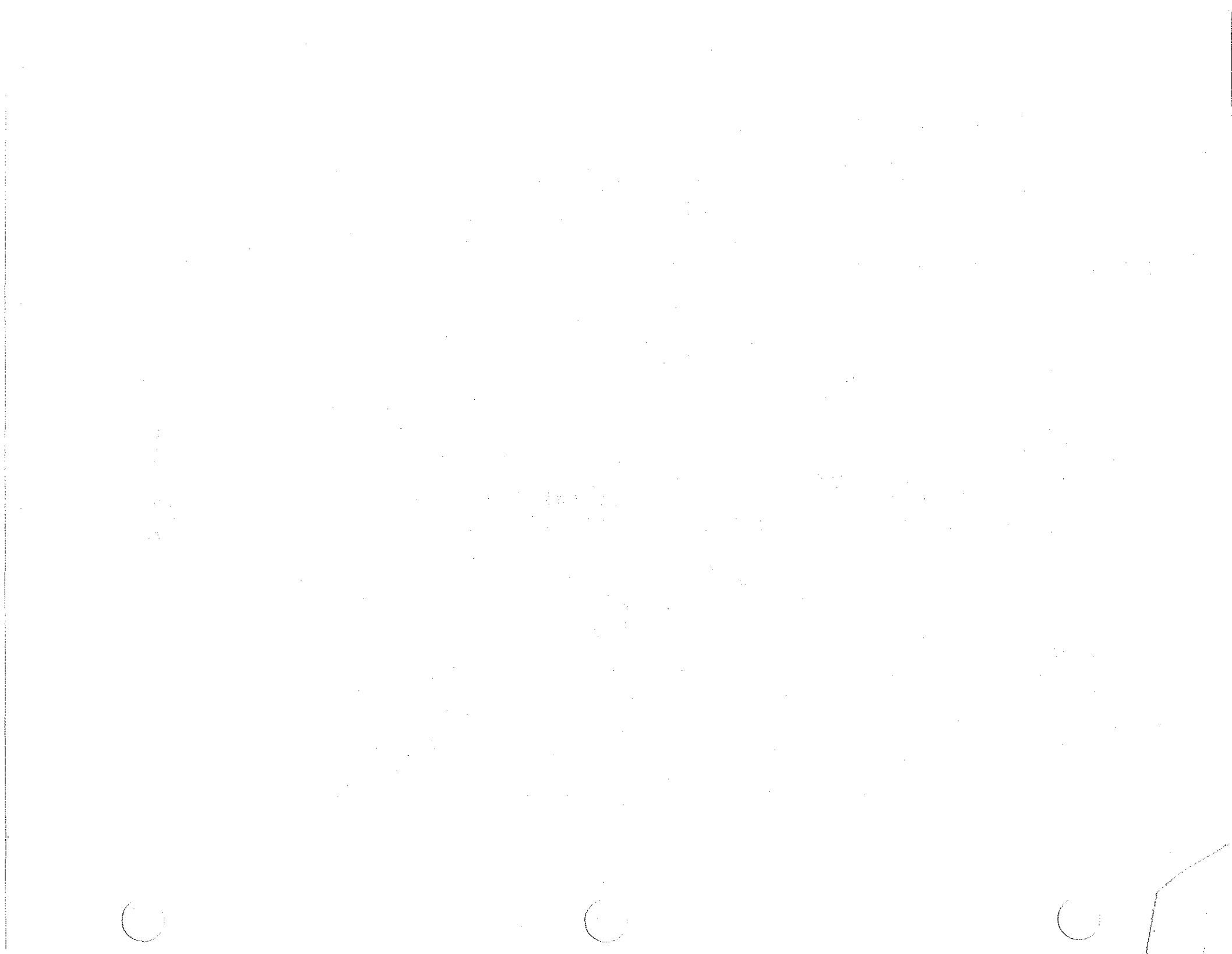
be in machine-readable form as appropriate and feasible under the circumstances. Such markings shall be affixed by the contractor to the computer software prior to delivery of the software to the Government.

(6) The human-readable markings may be applied to card decks, magnetic tape reels, or disc packs. This may be, in the case of a card deck, on a notice card even though the cards of the deck do not contain printed material; in the case of a card deck packaged in a container intended as a permanent receptacle for the cards, on the container; in the case of a tape, on the tape reel or on the surface of the leader and trailer of the tape; and in the case of a disc pack, on the hub of the disc.

(d) *Unmarked or improperly marked computer software.* (1) No restrictive markings shall be placed upon computer software unless restrictions are set forth in the contract prior to delivery of the software. Copyright notices as specified in Title 17, United States Code, Sections 401 and 402 are not considered "restrictive markings". The Government may require the contractor to identify the contractual provision setting forth such restrictions before accepting computer software with restrictive markings. If computer software is received with restrictive markings, and there is a question whether it is authorized by the contract to be furnished with restricted rights, it shall be used subject to the asserted restrictions pending written inquiry to the contractor. If no response to an inquiry has been received within 60 days, or if the response fails to identify the restrictions set forth in the contract, the cognizant Government personnel shall cancel or ignore the markings, notify the contractor accordingly in writing, and thereafter use the software with unlimited rights.

(2) Computer software received without a restrictive legend shall be deemed to have been furnished with unlimited rights. However, the contractor may request permission to place restrictive markings on such software at its own expense, and the Government may so permit, if the contractor establishes that the markings are authorized by the contract and demonstrates that the omission was inadvertent. Failure of the contractor to mark such computer software prior to delivery to the Government shall relieve the Government of liability for any use, duplication or disclosure of such computer software.

(3) If computer software authorized by the contract to be furnished with restrictions is received with restrictive markings not in the form prescribed by the contract, the software should be used in accordance with the restrictions provided for in the contract and the contractor shall be required by written notice to correct the markings to conform with those specified in the contract. If the contractor fails to correct the markings within 60 days after notice, Government personnel may correct the markings, and so notify the contractor.

227.482 Solicitation provisions and contract clauses.

(a)(1) The contracting officer shall insert the basic data clause at 252.227–7013, Rights in Technical Data and Computer Software, in solicitations and contracts when technical data is specified to be delivered or computer software may be originated, developed, or delivered, *provided* that such clause shall not be used in solicitations and contracts—

(i) When existing works are to be acquired in accordance with section 227.477;

(ii) When special works are to be acquired in accordance with section 227.476;

(iii) When the work will be performed by foreign sources outside the United States, its territories, possessions, or Puerto Rico, which case the clause at 252.227–7032, Rights in Technical Data and Computer Software (Foreign) applies;

(iv) When performance will be limited solely to architect-engineer services or construction, in which case either the clause at 252.227–7022, Architect-Engineer Work—Unlimited Rights, or the clause at 252.227–7023, Architect-Engineer Work—Sole Property Rights, applies; and

(v) When the contract is awarded under the DoD Small Business Innovation Research Program (SBIR Program), in which case the clause at 252.227–7025, Rights in Technical Data and Computer Software (SBIR Program), applies.

(2) The contracting officer shall use the clause with its Alternate I in accordance with the policy at 227.474–4.

(3) The contracting office shall use the clause with its Alternate II under the circumstances specified at 227.475–8.

(b) The contracting officer, in order to prevent any misinterpretation of the scope of the clause at 252.227–7013, Rights in Technical Data and Computer Software, in the contract, may insert the clause at 252.227–7016, Contract Schedule Items Requiring Experimental, Developmental, or Research Work, in solicitations and contracts when the solicitations and contracts, in whole or in part, call for experimental,

developmental, or research work as an element of performance.

(c) The contracting officer may insert the clause at 252.227–7017, Rights in Technical Data—Major System and Subsystem Contracts, in solicitations and contracts for major systems or major subsystems under the circumstances specified at 227.473–2(b).

(d) The contracting officer shall insert the clause at 252.227–7018, Restrictive Markings on Technical Data, in all solicitations and contracts in accordance with 227.473–4(b).

(e) The contracting officer shall insert the provision at 252.227–7019, Identification of Restricted Rights Computer Software, in solicitations and contracts in accordance with 227.481.

(f) The contracting officer shall insert the clause at 252.227–7020, Rights in Data—Special Works, in solicitations and contracts as required by 227.476.

(g) The contracting officer shall insert the clause at 252.227–7021, Rights in Data—Existing Works, in solicitations and contracts as required by 227.477.

(h) The contracting officer shall insert the clause at 252.227–7022, Government Rights (Unlimited) in solicitations and contracts in accordance with 227.478–2(a)(1)(i).

(i) The contracting officer shall insert the clause at 252.227–7023, Drawings and Other Data to Become Property of Government, in solicitations and contracts in accordance with 227.478–2(a)(1)(ii).

(j) The contracting officer shall insert the clause at 252.227–7024, Notice and Approval of Restricted Designs, in solicitations and contracts in accordance with 227.478–5.

(k) The contracting officer shall insert the clause at 252.227–7025, Rights in Technical Data and Computer Software (SBIR Program), in solicitations and contracts in accordance with 227.479.

(l) The contracting officer shall insert the clause at 252.227–7026, Deferred Delivery of Technical Data or Computer Software, in solicitations and contracts in accordance with 227.475–2(b).

(m) The contracting officer shall insert the clause at 252.227–7027, Deferred Ordering of Technical Data or Computer Software, in solicitations and contracts in accordance with 227.475–2(c).

(n) The contracting officer shall insert the provisions at 252.227–7028, Requirement for Technical Data Certification, in solicitations in accordance with 227.473–3.

(o) The contracting officer shall insert the clause at 252.227–7029, Identification of Technical Data, in all solicitations and contracts in accordance with 227.473–4.

(p) The contracting officer shall insert the clause at 252.227–7030, Technical Data—Withholding of Payment, in solicitations and contracts in accordance with 227.475–3.

(q) The contracting officer shall insert the clause at 252.227–7031, Data Requirements, in solicitations and contracts, in accordance with 227.475–1.

(r) The contracting officer shall insert the clause at 252.227–7032, Rights in Technical Data and Computer Software (Foreign), in solicitations and contracts in accordance with 227.475–6.

(s) The contracting officer shall insert the clause at 252.227–7033, Rights in Shop Drawings, in solicitation and contracts in accordance with 227.478–2(a)(2).

(t) The contracting officer may insert the provision at 252.227–7035, Prenotification of Rights in Technical Data, in solicitations in accordance with 227.473–1.

(u) The contracting officer shall insert the clause at 252.227–7036, Certification of Technical Data Conformity, in all contracts in accordance with 227.473–3.

(v) The contracting officer shall insert the clause at 252.227–7037, Validation of Restrictive Markings on Technical Data, in solicitations and contracts which require the delivery of technical data.

PART 252—SOLICITATION PROVISIONS AND CONTRACT CLAUSES

3. Section 252.227–7013 and 252.227–7016 through 252.227–7034 are revised, sections 252.227–7014 and 252.227–7015 are removed and reserved, and sections 252.227–7035 through 252.227–7037 are added to read as follows:

252.227–7013   Rights in technical data and computer software.

As prescribed as 227.482(a)(1), insert the following clause:

Rights in Technical Data and Computer Software (May 1987)

(a) *Definitions.*

The terms used in this clause are defined in 227.471 of the Department of Defense Federal Acquisition Regulation Supplement (DFARS).

(b) *Rights in Technical Data.*

(1) *Limited Rights.* The Government shall have limited rights in:

(i) technical data, listed or described in an agreement incorporated into the Schedule of this contract, which the parties have agreed will be furnished with limited rights in accordance with 227.473–1(a) and 227.473–1(b)(2) and

(ii) unpublished technical data pertaining to items, components or processes developed exclusively at private expense, and unpublished computer software documentation related to computer software that is acquired with restricted rights, other

than such data included in (b)(3)(i), (ii), (iii) or (iv), below.

Limited rights shall be effective provided that only the portion or portions of each piece of data to which limited rights are to be asserted are indentified (for example, by circling, underscoring, or a note), and that the piece of data is marked with the legend below:

(A) the number of the prime contract under which the technical data is to be delivered; and

(B) the name of the Contractor and/or any subcontractor asserting limited rights.

Limited Rights Legend

Contract No. —————.
Contractor: —————.

——— ——— ——— ———
——— ——— ——— ———

The restrictions governing the use of technical data marked with this legend are set forth in the definition of "Limited Rights" in DFARS 227.471. This legend, together with the indications of the portions of this data which are subject to limited rights, shall be included on any reproduction hereof which includes any part of the portions subject to such limited rights. The limited rights legend shall be honored only as long as the data continues to meet the definition of limited rights.

(2) *Government Purpose License Rights.* The Government shall have Government purpose license rights in:

(i) unpublished technical data pertaining to items, components, or processes for which the Government has funded, or will fund, a part of the development cost, unless the contracting officer has determined that the Government requires unlimited rights, and:

(A) the contractor has contributed or will contribute more than fifty percent (50%) of the development cost of the item, component, or process; or

(B) the contractor is a small business firm or nonprofit organization that agrees to commercialize the technology; and

(ii) unpublished technical data listed or described in an agreement incorporated into the Schedule of the contract, which the parties have agreed will be furnished with Government purpose license rights in accordance with DFARS 227.472–6, 227.472–7, 227.473–1(a) and 227.473–1(b)(2).

Government purpose license rights shall be effective provided that only the portion or portions of each piece of data to which such rights are to be asserted are identified (for example, by circling, underscoring, or a note), and that the piece of data is marked with the legend below:

(A) the number of the prime contract under which the technical data is to be delivered; and

(B) the name of the contractor and/or any subcontractor asserting Government Purpose License Rights.

Government Purpose License Rights Legend

Contract No. —————.
Contractor: —————.

——— ——— ——— ———
——— ——— ——— ———

The restrictions governing the use of technical data marked with this legend are

set forth in the definition of "Government Purpose License Rights" in DFARS 227.471. This legend, together with the indications of the portions of this data which are subject to such limitations, shall be included on any reproduction hereof which includes any part of the portions subject to such limitations and shall be honored only as long as the data continues to meet the definition of Government purpose license rights.

(3) *Unlimited Rights.* Unless other rights have been agreed to in writing in accordance with DFARS 227.472–7, the Government shall have unlimited rights in:

(i) technical data prepared or required to be delivered under this or any other Government contract or subcontract and constituting corrections or changes to Government-furnished data or computer software;

(ii) form, fit, or function data pertaining to items, components, or processes prepared or required to be delivered under this or any other Government contract or subcontract:

(iii) manuals or instructional materials (other than detailed manufacturing or process data) prepared or required to be delivered under this contract or any subcontract hereunder necessary for installation, operation, maintenance, or training purposes.

(iv) technical data, which is otherwise publicly available, or has been released or disclosed by the contractor or subcontractor, without restriction on further release or disclosure;

(v) technical data pertaining to an item, component, or process for which the Government has funded or will fund the entire development cost.

(vi) technical data pertaining to an item, component, or process, for which the Government has funded or will fund a part of the development costs, and the Contractor has not contributed or will not contribute more than fifty percent (50%) of the development cost;

(vii) technical data pertaining to an item, component, or process for which the Government has funded, or will fund, a part of the development cost, and the contractor is a small business firm or nonprofit organization that does not agree to commercialize the technology;
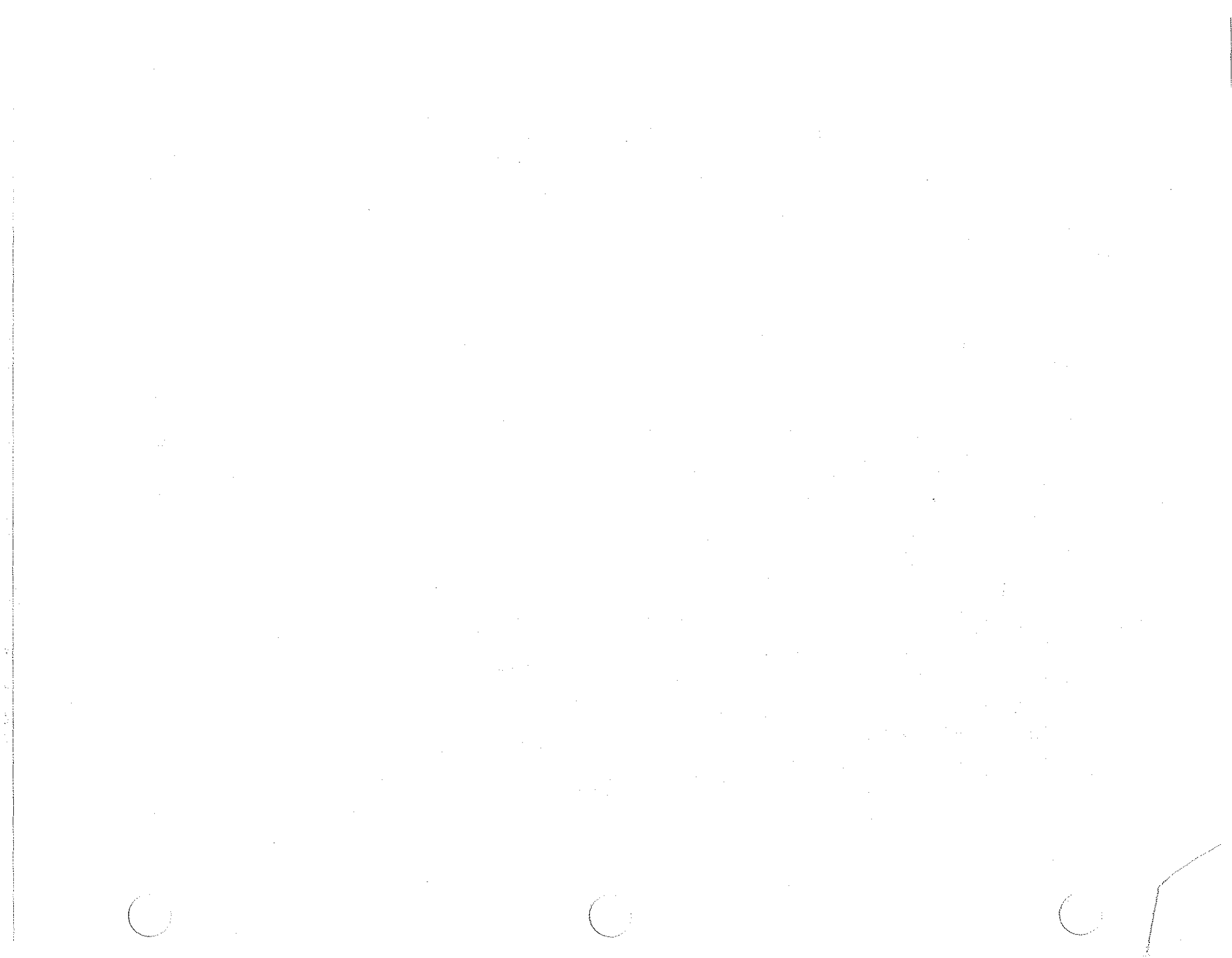
(viii) technical data pertaining to an item, component, or process, for which the Government has funded, or will fund, a part of the development cost and, notwithstanding (b)(3)(vi) and (vii) above, the Contracting Officer has determined, in accordance with DFARS 227.472–5(b), that the Government requires unlimited rights; and

(ix) technical data resulting directly from performance of experimental, developmental, or research work which was specified as an element of performance in this or any other Government contract or subcontract.

(c) *Rights in Computer Software.*

(1) *Restricted Rights.*

(i) The Government shall have restricted rights in computer software, listed or described in a license or agreement made a part of this contract, which the parties have agreed will be furnished with restricted rights, *Provided,* however, notwithstanding any contrary provision in any such license or

agreement, the Government shall have the rights included in the definition of "restricted rights" in paragraph (a) above. Such restricted rights are of no effect unless the computer software is marked by the Contractor with the following legend:

Restricted Rights Legend

Use, duplication or disclosure is subject to restrictions stated in Contract No.____ with____ (Name of Contractor)____. and the related computer software documentation includes a prominent statement of the restrictions applicable to the computer software. The Contractor may not place any legend on computer software indicating restrictions on the Governments rights in such software unless the restrictions are set forth in a license or agreement made a part of this contract prior to the delivery date of the software. Failure of the Contractor to apply a restricted rights legend to such computer software shall relieve the Government of liability with respect to such unmarked software.

(ii) Notwithstanding subparagraph (c)(1)(i) above, commercial computer software and related documentation developed at private expense and not in public domain may, if the Contractor so elects, be marked with the following Legend:

Restricted Rights Legend

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at 252.227–7013.

___

(Name of Contractor and Address)

When acquired by the Government, commercial computer software and related documentation so legended shall be subject to the following:

(A) Title to and ownership of the software and documentation shall remain with the Contractor.

(B) User of the software and documentation shall be limited to the facility for which it is acquired.

(C) The Government shall not provide or otherwise make available the software or documentation, or any portion thereof, in any form, to any third party without the prior written approval of the Contractor. Third parties do not include prime contractors, subcontractors and agents of the Government who have the Government's permission to use the licensed software and documentation at the facility, and who have agreed to use the licensed software and documentation only in accordance with these restrictions. This provision does not limit the right of the Government to use software, documentation, or information therein, which the Government may already have or obtain without restrictions.

(D) The Government shall have the right to use the computer software and documentation with the computer for which it is acquired at any other facility to which that computer may be transferred; to use the computer software and documentation with a backup computer when the primary computer is inoperative; to copy computer programs for safekeeping (archives) or backup purposes;

and to modify the software and documentation or combine it with other software, *Provided,* that the unmodified portions shall remain subject to these restrictions.

(2) *Unlimited Rights.* The Government shall have unlimited rights in:

(i) computer software resulting directly from performance of experimental, developmental or research work which was specified as an element of performance in this or any other Government contract or subcontract;

(ii) computer software required to be originated or developed under a Government contract, or generated as a necessary part of performing a contract;

(iii) computer data bases, prepared under a Government contract, consisting of information supplied by the Government, information in which the Government has unlimited rights, or information which is in the public domain;

(iv) computer software prepared or required to be delivered under this or any other Government contract or subcontract and constituting corrections or changes to Government-furnished computer software; and

(v) computer software which is otherwise publicly available, or has been, or is normally released, or disclosed by the contractor or subcontractor without restriction on further release or disclosure.

(d) *Technical Data and Computer Software Previously Provided Without Restriction.* Contractor shall assert no restrictions on the Government's rights to use or disclose any data or computer software which the Contractor has previously delivered to the Government without restriction. The limited or restricted rights provided for by this clause shall not impair the right of the Government to use similar or identical data or computer software acquired from other sources.

(e) *Copyright.*

(1) In addition to the rights granted under the provisions of paragraphs (b) and (c) above, the Contractor hereby grants to the Government a nonexclusive, paid-up license throughout the world, of the scope set forth below, under any copyright owned by the Contractor, in any work of authorship prepared for or acquired by the Government under this contract, to reproduce the work in copies or phonorecords, to distribute copies or phonorecords to the public, to perform or display the work publicly, and to prepare derivative works thereof, and to have others do so for Government purposes. With respect to technical data and computer software in which the Government has unlimited rights, the license shall be of the same scope as the rights set forth in the definition of "unlimited rights" in DFARS 227.471. With respect to technical data in which the Government has limited rights, the scope of the license is limited to the rights set forth in the definition of "limited rights". With respect to computer software which the parties have agreed will be furnished with restricted rights, the scope of the license is limited to such rights.

(2) Unless written approval of the Contracting Officer is obtained, the Contractor shall not include in technical data or computer software prepared for or

acquired by the Government under this contract any works of authorship in which copyright is not owned by the Contractor without acquiring for the Government any rights necessary to perfect a copyright license of the scope specified herein.

(3) As between the Contractor and the Government, the Contractor shall be considered the "person for whom the work was prepared" for the purpose of determining authorship under Section 201(b) of Title 17, United States Code.

(4) Technical data delivered under this contract which carries a copyright notice shall also include the following statement which shall be placed thereon by the Contractor, or should the Contractor fail, by the Government:

This material may be reproduced by or for the U.S. Government pursuant to the copyright license under the clause at 252.227–7013 (date).

(f) *Removal of Unjustified and Non-conforming Markings.*

(1) *Unjustified Technical Data Markings.* Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may, at the Contractor's expense, correct, cancel, or ignore any marking not justified by the terms of this contract on any technical data furnished hereunder in accordance with the clause of this contract entitled "Validation of Restrictive Markings on Technical Data", DFARS 252.227–7037.

(2) *Non-conforming Technical Data Markings.* Correction of non-conforming markings is not subject to such clause. The Government may, at the Contractor's expense, correct any non-conforming markings if the Contracting Officer notifies the Contractor and the Contractor fails to correct the non-conforming markings within 60 days.

(3) *Unjustified and Non-conforming Computer Software Markings.* Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may correct, cancel, or ignore any marking not authorized by the terms of this contract on any computer software furnished hereunder, if:

(i) the Contractor fails to respond within sixty (60) days to a written inquiry by the Government concerning the propriety of the markings, or

(ii) the Contractor's response fails to substantiate, within sixty (60) days after written notice, the propriety of restricted rights markings by identification of the restrictions set forth in the contract.

In either case, the Government shall give written notice to the Contractor of the action taken.

(g) *Relation to Patents.* Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(h) *Limitation on Charges for Data and Computer Software.* The Contractor recognizes that it is the policy of the Government not to pay, or to allow to be paid, any charges for data or computer

software which the Government has a right to use and disclose to others without restriction and Contractor agrees to refund any such payments. This policy applies to contracts that involve payments by subcontractors and those entered into through the Military Assistance Program, in addition to U.S. Government prime contracts. However, it does not apply to reasonable reproduction, handling, mailing, and similar administrative costs.

(i) *Acquisition of Technical Data and Computer Software from Subcontractors.*

(1) Whenever any technical data or computer software is to be obtained from a subcontractor under this contract, the Contractor shall use this same clause in the subcontract without alteration, and no other clause shall be used to enlarge or diminish the Government's or the Contractor's rights in the subcontractor data or computer software which is required for the Government.

(2) Technical data required to be delivered by a subcontractor shall normally be delivered to the next higher-tier contractor. However, when there is a requirement in the prime contract for data which may be submitted with other than unlimited rights by a subcontractor then said subcontractor may fulfill its requirement by submitting such data directly to the Government, rather than through the prime Contractor.

(3) The Contractor and higher-tier subcontractors will not use their power to award subcontracts as economic leverage to obtain rights in technical data or computer software from their subcontractors.

(j) *Notice of Limitations on Government Rights.*

(1) Unless the Schedule provides otherwise, and subject to (j)(2) below, the Contractor will promptly notify the Contracting Officer in writing of the intended use by the Contractor or a subcontractor in performance of this contract of any item, component, or process for which technical data would contain any restrictions on the Government's right to use, disclose, or have others use such data.

(2) Such notification is not required with respect to:

(i) standard commercial items which are manufactured by more than one source of supply; or

(ii) items, components, or processes for which such notice was given pursuant to prenotification of rights in technical data in connection with this contract.

(3) Unless the schedule provides otherwise, Contracting Officer approval is not necessary under this clause for the Contractor to use the item, component, or process in the performance of the contract.

(End of clause)

Alternate I (May 1987)

As prescribed at 227.474–4, add the following paragraph to the basic clause:

( )(i) Notwithstanding any other provision of this contract, the Government shall have (specify additional Government rights here, i.e., reprocurement) rights in restrictive rights technical data furnished under this contract, effective on the day immediately following the date specified in the contract for the expiration of the restrictive rights legends.

Such expiration date shall be marked on each piece of data subject to expiring restrictions furnished under the contract.

(ii) Technical data subject to the expiration of restrictive rights shall be marked with the limited rights legend set forth in paragraph (b)(2)(i) above with the title of the legend modified to read:

Restrictive Rights Legend (Subject to Expiration)

Contract No. ———————————
Contractor: ———————————
The following statement shall also be added to the legend:

Restrictive rights shall become (*specify additional Government rights here, i.e., reprocurement*) rights on (*insert expiration date*).

The modified legend shall be included on any reproduction of the restrictive rights data, in whole or in part.

Alternate II (May 1987)

As prescribed at 227.475–8, add the following paragraph to the basic clause:

( ) Publication for sale. If, prior to publication for sale by the Government and within the period designated in the contract or task order, but in no event later than twenty-four (24) months after delivery of such data, the Contractor publishes for sale any data (1) designated in the contract as being subject to this paragraph and (2) delivered under this contract, and promptly notifies the Contracting Officer of these publications, the Government shall not publish such data for sale or authorize others to do so. This limitation on the Government's right to publish for sale any such data so published by the Contractor shall continue as long as the data is protected as a published work under the copyright law of the United States and is reasonably available to the public for purchase. Any such publication shall include a notice identifying this contract and recognizing the license rights of the Government under this clause. As to all such data not so published by the Contractor, this paragraph shall be of no force or effect.

252.227–7014   [Reserved]

252.227–7015   [Reserved]

252.227–7016   Contract schedule items requiring experimental, developmental, or research work.

As prescribed at 227.412(d), insert the following clause:

Contract Schedule Items Requiring Experimental, Developmental, or Research Work (Mar 1975)

For purposes of defining the nature of the work and the scope of rights in data granted to the Government pursuant to the "Rights in Technical Data and Computer Software" clause of this contract, it is understood and agreed that items (list applicable schedule line items or sub-line items or data exhibit numbers) require the performance of experimental, developmental, or research work. This clause does not constitute a determination as to whether or not any data required to be delivered under this contract falls within the definition of limited rights data.

(End of clause)

252.227–7017   Rights in technical data—major system and subsystem contracts.

As prescribed at 227.482(c), insert the following clause:

Rights in Technical Data—Major System and Subsystem Contracts (Nov 1971)

The Contractor agrees that it will neither incorporate any provision in its subcontracts nor enter into any agreement, written or oral, either directly or indirectly, with subcontractors which has or may have the effect of prohibiting subcontractor sales directly to the Government of any supplies, like those manufactured or services like those furnished by such subcontractor under this contract or any follow-on production contract, or under any contract for parts or components of supplies furnished under this or any follow-on production contract. The Contractor further agrees that all data, including data in which the Government may not have unlimited rights, furnished or otherwise made available by the Contractor for use by subcontractors in furnishing such supplies or services, will be furnished to such subcontractors without payment to the Contractor of any fee, royalty or other charge by the subcontractor or the Government for use by such subcontractors in furnishing such supplies or services for sale directly to the Government. For the purpose of this paragraph, the term "fee, royalty or other charge" shall not include within its meaning fees, royalties of charges for reasonable returns on use of patents.

(End of clause)

252.227–7018   Restrictive markings on technical data.

As prescribed at 227.473–4(b), insert the following clause:

Restrictive Markings on Technical Data (May 1987)

(a) The Contractor shall have, maintain, and follow throughout the performance of this contract, procedures sufficient to assure that restrictive markings are used on technical data required to be delivered hereunder only when authorized by the terms of the "Rights in Technical Data and Computer Software" clause of this contract. Such procedures shall be in writing. The Contractor shall also maintain a quality assurance system to assure compliance with this clause.

(b) As part of the procedures the Contractor shall maintain (1) records to show how the procedures of paragraph (a) above were applied in determining that the markings are authorized, as well as (2) such records as are sufficient to justify the validity of any restrictive markings on technical data delivered under this contract.

(c) The Contractor shall, within sixty (60) days after award of this contract, identify in writing to the Contracting Officer by name or title the person(s) having the final responsibility within Contractor's organization for determining whether restrictive markings are to be placed on technical data to be delivered under this

contract. The Contractor hereby authorizes direct contact between the Government and such person(s) in resolving questions involving restrictive markings.

(d) The Contracting Officer may evaluate or verify the Contractor's procedures to determine their effectiveness. Upon request, a copy of such written procedures shall be furnished. The failure of the Contracting Officer to evaluate or verify such procedures shall not relieve the Contractor of the responsibility for complying with paragraphs (a) and (b) above.

(e) If the Contracting Officer should give written notification of any failure to maintain or follow the established procedures, or of any material deficiency in the procedures, the corrective action shall be accomplished within the time specified by the Contracting Officer.

(f) This clause shall be included in each subcontract under which technical data is required to be delivered. When so inserted, "Contractor" shall be changed to "Subcontractor".

(End of clause)

252.227-7019 Identification of restricted rights computer software.

As prescribed at 227.482(e), insert the following provision:

Identification of Restricted Rights Computer Software (Apr 1977)

The Offeror's attention is called to the requirement in the "Rights in Technical Data and Computer Software" clause that any restrictions on the Government concerning use or disclosure of computer software which was developed at private expense and is to be delivered under the contract must be set forth in an agreement made a part of the contract, either negotiated prior to award or included in a modification of the contract before such delivery. Therefore, the Offeror is requested to identify in his proposal to the extent feasible any such computer software which was developed at private expense and upon the use of which it desires to negotiate restrictions, and to state the nature of the proposed restrictions. If no such computer software is identified, it will be assumed that all deliverable computer software will be subject to unlimited rights.

(End of provision)

252.227-7020 Rights in data—special works.

As prescribed at 227.482(f), insert the following clause:

Rights in Data—Special Works (Mar 1979)

(a) The term "works" as used herein includes literary, musical, and dramatic works; patomimes and choreographic works; pictorial, graphic, and sculptural works; motion pictures and other audiovisual works; sound recordings; and works of similar nature. The term does not include financial reports, cost analyses, and other information incidental to contract administration.

(b) All works first produced in the performance of this contract shall be the sole property of the Government, which shall be considered the "person for whom the work was prepared" for the purpose of authorship in any copyrightable work under Section 201(b) of Title 17, United States Code, and the Government shall own all of the rights comprised in the copyright. The Contractor agrees not to assert or authorize others to assert any rights, or establish any claim in copyright, in such works. The Contractor, unless directed to the contrary by the Contracting Officer, shall place on any such work delivered under this contract the following notice:

c *(Year date of delivery)* United States Government as represented by the Secretary of *(department)*. All rights reserved. In the case of a phonorecord, the c will be replaced by P.

(c) Except as otherwise provided in this contract, the Contractor hereby grants to the Government a nonexclusive, paid-up license throughout the world (1) to reproduce in copies or phonorecords, to prepare derivative works, to distribute copies or phonorecords, and to perform or display publicly any portion of a work which is not first produced in the peformance of this contract but in which copyright is owned by the Contractor and which is incorporated in the work furnished under this contract, and (2) to authorize others to do so for Government purposes.

(d) Unless written approval of the Contracting Officer is obtained, the Contractor shall not include in any works prepared for or delivered to the Government under this contract any works of authorship in which copyright is not owned by the Contractor or the Government without acquiring for the Government any rights necessary to perfect a license of the scope set forth in paragraph (c) above.

(e) The Contractor shall indemnify and save and hold harmless the Government, and its officers, agents and employees acting for the Government, against any liability, including costs and expenses, (1) for violation of proprietary rights, copyrights, or rights of privacy or publicity, arising out of the creation, delivery, or use of any works furnished under this contract, or (2) based upon any libelous or other unlawful matter contained in such works.

(f) Nothing contained in this clause shall imply a license to the Government under any patent, or be construed as affecting the scope of any license of other right otherwise granted to the Government under any patent.

(g) Paragraphs (c) and (d) above are not applicable to material furnished to the Contractor by the Government and incorporated in the work furnished under the contract; *Provided,* such incorporated material is identified by the Contractor at the time of delivery of such work.

(End of clause)

252.227-7021 Rights in data—existing works.

As prescribed at 227.482(g), insert the following clause:

Rights in Data—Existing Works (Mar 1979)

(a) The term "works" as used herein includes literary, musical, and dramatic works; pantomimes and choreographic

works; pictorial, graphic and sculptural works; motion pictures and other audiovisual works; sound recordings; and works of a similar nature. The term does not include financial reports, cost analyses, and other information incidental to contract administration.

(b) Except as otherwise provided in this contract, the Contractor hereby grants to the Government a nonexclusive, paid-up license throughout the world (1) to distribute, perform publicly, and display publicly the works called for under this contract and (2) to authorize others to do so for Government purposes.

(c) The Contractor shall indemnify and save and hold harmless the Government, and its officers, agents, and employees acting for the Government, against any liability, including costs and expenses, (1) for violation of proprietary rights, copyrights, or rights of privacy or publicity arising out of the creation, delivery, or use, of any works furnished under this contract, or (2) based upon any libelous or other unlawful matter contained in such works.

(End of clause)

252.227-7022 Government rights (unlimited).

As prescribed at 227.482(h), insert the following clause:

Government Rights (Unlimited) (Mar 1979)

(a) The Government shall have unlimited rights, in all drawings, designs, specifications, notes and other works developed in the performance of this contract, including the right to use same on any other Government design or construction without additional compensation to the Contractor. The Contractor hereby grants to the Government a paid-up license throughout the world to all such works to which he may assert or establish any claim under design patent or copyright laws. The Contractor for a period of three (3) years after completion of the project agrees to furnish the original or copies of all such works on the request of the Contracting Officer.
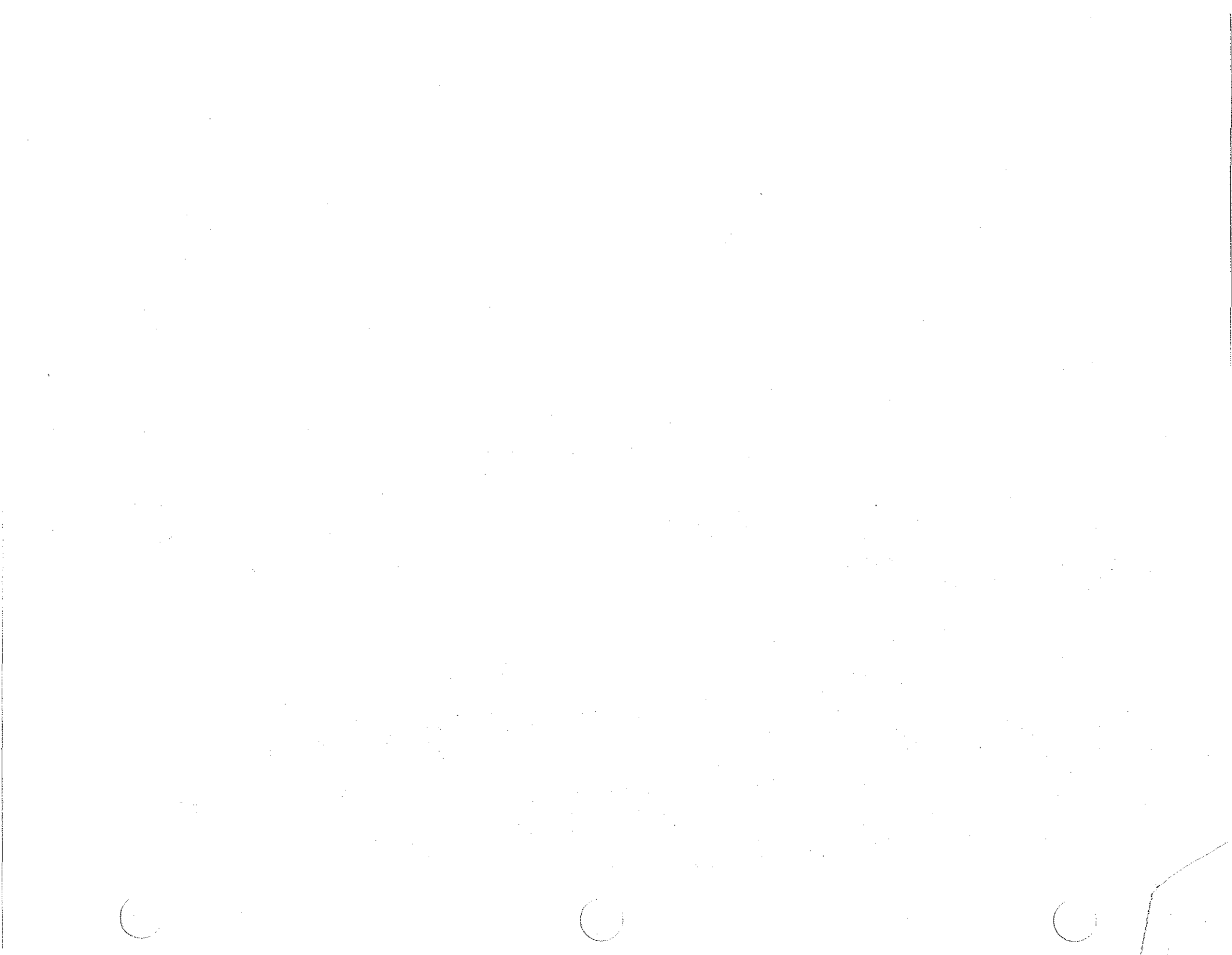
(End of clause)

252.227-7023 Drawings and other data to become property of government.

As prescribed at 227.482(i) insert the following clause:

Drawings and Other Data to Become Property of Government (Mar 1979)

All designs, drawings, specifications, notes and other works developed in the performance of this contract shall become the sole property of the Government and may be used on any other design or construction without additional compensation to the Contractor. The Government shall be considered the "person for whom the work was prepared" for the purpose of authorship in any copyrightable work under Section 201(b) of Title 17, United States Code. With respect thereto, the Contractor agrees not to assert or authorize others to assert any rights nor establish any claim under the design patent or copyright laws. The Contractor for a period of three (3) years after completion of

the project agrees to furnish all retained works on the request of the Contracting Officer. Unless otherwise provided in this contract, the Contractor shall have the right to retain copies of all works beyond such period.

(End of clause)

252.227-7024 Notice and approval of restricted designs.

As prescribed at 227.482(1), insert the following clause:

Notice and Approval of Restricted Designs (Apr 1984)

In the performance of this contract, the Contractor shall, to the extent practicable, make maximum use of structures, machines, products, materials, construction methods, and equipment that are readily available through Government or competitive commercial channels, or through standard or proven production techniques, methods, and processes. Unless approved by the Contracting Officer, the Contractor shall not produce a design or specification that requires in this construction work the use of structures, products, materials, construction equipment, or processes that are known by the Contractor to be available only from a sole source. The Contractor shall promptly report any such design or specification to the Contacting Officer and give the reason why it is considered necessary to so restrict the design or specification.

(End of clause)

252.227-7025 Rights in technical data and computer software (SBIR program).

As prescribed at 227.479, insert the following clause:

Rights in technical data and computer software (SBIR program) (May 1987)

(a) *Definitions.*

The terms used in this clause are defined in 227.471 of the Department of Defense Federal Acquisition Regulation Supplement (DFARS).

(b) *Rights in Technical Data.*

(1) *Limited Rights.* The Government shall have limited rights in:

(i) technical data, listed or described in an agreement incorporated into the Schedule of this contract, which the parties have agreed will be furnished with limited rights in accordance with 227.473-1(a) and 227.473-1(b)(2) and

(ii) unpublished technical data pertaining to items, components or processes developed exclusively at private expense, and unpublished computer software documentation related to computer software that is acquired with restricted rights, other than such data included in (b)(2)(i), (ii), or (iii), below. Limited rights shall be effective provided that only the portion or portions of each piece of data to which limited rights are to be asserted are identified (for example, by circling, underscoring, or note), and that the piece of data is marked with the legend below:

(A) the number of the prime contract under which the technical data is to be delivered; and

(B) the name of the Contractor and/or any subcontractor asserting limited rights.

Limited Rights Legend

Contract No. _____

Contractor: _____

___ ___ ___ ___
___ ___ ___ ___

The restrictions governing the use of technical data marked with this legend are set forth in the definition of "Limited Rights" in DFARS 227.471. This legend, together with the indications of the portions of this data, shall be included on any reproduction hereof which includes any part of the portions subject to limited rights. The limited rights legend shall be honored only as long as the data continues to meet the definition of limited rights.

(2) *Government Purpose License Rights.* For a period of two (2) years (or such other period as may be authorized by the Contracting Officer for good cause shown) after the delivery and acceptance of the last deliverable item under the contract, the Government shall have limited rights and, after the expiration of the two-year period, shall have Government purpose license rights in:

(i) technical data prepared or required to be delivered under this or any other Government contract or subcontract and constituting corrections or changes to Government-furnished data or computer software;

(ii) form, fit, or function data pertaining to items, components, or processes prepared or required to be delivered under this or any other Government contract or subcontract;

(iii) manuals or instructional materials (other than detailed manufacturing or process data) prepared or required to be delivered under this contract or any subcontract hereunder necessary for installation, operation, maintenance, or training purposes; and

(iv) any other technical data prepared or required to be delivered under this contract or subcontract hereunder, which is not otherwise subject to limited or unlimited rights pursuant to subparagraph (b)(1) or (b)(3) herein;

Government Purpose License Rights must be effective provided that only the portion or portions of each piece of data to which such rights are to be asserted are identified (for example, by circling, underscoring, or a note), and that the piece of data is marked with the legend below:

(A) the number of the prime contract under which the technical data is to be delivered; and

(B) the name of the contractor and/or any subcontractor asserting Government Purpose License Rights.

Government Purpose License Rights (SBIR Program)

Contract No. _____
Contractor: _____

For a period of two (2) years after delivery and acceptance of the last deliverable item under this contract, this technical data shall be subject to the restrictions contained in the definition of "Limited Rights" in Section 227.471 of the DoD FAR Supplement. After

the two-year period, the data shall be subject to the restrictions contained in the definition of "Government Purpose License Rights" in Section 227.471 of the DoD FAR Supplement. The Government assumes liability for unauthorized use or disclosure by others. This legend, together with the indications of the portions of the data which are subject to such limitations, shall be included on any reproduction hereof which contains any portions subject to such limitations and shall be honored only as long as the data continues to meet the definition on Government purpose license rights.

(3) *Unlimited Rights.* The Government shall have unlimited rights in:

(i) technical data required to be prepared or delivered under this contract or any subcontract hereunder that was previously delivered or previously required to be delivered to the Government with unlimited rights; and

(ii) technical data or computer software that is publicly available or has been released or disclosed by the Contractor without restriction on further use or disclosure.

(c) *Rights in Computer Software.*

(1) *Restricted Rights.*

(i) The Government shall have restricted rights in computer software, listed or described in a license or agreement made a part of this contract, which the parties have agreed with will be furnished with restricted rights, *Provided,* however, notwithstanding any contrary provision in any such license or agreement, the Government shall have the rights included in the definition of "restricted rights" in paragraph (a) above. Such restricted rights are of no effect unless the computer software is marked by the Contractor with the following legend:

Restricted Rights Legend

Use, duplication or disclosure is subject to restrictions stated in Contract No.
___with___(Name of Contractor)___

and the related computer software documentation includes a prominent statement of the restriction applicable to the computer software. The Contractor may not place any legend on computer software indicating restrictions on the Government's rights on such software unless the restrictions are set forth in a license or agreement made a part of this contract prior to the delivery date of the software. Failure of the Contractor to apply a restricted rights legend to such computer software shall relieve the Government of liability with respect to such unmarked software.

(ii) Notwithstanding subparagraph (c)(1)(i) above, commercial computer software and related documentation developed at private expense and not in public domain may, if the Contractor so elects, be marked with the following Legend:

Restricted Rights Legend

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at 252.227-7013.

(Name of Contractor and Address)

When acquired by the Government, commercial computer software and related documentation so legended shall be subject to the following:

(A) Title to and ownership of the software and documentation shall remain with the Contractor.

(B) User of the Software and documentation shall be limited to the facility for which it is acquired.

(C) The Government shall not provide or otherwise make avaialble the software or documentation, or any portion thereof, in any form, to any third party without the prior written approval of the Contractor. Third parties do not include prime contractors, subcontractors and agents of the Government who have the Government's permission to use the licensed software and documentation at the facility, and who have agreed to use the licensed software and documentation, only in accordance with these restrictions. This provision does not limit the right of the Government to use software, documentation, or information therein, which the Government may already have or obtain without restrictions.

(D) The Government shall have the right to use the computer software and documentation with the computer for which it is acquired at any other facility to which that computer may be transferred: to use the computer software and documentation with a backup computer when the primary computer is inoperative: to copy computer programs for safekeeping (archives) or backup purposes; and to modify the software and documentation or combine it with other software, *Provided*, that the unmodified portions shall remain subject to these restrictions.

(2) *Government Purpose License Rights.* For a period of two (2) years (or such other period as may be authorized by the Contracting Officer for good cause shown) after the delivery and acceptance of the last deliverable item under the contract, the Government shall have limited rights and, after expiration of the two-year period, shall have Government purpose license rights in:

(i) computer software resulting directly from performance of experimental, developmental or research work which was specified as an element of performance in this or any Government contract or subcontract;

(ii) computer software required to be originated or developed under a Government contract, or generated as a necessary part of performing a contract; and

(iii) any other computer software prepared or required to be delivered under this contract or subcontract hereunder, which is not otherwise subject to restricted or unlimited rights pursuant to subparagraph (c)(1) or (c)(3) herein.

Government purpose license rights shall be effective provided that each unit of software is marked with an abbreviated license rights legend reciting that the use, duplication, or disclosure of the software is subject to the same restrictions included in the same contract (identified by number) with the same contractor (identified by name). The

Government asssumes no liability for unauthorized use, duplication, or disclosures by others.

(3) *Unlimited Rights.* The Government shall have unlimited rights in:

(i) computer software required to be prepared to deliver under this or any subcontract hereunder that was previously delivered or previously required to be delivered to the Government under any contract or subcontract with unlimited rights;

(ii) computer software that is publicly available or has been or is normally released or disclosed by the Contractor without restriction on further use or disclosure; and

(iii) computer data bases, consisting of information supplied by the Government, information in which the Government has unlimited rights, or information which is in the public domain.

(d) *Technical Data and Computer Software Previously Provided Without Restriction.* Contractor shall assert no restrictions on the Government's rights to use or disclose any data or computer software which the Contractor has previously delivered to the Government without restriction. The limited or restricted rights provided for by this clause shall not impair the right of the Government to use similar or identical data or computer software acquired from other sources.

(e) *Copyright.*

(1) In addition to the rights granted under the provisions of paragraphs (b) and (c) above, the Contractor hereby grants to the Government a nonexclusive, paid-up license throughout the world, of the scope set forth below, under any copyright owned by the Contractor, in any work of authorship prepared for or acquired by the Government under this contract, to reproduce the work in copies or phonorecords, to distribute copies or phonorecords to the public, to perform or display the work publicly, and to prepare derivative works thereof, and to have others do so for Government purposes. With respect to technical data and computer software in which the Government has unlimited rights, the license shall be of the same scope as the rights set forth in the definition of "unlimited rights" in DFARS 227.471. With respect to technical data in which the Government has limited rights, the scope of the license is limited to the rights set forth in the definition of "limited rights". With respect to computer software which the parties have agreed will be furnished with restricted rights. The scope of the license is limited to such rights.

(2) Unless written approval of the Contracting Officer is obtained, the Contractor shall not include in technical data or computer software prepared for or acquired by the Government under this contract any works of authorship in which copyright is not owned by the Contractor without acquiring for the Government any rights necessary to perfect a copyright license of the scope specified herein.

(3) As between the Contractor and the Government, the Contractor shall be considered the "person for whom the work was prepared" for the purpose of determining authorship under Section 201(b) of Title 17, United States Code.

(4) Technical data delivered under this contract which carries a copyright notice

shall also include the following statement which shall be placed thereon by the Contractor, or should the Contractor fail, by the Government: This material may be reproduced by or for the U.S. Government pursuant to the copyright license under the clause at 252.227-7025 (date).

(f) *Removal of Unjustified and Non-conforming Markings.*

(1) *Unjustified Technical Data Markings.* Notwithstanding any provision of the contract concerning inspection and acceptance, the Government may, at the Contractor's expense, correct, cancel, or ignore any marking not authorized by the terms of this contract on any technical data furnished hereunder in accordance with the clause of this contract entitled "Validation of Restrictive Markings on Technical Data", DFARS 252.227–7037.

(2) *Non-conforming Technical Data Markings.* Correction of non-conforming markings is not subject to DFARS 252.227–7037. The Government may, at the Contractor's expense. correct any non-conforming markings if the Contracting Officer notifies the Contractor and the Contractor fails to correct the non-conforming markings within 60 days.

(3) *Unjustified and Non-conforming Computer Software Markings.* Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may correct, cancel, or ignore any marking not authorized by the terms of this contract on any computer software furnished hereunder, if:

(i) the Contractor fails to respond within sixty (60) days to a written inquiry by the Government concerning the propriety of the markings, or

(ii) the Contractor's response fails to substantiate, within sixty (60) days after written notice, the propriety of restricted rights markings by identification of the restrictions set forth in the contract.

In either case. the Government shall give written notice to the Contractor of the action taken.

(g) *Relation to Patents.* Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(h) *Limitation of Charges for Data and Computer Software.* The Contractor recognizes that is is the policy of the Government not to pay, or to allow to be paid, any charges for data or computer software which the Government has a right to use and disclose to others without restriction and Contractor agrees to refund any such payments. This policy applies to contracts that involve payments by subcontractors and those entered into through the Military Assistance Program, in addition to U.S. Government prime contracts. However, it does not apply to reasonable reproduction, handling, mailing, and similar administrative costs.

(i) *Acquisition of Data and Computer Software from Subcontractors.*

(1) Whenever any technical data or computer software is to be obtained from a

subcontractor under this contract, the Contractor shall use this same clause in the subcontract, without alteration, and no other clause shall be used to enlarge or diminish the Government's or the Contractor's rights in the subcontractor data or computer software which is required for the Government.

(2) Technical data required to be delivered by a subcontractor shall normally be delivered to the next high-tier contractor. However, when there is a requirement in the prime contract for data which may be submitted with other than unlimited rights by a subcontractor, then said subcontractor may fulfill its requirement by submitting such data directly to the Government, rather than through the prime Contractor.,

(3) The Contractor and higher-tier subcontractors will not use their power to award subcontracts as economic leverage to obtain rights in technical data or computer software from their subcontractors.

(j) *Notice of Limitations on Government Rights.*

(1) Unless the Schedule provides otherwise, and subject to (j)(2) below, the Contractor will promptly notify the Contracting Officer in writing of the intended use by the Contractor or a subcontractor in performance of this contract of any item, component, or process for which technical data would contain any restrictions on the Government's right to use, disclose, or have others use such data.

(2) Such notification is not required with respect to

(i) standard commercial items which are manufactured by more than one source of supply; or

(ii) items, components, or processes for which such notice was given pursuant to prenotification of rights in technical data in connection with this contract.

(3) Unless the schedule provides otherwise, Contracting Officer approval is not necessary under this clause for the Contractor to use the item, component, or process in the performance of the contract.

(End of clause)

252.227-7026 Deferred delivery of technical data of computer software.

As prescribed at 227.482(1), insert the following clause:

Deferred Delivery of Technical Data or Computer Software (Nov 1974)

The Government shall have the right to require, at any time during the performance of this contract, within two (2) years after eigher acceptance of all items (other than data or computer software) to be delivered under this contract or termination of this contract, whichever is later, the delivery of any technical data or computer software item identified in this contract as "deferred delivery" data or computer software. The obligation to furnish such technical data required to be prepared by a subcontractor and pertaining to an item obtained from him shall expire two (2) years after the date Contractor accepts the last delivery of that item from that subcontractor for use in performing this contract.

(End of clause)

252.227-7027 Deferred ordering of technical data or computer software.

As prescribed at 227.482(m), insert the following clause:

Deferred Ordering of Technical Data or Computer Software (Nov 1974)

In addition to technical data or computer software specified elsewhere in this contract to be delivered hereunder, the Government may, at any time during the performance of this contract or within a period of three (3) years after acceptance of all items (other than technical data or computer software) to be delivered under this contract or the termination of this contract, order any technical data or computer software (as defined in the "Rights in Technical Data and Computer Software" clause of this contract) generated in the performance of this contract or any subcontract hereunder. When such technical date or computer software is ordered, the Contractor shall be compensated for converting the data or computer software into the prescribed form, for reproduction and delivery. The obligation to deliver such technical data of a subcontractor and pertaining to an item obtained from him shall expire three (3) years after the date the Contractor accepts the last delivery of that item from that subcontractor under this contract. The Government's rights to use said data or computer software shall be pursuant to the "Rights in Technical Data and Computer Software" clause of this contract.

(End of clause)

252.227-7028 Requirement for technical data certification.

As prescribed at 227.482(n), insert the following provision:

Requirement for Technical Data Certification (Apr 1974)

The Offeror shall submit with its offer a certification as to whether the Offeror has delivered or is obligated to deliver to the Government under any contract or subcontract the same or substantially the same technical data included in its offer; if so, the Offeror shall identify one such contract or subcontract under which such technical data was delivered or will be delivered, and the place of such delivery.

(End of provision)

252.227-7029 Identification of technical data.

As prescribed at 227.482(o), insert the following clause:

Identification of Technical Data (Mar 1975)

Technical Data (as defined in the "Rights in Technical Data and Computer Software" clause of this contract) delivered under this contract shall be marked with the number of this contract, name of Contractor, and name of any subcontractor who generated the data.

(End of clause)

252.227-7030 Technical data—withholding of payment.

As prescribed at 227.482(p), insert the following clause:

Technical Data—Withholding of Payment (Jul 1976)

(a) If "Technical Data" as defined in the clause of this contract entitled "Rights in Technical Data and Computer Software"), or any part thereof, specified to be delivered under this contract, is not delivered within the time specified by this contract or is deficient upon delivery (including having restrictive markings not specifically authorized by this contract), the Contracting Officer may until such data is accepted by the Government, withhold payment to the Contractor of ten percent (10%) of the total contract price or amount unless a lesser withholding is specified in the contract. Payments shall not be withheld nor any other action taken pursuant to this paragraph when the Contractor's failure to make timely delivery or to deliver such data without deficiencies arises out of causes beyond the control and without the fault or negligence of the Contractor.

(b) After payments total ninety percent (90%) of the total contract price or amount and if all technical data specified to be delivered under this contract has not been accepted, the Contracting Officer may withhold from further payment such sum as the Contracting Officer considers appropriate, not exceeding ten percent (10%) of the total contract price or amount unless a lesser withholding limit is specified in the contract.

(c) The withholding of any amount or subsequent payment to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract.

(End of clause)

252.227-7031 Data requirements.

As prescribed at 227.482(q), insert the following clause:

Data Requirements (Apr 1972)

(a) Data means recorded information, regardless of form or characteristics.

(b) The Contractor is required to deliver only the data items listed on DD Form 1423 (Contract Data Requirements List) and data items identified in and deliverable under any contract clause of FAR Subpart 52.2 and DoD FAR Supplement Subpart 52.2 made a part of the contract.
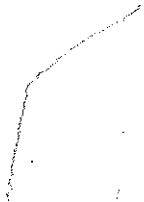
(End of clause)

252.227-7032 Rights in technical data and computer software (foreign).

As prescribed at 227.482(r), insert the following clause:

Rights in Technical Data and Computer Software (Foreign) (Jun 1975)

The United States Government may duplicate, use, and disclose in any manner for any purposes whatsoever, including delivery

to other governments for the furtherance of mutual defense of the United States Government and other governments, all technical data including reports, drawings and blueprints, and all computer software, specified to be delivered by the Contractor to the United States Government under this contract.

(End of clause)

252.227-7033 Rights in shop drawings.

As prescribed at 227.482(s), insert the following clause:

Rights in Shop Drawings (Apr 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

(End of clause)

252.227-7034 Patents-subcontracts.

As prescribed at 227.304-4, insert the following clause:

Patents-Subcontracts (Apr 1984)

The Contractor will include the clause at FAR 52.227-12, Patent Rights—Retention by the Contractor (Long Form) suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental, or research work to be performed by other than a small business firm or nonprofit organization.

(End of clause)

252.227-7035 Prenotification of rights in technical data.

As prescribed at 227.482(t), insert the following provision:

Prenotification of Rights in Technical Data (May 1987)

(a) *Prenotification of Limitations on Government Rights.*

In order for the Government to make informed judgments concerning the competitive reprocurement potential of items, components, processes, or computer software developed at private expense that an Offeror intends to deliver under a resultant contract, Offerors shall identify to the maximum practicable extent in their response to this solicitation such privately developed items, components, processes, or computer software and the technical data which they:

(1) intend to deliver with limited rights;

(2) intend to deliver with Government Purpose License Rights; or

(3) have not yet determined if such rights should apply.

This requirement does not apply to standard commercial items which are manufactured by more than one source of

supply. If an Offeror asserts other than unlimited rights to any technical data in its proposal responding to this requirement, Government failure to object to or reject any such assertion shall not be construed to constitute agreement to any such data rights assertion. Offerors will furnish, at the written request of the Contracting Officer, evidence to support any such assertion.

(End of provision)

252.227-7036 Certification of technical data conformity.

As prescribed at 227.482(u), insert the following clause:

Certification of Technical Data Conformity (May 1987)

(a) All technical data delivered under this contract shall be accompanied by the following written certification:

The Contractor, _____, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. _____ is complete, accurate, and complies with all requirements of the contract.

Date _____
Name and Title of
Certifying Official _____

This written certification shall be dated and the certifying official (identified by name and title) shall be duly authorized to bind the Contractor by the certification.

(b) The Contractor shall identify, by name and title, each individual (official) authorized by the Contractor to certify in writing that the technical data is complete, accurate, and complies with all requirements of the contract. The Contractor hereby authorizes direct contact with the authorized individual responsible for certification of technical data. The authorized individual shall be familiar with the Contractor's technical data conformity procedures and their application to the technical data to be certified and delivered.

(c) Technical data delivered under this contract may be subject to reviews by the Government during preparation and prior to acceptance. Technical data is also subject to reviews by the Government subsequent to acceptance. Such reviews may be conducted as a function ancillary to other reviews, such as in-process reviews or configuration audit reviews.

(End of clause)

252.227-7037 Validation of restrictive markings on technical data.

As prescribed in 227.482(v) insert the following clause:

Validation of Restrictive Markings on Technical Data (May 1987)

(a) *Definition.* The terms used in this clause are defined in 227.471 of the Department of Defense Federal Acquisition Regulation Supplement (DFARS).

(b) *Justification.* The Contractor or subcontractor at any tier is responsible for maintaining records sufficient to justify the validity of its markings that impose

restrictions on the Government and others to use, duplicate, or disclose technical data delivered or required to be delivered under the contract or subcontract, and shall be prepared to furnish to the Contracting Officer a written justification for such restrictive markings in response to a challenge under paragraph (d) below.

(c) *Prechallenge Request for Information.*

(1) The Contracting Officer may request the Contractor or subcontractor to furnish a written explanation for any restriction asserted by the Contractor or subcontractor on the right of the United States or others to use technical data. If, upon review of the explanation submitted, the Contracting officer remains unable to ascertain the basis of the restrictive marking, the Contracting Officer may further request the Contractor or subcontractor to furnish additional information in the records of, or otherwise in the possession of or reasonably available to, the Contractor or subcontractor to justify the validity of any restrictive marking on technical data delivered or to be delivered under the contract or subcontract (e.g., a statement of facts accompanied with supporting documentation). The Contractor or subcontractor shall submit such written data as requested by the Contracting Officer within the time required or such longer period as may be mutually agreed.

(2) If the Contracting Officer, after reviewing the written data furnished pursuant to paragraph (c)(1) above, or any other available information pertaining to the validity of a restrictive marking, determines that reasonable grounds exist to question the current validity of the marking and that continued adherence to the marking would make impracticable the subsequent competitive acquisition of the item, component, or process to which the technical data relates. (Note: The Contracting Officer may also challenge the validity of the restricted markings if such technical data is publicly available, has been furnished to the Government without restriction, or has been otherwise made available without restriction.) When challenging the validity of restrictive markings, the Contracting Officer will follow the procedures described in paragraph (d) below.

(3) If the Contractor or subcontractor fails to respond to the Contracting Officer's request for information under paragraph (c)(1) above, and the Contracting Officer determines that continued adherence to the marking would make impracticable the subsequent competitive acquisition of the item, component, or process to which the technical data relates, the Contracting Officer may formally challenge the validity of the marking as described in paragraph (d) below.

(d) *Challenge.*

(1) Notwithstanding any provision of this contract concerning inspection and acceptance, if the Contracting Officer determines that a challenge to the restrictive marking is warranted, the Contracting Officer shall send a written challenge notice to the Contractor or subcontractor asserting the restrictive markings. Such challenge shall:

(i) state the specific grounds for challenging the asserted restriction;
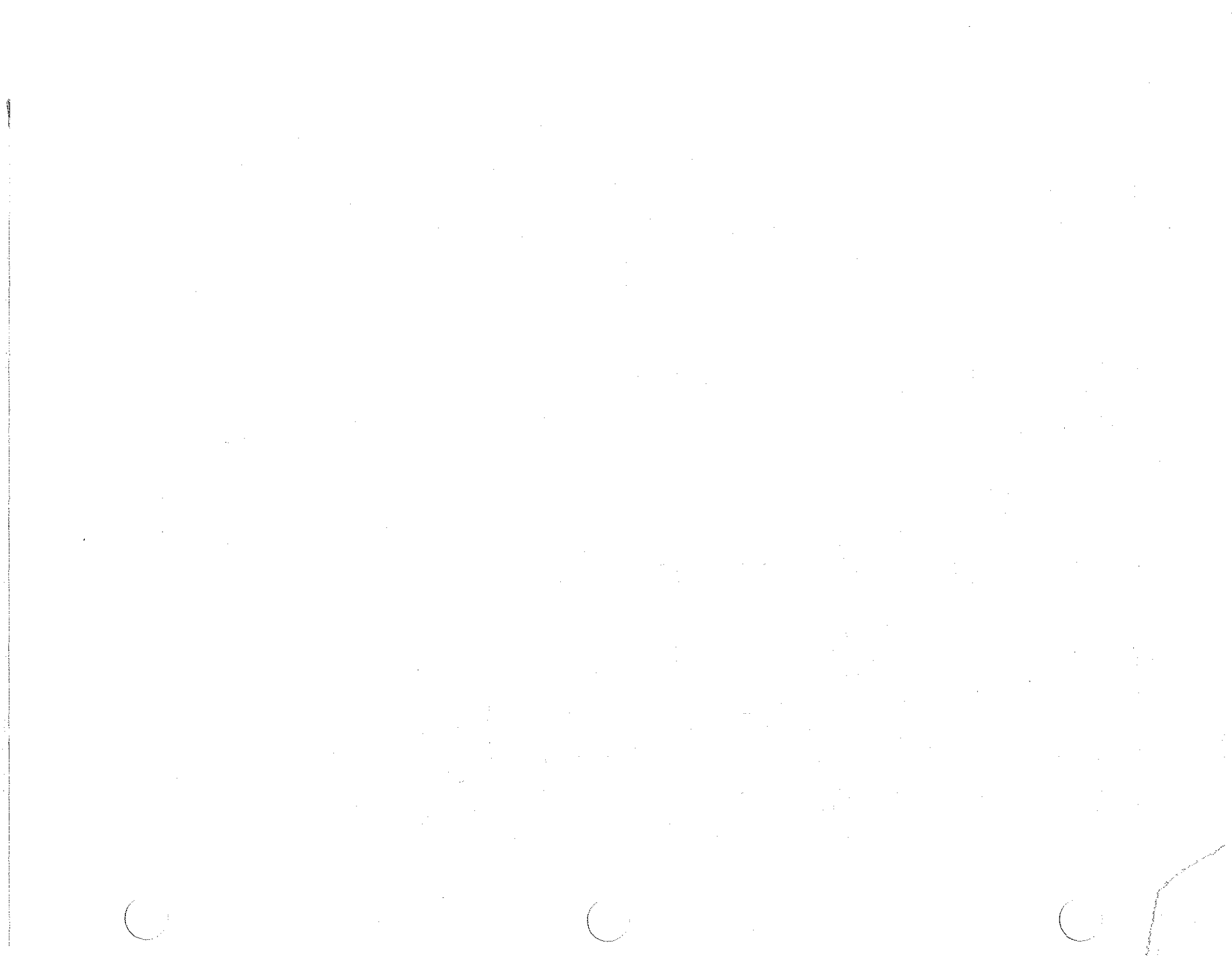
(ii) require a response within sixty (60) days justifying and providing sufficient evidence as to the current validity of the asserted restriction; and

(iii) state that a DoD Contracting Officer's final decision, issued pursuant to paragraph (f) below, sustaining the validity of a restrictive marking identical to the asserted restriction, within the three-year period preceding the challenge, shall serve as justification for the asserted restriction if the validated restriction was asserted by the same Contractor or subcontractor (or any licensee of such Contractor or subcontractor) to which such notice is being provided.

(iv) State that failure to respond to the challenge notice may result in issuance of a final decision pursuant to paragraph (e) below.

(2) The Contracting Officer shall extend the time for response as appropriate if the Contractor or subcontractor submits a written request showing the need for additional time to prepare a response.

(3) The Contractor's or subcontractor's written response shall be considered a claim within the meaning of the Contract Disputes Act of 1976 (41 U.S.C. 601 et seq.), and shall be certified in the form prescribed by FAR 33.207, regardless of dollar amount.

(4) A Contractor or subcontractor receiving challenges to the same restrictive markings from more than one Contracting Officer shall notify each Contracting Officer of the existence of more than one challenge. The notice shall also state which Contracting Officer initiated the first in time unanswered challenge. The Contracting Officer initiating the first in time unanswered challenge after consultation with the Contractor or subcontractor and the other Contracting Officers, shall formulate and distribute a schedule for responding to each of the challenge notices to all interested parties (all appropriate Contracting Officers and Contractors and subcontractors). The schedule shall afford the Contractor or subcontractor an equitable opportunity to respond to each challenge notice. All parties will be bound by this schedule.

(e) *Final Decision When Contractor or Subcontractor Fails to Respond.* Upon a failure of a Contractor or subcontractor to submit any response to the challenge notice the Contracting Officer will issue a final decision to the Contractor or subcontractor in accordance with the Disputes clause at FAR 52.233–1, pertaining to the validity of the asserted restriction. This final decision shall be issued as soon as possible after the expiration of the time period of paragraph (d)(1)(ii) or (2) above. Following the issuance of the final decision, the Contracting Officer will comply with the procedures in (f)(2)(ii) through (iv) below.

(f) *Final Decision When Contractor or Subcontractor Responds.*

(1) If the Contracting Officer determines that the Contactor or subcontractor has justified the validity of the restrictive marking, the Contracting Officer shall issue a final decision to the Contractor or subcontractor sustaining the validity of the restrictive marking, and stating that the Government will continue to be bound by the restrictive marking. This final decision shall

be issued within sixty (60) days after receipt of the Contractor's or subcontractor's response to the challenge notice, or within such longer period that the Contracting Officer has notified the Contractor or subcontractor that the Government will require. The notification of a longer period for issuance of a final decision will be made within sixty (60) days after receipt of the response to the challenge notice.

(2)(i) If the Contracting Officer determines that the validity of the restrictive marking is not justified, the Contracting Officer shall issue a final decision to the Contractor or subcontractor in accordance with the Disputes clause at FAR 52.233–1. Notwithstanding paragraph (e) of the Disputes clause, the final decision shall be issued within sixty (60) days after receipt of the Contractor's or subcontractor's response to the challenge notice, or within such longer period that the Contracting Officer has notified the Contractor or subcontractor of the longer period that the Government will require. The notification of a longer period for issuance of a final decision will be made within sixty (60) days after receipt of the response to the challenge notice.

(ii) The Government agrees that it will continue to be bound by the restrictive marking for a period of ninety (90) days from the issuance of the Contracting Officer's final decision under paragraph (f)(2)(i) of this clause. The Contractor or subcontractor agrees that, if it intends to file suit in the United States Claims Court it will provide a notice of intent to file suit to the Contracting Officer within ninety (90) days from the issuance of the Contracting Officer's final decision under paragraph (f)(2)(i) of this clause. If the Contractor or subcontractor fails to appeal, file suit, or provide a notice of intent to file suit to the Contracting Officer within the ninety (90)-day period, the Government may cancel or ignore the restrictive markings, and the failure of the Contractor or subcontractor to take the required action constitutes agreement with such Government action.

(iii) The Government agrees that it will continue to be bound by the restrictive marking where a notice of intent to file suit in the United States Claims Court is provided to the Contracting Officer within ninety (90) days from the issuance of the final decision under paragraph (f)(2)(i) of this clause. The Government will no longer be bound, and the Contractor or subcontractor agrees that the Government may strike or ignore the restrictive markings, if the Contractor or subcontractor fails to file its suit within one (1) year after issuance of the final decision. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, that urgent or compelling circumstances significantly affecting the interest of the United States will not permit waiting for the filing of a suit in the United States Claims Court, the Contractor or subcontractor agrees that the agency may, following notice to the Contractor or subcontractor, authorize release or disclosure of the technical data. Such agency determination may be made at any time after issuance of the final decision and will not affect the Contractor's or subcontractor's

right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(iv) The Government agrees that it will be bound by the restrictive marking where an appeal or suit is filed pursuant to the Contract Disputes Act until final disposition by an agency Board of Contract Appeals or the United States Claims Court. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, following notice to the Contractor that urgent or compelling circumstances significantly affecting the interest of the United States will not permit awaiting the decision by such Board of Contract Appeals or the United States Claims Court, the Contractor or subcontractor agrees that the agency may authorize release or disclosure of the technical data. Such agency determination may be made at any time after issuance of the final decision and will not affect the Contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(g) *Final Disposition of Appeal or Suit.*

(1) If the Contractor or subcontractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is sustained—

(i) The restrictive marking on the technical data shall be cancelled, corrected or ignored; and

(ii) If the restrictive marking is found not to be substantially justified, the Contractor or subcontractor, as appropriate, shall be liable to the Government for payment of the cost to the Government of reviewing the restrictive marking and the fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Government in challenging the marking, unless special circumstances would make such payment unjust.

(2) If the Contractor or subcontractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is not sustained—

(i) The Government shall continue to be bound by the restrictive marking; and

(ii) The Government shall be liable to the Contractor or subcontractor for payment of fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Contractor or subcontractor in defending the marking, if the challenge by the Government is found not to have been made in good faith.

(h) *Duration of Right to Challenge.* The Government may review the validity of any restriction on technical data, delivered or to be delivered under a contract, asserted by the Contractor or subcontractor. During the period within three (3) years of final payment on a contract or within three (3) years of delivery of the technical data to the Government, whichever is later, the Contracting Officer may review and make a written determination to challenge the restriction. The Government may, however, challenge a restriction on the release, disclosure or use of technical data at any time if such technical data (1) is publicly

available; (2) has been furnished to the United States without restriction; or (3) has been otherwise made available without restriction. Only the Contracting Officer's final decision resolving a formal challenge by sustaining the validity of a restrictive marking constitutes "validation" as addressed in 10 U.S.C. 2321. A decision by the Government, or a determination by the Contracting Officer, to not challenge the restrictive marking or asserted restriction shall not constitute "validation".

(i) *Privity of Contract.* The Contractor or subcontractor agrees that the Contracting Officer may transact matters under this clause directly with subcontractors at any tier that assert restrictive markings. However, this clause neither creates nor implies privity of contract between the Government and subcontractors.

(j) *Flowdown.* The Contractor or subcontractor agrees to insert this clause in subcontracts at any tier requiring the delivery of technical data.

(End of clause)

[FR Doc. 87–8562 Filed 4–15–87; 8:45 am]
BILLING CODE 3810–01–M

Department of the Air Force

48 CFR Part 5315

Department of the Air Force Federal Acquisition Regulation Supplement; Contracting by Negotiation

AGENCY: Department of the Air Force, Department of Defense.
ACTION: Final rule.

SUMMARY: FAR Subpart 15.8, Price Negotiation, is being supplemented by the Air Force to set forth the Air Force policy on the use and control of Formula Pricing Agreements (FPAs).
EFFECTIVE DATE: April 29, 1987.
FOR FURTHER INFORMATION CONTACT:
Capt. Jeff Parsons, SAF/AQCP, Room 4C251, Pentagon, Washington, DC 20330–1000, (202) 697–6522.
SUPPLEMENTARY INFORMATION:

A. Background

In a recent spare parts pricing review, the GAO identified instances where buyers were using the existence of Formula Pricing Agreements (FPAs) as justification for accepting proposed prices without performing adequate price analysis. A review of this finding by members of the Air Staff determined that inadequate control and guidance on the use of FPAs contributed to this problem.

FPAs are a very effective tool for pricing large volumes of spare parts when used properly. Normally, they are written agreements between the Government and a contractor and set forth a methodology and the specific

rates and factors to follow when pricing items covered by the FPA. However, their use cannot be taken for granted because they do not in all cases, guarantee fair and reasonable prices for each individual item.

In order to maintain FPAs as an effective pricing tool, the Air Force has determined that the proper controls for their use need to be clarified in the AF FAR Supplement.

B. Public Comments

On October 22, 1986, a notice of the proposed rule was published in the Federal Register (51 FR 37451) requesting interested parties to submit comments to be considered in the formulation of the final rule. As a result of the notice, 3 comments were received and considered.

C. Regulatory Flexibility Act

In accordance with the Regulatory Flexibility Act, this rule does not have a significant economic impact on a substantial number of small entities because FPAs shall be negotiated only with contractors (1) having a significant volume of Government business, (2) who are under Government in-plant contract administration, and (3) who have a resident DCAA auditor.

D. Paperwork Reduction Act

The rule does not contain information collection requirements which require the approval of OMB under 44 U.S.C. 3501 *et. seq.*

List of Subjects in 48 CFR Part 5315

Government procurement.

Therefore, Title 48 of the Code of Federal Regulations is amended by adding Part 5315 to read as follows:

PART 5315—CONTRACTING BY NEGOTIATION

Subpart 5315.8—Price Negotiation

Sec.
5315.890   Formula pricing agreements (FPA).
5315.890–1   Description.
5315.890–2   Policy.
5315.890–3   Responsibilities.
5315.890–4   FPAs negotiated by other DOD agencies.

Authority: 5 U.S.C. 301 and FAR 1.301.

Subpart 5315.8—Price Negotiation

5315.890   Formula pricing agreements (FPA).

5315.890–1   Description.

Formula pricing agreements (FPAs), sometimes referred to as spare parts pricing agreements, set forth a pricing methodology and the specific rates and factors to be used when pricing items

covered by the FPA. An FPA differs from a Forward Pricing Rate Agreement (FPRA) in that an FPA addresses a pricing methodology limited to a specific group of items and its use by different buying activities is optional; whereas FPRAs are generally limited to agreements on individual rates or factors (including Cost Estimating Relationships (CERs)), apply to many items, and are required to be used by all buying activities. Any pricing agreement made with a contractor shall be considered to be an FPA if it contains the following features:

(a) The agreement governs the pricing methodology of more than one future contract action and identifies the category(s) of purchases to be covered (for example, F–100 replenishment spares).

(b) The pricing agreement is expressed in terms which specify the direct cost inputs and the rates and/or factors to be applied to identified bases plus profit or fee.

5315.890–2   Policy.

FPAs should be established as necessary to ease negotiation of large numbers of contract actions and reduce administrative costs and lead time. However, FPAs shall only be negotiated with contractors having a significant volume of Government business and application normally shall be limited to acquisitions under $100,000. FPAs anticipating individual acquisitions over $100,000, shall be approved by the HCA and shall specifically establish the maximum dollar amount for an acquisition priced using the FPA. Proposals received above $100,000 must be submitted with an SF 1411 and a certificate of current cost or pricing data. All FPAs shall—

(a) Be in writing and signed by a contracting officer;

(b) Only be negotiated with contractors who are under Government in-plant contract administration cognizance and have a resident DCAA auditor. (This requirement may be waived with HCA approval);

(c) Not cover cost elements, such as those portions of direct labor and material costs which require discrete estimating and analysis;

(d) Identify all rates/factors that are a part of the FPA; however, the FPA may reference a FPRA(s) as long as the agreement prescribes the effect and treatment of changes in the FPRA;

(e) Provide specific terms and conditions covering expiration date, application, and data requirements (e.g. actual cost data) for systematic
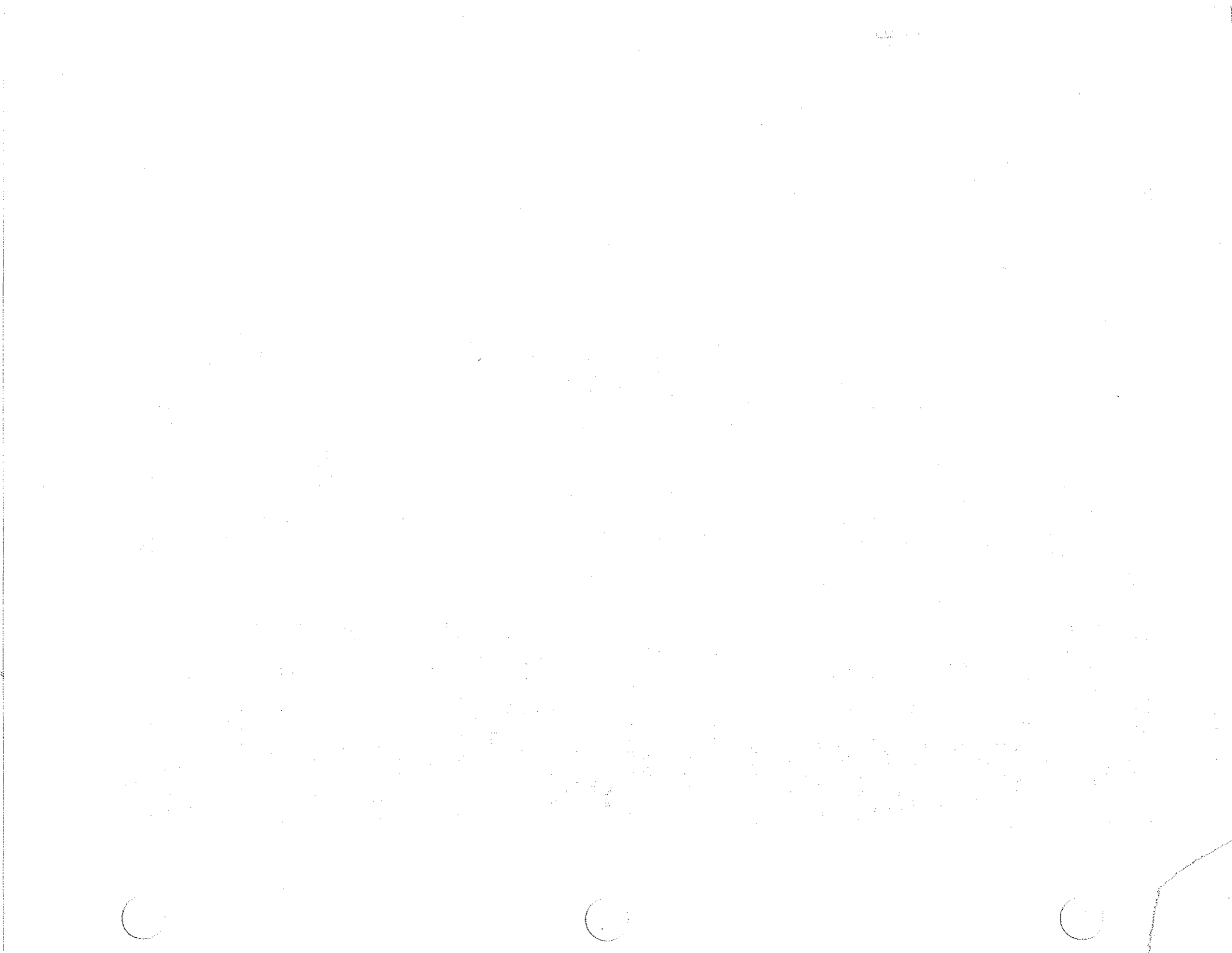
227.473-7 Non-Disclosure Agreements.

Technical data obtained with rights other than unlimited shall not be released outside the Government unless the recipient of the data agrees to sign the following non-disclosure and non-use agreement consistent with the conditions of the restrictive rights.

REQUEST AND AGREEMENT FOR TECHNICAL DATA

FOR PURPOSES OF COMPETITIVE PROCUREMENT

The company or person identified below (also referred to in this request as "the assignee") hereby requests the technical data or technical data package (hereinafter referred to as "the data") listed in the attachment, which is incorporated herein, for use in the purposes of competitive procurement.

(1) If the data or any part of the data contains a Government Purpose License Rights Legend (hereinafter referred to as the "GPLR Legend"), then:

(i) The data shall: a) only be used for purposes of competitive procurement, i.e., to compete or to prepare to compete for future government contracts and; b) not be used for any commercial (i.e. non-governmental) purpose.

(ii) The assignee agrees to maintain records of each person or legal entity to whom it discloses the data and to provide the contractor identified in the Government Purpose License Rights Legend (hereinafter referred to as the "GPLR Legend") a copy of the records.

(iii) This agreement between the government and the assignee creates an obligation to protect the commercial rights in the data subject to a GPLR Legend. The contract between the government and

the contractor identified in the GPLR Legend creates the same obligation to protect the commercial rights of the contractor identified in the GPLR Legend. Thus, the assignee, upon receipt of the data subject to a GPLR Legend, accepts an obligation to protect the commercial rights of the contractor identified in the GPLR Legend on the data (i.e. the owner of the data). Because of this continuing obligation to protect the commercial rights (which may continue to exist after the use for purposes of competitive procurement are completed) of the owner of the data (or its successor in interest), the assignee agrees that the owner of the data may enforce its rights directly against the assignee.

(iv) The assignee shall not provide the data to any other company or person unless such company or person agrees in writing to be bound by the restrictions in this paragraph (1) and also agrees that all further transfers of the data will be subject to these restrictions.

(2) If any of the data contains a GPLR Legend, the authorized government official will execute this agreement on behalf of the government.

(3) Nothing in this agreement prohibits the owner of the data and the assignee from entering into other licensing agreements with respect to the commercial rights of the owner of the data.

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For the Government	requestor/assignee
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Date	Name of company or person
	Address, Date, etc.
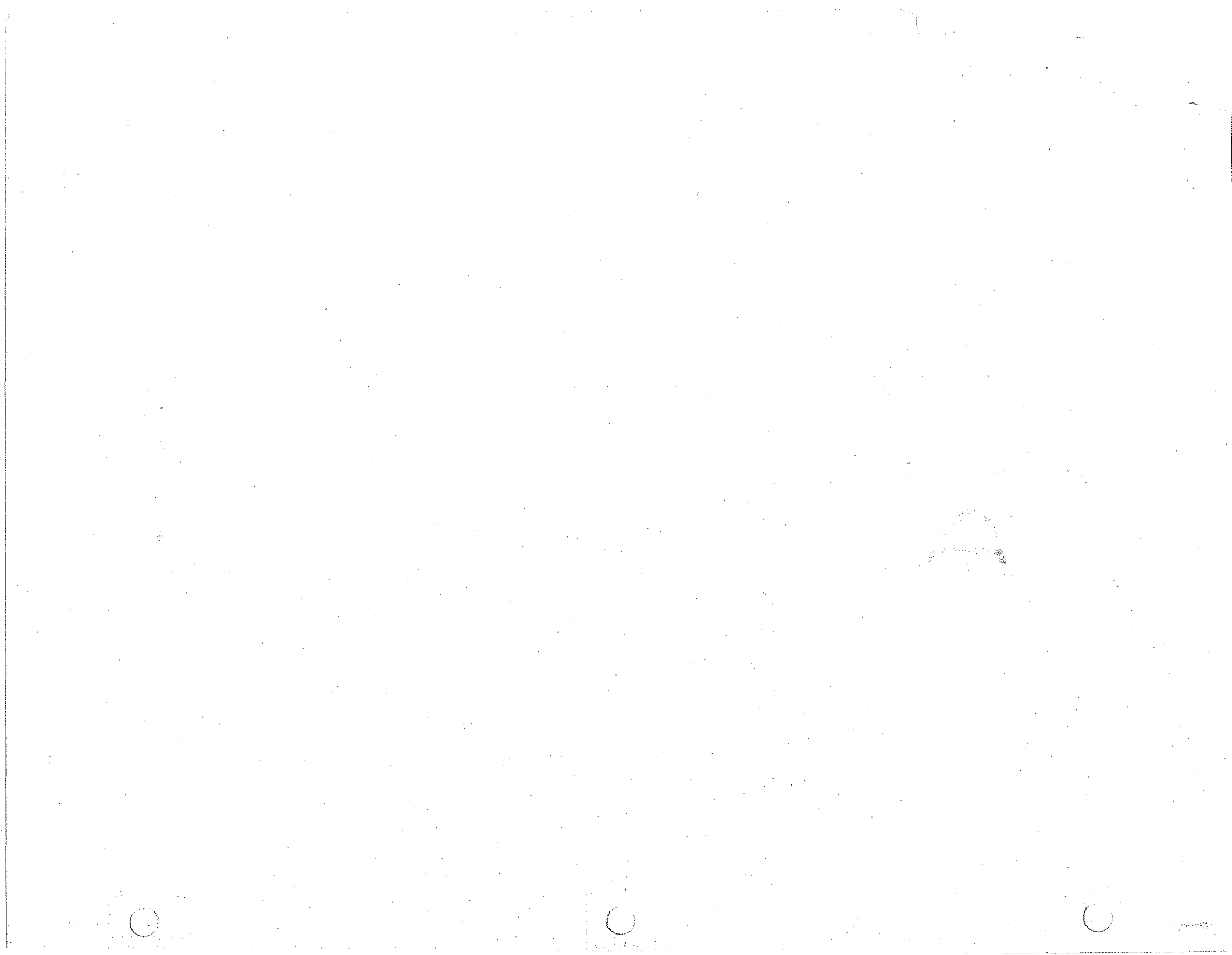
PROPRIETARY RIGHTS IN THE COMPETITIVE ERA

This paper was prepared by Professor Ralph C.
Nash, Jr., George Washington University, who
is a member of the Procurement Round Table
("PRT") Board of Directors. The PRT is a
non-profit corporation whose purpose is to
inform the public and the Congress about the
federal procurement process, to study and
report on procurement issues, and to make
recommendations for improvement to the
federal procurement system. The members of
the PRT Board of Directors, who serve pro
bono and as private citizens, have extensive
experience and background in a wide range of
Federal Government procurement areas.

HISTORICAL BACKGROUND

In the 1950s the Department of Defense was the first agency
to recognize the need for a contractual policy on proprietary
rights. Initially, it promulgated a policy permitting
contractors to protect such rights by not delivering proprietary
data relating to Government products. While this policy has been
successfully used by NASA and some other civilian agencies since
that time, DoD quickly concluded that it was unacceptable because
such data was needed to maintain and operate military hardware.
As a result, in 1964 the Department of Defense adopted a new
proprietary rights policy that struck a delicate balance between
the needs of the military services and the desire of their
contractors for protection of proprietary rights.

This 1964 policy promised that the procuring agencies would
honor rights to technical data pertaining to items, components or
processes "developed at private expense" if contractors would
deliver such data to the Government for use in operating,
maintaining and repairing military hardware. In addition,
contractors agreed they would not claim proprietary rights to
technical data pertaining to items, components or processes
developed as a part of the performance of Government contracts
(excluding items, components or processes developed during
IR&D/B&P efforts) and to certain categories of data such as form,
fit and function data, and operation and maintenance manuals.
The Government also implicitly agreed to pay a fair price for
proprietary data it agreed to honor in those cases where it was
necessary to buy proprietary rights to carry out its procurement
mission (by specifically acquiring rights in data only under
narrowly circumscribed conditions). The delicate nature of this
balance was demonstrated by the fact that the policy contained a
unique deviation provision prohibiting approval of deviations by
the military services and requiring all deviations to be granted
by the ASPR Committee.

This policy was honored, in the main, by the military services and industry for a decade and a half in spite of continual tensions. The major complaints were that industry was claiming proprietary rights in far more data than called for by the contract clauses and that the services were obtaining rights to proprietary data through mandatory "predeterminations" of rights not permitted by the policy. To deal with these problems, the contractual Rights in Technical Data clause grew longer and more complex but the fundamental policy remained essentially as it had been devised in 1964. In the late 1970s essentially the same policy was applied to computer software as it was added to the standard contract clause. It is interesting to note that one of the factors underlying the long adherence to this policy was the fact that the crucial term "developed at private expense" was never defined -- with the result that there was always uncertainty as to the precise scope of the protection being afforded to contractors.

The delicate balance collapsed in the early 1980s. One of the major factors in this collapse was the growing pressure, culminating in the adoption of the Competition in Contracting Act in 1984, for increased competition in defense procurement. Another factor was the adverse publicity from the procurement of spare parts at arguably excessive prices. A third factor has been the increased unwillingness of contractors selling commercial products and computer software to agree to the policy of giving the Government unlimited (i.e., commercial as well as Governmental) rights to technical data and computer software developed in the performance of Government contracts. As a result of these forces, the Secretary of Defense rescinded the strict deviation policy in August 1983 -- permitting the services to formulate new policies. The result has been that the full pressures of the competitive procurement process have been exerted more and more frequently by the Government to obtain greater rights in proprietary technical data and computer software.

At the same time, the agencies failed to devise a single proprietary data policy for inclusion in the Federal Acquisition Regulation. Since DoD and the civilian agencies could not agree on the basic premises supporting a unified policy, it was agreed that separate regulations would be issued. This has led to the creation of a FAR proprietary rights policy for the civilian agencies and a DoD FAR Supplement (DFARS) for the military services. At the time this paper was written, the FAR provisions were awaiting issuance and a revised DFARS has been published for comment.

Industry responded to this chaotic situation by turning to Congress for relief; and Congress, frustrated by the inability of the Government to promulgate a unified policy, passed two statutes in 1984 dealing with rights in technical data (P.L. 98-

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525 covering DoD and P.L. 98-577 covering all civilian agencies
except NASA). The DoD statute was amended in 1986 by P.L. 99-
661 to provide further guidance on proprietary data policy.
These statutes attempt to restore the balance that existed in the
proprietary rights area in the 1960s and 1970s and should provide
the foundation for the new proprietary rights policy of the
1980s. While they are dissimilar in minor respects, they should
not prevent the Government from adopting a unified policy in the
FAR. However, at the present time, the two policies in the FAR
and the DFARS will remain as separate policies.

This paper suggests a <u>totally</u> <u>new proprietary rights policy</u>
that will serve the Government into the 1990s. It proposes a
rights in technical data policy as covered by the statutes and a
rights in computer software policy which is outside of the scope
of the statutes. It accepts neither the current statutes nor the
old DoD policy as valid but strives to attain a new balance.

BASIC POLICY GOALS

A policy that can survive in the new competitive era must
attain three major policy goals.

1. Provide the Benefits of Competition

The new policy should attempt to preclude contractors from
creating a sole source position in the long-term manufacture of a
product designed and developed under a Government contract.
There can be little question that the Government needs to bring
the full force of competition to bear on its procurements in
order to obtain the products it needs within the amount of funds
available. The benefits of competition have been well documented
in Kratz & Gansler, Effective Competition During Weapon System
Acquisition, NCMA Challenge Monograph Series, Vol. 1 (1985).
This goal can usually be achieved, however, without destroying a
contractor's proprietary rights. The following techniques are
documented in Nash & Rawicz, Patents and Technical Data (Geo.
Wash. Univ. 1983) as being usable for this purpose:

    a. Competitive copying -- providing competitors
performance specifications and samples of the product to be
used in submitting competitive offers for the product in
subsequent procurements. This technique is now mandated for
spare parts procurements in 10 U.S.C. 2320(d).

    b. Form, fit or function specification -- permitting
competitors to design new products against the original
performance specifications.

    c. Licensing -- requiring the developer to license
competitors or to grant the Government the right to
sublicense competitors.

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d.   Leader-follower -- requiring the developer to establish a second source by subcontracting a portion of the production quantity or by licensing.

e.   Specific acquisition -- purchasing the necessary rights in technical data to permit its use in competition.

f.   Reverse engineering -- preparing detailed manufacturing drawings by analysis of the product without use of the proprietary drawings.

While none of these techniques can be used to obtain competition in all situations, they have all been used effectively by the military services in specific procurements. (DFARS 217.7201-2 contains limited guidance on the use of some of these techniques.) Thus, there are numerous techniques available to obtain competition without taking away all proprietary rights of contractors.

2.   Protect Proprietary Rights

An equally important goal is that the policy protect the proprietary rights of contractors. It should be understood that contractors seeing a strong commercial market for their products will not give up all proprietary rights to those products in order to sell them to the Government. There are two broad classes of contractors that fall in this category: specialty subcontractors and vendors of software. If faced with a demand for Government unlimited rights in technical data and computer software, they can be expected to i) refuse to sell to the Government, ii) add a significant premium to the price, or iii) redesign so as not to use the proprietary information. None of these courses of action benefit the Government and all can be expected to increase the price of the design and development effort.

Fortunately, the Government does not need unlimited rights to carry out its mission. Under the present DoD policy, the procuring agency is given only two choices --to accept the data or software with proprietary markings (limited or restricted rights) agreeing to restrictions on its use or to take unlimited rights to use the data and to disclose it at will. The FAR policy provides a third choice -- to permit complete withholding of the proprietary data. However, another, superior choice is readily available -- to take full rights to use the data for Governmental purposes while preserving the commercial rights in the contractor. The Final Report of the President's Commission on Defense Management (June 1986) (the Packard Commission) makes the following recommendations in Appendix I:

a.   Except for data needed for operation and maintenance,

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the government should not, as a precondition for buying the product, acquire unlimited rights in data pertaining to commercial products or products developed exclusively at private expense. If, as a condition of the procurement, the government seeks additional rights in order to establish competitive sources, it should normally acquire lesser rights (such as directed licensing or sublicensing) rather than unlimited ones. The rights least obtrusive to the private developer's proprietary position should be selected.

b. The government should encourage a combination of private and government funding in the development of products. Significant private funding in this mix should entitle the developer to ownership of the resulting data, subject to a license to the government permitting use internally and use by contractors on behalf of the government. If government funding is substantial, the license should be on a royalty-free basis; otherwise, it should be on a reduced or fair-royalty basis. Whenever practicable, the rights of the parties should be established before contract award.

c. If products are developed exclusively with government funding, the contractor/developer should be permitted to retain a proprietary position in the technical data (a) not required to be delivered under the contract or (b) delivered but not needed by the government for competition, publication, or other release. Use by or for the government should be without additional payment to the contractor/developer.

These recommendations point the way to a new policy that will protect essential proprietary rights.

3. Simplicity

A third goal is of equal importance. The present DoD regulations and contract clauses are far too complex to be understandable. The new FAR is shorter and clearer but remains difficult to interpret. The regulations are problematic primarily because they do not contain clear explanations of the policies relating to very difficult issues. The contract clauses are complex because they are single omnibus clauses to be used for both research and development and manufacturing contracts and for both technical data and computer software. As a result, they are probably the longest clauses in the entire Government contracting process and certainly the most complex clauses currently in use. There is great doubt if either the regulations or the clauses are understood by even the seasoned veterans of the procurement profession.

Simplicity is necessary because the issue of proprietary

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rights is one which is raised on a day-to-day basis in the
negotiation and administration of contracts. The personnel
charged with these responsibilities are generally not legally
trained and cannot be expected to deal with esoteric legal
terminology and undefined provisions. They need contract
provisions and regulatory guidance that they can comprehend and
work with. The Report of the Packard Commission recommends that
this problem be addressed by preparing separate clauses for
computer software and for manufacturing contracts.

ELEMENTS OF A NEW POLICY

The following elements are suggested for inclusion in the
new policy for proprietary rights. Each element is discussed in
terms of the current statutes and regulations and the prior
experience that has been attained in using the policy.

1. Issuing a Single Regulation

One of the major goals of the FAR system was to provide
uniform guidance to the Government and its contractors on
procurement policy. Technical data and computer software are the
major areas where the Government has been unable to formulate
such policy. The Packard Commission identifies this problem and
makes the following recommendation:

> The FAR System (a single uniform regulation applicable to
> all agencies, with supplements by agencies as needed) should
> be used to cover data rights. Without the discipline of a
> uniform system, similar terms and concepts are defined and
> treated differently. The differences are not justified.
> The FAR should provide common definitions of basic terms,
> since there is no apparent reason for agencies to use
> different definitions, a practice that causes great
> confusion.

Unfortunately, the statutes are not helpful in this area.
Both of the statutes passed in 1984, while somewhat dissimilar in
language, contained a requirement that they be implemented "as
part of a single system of Government-wide procurement
regulations." However, the DoD statute was change by P.L. 99-661
in 1986 to call for implementation in the DFARS. Thus, Congress
has become part of the problem of arriving at a single unified
regulation. The DoD statute should be amended to permit the
FAR to contain the fundamental policies of the Government on
technical data and computer software. Included in this new FAR
should be all major alternative policies which are necessary for
DoD and other agencies in the acquisition of hardware for their
own use. Special policies can then be adopted by the DFARS and
other supplemental regulations.

The FAR should also contain guidance on the methods of

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obtaining competition on proprietary products without violating proprietary rights. As discussed above, these techniques are covered, in a limited way, in DFARS 217.7201-2. However, there is no coverage of this subject in the FAR with the result that civilian agencies are given no help when they face this difficult problem.

2. Separating Technical Data From Computer Programs

Recent studies of proprietary rights policy have concluded that clarity could be achieved and a more effective policy implemented by separately treating technical data and computer software. See the Report of the Packard Commission and the recent report of the Software Engineering Institute, Technical Report CMN/SEI-86-TR-2, Proposal for a New "Rights in Software" Clause for Software Acquisitions by the Department of Defense (Sept. 1986). The reasoning supporting this recommendation is that most computer programs are more like hardware than technical data since they are end products which generally function as a part of an operating system. Thus, they are not used to reproduce (manufacture), operate or maintain hardware as technical data is used, but rather are products which need technical data to tell the users how they are to be operated and maintained. (Some software, such as Computer Aided Manufacture ("CAM") software, drives a machine to make a part--like a drawing is used to manufacture a part.) Furthermore, the entire legal structure that has been developed in the commercial world to protect rights in computer programs (basically the techniques of the copyright law) is different than that used by the Government to protect rights in technical data. Thus, separate treatment of technical data and computer programs will permit the Government to more closely follow the commercial model in procuring computer programs.

The difficulty with the recommendation of the Packard Commission and the Software Engineering Institute is that they propose separate policies for technical data and computer software while their reasoning is based on the difference between technical data and computer programs. Under current policies, software comprises both computer programs and computer data bases. Most computer data bases, however, are much more like technical data in that they are compilations of information. Thus, it makes more sense to continue to treat computer data bases in the same way that technical data is treated. (Some data bases are an integral part of a program and should be treated as programs.) A further problem in this area is created by the current DoD policy which includes software documentation as technical data rather than as computer software. Software documentation relating to computer programs is an integral part of such programs and often contains the most valuable proprietary information possessed by the contractor. Recognizing this fact, the policy should treat software documentation of programs in the

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same manner that it treats the computer programs. This is the position adopted by the FAR in spite of the fact that the current statutes define technical data to include computer software documentation (but give no further guidance on the treatment of computer software). For the purpose of clarity, the statutes should be amended to alter this definition. It is believed that such statutory change can be readily achieved since the statutes merely adopted the current DoD definition without considering the implications with regard to computer software.

In summary, it is recommended that the Government promulgate separate policies and contract clauses covering:

a. Information concerning items or processes such as technical data, computer data bases, and software programs which are substitutes for technical data, such as CAM software, and

b. End items such as computer programs, documentation of these programs, and computer data bases that are an integral part of a computer program.

This paper includes no further discussion of the policy that should be adopted for computer programs and their documentation.

3. Protecting Commercial Rights in Technical Data

The 1964 technical data policy adopted by DoD provided that all data would be provided with either "limited rights" or "unlimited rights" and gave unlimited rights to all data that pertained to an item, component or process not developed at private expense which did not fall within any of five listed categories: i) data resulting directly from performance of any Government contract or subcontract requiring research and development work, ii) changes to Government-furnished data, iii) form, fit or function data, iv) operation, installation, training or maintenance manuals and v) public domain data. The civilian agencies have followed a similar policy of taking unlimited rights in a large amount of technical data. This sweeping policy of taking unlimited rights was very restrictive of the proprietary rights of contractors since "unlimited rights" were defined as the --

rights to use, duplicate, or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so.

Since proprietary rights in technical data are in the nature of a trade secret, this full right to disclose the data to the public gave the Government the right to effectively destroy the trade secret and, hence, to destroy the commercial value of the data. While a copyright could be preserved in such cases, there is

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generally little commercial value in the copyright on technical data.

In recent years, the attitude of some Government agencies with regard to proprietary rights which derive from work on Government contracts has changed. It is being recognized more widely that there is public value in permitting contractors to retain commercial rights in innovative work done on Government contracts so that they can exploit such technological advances in the commercial marketplace, both in the United States and abroad. It is reasoned that the public gains through more domestic employment and a better balance of payments position. Further, it has been argued that the contractor that created the innovation is the most likely to exploit it and hence the most likely to provide the new technology to the American consumer. This reasoning has already resulted in the total change of Government contracts patent policy which now calls for the contractor to retain all commercial rights to inventions made in the course of performing Government contracts. See Public Law 96-517 (35 U.S.C. 200 et seq.) and the President's Memorandum on Government Patent Policy, Feb. 18, 1983. The same reasoning is applicable to rights in technical data.

The first recommendation of the Packard Commission, set forth above, partially adopts this reasoning. However, the current DoD statute, 10 U.S.C. 2320(a)(2), contains two provisions which muddy the waters in this area. These provisions state:

(A) In the case of an item or process that is developed by a contractor or subcontractor exclusively with Federal funds, the United States shall have the unlimited right to -

(i) use technical data pertaining to the item or process; or

(ii) release or disclose the technical data to persons outside the government or permit the use of the technical data by such persons.

(G) The Secretary of Defense may -

*   *   *   *

(ii) agree to restrict rights of the United States in technical data pertaining to an item or process developed entirely or in part with Federal funds if the United States receives a royalty-free license to use, release, or disclose the data for purposes of the United States (including purposes of competitive procurement).

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The civilian agency statute, 41 U.S.C. 418a(b)(1), contains equally troublesome language. This statutory language may require amendment or clarification to permit the Government to adopt a policy which gives broad protection to the commercial rights of contractors.

The policy that should be adopted to accomplish this purpose of protecting commercial rights is to provide for an intermediate type of right between limited rights and unlimited rights. This new type of right should permit the contractor to treat all data generated on a contract as proprietary giving the Government the right to use the data for internal purposes and requiring the licensing of other contractors to use the technical data to achieve competition on Government procurements. In lieu of the licensing requirement the policy could permit the Government to sublicense others for this purpose. The former technique is preferable because it permits the contractor to deal directly with the companies using the data and saves the Government from being in the undesirable position of having to serve as a middleman in the negotiation of the terms of the license. In either case, the contractor should be required to provide technical assistance to licensees to ensure that they are able to use the data to successfully manufacture the product. The license granted by the contractor would, of course, be limited to work for the Government and would prohibit use of the technical data on commercial or foreign work. It would apply to all data originated in the performance of the contract without regard to the source of funds. Thus, it would preclude the current situation where contractors claim rights to portions of the data delivered under their contracts and the parties then enter into lengthy negotiations over the propriety of placing limited rights legends on specific items of data. The Air Force has used licensing policies of this nature for a number of years with considerable success and the adoption of such a policy was recommended by the OSD Technical Data Rights Study Group in its report, Who Should Own Data Rights: Government or Industry? Seeking a Balance (June 1984).

While the FAR contains no mention of this type of policy, the proposed DFARS includes recognition of both types of licensing. It provides in the standard technical data clause for "Government purpose license rights" giving the Government the right to license competitors of the contractor to use the data only for competition on Government contracts. Such rights are used in three situations under this proposed policy:

a. If the contractor has funded over 50% but not all of the development cost of the item, component or process, and the contracting officer does not determine that unlimited rights are required (DFARS 227.472-5(b)),

b. If the contractor is a small business firm or nonprofit organization that agrees to commercialize the technology and that has funded part but not all of the development cost of the item, component or process, and the contracting officer does not determine that unlimited rights are required (DFARS 227.472-5(b)),

c. If the contractor has funded less than 50% of the development cost of the item, component or process and agrees to commercialize the technology, and the contracting officer determines that the Government does not need unlimited rights (DFARS 227.472-7).

Proposed DFARS 227.474-3 also permits the use of direct licenses from the contractor to competitors but it states that such provisions are generally not appropriate for other than high-dollar-value procurements. These provisions are a first step in the recognition of these licensing techniques. However, they are confusing and almost completely lacking in guidance for contracting officers who are expected to implement them. They also adopt the most difficult licensing technique (the Government sublicense) as the standard technique, relegating the preferable technique (direct licensing) to a subsidiary role.

The difficult problem which has not been addressed by any of the studies or discussions of a licensing policy is whether it should be applied to all technical data generated on a contract. It has generally been assumed (by the Air Force, for example) that licensing is applicable to technical data that would otherwise be limited rights data, i.e., data meeting the test of pertaining to items, components or processes developed at private expense. The Packard Commission Report and the proposed DFARS go further in suggesting that licensing is a viable technique for data created with "mixed funding." This is in response to the requirement of the statutes that a policy be adopted for such data. See, for example, the new statute, 10 U.S.C. 2320(2)(E), stating:

(E) In the case of an item or process that is developed in part with Federal funds and in part at private expense, the respective rights of the United States and of the contractor or subcontractor in technical data pertaining to such item or process shall be agreed upon as early in the acquisition process as practicable (preferably during contract negotiations), based upon consideration of all of the following factors:

(i) The statement of congressional policy and objectives in section 200 of title 35, the statement of purposes in section 2(b) of the Small Business Innovation Development Act of 1982 (15 U.S.C. 638

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note), and the declaration of policy in section 2 of the Small Business Act (15 U.S.C. 631).

       (ii) The interest of the United States in increasing competition and lowering costs by developing and locating alternative sources of supply and manufacture.

       (iii) The interest of the United States in encouraging contractors to develop at private expense items for use by the Government.

What is proposed here is to go further and apply the licensing policy to all technical data without regard to the source of funding--even that data generated entirely with Government funds.

If this new licensing policy is adopted as a third type of right, the issue arises as to when a contractor would qualify for this type of right in lieu of giving the Government unlimited rights. Here the current patent policy can be used as guidance. This policy allows commercial rights to be taken away from the contractor by giving the Government "march-in rights" in 35 U.S.C. 203 if such action is necessary --

(a) because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of subject invention in such field of use;

(b) to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee, or their licensees;

(c) to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee, or licensees; or

(d) because the agreement required by section 204 [giving preference for United States industry] has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of its agreement obtained pursuant to section 204.

Similar tests could be used in deciding whether a contractor was entitled to license rights or in providing in the contract clause that the Government was entitled to subsequently take unlimited rights. In addition, the policy should permit the Government to take unlimited rights (subject to compensation for technical data that met the private expense test) if it was determined that sufficient competitors were not willing to enter into the license arrangement in order to compete for the Government work. This right is necessary to protect the Government in those situations

where the commercial marketplace is so competitive that competitors are unwilling to enter into licenses because of the potential restrictions that such licenses might place on their future commercial products.

In summary, it is recommended that the Government adopt a completely new standard policy permitting the Government to use all technical data relating to items, components or processes developed on Government contracts for internal purposes and requiring the contractor to license companies to use the data on Government competitions. This policy would apply without regard to the source of the funding of the development work. The limited rights and unlimited rights policies would be left in place for broad types of technical data not related to hardware, such as final reports on research contracts, and for those situations where the direct licensing policy was not appropriate or could not be agreed to.

4. Compensation for Licensing of Competitors

If the licensing policy recommended above is adopted, there remains the question of what compensation should be paid to the contractor for the licensing of competitors. The DoD statute appears to permit payments of royalties if the licensed data is private expense data or mixed funding data. Conversely, it appears to preclude payment of royalties if the data is Government expense data. The civilian statute is silent on this issue. If this policy is followed, the procuring agency and the contractor will be forced to agree on which category is applicable to each item of data generated on the contract. This cumbersome procedure should be avoided, if possible, since it is currently one of the most unproductive aspects of the Government's technical data policy. (Data validation challenges are consuming substantial resources of both the agencies and their contractors and are of questionable productivity in achieving the long-term mission of the agencies.) Thus, it is highly desirable to arrive at a policy that will base the compensation of the contractor on some factor other than the amount of contractor expense or mixed expense data that is included in the package provided to a competitor.

Fortunately, there is another basis for determining the compensation of a contractor that agrees to license competitors. The payment of a royalty for such a license can be properly viewed as fair compensation for the successful completion of a development effort. Furthermore, a policy that regularized such royalty payments would provide a powerful new incentive to contractors to develop products that were suitable for high volume production over a long period of time. It is exactly this type of new incentive that might serve the Government well in a period of budget stringency.

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The questions would undoubtedly be raised as to whether the regular payment of such royalties would add to the overall cost of the procurement process and would result in undue profits to development contractors. With regard to profits, this is a particularly appropriate time to consider the adoption of such a policy in view of the fact that the proposed new DoD profit policy, promulgated in 50 Fed. Reg. 43200, significantly reduces the rate of profit on research and development work. Thus, the payment of a royalty to the developer when a product is produced by another contractor can be seen as a way of balancing the apparently inadvertent reduction of profits in this area. Further, it is a particularly good way of paying profit since it only pays for success. With regard to the question of whether this proposed policy would add to the overall cost of the procurement process, it must be recognized that the royalty would only be paid in selected circumstances. If licensees of the contractor were forced to compete with the contractor, the royalty would only be paid when a licensee won the competition. In this situation, the royalty can be seen as a modest competitive advantage which the Government is willing to give the contractor that developed the product. This competitive advantage would not be large enough to permit the contractor to include exorbitant costs in the price with the result that the payment of the royalty would still provide the major advantage of competition to the Government. The Kratz & Gansler Monograph indicates that in the past, the original developer has frequently won such competitions at substantially reduced prices. If this were to occur under the proposed policy, the Government would not pay the royalty at all. Further, the adoption of this royalty policy might greatly facilitate the achieving of competition because development contractors would regularly agree to license their technical data and to assist their licensees in using the data to manufacture hardware. Considering all of these factors, it can not be determined whether this proposed policy would increase or reduce the overall cost of procurement. However, it does not appear that it would entail substantial additional costs and there is some likelihood that the better incentives and greater competition would result in an overall decrease in costs.

The question of the amount of the royalty must also be addressed. The amount should be established at a rate between 1% and 5% of the price of the manufacturing contract based on two factors -- i) the overall technical competence which the contractor brings to the development effort and ii) the projected needs of the agency for the product being developed. A high royalty rate within this range is warranted when the contractor is providing the Government with a highly skilled development team that has a long history of success in the product area. Generally, such a contractor might be expected to have a portfolio of patented inventions or of private expense technical data that would otherwise be furnished with limited rights, but this would only be one element in this part of the determination.

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A high royalty rate would also be warranted if the Government anticipated a relatively low expenditure of dollars in the production phase since this would provide the contractor a low base for computation of the royalty. It might be necessary to include an adjustment feature in the agreement in the event the Government's original estimate of its needs turned out to be highly inaccurate.

In summary, it is recommended that the Government adopt a policy that will compensate its development contractors by paying them a royalty when one of their licensees manufactures hardware which they have successfully developed. This royalty will provide additional incentive for successful development and will reward them for assisting a licensee in becoming a successful manufacturer.

5.   Controlling the Techniques Used to Obtain Competition

As discussed earlier, there are a number of techniques available to achieve competition without violating the proprietary rights of contractors. However, the guidance on the use of these techniques is quite sparse and there appears to be a lack of understanding of all of the alternatives available to contracting officers. As a result, the military services have used several techniques in recent years which have created great antagonism among their contractors. Two techniques in particular have been seen as unfair methods of obtaining rights in proprietary data -- i) placing a time limit on limited rights and ii) requiring a contractor to submit alternate proposals granting the Government unlimited rights to data delivered under the contract. Neither of these techniques is necessary to achieve competition on military procurement and they should both be banned. At the same time, as recommended above, substantial guidance should be given on the legitimate techniques -- competitive copying, use of form, fit or function specifications, leader-follower, specific acquisition and reverse engineering -- as well as on the licensing technique recommended above.

Placing a time limit on proprietary rights proved to be a highly controversial technique when it was first used by the Air Force in 1983. The proposed time limits varied from two to five years and appeared to have no relationship to the expected period of time that the proprietary information might have commercial value. Thus, they were seen as arbitrary ways of using the Government's bargaining power to deprive contractors of legitimate proprietary rights. Unfortunately, the DoD statute contains very cryptic language on this subject. 10 U.S.C. 2320(c) states:

(c) Nothing in this section or in section 2305(d) of this title prohibits the Secretary of Defense from prescribing standards of determining whether a contract

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entered into by the Department of Defense shall provide for a time to be specified in the contract after which the United States shall have the right to use (or have used) for any purpose of the United States all technical data required to be delivered to the United States under the contract or providing for such a period of time (not to exceed 7 years) as a negotiation objective.

There should be no objection to a policy that removes stale proprietary legends from data. However, arbitrarily short time periods are an unfair means of taking away a contractor's rights without compensation. Proposed DFARS 227.474-4 ameliorates this problem somewhat by providing that the Government will normally receive Government purpose license (rather than unlimited) rights upon the expiration of the limited rights. However, since the entire issue has generated an undue amount of friction with little commensurate benefit to the Government, this policy should be abandoned and the statutory provision repealed if that is thought necessary.

The requirement for alternate proposals giving up all proprietary rights was adopted as standard policy by the Navy and has been used by all of the military services. It is a way of using the full force of competition to obtain a low price for a contractor's proprietary rights. This would appear to be inconsistent with a policy of honoring proprietary rights and may be prohibited by the statute. See 10 U.S.C. 2320(a)(2)(F) stating:

> (F) A contractor or subcontractor (or a prospective contractor or subcontractor) may not be required, as a condition of being responsive to a solicitation or as a condition for the award of a contract, to sell or otherwise relinquish to the United States any rights in technical data except --

> > (i) rights in technical data described in subparagraph (C) [correction or change data, form, fit or function data, manuals or public domain data]; or

> > (ii) under the conditions described in subparagraph (D) [release for emergency repair or use of a foreign government under restricted conditions and with notice to the contractor].

This statutory provision is included in proposed DFARS 227.472-4 without supplementation. Minimal additional guidance is included in DFARS 227.473-2. DoD should directly acknowledge that this technique is an undesirable means of obtaining competition and should ban its use.

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It can be seen from this discussion that there is a great need for guidance on the ways to obtain competition without violating proprietary rights. Until such guidance is given, the forces driving for competition will impel procuring activities to try new techniques to obtain proprietary rights without adequate compensation to the contractor. What must be communicated is that the Government is far better served if it enlists the contractor's assistance in obtaining and using the proprietary information. In this way, the contractor can be used to provide technical assistance and effective competition can be more readily attained.

In summary, the Government should ban time periods on limited rights and competitive alternate proposals requiring unlimited rights. Further, substantial guidance should be issued on the acceptable ways of obtaining competition without violating proprietary rights.

SUMMARY OF REQUIRED ACTIONS

The specific actions required to implement the recommendations contained in this paper are:

1. Adopt a FAR section on technical data and computer programs containing the basic policies to be used by all agencies. This will require a joint effort by DoD and the civilian agencies. In order to simplify the issues, Congress should be requested to adopt a single statute relating to technical data.

2. Write the FAR so that it contains separate guidance and separate contract clauses for (i) information relating to items or processes such as technical data, most computer data bases, and software programs which are substitutes for technical data, and (ii) end items such as computer programs, documentation of these programs, and computer data bases that are an integral part of a computer program. The policies for the procurement of rights in the second category should be coordinated throughout the Government since many agencies now purchase such items.

3. Include in the FAR a new standard technical data policy giving the Government the right to direct the contractor to license the right to use technical data when competition is required. This will require an amendment to the data statutes and substantial new regulatory guidance to aid contracting officers in the implementation of the policy.

4. Include in the FAR guidance on the computation of the royalty that will be paid for the Government license to use technical data for competitive procurement purposes. This guidance will probably be general in nature since each agency will have to coordinate the royalty payment with their profit

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policy on research and development contracts. The data statutes should be amended to permit such royalties when no proprietary data is involved.

5. Include in the FAR guidance on the techniques that are available to obtain competition without violating proprietary rights and ban the use of arbitrary time limitations on proprietary rights and the solicitation of alternate proposals giving up all proprietary rights.

-oOo-

T. Prahinski & F. Lukasik
AFSC/JAT, (301) 981-5372

PRODUCTION DATA LICENSING

1.   The Government shall have the right:

     a.   To direct the contractor to furnish technical assistance
to, and to license, followers selected by it to use production
data for Government purposes for a reasonable royalty.

     b.   To use any Limited Rights technical data with Government
Purpose License Rights for a reasonable royalty.

2.   Technical assistance need not be furnished for
          (i)   any item, component, process, or computer software
that can be fully identified and can be obtained from two or more
competitive sources provided sufficient form, fit, or function
data is acquired, and the sources are identified.
          (ii)   other items, components, and processes identified
in the schedule of the contract.

3.   The contractor will only be entitled to receive royalties if
a follower has agreed such royalties may be added to his proposed
contract prices as an evaluation factor in determining whether to
award him a contract, and if the follower has successfully
produced products which meet government specifications, or
successfully practiced the process in accordance with Government
specifications.   If the Government and the contractor are unable
to agree on a reasonable royalty, the contracting officer shall
set a rate.   The contractor may appeal the rate in accordance
with the Disputes clause of the contract.   A reasonable royalty
shall be determined de novo on appeal, but only evidence
presented to the contracting officer may be considered on
appeal.   The contractor shall furnish all technical assistance
needed by the follower promptly when ordered by the contracting
officer during the pendency of any appeal.

4.   This clause shall be inserted without modification in
subcontracts designated elsewhere in this contract.   The
contractor shall use best efforts to have it accepted in all
other subcontracts.

5.   Definitions: The terms used in this clause have the meaning
set out below, or if not defined below, in section 227.471 of the
Department of Defense Federal Acquisition Regulation Supplement
(DFARS) in effect on the date of this contract.

     Follower means a person or organization which is not under
the control of the contractor which receives technical assistance
from the contractor.

Production data means technical data relating to items, components, processes, or computer software developed or used under this contract.

Reasonable royalty means a rate between One and Five Percent of the cost of any contract awarded to a follower for a product, or use of a process, subject to a currently effective patent. In determining a royalty rate the overall technical competence which the contractor brings to the development effort, his private investment, and the projected dollar amount of contracts for the product or process shall be considered.

Technical Assistance means such technical data; know-how, including technical analysis, advice and training; computer software; and special tooling; necessary to manufacture, maintain, operate, or modify any item or component produced or any process used under this contract.

F. Lukasik
AFSC/JAT
(301) 981-5372

2 2 APR 1987

D.IRECT LICENSING

1. Contractor agrees that, as to any proprietary data of the contractor incorporated into the system to be developed under this contract and that must necessarily be-used to successfully practice such system, contractor will, at the request of the Government, grant a nonexclusive license under terms and conditions reasonable under the circumstances to other competent domestic contractors to the Government, such license to include, at licensee's option, the righs to purchase technical assistance on terms agreeable to the contractor; that is, technical advice relating to the use of any furnished technical data. Such data shall be for use by any contractor so licensed solely for purchase by the Government and for Government purposes from such licensed contractor. The licensee shall make sure that all proprietary data received from the licensor shall retain the licensor's proprietary marking.

2. Any license to be granted shall include, _inter alia_, the following required provisions:

 a. Initial fee for provision of data, plus royalties for items sold where said data was used in the manufacturing thereof.

 b. Periodic reports by licensee and auditing rights for licensor at licensee's expense.

 c. Protection of licensor's proprietary information.

 d. Agreement by licensee to hold harmless and indemnify the licensor as to any claim by or liability to licensee, to the Government or to third parties resulting from any activities under or related to the licensee.

 e. Technical assistance by licensor at licensee's facilities, purchasable up to an agreed maximum number of days within an agreed period of time, at licensor's standard rates for such assistance (or, in the absence of standard rates for such assistance, at a per diem rate 2.5 times the individual's daily salary), plus all travel and living expenses. Travel time to and from licensee's facilities shall count as time worked.

 f. Grant back to licensor of a nonexclusive, royaltyfree license to make and sell, for any improvements made by licensee to the licensed technology including any patents thereon, and the right to cost-free disclosure of any instructions in the use of such improved technology and patents.

3.   As to any fees, royalties, and other payments due licensor under any license granted under (c) above, in the event licensee does not make such payments according to the terms of its license, the contractor shall, upon notice to the Government, have the right to terminate any such license unless the Government assumes such payments, including reasonable interest and costs on unpaid amounts.

4.   The Government shall have the right to --

a.   Order the contractor to grant the license defined in paragraph (c) if the contractor is unable to reach agreement with a responsible party who has negotiated in good faith.

b.   Approve or disapprove agreements negotiated by the parties, provided however, disapproval shall be limited to the reasonableness of the royalty rate.

5.   Definitions

a.   Proprietary data as used herein means any data generated at private expense, including limited rights technical data and restricted rights computer software.

b.   At private expense, as used in the phrase "generated at private expense," means that generation was accomplished without the direct payment of Government funds and includes (without limitation) independent research and development funds.

c.   Technical assistance means such technical and other data; know-how, including technical analysis, advice, and training; computer software; special tooling; and any other assistance necessary for the licensee to understand and use any data or computer software required to be delivered under this contract; or to manufacture, maintain, operate, or modify any item or component produced; or any process or software used under this contract.   Manufacturing data may be excluded for any component that can be fully identified and can be obtained from two or more competitive sources, and for the following items, components, processes, or computer software.
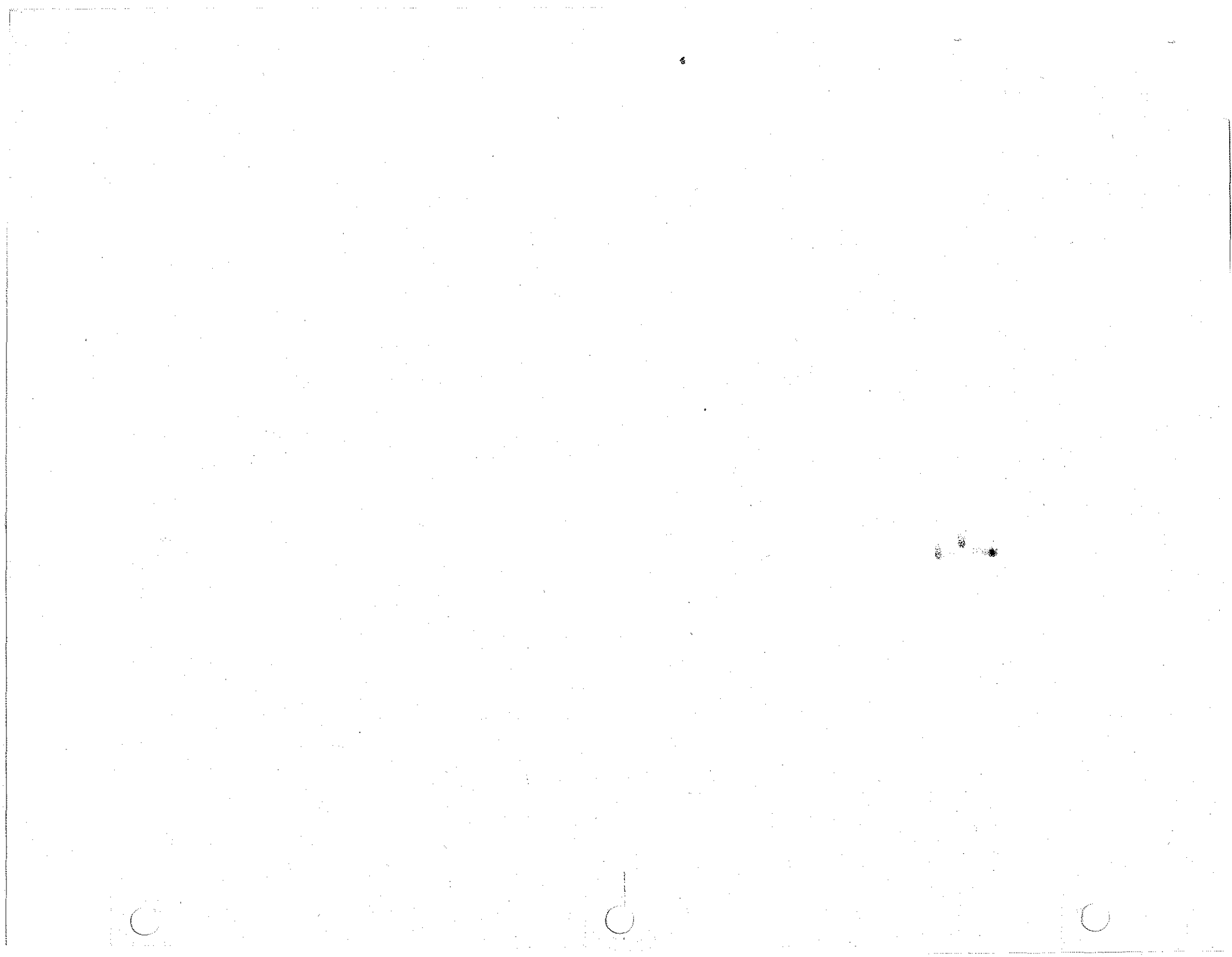
ALBERT G. BUSTAMANTE
23RD DISTRICT, TEXAS

CONGRESS OF THE UNITED STATES

HOUSE OF REPRESENTATIVES

February 18, 1987

The Honorable Richard P. Godwin
Undersecretary of Defense
for Acquisition
The Pentagon
Washington, D.C.   20301

Dear Mr. Undersecretary:

Last year, my office requested clarification from the
Defense Department regarding its patent policy as it is
applied to foreign contractors participating in the
Strategic Defense Initiative (SDI) research project.
It took four inquiries over a one-year period before I
received a definitive statement from DoD regarding this
important patent policy issue. My record of exchanges
with the Department reveal that DoD not only had
difficulty in identifying a knowledgable and
authoritative spokesman, it also replied with
contradictory statements. To date, the issue of patent
rights to foreign contractors remains unclear. My
purpose in writing is to suggest a means of correcting
this problem and to avoid a repeat of inconsistencies
in defining DoD's intellectual property policies.

During the past decade more intellectual property laws
have been enacted than at any time in this nation's
history. Legislation has included laws to govern
technical data rights in Government contracts, laws to
provide copyright protection for computer software,
laws to create a new form of intellectual property
known as "mask works," laws to protect Government
employee inventions through Statutory Invention
Registrations, laws to curtail the export of militarily
critical technology, and laws to encourage the domestic
transfer of technology from Federal laboratories to the
private sector.

An underlying premise behind the passage of these
legislative initiatives has been that intellectual
property rights have assumed an increasingly important
role in our industry, our economy, our international
competitiveness, as well as our national defense.
Given that DoD has become "high-tech" oriented as it

prepares for the "electronic battlefield" of the
future, and given that DoD funds over two-thirds of the
total Federal research and development (R&D) budget, it
is apparent that much of the above-mentioned intel-
lectual property legislation has been specifically
directed at DoD.

The laws to govern technical data rights in Government
contracts, for example, were enacted to enable DoD to
acquire sufficient technical data rights in order to
engage in competitive reprocurement. The law creating
the Statutory Invention Registration was directed
largely at DoD because DoD employees make the
overwhelming share of all Government-generated
inventions. The law to curtail the export of
militarily critical technology was obviously passed to
assist DoD in stemming the huge flow of technology
abroad. Finally, the laws to encourage domoestic
technology transfer were passed with a view toward
converting military technology into commercial spin-off
applications and transferring the intellectual property
rights to the private sector.

Despite this barrage of intellectual property
legislation, the Department has failed to elevate this
policy area to the level of importance it deserves
within the DoD policy-making apparatus because there
does not exist a policy office devoted exclusively to
intellectual property matters. I believe such an
office is desperately needed. My experience involving
SDI patent policy is an ideal case in point.

DoD is about to adopt new technical data regulations
(Defense Federal Acquisition Regulations Supplement or
"DFARS") in which the issue of data rights to foreign
contractors is ignored. If the proposed regulations
stand as written, foreign companies will be entitled to
retain commercial rights to technical data pertaining
to items and processes which have been developed with
substantial U.S. Government funding. Foreign companies
will then be in a position to compete against our
domestic industry not only abroad, but in our own
backyard as well. Giving away valuable intellectual
property rights to foreign entities is hardly the way
to improve America's industrial competitiveness and to
maintain America's technology leadership in the 21st
Century.

Intellectual property rights are assuming an increas-
ingly important role in protecting and advancing our

technology base, our military superiority and our
economic preparedness. An urgent need exists to
establish a position of Director of Intellectual
Property within DoD. The position should have
responsibility to protect American technology from
foreign exploitation, to promote transfer of military
technology into commercial applications, and to create
a climate which encourages innovation, invention and
scientific advancement. This position would be best
placed in the office of the Undersecretary of Defense
for Acquisition in the Department of Defense.   I
believe adoption of this recommendation would go a long
way to provding a central policy source for such
complex and related policies in connection with
intellectual property issues to ensure competition in
contracting and the advancement of America's industrial
competitiveness.

Your fair consideration to the above recommendation and
a response to the concerns raised herein would be
appreciated. I look forward to hearing from you at
your earliest possible convenience.

Sincerely,

Albert G. Bustamante
Member of Congress

AGB:gtf

THE UNDER SECRETARY OF DEFENSE

WASHINGTON, DC 20301

ACQUISITION

A&L(PS)

1 9 MAR 1987

Honorable Albert G. Bustamante
House of Representatives
Washington, D.C.   20515

Dear Congressman:

Thank you for your letter of February 18 regarding patent
policies and intellectual property rights. The letter suggested
establishment of an acquisition policy position within the
Department of Defense (DoD) devoted exclusively to intellectual
property matters.

Although I believe our basic policies in the area are
sound, I share your view that this is an important topic in
light of the manufacturing, industrial base, and competitiveness
issues this country faces. One of our current priorities in the
DoD is development of an action plan for a major DoD initiative
in the manufacturing, industrial base, and competitiveness
areas. A basic goal is to create and articulate a DoD strategy
to achieve and sustain U.S. technological and manufacturing
leadership essential to the security of the Nation. Individual
actions will be evaluated and pursued within this framework.

Structuring effective intellectual property rights has been
identified as one of the initial areas that will be addressed.
DoD structures and resources essential to successful implementa-
tion are recognized as important components of our efforts, and
your suggestions will be considered in this context.

Your interest in the subjects of patent policies and
intellectual property rights is appreciated. We look forward to
working with you on this subject in the months ahead.

Sincerely,

<u>Point Paper</u>

DEPARTMENT OF DEFENSE MANUFACTURING, INDUSTRIAL BASE, COMPETITIVENESS INITIATIVES

The DoD is concerned about the migration of manufacturing capabilities offshore and the industrial competitiveness problems this country faces. The DoD strongly supports the President's Competitiveness Initiative and efforts to seek a national consensus on solutions to the complex problems that exist. We are launching an industrial base initiative to develop innovative ways for the DoD to help restore competitiveness to critical industries.

<u>BACKGROUND / ASSUMPTIONS:</u>

- One of the most critical issues facing the DoD as well as this nation today.

    -- A strong domestic manufacturing infrastructure is essential to the industrial base.

    -- In addition, technological leadership vital to our defense posture is endangered in the long term if manufacturing capabilities are lost.

    -- The lower tiers (suppliers and vendors) are extremely important. Innovative new techniques will be necessary to impact this level because of relatively low DoD market share and limited direct contractual influence.

- One of five areas identified for emphasis by the new Under Secretary of Defense for Acquisition.

    -- Manufacturing, productivity, quality, the industrial base, and competitiveness are themes that will permeate DoD programs and decisions in the months ahead.

    -- We already have efforts under way to better articulate an overall manufacturing and industrial base strategy, and to develop structures and programs that support this strategy. All of our existing programs are being examined in this light.

    -- The DoD relies on a number of critical industry segments. Although we are focusing particular attention at this time on the semiconductor industry, it is important to recognize that other industry sectors must receive attention as well. These include the bearing industry, machine tools, precision optics, and the list is growing. We will have to develop innovative, perhaps customized, solutions for these industries in accordance with each one's contribution to national security. The common need is a bias for action to ensure American industry is able to compete effectively in the international marketplace. Industry is the key to its own health -- but we must provide the environment that promotes striving for, achievement of, and setting world class standards.

-- Cooperative, consortia, and joint efforts between industry, the DoD, and the Department of Commerce may make increasing sense in this context.

-- We must be prepared to develop a strongly funded initiative or program for these purposes.

-- Defense industry must invest in capital equipment and manufacturing technology because it is needed for survival. Just as industry must overcome a focus on short term return-on-investment, we in the DoD must overcome a mentality that overemphasizes proof of savings and the like in our efforts to stimulate these investments.

-- In consonance with principles outlined in the Packard Commission report, we must rely more heavily on the commercial marketplace. That may translate into using DoD funds to ensure the commercial marketplace has the capability and capacity to meet DoD needs.

• Magnitude of DoD research and acquisition expenditures (roughly $120 billion combined) gives the DoD considerable leverage in promoting national objectives.

• This is an area where defense and national needs converge. Actions and commitment by many parties are essential if progress is to be made. We in the DoD are prepared to do our share.

RELEVANT RECENT ACTIONS THAT REFLECT DOD COMMITMENT:

The following are illustrative only in that they describe the variety and types of initiatives that have been and could be directed to respond to the Presidents's Competitiveness Initiative. Some are well underway. Others may prove to be unworkable in the final analysis. In any event, if half of the dozens of approaches are ultimately implemented, we will have made major headway towards helping improve U.S. competitiveness and hence the national security.

Preliminary assessment of possibilities outlined in Chapter 5 of a November 5, 1985 white paper by the Assistant Secretary of Defense for Acquisition and Logistics on "DoD Acquisition Improvement - The Challenges Ahead."
(TAB A)

Strawman Draft "Defense Manufacturing Initiative" dated May 14, 1986.
(TAB B)

DoD / Defense Industries Quality Excellence Program. (TAB C)

The Initiative Entitled "Manufacturing and Productivity Improvement" contained in the FY 1987/1988 Department of Defense Management Improvement Plan dated August, 1986. (TAB D)

DoD / Industry Forum on "Rethinking DoD Manufacturing Improvement Strategies" held on October 29, 1986, under the auspices of the Institute for Defense Analyses. (TAB E)

Final report of the 1986 Summer Forum Treating Issues of Defense Industrial Base Readiness. (TAB F).

Participation in and support of the December 16, 1986 Machine Tool Industry Action Plan. (TAB G)

Industrial Base Section of the FY 88 Secretary of Defense Report to Congress. (TAB H)

Sponsorship and consideration of the Defense Science Board Semiconductor Study. (TAB I)

CURRENT PRIORITY:

Building on earlier efforts and using previous material as resources, the current priority is to develop a definitive action plan as a framework for a concentrated DoD initiative in the manufacturing, industrial base, and competitiveness areas. The basic goal is to create and articulate a DoD strategy to achieve and sustain U.S. technological and manufacturing leadership essential to the security of the Nation. This will provide an important context against which individual actions can be evaluated and pursued.

The action plan will include a *Statement of Principles* providing basic criteria and rationale linking manufacturing and technological capability to national security that will govern future DoD efforts. It will also contain a *Management Plan* establishing specific tasks, responsibilities, and milestones. DoD organizational structures and resources essential to successful implementation will be addressed. Contents will permit expansion and evolution of tasks as efforts proceed.

Individual tasks are being developed in the following initial areas (TAB J):

   Increase Manufacturing R & D and Process Technology
   Improve Education and Training
   Strengthen Industrial Base Analysis / Planning Capability
   Provide Management Focus on Manufacturing
   Encourage Contractor Efficiency / Quality / Producibility
   Balance International Cooperation Versus Domestic Capability
   Encourage Capital Investment
   Encourage Cooperative Ventures
   Structure Effective Intellectual Property Rights
   Strengthen Supplier / Vendor Foundation

An Ad Hoc Group sponsored by Dr. Robert B. Costello, Assistant Secretary of Defense for Acquisition and Logistics (designate), has been established to accomplish the above. Extensive participation by other OSD elements (Research and Engineering, Policy, etc.), the DoD Components, the Department of Commerce and other Government Agencies, Industry, and Academia is planned.

Time frame for completion of the definitive action plan and formal announcement / publication is August 31, 1987. Interim actions and accomplishments are expected.
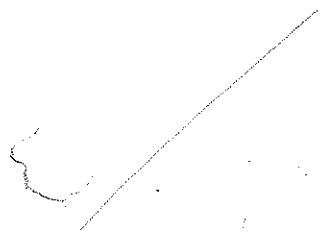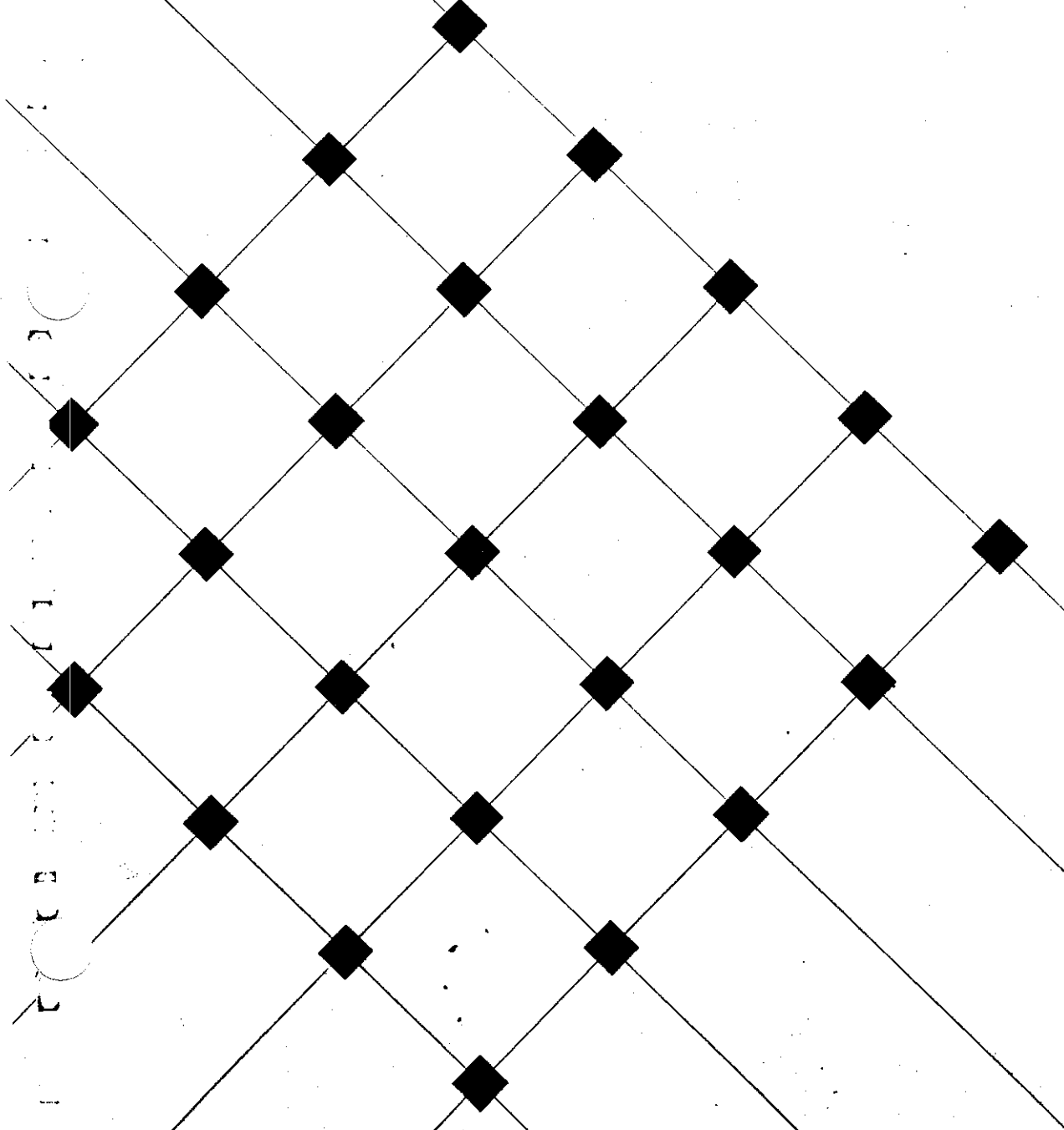
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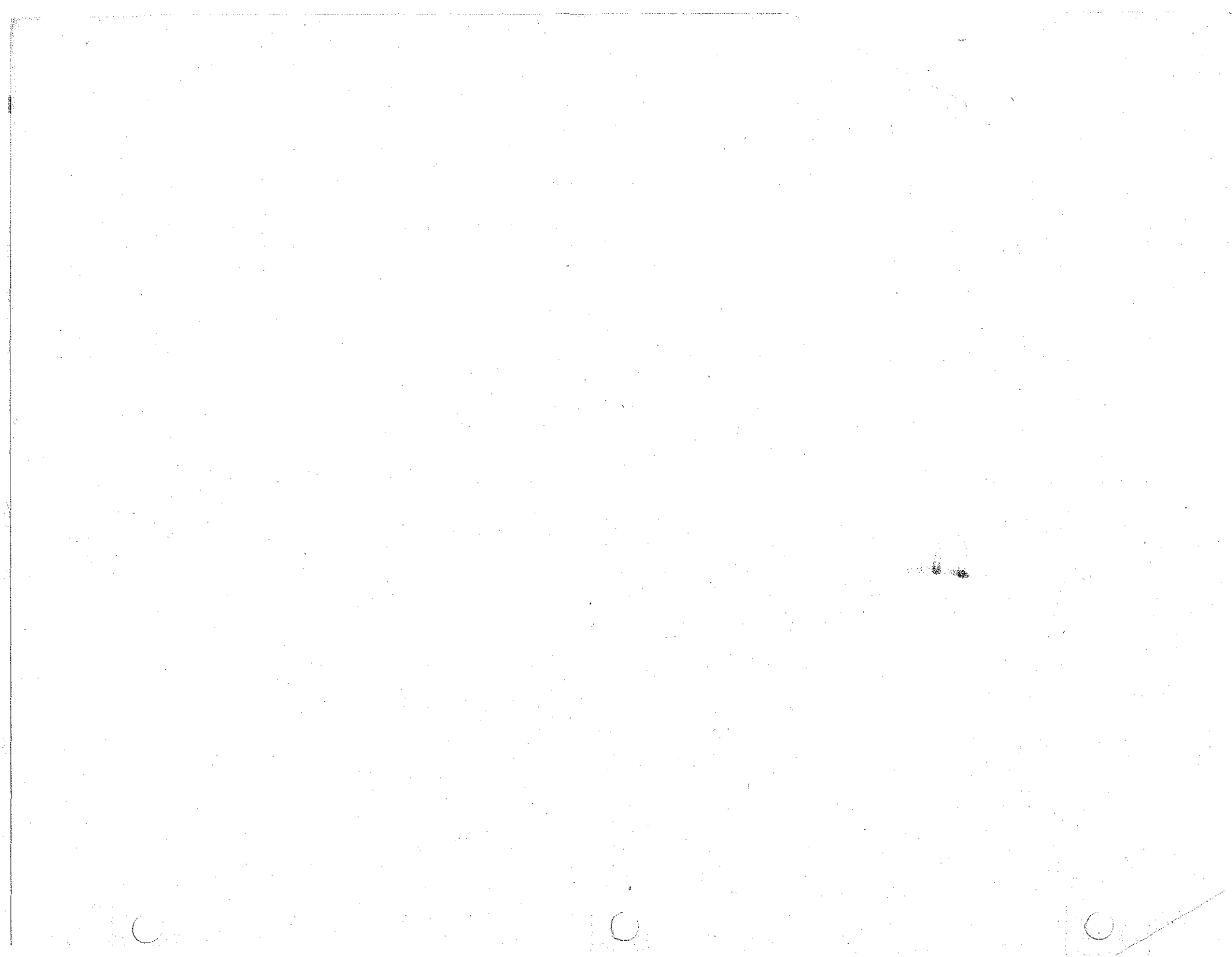
Software Engineering Institute

Proposal for a New "Rights in Software" Clause
for Software Acquisitions by the Department of Defense

by
Pamela Samuelson
Kevin Deasy
Anne C. Martin

September 1986

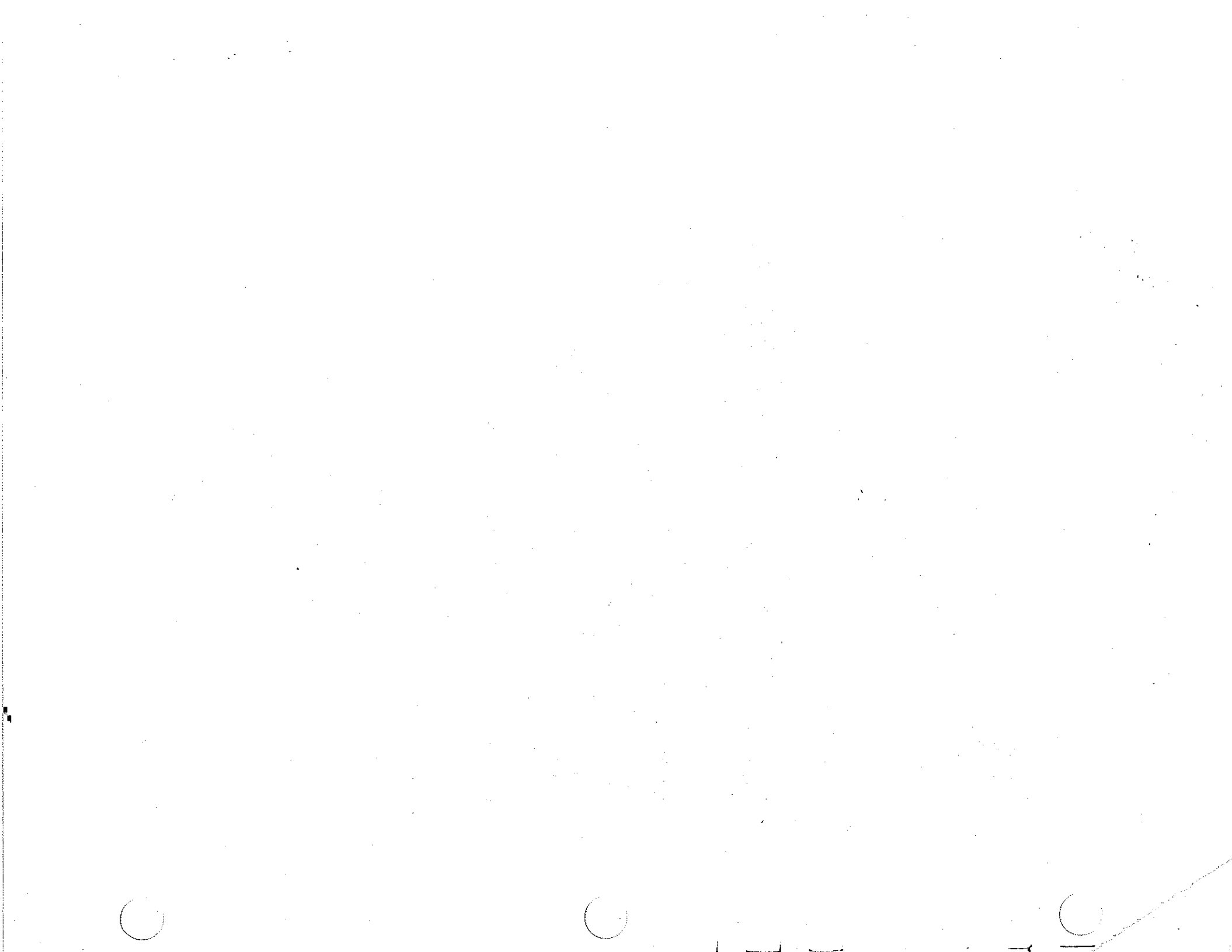# Proposal for a New "Rights in Software" Clause for Software Acquisitions by the Department of Defense

by

Pamela Samuelson
Kevin Deasy
Anne C. Martin
Software Engineering Institute
Software Licensing Project
Carnegie-Mellon University
Pittsburgh, PA 15213

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The ideas and findings in this report should not be construed as an official DoD position. It is published in the interest of scientific and technical information exchange.

Review and Approval

This report has been reviewed and is approved for publication.

FOR THE COMMANDER

Karl H. Shingler
SEI Joint Program Office
ESD/PLSI

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Proposal for a New "Rights in Software" Clause for Software Acquisitions by the Department of Defense

Pamela Samuelson, Kevin Deasy, Anne C. Martin

ABSTRACT. This report recommends three distinct regulatory strategies for addressing difficulties the Department of Defense (DoD) has been experiencing with respect to legal issues related to software acquisitions. First, the report reiterates the Software Licensing Project's earlier recommendation that the DoD adopt the proposed Federal Acquisition Regulation (FAR) data rights provisions instead of the proposed revisions to the DoD supplement to the FAR (DoD FAR SUPP).

Secondly, in the event that the Defense Department chooses to adopt a data rights procurement policy different from that found in the data rights provisions of the proposed FAR, this report recommends that the DoD adopt a separate "Rights in Software" clause for software acquisitions, rather than continuing the present practice of handling software procurements under the "Rights in Technical Data" clause. Reasons in support of a separate software acquisition policy, as well as a beginning model "Rights in Software" clause are offered.

Finally, in the event that the DoD elects to retain the procurement format presently found in the DoD FAR SUPP provisions governing software and technical data acquisitions, this report offers several concrete recommendations for changes to those regulations which should result in a procurement policy which more effectively meets the mission needs of the Defense Department.

1. Background

The Software Licensing Project (SLP) of the Software Engineering Institute (SEI) has written two previous reports on the Department of Defense's (DoD) software acquisition policy. The first of these reports was "Toward a Reform of the Defense Department Software Acquisition Policy," CMU/SEI-86-TR1 [Reform 86] (hereinafter referred to the "First Report"). It surveyed a range of problems that DoD personnel had identified as software licensing problems currently being experienced by DoD. One chapter of the First Report was devoted to an analysis of the data rights regulations that govern acquisitions of software by DoD. The First Report concluded that a substantial revision of DoD's standard data rights clause would be desirable.

The second SLP report was "Comments on the Proposed Federal and Defense Acquisition Regulations," SEI-86-TM2 [Comments 86] (hereinafter referred to as the "Second Report"). It recommended that the Department of Defense adopt the proposed Federal Acquisition Regulation (FAR) data rights provisions instead of its proposed revisions to its supplement to the FAR data rights regulations. The Second Report made this recommendation for four reasons: (1) The proposed FAR data rights regulations present a more concise and comprehensible regulatory scheme than either the current or proposed DoD regulations. (2) The proposed FAR

data rights policy is also more compatible with standard software commercial practices and provides more incentives for industry to make its best technology available to the government than does the DoD policy. (3) At the same time, the proposed FAR data rights policy would give to the government a number of rights that DoD would seem to need to fulfill its mission (including rights which the current and proposed DoD regulations fail to claim for DoD). (4) Both statutory and policy reasons support having a uniform set of federal data rights regulations rather than having two policies, one for DoD and one for all other federal agencies.

This report is the third SLP Report to concern itself with the DoD procurement regulations affecting software. While we continue to stand on our recommendation that DoD adopt the FAR data rights provisions, we understand that for various reasons, the Department of Defense may find it undesirable to adopt the proposed FAR data rights policy and may decide to continue with its separate data rights policy.

In the event that DoD chooses to continue its separate approach to software acquisitions, we would have the Department of Defense consider three further recommendations which are set forth in this report. First, we recommend that the DoD create a separate "standard rights in software clause", that is, to break software out of the standard technical data rights clause. Some part of the reason why DoD has experienced so much difficulty in its software acquisition policy is, we believe, due to the quasi-technical-data-rights orientation of its present policy, an orientation which is inappropriate for software acquisitions.

Second, we offer a draft standard "rights in software" clause for DoD's consideration. This clause provides for separate treatment of software acquisitions, distinct from that accorded technical data under the standard data rights clause. This "rights in software" clause presents several unique features which distinguish it from the standard data rights clause. These include: the inclusion of software documentation within the definition of the term "software," the establishment of government purpose rights as the standard "ceiling" of rights that the government obtains in publicly funded software, and the provision that software will retain its restricted rights status even when slight modifications are made at the request of the government.

Third, in the event that DoD chooses not to adopt our first two recommendations, and decides to retain the basic structure and content of the existing standard data rights clause, there are still a number of specific changes to that clause, as it affects software, that we believe would be in the government's best interest to adopt. There are 22 specific recommendations for changes to the text of the DoD standard data rights clause discussed within, all of which would, in our view, improve DoD's software acquisition process.

2. Issues

2.1 Should DoD Adopt a "Standard Rights in Software Clause" and Take Software Out of the Technical Data Rights Clause?

For well over a decade, DoD has acquired rights in software by means of the same standard clause as that used to acquire rights in technical data (DoD FAR SUPP sec. 52.227-7013, also known as the standard data rights clause, referred to hereinafter as "SDRC"). We understand that the Department is currently considering adopting a separate clause for its acquisitions of rights in software, that is, breaking software out of the technical data rights provisions of the SDRC. Although we believe that the Department can have a substantially improved software acquisition policy without such radical surgery to the SDRC (after all, we have recommended adoption of the FAR data rights policy which retains a unified technical data and software policy), we believe that, on the whole, the Department would be well served by making the change to a separate rights in software policy for the reasons discussed below.

2.1.1 Reasons that Support a Separate "Rights in Software" Policy

2.1.1.1 The current DoD policy already partially differentiates software from technical data.

Although DoD has long had a policy of acquiring rights in software under the same SDRC that is used in acquisitions of rights in technical data, software has for some time been partially differentiated from technical data within the body of the SDRC. The most obvious difference is in the rights the government takes as a matter of course in privately developed software, as compared with privately developed technical data. Software's "restricted rights" are very restrictive (e.g., to particular computers) as compared with technical data's "limited rights" which permits use or copying throughout the government. This reflects that the Department has already recognized that software and technical data are different. The SDRC also recognizes that the rights that the government needs in software, and the limitations that are reasonable for industry to impose on the government's rights in software are different from those that pertain to technical data.

The question we have been raising is whether software is differentiated enough in the SDRC and differentiated in the right ways. For various reasons discussed in our First Report, we believe that DoD has not yet adequately differentiated between technical data and software. This is why, we believe, derivative works rights which are critically important as to software, have been omitted from the technical data oriented SDRC, which defines unlimited rights without reference to a right to make derivative works. A separate software clause would facilitate appropriate differentiation between software and technical data.

2.1.1.2 Economic reasons why software documentation should be treated differently from technical data.

The function and purpose of software is different from that of technical data. Software performs

tasks; technical data merely conveys information. Because of this, the economics underlying the development and marketing of software and technical data are significantly different. Software generally involves significant research and development costs which can only be recouped through the marketing of the product, software itself, whereas technical data is generally produced as an ancillary step in the process leading to production of the actual item to be marketed.

The critical point here is that the capital cost of design and development (including the cost of software tools and/or CAD/CAM programs which aided in the development effort) are recouped as part of the sale of the system, not through sales of technical data that might have been generated in developing the system. DoD's policy with respect to hardware systems takes this into account by treating hardware systems in a manner different than it treats technical documentation. DoD's present policy with respect to software, however, is heavily technical data oriented, and does not allow software design costs to be recovered in the same manner.

Thus, the economics of software development indicate a need for breaking software (and the documentation which is an integral part of its development and evolution) out from the quasi-technical data treatment it has thus far received. With regard to development costs and capitalization, software is in many ways more like a hardware component than it is like the technical documentation which supports the hardware. The DoD procurement policy needs to be structured so as to take account of these technical and economic similarities between software and hardware, as well as the dissimilarities between software and technical data.

This policy should also recognize that unlike hardware, software is an evolutionary product - that is, it is in a state of constant development as maintenance and enhancement work is continually done to improve upon and/or alter the functioning of the software. As an evolutionary product, the documentation supporting the software is in fact a critical part of the software product itself. For this reason, the software documentation should be treated in the same manner as the executable version of the program. A properly structured software acquisition clause can accomplish this.

2.1.1.3 Outside of the DoD regulations, different intellectual property rights may attach to software than to technical data.

Software is a unique intellectual property in that it can be protected under the copyright law, trade secret law, and patent law. The unique nature of software allows it to be copyrighted without revealing all of its "secrets" which means that trade secret and copyright protection can coexist in the same subject matter. It is rare for a firm to copyright technical data that the firm wanted to claim as a trade secret, because the Copyright Office generally makes any deposited work available for public inspection and copyright law treats such things as manufacturing instructions or engineering designs as "ideas" which are in the public domain. Firms tend to keep manufacturing instructions and other technical data solely as trade secrets. A separate clause to govern software acquisitions could take into account differences in intellectual property protection affecting software and technical data.

2.1.1.4 The educational value of a separate software clause.

A new clause to govern software acquisitions could accomplish a break with the past, and engender a move away from the quasi-data rights orientation which has pervaded software acquisitions. A new clause could pave the way to a new "mind set" for those who work in the area of software and data rights acquisitions. Such a clause would provide a point of departure for re-educating procurement personnel regarding the nature of software. In this way, it could create a fresh way of viewing software acquisitions, one more in line with the economic and technological realities of the software industry.

2.1.1.5 Improving relations with industry.

It is unfortunate that relations between the software industry and the Department of Defense are at present somewhat strained over software data rights issues. Many industry representatives seem to feel that DoD software procurement policy is confiscatory. The adoption of a separate clause to govern software acquisitions, which would break such acquisitions out from the policies with which industry has been unhappy, could go far to improve government-industry relations. At the very least, the perception that DoD is making some effort to alleviate the areas of conflict with industry could be valuable in this regard.

2.1.2 Reasons not to Adopt a Separate Software Acquisition Clause

2.1.2.1 The overlap between software and technical data.

A separate software clause is not necessary to significantly improve the DoD's software acquisition policy. Even we conclude that the FAR data rights policy, which retains a unified approach, would be an excellent policy for DoD. This is one reason not to break software out of the technical data clause. There are others as well.

There is, for instance, some artifice in the distinction between software and technical data. Technical data can be incorporated into a computer data base, for example, which would seem to transform it into software. In fact, virtually anything that can be written on paper can be transformed into a machine readable form. The DoD would need to sort out the computerized technical data problem which its present regulations also fail to do but apart from this, software and technical data are sufficiently distinct that a separate policy is appropriate, as DoD's present SDRC already demonstrates.

2.1.2.2 Would DoD seem to be "caving in" to industry if it adopted a separate software clause?

Since software resembles technical data and has long been treated within the technical data policy, and since the software industry has been lobbying for a special software policy, one problem that DoD may see with a separate software clause is that it may appear to some that the DoD would be too generous to industry, especially if the Department allows industry to retain

greater rights in software than in technical data. DoD's response to such charges should, however, be that the differential treatment of software would actually save the government money in that the government would not be forced by the regulations into purchasing the more expensive "government-wide rights" to software documentation in those instances where a site license is adequate to the needs of the government and that better software at lower development costs will be made available to the government if it provides better incentives to the software industry. Such responses should serve to silence the critics.

2.1.2.3 The need to retrain DoD's contracting personnel as to any new software clause.

A separate rights clause to govern software acquisitions has the potential to further complicate the DoD acquisition process. Those who have long experience with the SDRC have become used to muddling through the present system. They would have to be retrained about rights in software, and this is no small job.

The DoD needs, like private industry, to be involved in the evolution of a conceptualization of software and software acquisition which is consistent with the technological, economic and legal realities of software development. A separate treatment for software, along with the retraining which would need to be undertaken in conjunction with such a change, could go a long way toward developing a new and more dynamic conceptual framework for dealing with software.

2.1.2.4 The desirability of an overhaul of the DoD procurement policy as to intellectual property.

The DoD would benefit greatly from a more substantial overhaul of the procurement regulations to make them more compatible with traditional and newly developing intellectual property law. A more integrated, more unified intellectual property policy could bring together DoD's policies as to copyright, patent, semi-conductor chip design, trade secret and trademark law. Advances in new technologies are bringing together and blurring the the lines between these traditional forms of intellectual property protection. As the new technologies continue to advance, the need to integrate policies in these areas will become more acute. Additionally, government attorneys working in the software/data rights area must of necessity have some grounding in the traditional forms of intellectual property law. Given this, it seems wise for DoD to draw upon the knowledge and expertise already possessed by its lawyers involved in this area by making its policies consistent with the already existing body of intellectual property law.

A separate clause for software acquisitions will contribute to a fractionated rather than a unified system of intellectual property regulations. The time and energy expended in adopting a separate software acquisition clause would probably be at the expense of efforts which might otherwise have been invested in developing a broader, more integrated intellectual property policy for the department, a policy which needs generally to be more integrated with copyright and trade secret law.

2.1.3 Conclusion

On the balance, we believe that the advantages presented by a separate software acquisition clause outweigh the potential disadvantages. We would recommend, therefore, that the DoD adopt a software acquisition clause as part of its procurement regulations. A suggested model clause is included in this report. It should be noted that the clause, while offering a fresh approach to software acquisition, only touches briefly on software maintenance and enhancement. In recognition of the critical importance of these issues, the next phase of this project's research will focus specifically on these issues. A more in-depth treatment of maintenance and enhancement will be forthcoming with the project's next report.

2.2 What Might a Standard Rights in Software Clause Look Like?

2.2.1 The Model Standard Rights in Software Clause

(a) Definitions

As used in this clause, the following terms have the following meanings:

government purpose
> the fulfillment of a legitimate federal government function, including uses or disclosures for competitive reprocurements and maintenance and enhancement purposes; the term includes disclosure to and use by other contractors and any state, local or foreign government where such disclosure or use will fulfill a legitimate federal government purpose; the term does not include a general distribution of the software to defense contractors or other more limited distributions of the software that may have a significant negative effect on the commercial market for such software. Nor does it include a disclosure that permits the recipient to disseminate the software without restriction or to develop software for non-governmental sales in competition with the owner of intellectual property rights in it.

government purpose license
> a license to the federal government that grants the government rights to use, duplicate, disclose, distribute, prepare derivative works, and publicly display software for government purposes, and to authorize others to exercise such rights when doing so will fulfill a legitimate federal governmental function. When software provided to the government by one contractor is distributed or disclosed by the government to a subsequent contractor for a government purpose, the subsequent contractor shall be bound by the terms of the government purpose license.

restricted rights license
> a license to the federal government that at a minimum grants the government rights
>
> > (1) to use software in the computer for which the software was acquired;
> >
> > (2) to use software in a backup computer if the computer for which it was acquired becomes inoperable;

(3) to make copies of the software necessary for backup and reverse engineering purposes; (4) to adapt and modify the software; and

(5) to authorize support contractors to exercise the rights described in (1) through (4), subject to the same restrictions as bind the government.

restricted rights software

software that has been developed at private expense, including software as to which only slight modifications are made to adapt it for the government needs with public funds. The term "developed" means fixed in a tangible medium of expression. The term "at private expense" means entirely funded by the contractor and without any government reimbursement, direct or undirect other than through IR&D cost allocations.

software

computer programs, computer data bases, and documentation pertaining thereto including but not limited to such programs in any machine readable printed or interpreted form, system reference manuals and user manuals.

(b) Rights of the Government (1) Public Domain Software: There shall be no restrictions on the government's right to use, duplicate, disclose, distribute, display or make derivatives of software that is in the public domain.

(2) Government Purpose Licenses: The government shall have a government purpose license in all software deliverable under this contract that was developed at public expense. The government may also negotiate to obtain a government purpose license in software that was developed at private expense.

(3) Restricted Rights License: The government shall have a restricted rights license in all restricted rights software deliverable under this contract. Written permission of the owner of such software will be required before the government may make or authorize other uses or disclosures of this software.

(4) Negotiating for Additional Rights: The government may negotiate to obtain more rights in restricted rights software than the five standard rights that are named in the definition of the restricted rights license. Additionally, the government and contractor may negotiate to define the uses the government may make of software within the scope of the government purpose license.

(5) Incorporation of Other Software: When a contractor incorporates into software to be delivered to the government modules or subroutines in which the contractor does not own all intellectual property rights, the contractor shall obtain for the government at least a restricted rights license in such incorporated modules or subroutines.

(6) Rights from Subcontractors: The government shall have the same minimum rights in software developed by subcontractors as in software developed by prime contractors.

(7) Challenging Restrictive Legends: The government may challenge inappropriate restrictive legends.

(c) Rights of Contractors and Subcontractors

(1) Ownership: Unless the special works clause has been invoked, whoever develops software deliverable under this contract shall be considered the owner of all intellectual property rights in it, subject to a restricted rights or government purpose license to the government as provided in Section (b).

(2) Restrictive Markings: The contractor or subcontractor who owns intellectual property rights in software may attach appropriate restrictive markings to the software in accordance with this clause.

(3) Direct Delivery to the Government: Subcontractors under this contract may deliver restricted rights software directly to the government rather than to the prime contractor unless the software is needed by the prime contractor for installation in the system that the contractor is required to deliver to the government.

(4) No Leverage: Neither the prime contractor nor any intermediate subcontractor shall use its power to award subcontracts as a means of acquiring greater rights in software from its subcontractors than is needed to perform the government contract.

(5) Flowdown to Subcontractor Whenever any software is to be obtained from a subcontractor under this contract, the contractor shall use this same clause in the subcontract, without alteration. No other clause shall be used that will enlarge or diminish either the government's or the contractor's rights in the subcontractor's software which is to be delivered to the government.

(d) Restrictive Legends

(1) No Marking If In Public Domain: Software that is in the public domain shall be delivered with no restrictive markings.

(2) Government Purpose Rights Legend: Software in which the government has government purpose rights is to be delivered to the government with the following restrictive legend:

<div align="center">

Government Purpose Rights

Property of: (contractor or subcontractor's name)

</div>

Standard Restricted Rights Legend: Restricted rights software in which the government has only the standard five minimum rights are to be delivered to the government with the following restrictive legend:

<div align="center">

Restricted Rights

Property of: (contractor or subcontractor's name)

</div>

(4) Other Restricted Rights Legend: When the government and the contractor (or subcontractor) have negotiated an arrangement whereby the government will get more than the standard five minimum rights in restricted rights software, the software shall be delivered with the following restrictive legend:

Expanded Restricted Rights

Property of: (contractor or subcontractor's Name)

Contract No: _____

(5) Copyright Notices: Unless the special works clause has been invoked, the owner of intellectual property rights in software may attach appropriate copyright notices to software delivered under this contract.

2.2.2 Commentary to the Model Standard Rights in Software Clause

There are a number of respects in which this standard rights in software clause differs from the SDRC, among them:

- that software is defined to include documentation;
- that governmental purpose rights are the standard "ceiling" of rights that the government has in publicly funded software;
- that there is no differentiation in the level of the government's rights dependent on whether or not the contractor copyrights the software;
- that the government will have a right to prepare, or authorize preparation of, derivative software from software developed at public expense;
- that software will not lose its restricted rights status if only slight modifications are made to it at the request of the government;
- that use by support contractors (subject to restrictions binding the government) is included in the set of restricted rights;
- that "developed" is defined in a manner more consistent with copyright than patent standards;
- that no explicit reference is made as to the contractor's right to claim a copyright because we regard this as implicit in the clause's recognition of the developer's right to intellectual property rights in the software.

Before discussing some of these features, it may be helpful to describe the circumstances in which we would envision this clause being used.

2.2.2.1 The quasi-mandatory nature of the standard clause.

The SDRC is required to be inserted in all Defense Department software acquisition contracts. The present SDRC contemplates two situations in which the government's rights in the software may be different than those that the SDRC itself prescribes:

1. When the government uses the special works clause in a software development contract, and
2. When the contractor and the government negotiate an agreement giving the government more than the four standard minimum rights in privately developed software.

The SDRC will govern all rights in software matters unless one of these circumstances is present. Our proposed standard software clause would operate in much the same fashion. That is, it would be a mandatory clause for insertion into all DoD software acquisition contracts unless one of a set of authorized alternate rights acquisition clauses was used in the contract. We would recommend retention of the two already authorized alternatives, and would recommend serious consideration of two other authorized alternatives, one permitting the government to negotiate for less than government purpose rights when there is substantial private funding of the software's development in addition to some public funding, and another for acquiring less than the standard set of minimum rights in software tools and CAD/CAM programs.

2.2.2.2 A "mixed funding" alternative to equitably distribute rights based on public and private funding.

As one alternative to the standards "rights in software" clause, the DoD should consider adopting a clause which would equitably allocate rights in software in mixed funding situations. The DoD Authorization Act of 1985 seems to contemplate adoption of a data rights policy that differentiates between wholly government funded and partly government funded projects. DoD's present regulations have not responded to this Congressional directive. The DoD would, of course, need to address issues regarding what forms of contribution to a project constitute private funding (resources or cash), what degree of private funding would be necessary to trigger the mixed funding alternative, how much flexibility to allow contracting personnel in structuring mixed funding arrangements, and the like.

2.2.2.3 An alternative clause to obtain less than the standard minimum rights in software tools and CAD/CAM programs.

Additionally, the DoD might consider adopting another alternative allocation of rights clause, one which would allow the DoD to obtain less than minimum rights in certain items such as software tools and computer aided design/computer aided manufacturing (CAD/CAM programs). Since software tools and CAD/CAM programs are such valuable resources of private firms, contractors are loath to provide these tools to the government under the standard rights arrangements. It would seem that DoD would be wise to provide in its regulations the flexibility to negotiate for some access to these items, on the theory that partial access will in some instances be better than none at all. It is in DoD's interest to assure contractors that they can provide their best technology to the DoD without fear of loss of these rights in their software.

2.2.2.4 Why government purpose rights is the standard ceiling of rights under the clause instead of unlimited rights.

As our First Report has indicated, it seems that under the standard data rights clause the government now obtains government purpose rights rather than unlimited rights in publicly funded software in which the contractor claims a copyright. It is not clear why the government has chosen to provide this incentive to contractors to copyright software. After studying this matter, we have concluded that there should not be a difference in the extent of the government's rights

depending on whether the software is copyrighted by the contractor. Because it appears that the government is already willing to accept government purpose rights for copyrighted software developed at public expense, we believe it is reasonable for the government to use the same policy as to all publicly funded software. Indeed, we fail to see why the government would ever need more than government purpose rights in publicly funded software.

2.2.2.5 The definition of the term "developed" should be grounded in principles of copyright law.

The approach DoD has taken toward defining "developed" within the meaning of "developed at private expense" has been a patent-oriented definition of the term. Indeed, the government's patent lawyers seem to have diligently and aggressively attempted to use a patent standard toward software development so as to establish for the government as broad a set of rights as possible in software. As discussed in the First Report, one result of claiming this broad set of rights for the government has been to create significant disincentives for contractors to deliver their best technology to the government.

The model clause takes a more copyright-like approach to defining "developed." Because software is copyrightable, and copyright law allows intellectual property rights to attach whenever a work is fixed in a tangible medium of expression, it seems appropriate for the government regulations applicable to software to be more consistent with this body of intellectual property law (which is, after all, the most important body of federal intellectual law affecting software). (Although software may sometimes be patentable, software patents are much rarer than software copyrights.) A copyright approach to a definition of "developed" would also be more consistent with the nature of the software development process. Unlike hardware, software is almost continually in the process of development. Copyright law which is attentive to this evolutionary nature of software, is more appropriate than a patent-oriented standard.

We recognize that because software is a hybrid, lying somewhere between traditional copyright and patent subject matters, it is difficult to find the appropriate location on the continuum as to when software is "developed" or not developed. The proposed DoD regulatory standard would seem to call for software to have gone through extensive testing before it can be deemed developed. We consider this to be one extreme of the continuum. The "fixed in a tangible medium" standard which we have chosen to include in the model clause may represent the other extreme.

In choosing this standard, we were deferring to the copyright law since that is the nearest body of intellectual property law applicable to software. We offer this definition as a point of discussion, and understand that DoD may prefer a more operational definition. As a viable alternative to the definition we have presented, the DoD might consider a compromise between the copyright approach to the definition of "developed" and an operational definition which does not require the developer to go to an extensive degree of testing before software can be deemed developed. It is important that such a definition recognize that software is in a state of continual development and improvement which makes impractical any definition which focuses on finished products.

This conflict points out the predicament encountered by government and industry alike in dealing with this strange hybrid subject matter. To the extent software is like hardware, it would seem an appropriate subject matter to hold to the higher, more operationally oriented standard of development under the patent law, and to the extent it is like technical data and is subject to continual modification, it seems more appropriate to the more flexible standard for development found in the copyright law. This is a dilemma, but DoD has already tried unsuccessfully to adopt a patent standard for defining "developed" and found the software industry to be so hostile to it that another approach must be found.

2.2.2.6 Respects in which the model standard rights in software clause is more advantageous to the DoD than the SDRC.

In addition to the benefits the DoD would realize as a result of eliminating disincentives which cause some developers to withhold their best technology from the DoD, there are several respects in which the model standard rights in software clause gives to the DoD broader rights than those which it would acquire under the present treatment of software acquisitions under the SDRC. These include:
- the right to reverse engineer as a minimum right in software acquisitions;
- the right to license support contractors as a minimum right in software acquisitions;
- the right to make derivative works as an explicit part of the government purpose rights package;
- a very broad definition of government purpose rights which includes such rights as use or disclosure for competitive reprocurements, as well as disclosure to and use by state, local and foreign governments.

2.3 If DoD Does Not Adopt a Separate Rights in Software Clause, how Should it Revise the Standard Data Rights Clause to Improve its Software Acquisition Practices?

Sections 1 and 2 of this report detail the reasons why a separate software clause may be in the DoD's best interests and then sets forth a model software rights clause for the Department's consideration. In the event the Department of Defense has not been convinced of the desirability of taking this approach, there is still much that can be done to improve the existing SDRC as it affects software. The following 22 recommendations are distillations of many of the points made in the First Report of the SLP. (Page and chapter numbers in parentheses below refer to the First Report.)

2.3.1 Definitions

2.3.1.1 Don't overdefine software terms.

Six software-related definitions are included in the SDRC. Only three seem to be significant in the body of the standard data rights clause -- software, software documentation, and commercial software. Only these three need to be defined. Also, the SDRC speaks constantly of "computer

software" when it is only necessary to say "software", because "computer" is already included in the software definition.

2.3.1.2 If the distinction between commercial and other-than-commercial software is to be retained, provide a more precise definition of what is meant by commercial computer software.

The SDRC provides for two different sets of restricted rights applicable to privately developed software, one for "commercial" software and one for other software (or commercial software whose owner opts to have it treated as other-than-commercial software). (Different restrictive legends are supposed to be attached to software, based on what kind of software is to be delivered.) Unfortunately, the existing definition of "commercial computer software" is so vague as to be a poor guide as to what software will qualify for commercial restricted rights treatment (see pp. 23-4).

2.3.1.3 If two sets of restricted rights for privately developed software are retained, the definitional section of the clause should include and define both sets of restricted rights.

As noted above, there are two categories of privately developed software which are presently subject to different sets of restricted rights. The definitional section of the SDRC sets forth only one definition of restricted rights, which a later section of the SDRC seems to make applicable only to other-than-commercial software. The other set of restricted rights, those applicable to commercial software (and its documentation), are not set forth until subsection (b)(3)(ii). In order to achieve consistency, these "commercial restricted rights" should also be set forth in the definitional section of the clause. (p. 26.)

2.3.1.4 Define what is meant by "government purpose," perhaps clarifying its meaning by providing some examples.

DoD policy allows a contractor to copyright any software developed under a government contract (unless it is a "special work"). Subsection (c) of the SDRC provides that the contractor must grant to the government a copyright license "for government purposes" as to any work in which he has taken a copyright. However, there is no definition of "government purpose," either in that subsection or in the definitional section. This omission creates uncertainty as to the extent of the government's rights in publicly funded copyrighted software (see pp. 6, 24-5, and Chapter 7).

2.3.1.5 Expand the definition of unlimited rights to include the right to prepare derivative works.

The present SDRC definition of unlimited rights fails to make explicit whether the government will have the right to prepare derivative works when it has unlimited rights in software. Such a right is particularly important as to software because maintenance, enhancement, reuse, translation, rehosting and retargeting are all dependent on having such a right (see pp. 19, 54, 72). The fact that that the proposed Federal Acquisition Regulations (FAR 52.227-14(a)) would give other

governmental agencies a derivative works right in unlimited rights software would weaken DoD's argument that the derivative works right is implicitly included in its unlimited rights policy. In light of the importance of this right to DoD, it would seem prudent for DoD to take the precaution of including the derivative works right within its unlimited rights.

2.3.2 Policy as to Publicly Funded Software

2.3.2.1 Clarify that unlimited rights is a kind of license, not an ownership right.

The project's research revealed that DoD personnel had at least four different interpretations of the meaning of unlimited rights vis a vis ownership rights.. Intellectual property law would likely treat "unlimited rights" as a broad license, not as an ownership interest. In order to avoid future misunderstandings and possible litigation, this concept needs to be clarified (see pp. 24-25, Chapter 7).

2.3.2.2 Clarify DoD's intent as to the effect a contractor's claim of copyright in publicly funded software will have on the government's rights in publicly funded software.

There is an ambiguity in the present SDRC concerning the extent of the government's rights in copyrighted software developed at public expense. One part of the SDRC seems to give DoD unlimited rights in it because it was developed at public expense and another part gives the government only government purpose rights if the contractor decides to retain a copyright in the software. DoD should clarify its intent on this matter.

2.3.2.3 If DoD decides to retain the apparent policy of allowing a contractor's copyright to cut back the government's unlimited rights license to a government purpose license, it should require the contractor to give DoD early notice of his intent to claim copyright.

A further disadvantage of the present SDRC as regards contractor copyrights in publicly funded software is that it appears that the government will typically not know the extent of its rights - whether unlimited rights or government purpose rights - until the software is delivered to the government, that is, until it sees whether the software was delivered with or without a copyright notice attached. The government may want to require notice of an intent to claim copyright at the time the contract is entered into so that it can plan accordingly.

2.3.2.4 Revise the special works clause so that DoD will be able to take broader rights in software when it needs them.

The DoD's special works clause (DFARS 52.227-7020) purports to claim a direct copyright for the government under the "work for hire" doctrine. This clashes with Section 105 of the Copyright Act (17 U.S.C. Sec. 105) which prohibits the government from taking direct ownership rights in copyrighted works. Use of the current special works clause would seem to have two effects: (1) to preclude the contractor from claiming a copyright in the software and (2) to put the software into the public domain, since neither the government nor the contractor can own it.

Since copyright law does permit the government to own copyrights by assignment, a copyright strategy similar to that adopted by NASA and proposed for the FAR should be considered by DoD. (p. 21, Chapter 5.)

2.3.2.5 DoD should either give up its claim of unlimited rights in non-deliverable software or make a deferred ordering clause standard.

The SDRC seems to give the government unlimited rights in several categories of software, although their delivery may not be required by the contract (SDRC (b)(i).) Without the inclusion of a deferred ordering clause, it appears that the government would not have the right to require delivery of any of this non-deliverable software. The existence of this unenforceable inchoate right only serves to frustrate both the government and industry.

We recommend that DoD examine whether it needs to claim unlimited rights in these non-deliverables. If it is decided that such a right is needed, a deferred ordering clause should be made a standard part of the contract (see pp. 19-20).

2.3.2.6 In "mixed funding" situations, (i.e., where both public and private funds are used to develop the software DoD should provide an option for the government to take less than unlimited rights.)

This would provide needed incentives to software firms to invest some of their own capital in software development which could result in a higher quality product and in lower initial acquisition costs. It would also conform with the apparent congressional intent reflected in Section 2320 of the Department of Defense Authorization Act of 1985, (Public Law 98-525, 10 U.S.C. Sec. 2301, 2320.)

One possibility would be to give the government unlimited rights in software developed with predominantly public funds (whether or not the software is copyrighted) and to take only "government purpose rights" when funding is predominantly but not exclusively private (see pp. 38-39).

2.2.2.7 Surrender the potential unlimited rights claim to software documentation that might be in a manual or that might be construed as instructional material for installation, operation, maintenance or training purposes.

Under the SDRC, the DoD acquires unlimited rights in manuals or instructional materials prepared or required to be delivered under a government contract for installation, operation, maintenance or training purposes, even though such manuals may have been developed at private expense and are not in the public domain.

Although privately developed other-than-commercial-software may receive restricted rights treatment, manuals or instructional materials for such software, even though they contain proprietary information, would seem to be governed by the unlimited rights provision. This creates a significant disincentive to do business with DoD and could lead to firms providing the government

with no more than the barest minimum of documentation needed to meet contract requirements (see pp. 23-24).

2.3.2.8 Examine the need for "unlimited rights" as opposed to "rights for government purposes".

In accordance with the regulatory policy that DoD shall acquire only such rights to use, duplicate and disclose software developed at private expense as are necessary to meet government needs, consideration should be given to restructuring the unlimited rights policy to afford the government unlimited rights only where they are truly needed (see pp. 38-43).

2.3.3 Policy as to Privately Funded Software

2.3.3.1 Add to the minimum restricted rights the government obtains in privately developed software the right to make a copy for reverse engineering purposes if necessary to make modifications.

The restricted rights provisions of the SDRC seems to limit the government's right to copy software to archival or back-up purposes. Although the minimum rights do include the right to modify the software, if insufficient documentation has been obtained or it is not possible to have the original contractor modify the software, the government may attempt to reverse engineer it. It is not clear under the regulations or the copyright law whether the modification right includes the right to make a copy for reverse engineering purposes. In light of the potential risks, it would be prudent for DoD to clearly state that it has this right. (p. 55.)

2.3.3.2 Develop a standard policy for acquiring privately developed software for local area networks.

Since local areas networks which share software are becoming more commonplace within DoD, the regulations should provide guidance about acquiring software intended for use in such networks. (p. 27-28.)

2.3.3.3 Clearly establish the status of restricted rights software which the government has modified.

When the government modifies privately developed software in which it has restricted rights, the effect of that modification appears to vary, depending on whether the software is subject to commercial or other-than-commercial restricted rights. The SDRC provides that as to commercial software, "unmodified portions shall remain subject to these restrictions." However, modifications to other than commercial software are governed by another subsection of the clause, which provides that "those portions of the derivative software incorporating restricted rights software are subject to the same restricted rights." This apparently inconsistent treatment of modifications to restricted rights software is extremely confusing and needs to be clarified. (p.54-5.)

The ambiguity of the DoD regulations about ownership rights and restrictions as to software modifications may mean that if the original software is protected by copyright law, it is copyright law that will fill in the gaps. Since modifications are derivative works, a host of copyright issues could arise which could substantially inhibit the government's use of the software to its maximum potential. (Chapter 4.)

2.3.3.4 Consider eliminating the two different sets of restricted rights for commercial and other-than-commercial software developed at private expense.

As noted above, the SDRC provides for two different sets of restricted rights for commercial and other-than-commercial software. There appears to be no clear rationale for this differential treatment and for the corresponding differential treatment of documentation. Moreover, neither the regulation nor policy provision provide any clear guidance as to when a piece of software qualifies for commercial or other-than-commercial treatment.

The resulting confusion and ambiguity can be avoided by establishing a "floor" of minimum rights which the government must have and then allowing arrangements between the "floor" of minimum rights and the "ceiling" of unlimited rights to be negotiated as the government's needs require (see pp. 26-27).

2.3.3.5 If DoD chooses to retain the distinction between commercial and other-than-commercial software, eliminate the potential unlimited rights claim in privately developed other-than-commercial software as to which no separate license agreement has been negotiated.

When other-than-commercial software is being procured, the SDRC stipulates that a separate license agreement containing the applicable restrictions is to be negotiated and made a part of the government contract, (so long as the government obtains, at a minimum, the four minimum restricted rights set forth in the clause). When a firm provides privately developed software to DoD but has not negotiated a separate licensing agreement, an issue arises as to whether the government would get unlimited rights in the software or only the four minimum restricted rights. The existence of such a potential "booby trap" in the regulations could be enough to dissuade the smaller, "high tech" companies from doing business with DoD with the result that the latest innovative software could be unavailable (see pp. 21-23). The SDRC should be revised to make clear that the government will have only the four standard minimum rights in privately developed other-than-commercial software when no separate licensing agreement is negotiated.

2.3.3.6 Treat privately developed software documentation as subject to the same restrictions as the machine readable code.

The SDRC treats commercial computer software and its documentation in a manner consistent with industry practice by providing that both machine readable code and documentation will be governed by the same set of restricted rights.

In contrast, documentation for other-than-commercial software is not subject to the same set of

restricted rights as the machine readable code but is instead acquired by the government with limited rights. This gives the government the right to use, disclose and duplicate the documentation throughout the government. Subjecting other than commercial documentation to the broader limited rights policy not only causes confusion but deters many software firms from selling rights in their most valuable technology to DoD. (p. 26-27.)

2.3.3.7 Allow contractors to retain the privately developed status for software when only minor modifications are made to tailor it for government use.

Under the DoD policy, if a company has developed a piece of software wholly at private expense, and then under a government procurement contract, makes some minor modifications to tailor it for intended government use, the company would forfeit restricted rights status for the delivered software if DoD funds subsidized the modification. This policy deviates from standard commercial practice, and is viewed by many software firms as inequitable.

Consideration should be given to adopting the proposed FAR's more flexible approach which allows contractors to retain the privately developed status for their software when only minor modifications are made for the government (see pp. 25-26).

2.3.3.8 Consideration should be given to restructuring the software procurement process so as to allow the government the flexibility to take less than the current minimum restricted rights in software and less than limited rights in documentation in certain situations.

In some situations it may be in the government's best interests to have the flexibility to acquire fewer rights in privately developed software than the current SDRC permits in exchange for certain concessions from the contractor. This built-in flexibility could allow the DoD to satisfy a more pressing need such as:

a) the need to get a warranty on the software which may not be possible unless the government agrees to permit the developer to perform all the maintenance work (Chapter 11);

b) the need to create an escrow arrangement to obtain access to privately developed source code that the software firm would otherwise not provide at reasonable cost to the government (see pp. 52-53); and

c) the need to get access to software tools and/or CAD/CAM programs (see pp. 50-51, Chapter 10).

2.3.3.9 Rename the proposed "license rights" provision of the proposed SDRC, if a "fixed expiration" option is to be preserved.

The "license rights" concept as originally conceived by the OSD Study Group was to enable the government to require its contractors to license competitors to use their proprietary data in competitive re-procurement (or maintenance) situations. However, the "license rights" option

proposed by the DoD FAR Supplement appears to focus on obtaining expirations for restrictive legends. "License rights' is a misnomer for this set of rights, particularly in view of the fact that the SBIR provisions reflect a very different "license rights" policy. Give the new policy a better name, perhaps "fixed expiration rights," so that people won't get confused. It is questionable whether this new option will be acceptable to industry which can always elect limited or restricted rights protection for its valuable technologies (see pp. 32-35).

3. Conclusion

It is important to observe that the problems which DoD is experiencing with its software acquisi-
tion policy are not unique to the government. The problems are being experienced industry-wide,
and are due in large part to the unique nature of software and to the lag between the ability to
conceptualize software as a product and the development of the end product. The DoD, as the
major single consumer of software, is in a unique and enviable position to address the difficulties
being encountered within the software industry, and to place itself on the leading edge of the
effort to bring acquisition and licensing practices in line with the technical and economic realities
of software development. By taking this leadership role, the DoD could do much to help maintain
the U.S. lead in software technology in the world.

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This report recommends three distinct regulatory strategies for addressing difficulties the Department of Defense (DoD) has been experiencing with respect to legal issues related to software acquisitions. First, the report reiterates the Software Licensing Project's earlier recommendation that the DoD adopt the proposed Federal Acquisition Regulation (FAR) data rights provisions instead of the proposed revisions to the DoD supplement to the FAR (DoD FAR SUPP).

Secondly, in the event that the Defense Department chooses to adopt a data rights procure policy different from that found in the data rights provisions of the proposed FAR, this report recommends that the DoD adopt a separate "Rights in Software" clause for software acquisitions, rather than continuing the present practice of handling software procurements under the "Rights in Technical Data" clause. Reasons in support of a separate software acquisition policy, as well as a beginning model "Rights in Software" clause are offered. (see reverse for summary of abstract)

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Finally, in the event that the DoD elects to retain the procurement format presently
found in the DoD FAR SUPP provisions governing software and technical data acquisitions,
this report offers several concrete recommendations for changes to those regulations
which should result in a procurement policy which more effectively meets the mission
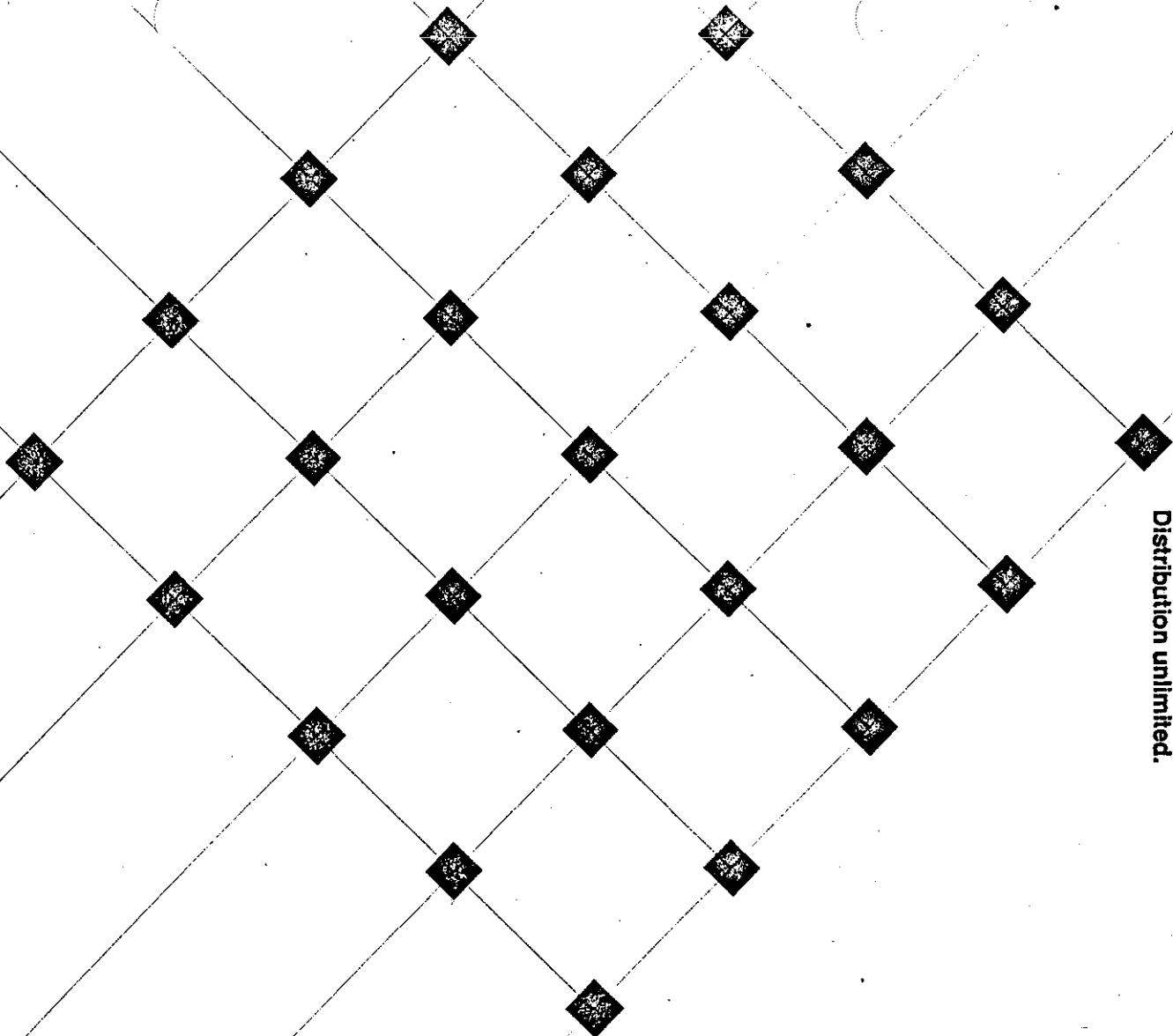needs of the Defense Department.

Toward a Reform of the Defense Department
Software Acquisition Policy

by
Pamela Samuelson
Principal Investigator

April 1986

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by

Pamela Samuelson
Principal Investigator, Software Licensing Project
Software Engineering Institute
Carnegie-Mellon University
Pittsburgh, PA 15213

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FOR THE COMMANDER

Daniel Burton, Major USAF
SEI Joint Program Office
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Preface

Problem

The Software Licensing Project (SLP) team of the Software Engineering Institute (SEI) was created to study legal issues related to the government's acquisition policy with respect to software and data rights. In conducting its research, a primary focus of the SLP has been the government's problems in structuring licensing arrangements for maintaining and enhancing software, that is, in obtaining sufficient rights in and documentation about software to be able to perform in-house maintenance and enhancement, or to achieve competition for maintenance contracts. To understand the context within which maintenance and enhancement problems have arisen, the project undertook a broad investigation of the government's software acquisition policy. In the course of this investigation, we were made aware of a wide range of software licensing problems being experienced by the government. This report reflects this broad investigation of the DoD's software acquisition policy.

Approach

To initiate our investigation a series of interviews were conducted with Department of Defense (DoD) personnel and other persons recommended by them. The Software Licensing Project investigators interviewed about 120 persons. About 75% of our interviews were with DoD personnel from the Services. More of our interviews were with Air Force than Army or Navy personnel, but we spoke with as many people from the other services as we could. We spoke to contract officers, their supervisors, some contract policy makers, Automatic Data Processing personnel, developers of advanced systems, maintainers of systems, and lawyers who have handled software data rights disputes. More than twenty of our interviewees were from outside the government (See Appendix C.) Some were consultants to the government, and some were people from industry. All "outsiders" interviewed were persons recommended by DoD personnel. The SEI researchers also reviewed prior DoD reports on software and technical data rights policy as well as cases, statutes, treatises, and regulations pertinent to the issues.

Scope of Report

This report does not purport to be a complete account of all problems the Defense Department is experiencing vis-a-vis software acquisitions and data rights. What the report does purport to be is an organized catalog of software acquisition problems reported by those Defense Department personnel whom we interviewed, along with some assessment of their seriousness. Virtually all of the DoD people we interviewed believed the Department to have some software licensing problems. The majority of those interviewed -- including a majority of the DoD people -- believed the government to have many serious software acquisition problems, and strongly urged changes in acquisition policy to remedy the problems.
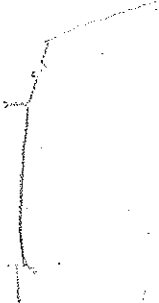
Executive Summary

Background

From a technological standpoint, software has been a tremendous boon to U.S. defense capabilities. Although many technological possibilities have yet to be realized, it is not so much in terms of its uses and capabilities that the Department of Defense currently finds software troublesome, but rather with respect to more mundane issues such as how to acquire and maintain software developed by private firms. The DoD seems not to have understood software as a technology well enough yet to fashion a set of rules relating to its acquisition and maintenance that makes sense in terms of the technology and the economics of the industry.

DoD sometimes finds, for example, that it is tempting to treat software like it treats hardware. Software is, of course, often an integral part of an effective hardware system (e.g., the guidance system for a missile.) It is, in fact, a substitute for hardware parts that could be built to implement the same system (because the system can be implemented in software, bulk is reduced and a wider range of capabilities may be attained). Software and hardware are both, in some sense, end products; this fact makes it seem as though they ought to be treated the same.

It may also be tempting to treat software as technical data (such as blueprints, written instructions relating to manufacture and maintenance, and the like). Both are in essence recorded information. Whatever can be written on paper can be transcribed into a machine-readable form. These and other factors make the similarities between software and technical data seem strong enough to suggest that a similar acquisition and maintenance policy should be employed with both.

DoD first acquired software under its technical data policy. After a period of frustration, it became apparent that it was inappropriate to acquire software as if it were technical data. (The cost of acquiring government-wide rights -- which is what the technical data rights policy provides -- to software that was needed at only one government installation was impeding the acquisition of such software.) So software (at least in machine-readable form) eventually became differentiated from technical data in the regulations, although software and technical data policy continue to be somewhat intertwined. Thus while rights which attach to proprietary software are different from those that attach to technical data, the same standard data rights clause is nonetheless used to acquire rights in both.

The question is whether software has yet been adequately differentiated from technical data and differentiated in the right ways. Has software as a technology been adequately understood by DoD and have the legal rules and practices developed by DoD to acquire and maintain this technology been molded to conform to an appropriate understanding of the technology? DoD's rules and practices regarding software must make sense not only in terms of the technology but also in terms of the government's needs to use the technology and in terms of the economics of

the software industry. The policy also needs to be clear and comprehensible to persons of average intelligence. The current software acquisition practices of the DOD fall short of these goals.

To be fair, it should be said that to develop the new conceptual apparatus that is necessary to treat software appropriately is a difficult task. The temptation is to use the nearest analogue as long as one can, until the problems with reliance on the analogue become more pronounced than the problems associated with developing a new concept. The time has come for the Department of Defense to renounce the quasi-technical data orientation of its acquisition practices toward software and to adopt a new policy that is clear and coherent, that is no more divergent from commercial practices than is necessary for the achievement of the Defense Department's mission, that is appropriate in terms of the Defense Department's need to use the technology, and that is appropriate in terms of intellectual property rights associated with software.

Report Structure

This report reflects the concerns of DoD's own people. Perhaps the most valuable contribution this report can make is in its structuring and giving expression to concerns of those in the Defense Department who have to live with the software licensing problems described in this report. With one or two exceptions, all of the problems discussed in this report are problems identified by DoD personnel.

The general structure of this report reflects the principal investigator's judgment about the relative importance of the various categories of software licensing problems discussed in the individual chapters. Within each chapter the order of discussion of the problems, in general, is reflective of their relative importance vis-a-vis each other. The less worrisome the problems, the later, in general, they are discussed in the report. Below is a summary of the content of each chapter.

Chapter 1: DoD's Procurement Regulations

This chapter addresses a rather wide variety of software licensing problems that DoD personnel have raised about the existing procurement regulations governing software acquisitions. It focuses most particularly on the standard data rights clause.

1.1 Ambiguities Disadvantaging the Government

There are some ambiguities and inconsistencies in the DoD procurement regulations which seem to work to the disadvantage of the government. Four examples are discussed in this chapter.

1.1.1 The Apparent Conflict between the Unlimited Rights Provision and the Retention of Copyright Provision

The DoD standard data rights clause, in general, allows contractors to retain a copyright in software developed at public expense. The clause seems to give the government "unlimited

rights" in the software in one provision and only "governmental purpose" rights in another provision. This ambiguity has caused considerable confusion among DoD personnel. A clarification of DoD's intent as to the scope of its rights when contractors retain copyrights is needed.

1.1.2 The Failure to Include a Right to Make Derivative Works Within the Definition of Unlimited Rights

The current definition of unlimited rights speaks only of rights to "use," "duplicate," and "disclose" software developed at public expense. Derivative works rights are particularly important because maintenance, enhancement, reuse, translation, rehosting and retargeting of software are all dependent on having a derivative works right. Considering the importance of such a right to DoD, it would seem prudent to include such right explicitly in the definition of "unlimited rights."

1.1.3 What It Might and Might Not Mean to Have Unlimited Rights in Non-Deliverables

Under the DoD standard data rights clause, the government appears to claim unlimited rights in items developed under a government contract but not required to be delivered to the government. Numerous problems of this sort have arisen in software contracts. The DoD would be well advised to revamp its acquisition regulations to eliminate such confusion, either by eliminating its claim of unlimited rights in non-deliverables or by making a deferred ordering clause standard.

1.1.4 The Apparent Conflict between the Special Works Clause and Section 105 of the Copyright Law

DoD policy calls for use of the "special works" clause when the government wants to own and control software developed at public expense. The "special works" clause purports to give the government a direct copyright interest in such software as if it was a "work made for hire." Unfortunately, Section 105 of the copyright law prohibits direct acquisitions of copyrights by the government. A copyright obtained in this manner might, therefore, be found invalid if challenged in a court of law.

1.2 Ambiguities or Problems in the Regulations That May Harm Industry's Interests

There are also some ambiguities and apparent inconsistencies in the DoD acquisition regulations which seem to work to the disadvantage of industry. Two examples are discussed.

1.2.1 Possible Unlimited Rights in Proprietary Software When Separate Licensing Agreements Are Not Made

The DoD acquisition regulations provide that when DoD acquires software developed wholly at private expense one of two types of restricted rights will apply. One set is applicable to commercial software and one set to other than commercial software (and to commercial software whose owner elects not to have it treated as commercial software.) As to the commercial software, there is a standard set of terms and restrictions on the government's use. As to the other software, it is contemplated that other terms and restrictions can be negotiated by the parties, subject only to the requirement that the government must always have the four minimum rights set forth in the clause. The language of this part of the clause also seems to contemplate that a license agreement containing other restrictions will be negotiated and made a part of the government contract.

The question is what happens if the government acquires software which the contractor has decided to have treated under the regulations as other than commercial and a separate license agreement has not been negotiated or made part of the contract? DoD personnel seem to have differing opinions about this. Some believe that the failure to negotiate a separate agreement will result in the government acquiring unlimited rights in the proprietary software, even though but for the oversight, the government would settle for having restricted rights. Others feel that only the four minimum rights would attach. This is a source of considerable concern to those in industry who recognize the possibility that the government might claim broader rights.

1.2.2 Unlimited Rights in Software Documentation as to Other Than Commercial Software.

The DoD acquisition regulations seem also to permit the government to claim unlimited rights in documentation for privately developed software insofar as it can be characterized as instructional material necessary to maintenance of a system. While the restricted rights provision pertaining to commercial software seems to shield commercial software documentation from the broad reach of this provision, there is no comparable basis for claiming an exemption from unlimited rights treatment for the documentation to software treated as other than commercial software. Many industry people are quite nervous about delivering software documentation to the government for fear they will lose all proprietary rights in the documentation.

1.3 The Need for More Precise Definitions

During interviews with DoD personnel, we found confusion concerning certain definitions used in the DoD acquisition regulations. Some of this confusion is the result of ambiguity and imprecise wording. In other instances, crucial concepts are simply not defined. Some of the more significant problems include:

1. The lack of an adequate definition for the term *unlimited rights*. There is considerable uncertainty within the DoD as to whether unlimited rights is more akin to an ownership interest or a license right. We conclude that unlimited rights gives the government a kind of license right.

2. The lack of any definition for the term *governmental purpose*. The DoD acquisition regulations provide for, in certain instances, a license for governmental purposes, but fail to provide guidance as to what the scope of such license might be.

3. The term *privately developed software* needs to be defined. The scope of this term is a highly controversial issue, and input from industry on this matter would seem advisable. To neglect to define the term, however, only ensures conflict between industry and government as to its meaning.

4. The existence of two types of *restricted rights* in the acquisition regulations does not seem to serve any purpose sufficient to justify the confusion it creates.

1.4 Issues Not Addressed in the DoD Regulations

There are several issues relevant to the procurement of software which are not addressed by the existing DoD acquisition regulations. Since DoD's personnel need guidance about how these issues should be dealt with, provision should be made for them in the regulations. Among the most critical areas not adequately dealt with by the present DoD acquisition regulations are:

1) How to acquire rights in or access to CAD/CAM programs used in the development of software for the DoD; 2) Acquiring rights to local area network usage of software; 3) Acquiring rights in semiconductor chip designs; 4) Acquiring trademark rights in software; and 5) The effect of "shrink wrap" licenses accompanying software delivered with restrictive notices.

Chapter 1 also offers some suggestions on how DoD might revise its software acquisition regulations to avoid some of the pitfalls discussed in the chapter, and makes recommendations as to how the data rights clause might be restructured so as to achieve greater simplicity and clarity.

Chapter 2: Software Maintenance and Enhancements

This chapter discusses a range of licensing problems that DoD personnel identified as software maintenance and enhancement problems. One of the reasons why maintenance and enhancement problems may be so difficult to solve is that they are not one but many problems.

The chapter begins with a discussion of the set of problems that the RFP for the Software Engineering Institute initially identified as difficulties DoD was having in getting sufficient rights in and documentation about software to enable the software to be competitively maintained or enhanced, or sometimes to be maintained in-house.

The report concludes that obtaining rights in the government to modify software is not a current software licensing problem of the Defense Department. The DoD procurement regulations require that in all software acquisition contracts for proprietary software the government must at minimum get the right to modify the software. This regulatory authority is important since copyright law might otherwise prohibit the modification of software without the permission of the copyright owner to make a "derivative work." The DoD regulations appear to be sufficient to secure for the DoD the right to modify software it acquires.

Getting adequate software documentation seems to be the major software maintenance and enhancement problem experienced by the Defense Department. The reasons for this problem include: 1) lack of farsightedness in acquiring sufficient documentation, 2) lack of diligence in supervising delivery of documentation, 3) lack of adequate inspection as to attachment of restrictive notices, 4) poor quality of some documentation delivered, and 5) unwillingness of some companies to provide certain documentation to the government.

Without adequate documentation, maintenance and enhancement of software will be at least more difficult, and perhaps impossible.

Under the DoD procurement regulations, the government obtains the right to modify software, but does not automatically acquire the right to sublicense its modification right to others. If the government has unlimited rights in software, obtaining competition in software maintenance and enhancement contracts may not be difficult. If, however, the government has only restricted rights as to software and limited rights as to documentation, it will probably have to do any maintenance and enhancement work itself, or through the firm that originally developed the software. This firm

may have incentives not to give up its "sole source" position as to maintenance and enhance-ments, unless provision has been made for this during the original competition for the develop-ment contract. The chapter recommends a variety of mechanisms DoD might use to better plan for competitive maintenance of software when this is desired. Escrowing of software documen-tation is discussed as a possible mechanism to ensure that DoD will have access to the documentation under specified conditions, while at the same time ensuring that the proprietary rights of the developer are respected.

In addition to acquiring written documentation and rights to modify, adequate maintenance and enhancement of software will often require access to the "tools" which were used in the develop-ment of the software. Software tools and CAD/CAM programs are increasingly being used to develop software. Because of the commercial value of such tools, contractors are reluctant to license the government to acquire rights in software tools or in some cases even access to them because of objections to the government's standard data rights policies. If DoD wishes to obtain rights in or access to the highest quality software tools and CAD/CAM programs that industry has to offer, it may need to adjust its data rights policy. For example, it might make arrangements whereby an intermediary firm could acquire the material on the government's behalf, subject to more restrictions than the government's standard policy permits.

Other issues discussed in Chapter 2 that relate to software modifications include the effect of modification by the government on pre-existing restrictions, whether restrictions will attach to modified portions, the significance of the regulatory duty not to prepare similar software, the ramifications of reverse engineering of software, deciding about ownership rights in modifications, and the effect on warranties when software is modified.

Chapter 3: The Need for Better Training about Software, Data Rights, And Intellectual Property Law

This chapter examines the need for additional training of DoD contracting personnel with regard to both software technology and the government's data rights policy.

Although DoD is fortunate to have many dedicated, competent individuals among its procurement personnel, these individuals reported that they feel inadequately trained for the role they have to perform in complex software acquisition contracts. Much of the software that the contracting per-sonnel must acquire is "state of the art" technology. Communication between procurement per-sonnel and users seems to be infrequent, which makes maintenance and supportability planning more difficult. Often procurement personnel have no training in software technology, software life cycles, or software support systems. Further, the procurement regulatory structure within which the negotiation process must proceed -- especially as to data rights -- is quite complex. Finally, the turnover rate among procurement personnel is high, which only aggravates the situation.

Given the difficult environment within which contracting personnel must operate, it is not surpris-ing that there have been problems related to the acquisition of software. Contracting personnel

need greater training in the area of software procurement so as to achieve a better understanding of the technology they are charged with acquiring. Personnel practices need to be improved to retain those personnel who have acquired some training and experience. Improved communication mechanisms between those acquiring a system and those who will use the system need to be developed and implemented. Chapter 3 discusses ways in which such changes might be accomplished.

Chapter 4: Reusability and Other Software Derivative Works Problems

This chapter considers a host of problems that arise when "derivative works" are created from an original piece of software. Particular attention is given to concerns of DoD personnel about software reusability.

The term *software reuse* has several meanings. A common factor to each of these meanings, be it a project which reuses a particular module of code or one which reuses the logic, structure and/or design of a program, is that it may be an instance of the creation of a derivative work which may involve the complex regulations of the copyright law.

The copyright law gives to the holder of a copyright certain exclusive rights in the subject matter of the copyright. Included among these exclusive rights is the right to make derivative works based on the original copyrighted item. For the government to make, or have made for it, software which is in some way derived from a program in which another party holds a copyright, without having first obtained the permission of the copyright holder, raises the possibility that the government will be found to have infringed the copyright. As a result, the government may be prohibited from making use of the newly developed software.

The potential impact of the derivative works right for software is broader even than its effect on software reuse projects. Virtually any effort which in some way alters software and causes it to act in a way different from its original function may be found to be the creation of a derivative work should the copyright holder challenge the government's actions in court. Thus, even basic maintenance and enhancement efforts, as well as rehosting, and retargeting, to the extent that the changes may be said to improve the software, might be found to be derivative works -- the creation of which infringes the rights of the copyright holder. Such projects also raise questions as to ownership rights in the newly created product.

This chapter discusses these issues at some length, noting that the legal issues which arise in the context of the derivative works right of the copyright law are as significant as the technological, sociological and cataloguing problems which must be confronted when dealing with software reusability. These are issues which the DoD should consider in preparing to undertake such projects.

Chapter 5: Government Ownership of Copyrights

DoD is running a risk when it employs its "special works" clause to attempt to take a direct copyright interest in software. This chapter proposes adoption of a less risky strategy for obtaining ownership rights in software.

When DoD wants to take a direct ownership interest in a work prepared for it by a private contractor, the DoD FAR SUPP directs that the "special works" clause be used in the development contract. The clause in effect claims a direct copyright for the government under the copyright "work made for hire" doctrine. We understand that this "special works" clause has been used in a number of DoD software development contracts. Indeed, it appears that a deviation would be required to attempt take a copyright interest in any other manner.

The problem with use of the special works clause for this purpose is that the copyright law specifically prohibits the government from taking direct ownership rights in copyrighted works. The legislative history of this section reflects that Congress considered the issue of copyright ownership of works prepared for the government by contractors and decided that while agencies could decide that a contractor might be permitted to retain a copyright, the government could not get direct copyright ownership in works prepared for it.

Copyright law permits the government to own copyrights only by assignment, bequest, and the like. Taking a copyright as if the work was "made for hire" is not the same as taking a copyright by assignment or bequest. What the "special works" clause will be effective in doing is precluding the contractor from claiming any ownership rights in the software. A copyright obtained directly in the DoD pursuant to this clause may very well be found invalid if challenged in court.

If the Defense Department wishes to obtain a copyright interest in software, we recommend that they adopt an assignment approach similar to that adopted by NASA and that proposed under the new FAR whereby the contractor takes the copyright and then assigns it to the government. Alternatively, the government might consider working for a legislative change which would permit the government to directly obtain a copyright in software developed for it under government contract.

Chapter 6: Problems Arising from the Government's Trademark Rights with Regard to Software

The Department of Defense is increasingly claiming trademark rights in software and related technology. Acquiring and maintaining trademark rights is a specialized legal matter. There seems to be little expertise within DoD as to the scope and proper use of the government's trademark rights in words (such as "Ada") used in connection with software. DoD personnel seemed to be unclear as to the type of mark "Ada" is (i.e., a certification mark or a trade mark), who owns the mark (i.e., the U.S. government, DoD or the Ada Joint Program Office), and even as to what rights attach to a trade mark or certification mark.

A mark cannot be both a trade mark and a certification mark; it must be one or the other. It is important to know which type of mark you have since different rights attach depending on whether it is a trade mark or certification mark. If one tries to enforce rights one does not in fact have in the mark, or otherwise misuses one's rights in the mark, one runs the risk of losing that mark.

A trademark can only be owned by persons who manufacture or distribute goods bearing that particular mark. By contrast, the owner of a certification mark is prohibited from being either a manufacturer or distributor of goods for which certification is sought. Unlike a trademark, a certification mark does not signify the source of goods; it signifies only that certain goods have met a certain standard. To obtain rights in a certification mark, one must register the mark with a federal agency, and develop certain standards that others must meet to be certified to use the mark.

Since the DoD intends to use its rights in the word "Ada" to establish certain standards which must be met before an item can be certified as an "Ada" compiler or whatever, it appears that "Ada" is a certification mark rather than a trade mark. If this assumption is correct, then it is important that the government not take ownership in software using this mark. It must also police use of the mark by non-certified parties. It must make sure that the mark is not used for other than certification purposes. And it must not deny certification to qualified parties. Failure to follow these guidelines could result in loss of a certification mark. It also must develop standards for everything it wishes to be able to certify (not just compliers).

Chapter 7: A Hypothetical Illustration of Software Licensing Problems under the Existing Regulations

This chapter uses a hypothetical software environment system developed at DoD expense to illustrate some of the problems discussed in previous chapters. It may be easier to comprehend the seriousness of and interrelationship of these several problems by examining them through a hypothetical example.

For instance, this chapter points out serious problems that may arise due to the conflict between the unlimited rights provision and copyright retention clause of the DoD acquisition regulations, questions as to ownership rights in modified software which has been derived from software in which a contractor holds a copyright, the need for an adequate definition of the term "governmental purpose," and issues related to government ownership of copyright, patents, trademarks, warranties, and export controls. Although this chapter represents a hypothetical example, the problems it illustrates are very real. Given the number of ambitious software engineering projects which the DoD has been funding in recent years, it would be wise to solve the problems this Chapter discusses before they erupt into litigation.

Chapter 8: Subcontractor Flowdown Problems

This chapter raises a set of concerns voiced by DoD personnel about the extent of the government's rights when prime contractors fail to obtain from a subcontractor the full set of rights that the government had bargained for from the prime. The chapter suggests that the government may be able to enforce rights under mandatory clauses as against the subcontractors, but not those deriving from discretionary or specially written clauses.

Certain clauses, such as the standard data rights clause, are required to be used in DoD software acquisition contracts unless a deviation has been obtained from the DAR Council. If a prime neglects to insert the standard data rights clause in a subcontract with a software developer or negotiates with the subcontractor for less rights than the mandatory clause requires that the government have, it would seem that the government could enforce the standard data rights clause against the subcontractor. The clause is a government regulation and is required by regulation to be inserted in all DoD software contracts unless a deviation has been obtained. Subcontractors would likely be held to have constructive notice of this.

There are many clauses used in government contracts that are not mandatory. The "special works" clause is an example of a standard discretionary clause. Other clauses are specially drafted for particular contracts (e.g., clauses defining the scope of warranty rights in software). If a prime contractor has promised the government to obtain certain rights under a discretionary clause, and the prime either is unable or neglects to secure a commitment for such rights from a subcontractor, it seems unlikely that the government could enforce against the subcontractor the rights it had expected the prime to get for it.

Chapter 9: Limitations on Governmental Action

This chapter discusses the risk of injunctive relief being entered against the government in disputes over rights in software held as a trade secret by its owner. The chapter identifies a number of situations in which the government might be able to successfully avoid injunctive remedies, but notes that certain recent legal precedents have created a serious risk of injunctive relief in software disputes, from which DoD may not be shielded by various statutes on which it has customarily relied to avoid injunctions.

Most software intended for commercial distribution is held as a trade secret by the developer. Although the government has statutory authority to infringe patents and copyrights, it does not have similar authorization to appropriate trade secrets against the owner's wishes. Indeed, there is a criminal statute that penalizes any federal employee who discloses confidential information claimed as a company's trade secret without authorization. Some DoD lawyers expressed concern about an injunction issuing against governmental use of the software. This they felt might occur in the context of litigation between a software producer and the government over trade secret software. This is a risk that the government has not previously had to confront as to its equipment because hardware, if protected by a form of intellectual property law, would generally be protected only by patents, which the government could infringe. (Trade secrets generally

cannot reside in hardware since reverse engineering of the hardware would readily reveal any such "secrets.") Because software tends to be protected through both copyright and trade secret law, there is good reason to be concerned about the injunctive potential, although in some situations the government might be able to avoid the issuance of an injunction.

An additional basis for concern about injunctive relief has been expressed because of a series of recent federal court decisions which have suggested that injunctive relief may be available to prevent the government from releasing material in which it claims unlimited rights but which is claimed as a trade secret by its producer. This danger was thought by several DoD lawyers to be particularly acute in disputes with subcontractors because until recently there has been no formal procedure under the Contracts Dispute Act for handling controversies about data rights as between a subcontractor and the government. Some thought that the Contract Disputes Act should be amended to eliminate this risk. One provision of the 1985 DoD Authorization Act may partially address this problem.

Chapter 10: CAD/CAM Programs

This chapter poses a series of questions that have been troubling DoD personnel about computer aided design and computer aided manufacturing (CAD/CAM) programs.

CAD/CAM programs are being increasingly used in both the design and manufacture phase of DoD funded projects. Because of the potential commercial value of CAD/CAM programs, and the widespread industry concern about the government's ability to safeguard valuable commercial information, some contractors are reluctant to provide DoD the CAD/CAM programs used to design and manufacture items developed under DoD projects. Without access to the tool used to develop a product, the maintenance and enhancement of that item may be more difficult, and perhaps impractical.

One potential solution to this dilemma is that DoD may be able to contract for obtaining access to the CAD/CAM program (although perhaps not a copy of it) on an "as needed" basis for necessary maintenance and enhancements. This would provide the DoD with information needed for modifications while at the same time protecting the contractor's interests in commercially exploiting its valuable program. For such an arrangement to be satisfactory, however, the government would need to have assurances that it would have continual, irrevocable access to the original program used to develop and/or manufacture the item acquired.

It may be beneficial to the government for the responsibility for maintaining the CAD/CAM program to remain with the contractor. Although with an access arrangement the government would lose an element of control by not having physical possession of the program, it might gain in terms of ease of retrieval and not having to trouble itself with configuration management for the system.

A major problem with making arrangements for DoD to get access to CAD/CAM programs is that

the DoD acquisition regulations do not provide any guidance about such issues. Access appears to be less than the set of minimum restricted rights that the standard data rights policy contemplates as mandatory for software acquisitions. DoD needs to develop a better regulatory policy to enable it to benefit fully from this relatively new and powerful technology.

Chapter 11: Software's Hybrid Nature

This chapter briefly explores how software differs from hardware and from technical data. One of the many ramifications of the hybrid nature of software -- partly a "writing," partly a "machine part" -- has to do with whether DoD may be able to claim warranties in software delivered to it under contracts silent as to the issue of warranties.

Implied warranties -- as of merchantability or fitness for a particular purpose -- do not attach to services; they may attach to "goods." If more akin to hardware, software would appear to be within the meaning of "goods." If characterized as being more like technical data, software would appear to be more in the nature of a service. Thus, the characterization of software can have significant implications with respect to the question of whether or not implied warranties will attach. We conclude that implied warranties may attach to software delivered to DoD, even though government contracts, strictly speaking, are not governed by the Uniform Commercial Code from whence such implied warranties as merchantability and fitness for a particular purpose originally came.

Chapter 12: Semiconductor Chip Protection

This chapter describes the new form of intellectual property law that Congress created in 1984 which gives a set of exclusive rights to owners of chip circuitry designs. The new chip protection law resembles patent and copyright law in some ways, but it is unique in some respects. It also reports on how the new law may affect DoD's software acquisitions.

The DoD acquisition regulations make no reference to the new chip law. There is no existing mechanism, for example, by which DoD can take rights in the chip designs developed for it. The chip law, like the copyright law, contains a provision prohibiting the government from directly obtaining protection under that law. Thus, to obtain protection in a chip developed by the government or by a contractor for the government, it appears that the DoD would have to employ an assignment approach such as that discussed in Chapter 5 dealing with government ownership of copyright.

An important way in which protection under the chip law differs from protection under the copyright law is that section 1498 of title 28 U.S.C. shields the government from an injunction in cases where the government is found to have infringed a copyright or a patent; no such protection is available to the government for infringement of a chip mask. Thus, the holder of protection under the chip law might be able to obtain an injunction against the government prohibiting further use of an infringing chip, whereas such relief would not be available against the government as to

works protected under the copyright or patent law. Since there are many government projects which will likely make use of specially designed chips, it would seem advisable for the DoD to consider adopting a policy that takes note of the chip law.

Chapter 13: Approach to Solving DoD's Software Licensing Problems

This chapter offers some suggestions about an approach that DoD might consider undertaking to resolve the software licensing problems raised in this report.

There is no easy way to solve all of DoD's software licensing problems. There are too many different types of problems, stemming from too many different causes. There is also too much money at stake for any "quick fix" solution to work. The situation is made more difficult by the strained relationship which currently exists between industry and government with regard to software/data rights issues.

That does not mean, however, that none of DoD's software licensing problems can be resolved quickly or easily; nor does it mean that most of of its problems are unsolvable. Removing the ambiguities and inconsistencies from the existing procurement regulations, for example, would require some relatively minor alterations to those regulations. Although some of DoD's software licensing problems may be more resistant to solution than others, there may well be ways of approaching even the major problems that would be more constructive than other approaches which might be taken.

The crucial point is that not all of DoD's software licensing problems can, or should be treated in the same way. There are certain problems which DoD has more control over than it does others. In allocating resources, we suggest that DoD place a greater emphasis on those problems which are more readily within its control, and, therefore, could be more easily resolved. There are also some software licensing problems that are by their nature more amenable to change than others. Again, in allocating the time and resources of DoD personnel to addressing software licensing problems, we advise that DoD attempt to focus its limited resources on those problems which are most likely to be impacted by such an effort.

The reality of today is that many firms on the "cutting edge" of software technology can survive without doing business with the government. The DoD needs the latest technology in order to maintain a strong defense and military capability. Thus, it seems clear that in many cases, DoD needs industry more than industry needs DoD. Given this situation, it seems incumbent upon DoD to make some effort to improve the strained lines of communication between it and private industry.

Our conclusion is that industry people is willing to meet with DoD in an effort to resolve differences which exist. It is clearly within the power and control of DoD to pursue such communications, and would likely be one of the most beneficial steps DoD could take toward resolving many of its software licensing problems.

1. Problems Arising from the DoD Data Rights Regulations

There is considerable support within DoD, especially among its non-lawyers, for a major overhaul of the regulations with respect to data rights affecting software procurements. Industry also tended to favor a major overhaul. Many of the DoD procurement people (and some of its lawyers) would like to see the regulations adopt a simpler, more reasonable approach to software licensing, one more like that used in private sector software transactions. Some of the DoD personnel to whom we spoke regarded the basic approach of the DoD data rights regulations as sound, although they also tended to think that there were some problems with some details of the regulations as applied to software.

We believe that there are some serious problems with specific details of the present regulations as they bear on software licensing, some of which have erupted in specific instances. The first several sections of this chapter discuss specific aspects of the DoD procurement regulations as they bear on software licensing problems raised by DoD personnel. At a minimum, some revisions in the regulations to avoid these problems would seem wise.

To us, the DoD software procurement regulations resemble one of those old 1950's model computers that tend to go "down" a lot because of burned out vacuum tubes and other equipment failures. If the question is can it be fixed up yet again, the answer is probably yes. If the question is instead whether it is time to get a new computer, the answer is probably also yes. The current regulations are overly complicated, ambiguous and inconsistent in a number of ways, not only in terms of commercial practices but also in terms of the precepts of intellectual property law. Revising the format of the regulations could not only simplify, clarify and update procurement practices, but also serve to improve relations with industry. The final subsection of this chapter discusses the reasons we regard the proposed FAR data rights regulations as better serving the DoD's interests than the current DoD FAR SUPP and its proposed revisions do.

Finally, it should be noted that while this chapter and several subsequent chapters place particular emphasis on the copyright law as a means by which contractors can protect certain interests in software they have developed, they do so because this reflects the approach used in the DoD procurement regulations. In industry, trade secret protection, not copyright, is often the preferred mode for protecting one's intellectual property rights in software and technical documentation. The DoD procurement regulations, however, do not recognize the existence of trade secret protection for software or technical data ([8] pp 430-31). The regulations instead create a kind of contractual intellectual property right in them. The government contractually recognizes certain proprietary rights in privately developed software. The DoD regulations do, however, specifically incorporate copyright law in some respects, and also seem to contemplate that copyright law may govern as to some things.

1.1 Ambiguities or Problems in the Data Rights Regulations That May Harm the Government's Interests

There are several provisions in the current DoD FAR SUPP that are widely perceived to be troublesome for the government in achieving some of the goals it may have for software systems. Four instances of this are discussed in this section. (Selected portions of the DoD FAR SUPP can be found in Appendix B.)

1.1.1 The Apparent Conflict Between the Unlimited Rights Provision and the Retention of Copyright Provision

It is standard government policy to obtain unlimited rights in any software developed at public expense under a government contract or subcontract ([61] sec. 27.404-1). "Unlimited rights" is defined to mean "the right to use, duplicate, or disclose ... computer software in whole or in part, in any manner and for any purpose whatsoever, and to have or permit others to do so" ([61] sec. 27.401).

Another subsection of the standard policy regulation allows contractors to retain copyrights in all software (or, for that matter, technical data) first developed or generated in performance of a government contract even if funded by the government ([61] sec. 27.402(c)). The only exception to this is when the government uses its "special works" clause, which purports to give copyright ownership to the government. Where a contractor owns the copyright, the government is sup-posed to get a license back to copy and use the copyrighted material for governmental purposes ([61] sec. 52.227-7013) for the implementing data rights clause; see also [8] (pp 487-488) for a discussion of this ambiguity). This latter provision is not well understood by DoD's own procurement personnel.

It is possible to envision a scenario where the government might expect it would have unlimited rights in software developed under a software development contract only to find that the contractor delivered the software with a copyright notice on it, and that the government's rights would have been cut back because of the contractor's invocation of the copyright protection. Chapter 7 gives a more extended hypothetical discussion of how this might conflict with the government's sense of its interests.

In any litigation between the government and a contractor over the meaning of these two seemingly conflicting clauses, it seems likely that a court would construe the clauses so as to give effect to the copyright limitation. The law generally construes any ambiguity in a contract against the party -- here the government -- that has drafted it. What that means is that unlimited rights doesn't always mean unlimited rights.

In fact, it may never mean unlimited rights. Virtually all of the technical data and software delivered to the government is copyrightable subject matter. Unpublished copyrighted subject matter needn't be designated with a copyright notice to be protected under that law. Because of this, it may be that unlimited rights never means anything but a license for governmental pur-

poses (see section 1.3.1). DoD personnel need to understand the limitation the copyright retention provision may impose on the government's rights.

The current regulations should be revised to clarify the government's intention as to the copyright retention provision. Perhaps the government needs to give itself an unlimited license in copyrighted material funded by it, or perhaps the unlimited rights policy should be modified to make it clear the government will only claim rights for governmental purposes. The government needs to make a choice, and then to clearly communicate the direction it has chosen.

1.1.2 The Failure to Include a Right to Make Derivative Works within the Definition of Unlimited Rights

The current DoD FAR SUPP definition of unlimited rights, both in the policy and contract clause provisions of the procurement regulations, neglects to make explicit whether the government will have the right to prepare derivative works when it has unlimited rights in software ([61] secs. 27.401 and 52.227-7013(a)). The current definition speaks only of rights to "use," "duplicate," and "disclose" such software. Derivative works rights are particularly important as to software because maintenance, enhancement, reuse, translation, rehosting, and retargeting are all dependent on having a derivative works right. (See also Chapter 4). It is, of course, possible that a court might construe the existing clause to include a derivative works right notwithstanding the failure to mention this important right in the definition, but it would seem prudent to make explicit the government's claim as to derivatives if indeed this is as significant a need as some believe, especially since it is so easy to do. That the proposed Federal Acquisition Regulations explicitly define unlimited rights to include a derivative works right weakens DoD's argument of implicit inclusion.

1.1.3 What It Might and Might Not Mean to Have Unlimited Rights in Non-deliverables

The government claims unlimited rights in all technical data and software developed under a government contract and at public expense ([61] sec. 52.227-7013(b)(1)). Often a government contract will call for delivery of only certain specified items of technical data or software. Sometimes the government may get wind of some valuable intellectual property developed under the contract (and in which the government, therefore, claims unlimited rights) whose delivery has not been required by the contract, but which the government would very much like to have. The contractor may even offer to "sell" this valuable thing to the government. Such an offer is likely to be rebuffed by government lawyers who may insist that "it's already ours."

Although the regulations do seem to give the government unlimited rights in all data and software generated under a government contract, and Professor Nash in his book, *Patents and Technical Data* ([8]) speaks of the government having an "inchoate" right to such things (pp. 450-51) it is difficult to know what it means to claim unlimited rights in something which you don't have and which the person who has it is under no enforceable obligation to give to you.

The issue could arise in a number of different contexts. For example, suppose a series of DoD contracts was awarded to a small business over a several year period for development of software. Assume the contractor developed an excellent algorithm that was not a deliverable item under the contract, and offered to sell it to the government for an additional sum. To further cloud the issue, suppose there had been a short hiatus in government funding of the research, and that it was during this hiatus that the algorithm was developed at the contractor's expense. The government might very well insist that the contractor deliver the algorithm on the ground that it already belonged to the government. The contractor would likely disagree, creating an impasse. The end result would likely be that the government would have to meet the contractor's price, or go without the algorithm.

There would be some equitable pull to the government's argument that after giving this small business funding, it is owed something of value in return. The contractor's position that the years of government funding had not supported development of this product might appear dubious to some, and thus could weaken the contractor's equitable argument. Yet there would also seem to be some equity in the contractor's stance. He could argue that he had been willing to deliver what was deliverable under the contract, and it wasn't his fault that the government hadn't called for delivery of the algorithm and hadn't put in a deferred ordering clause as the current regulations allow. Moreover, since the government would not have had a contractual basis for complaint against the contractor had he not developed this valuable algorithm, it might seem to some as though the government was trying to get something for nothing.

Other interesting questions deriving from the problem of what it means to have unlimited rights in non-deliverables include: whether the government has any rights if the contractor later sells the valuable non-deliverable to someone else; whether the government can rightfully claim unlimited rights in a derivative work which incorporates the non-deliverable and which was (but for the non-deliverable) clearly developed at private expense; and what if any obligation the contractor has to inform the government of any other use of the non-deliverable. If a contractor has reason to believe that the government would claim unlimited rights in a derivative of non-deliverable software if that item is later delivered under a subsequent acquisition arrangement, the contractor is not likely to be willing to deliver it.

This problem seems to be an instance of confusion over the meaning of "unlimited rights" vis-a-vis ownership (see Section 1.3) as well as another instance of the government's having higher expectations about its rights than "unlimited rights" seems able to deliver. The advantage to DoD in leaving this ambiguity in place is that it may sometimes be helpful in negotiating with software developers about non-deliverable software or algorithms. The disadvantage to DoD in leaving this ambiguity in place is that without an option or deferred ordering clause, it raises expectations that the government may have no lawful right to have satisfied, and may create opportunities for distrust and bitterness, which are in neither the government's nor industry's long term best interest. So, it would be wise for the government to consider making the deferred ordering clause standard, or drop its unlimited rights claims to non-deliverable software or data.

1.1.4 The Apparent Conflict between the Special Works Clause and Section 105 of the Copyright Law

The policy provisions of the DoD FAR SUPP advise procurement personnel to use the "special works" clause ([61] sec. 52.227-7020) when the government wants to exercise ownership and control over software developed at public expense ([61] secs. 27.402 and 27.405). Unfortunately, Section 105 of the Copyright Act of 1976 [59] (selected portions of the Copyright law can be founded in Appendix A) expressly prohibits the federal government from owning copyrights directly. It does, however, allow the government to take copyrights by assignment, bequest, and the like. Trying to take the copyright in software as if it is a "work made for hire" (as the special works clause purports to do) does not seem to be a taking by assignment or bequest. (See Chapter 5.)

Section 105 of the copyright law may, therefore, have the effect of nullifying the "special works" clause ([61] sec. 27.405) and the implementing clause ([61] sec. 52.227-7020) insofar as they purport to give the government a direct copyright interest in works prepared for it by private contractors. DoD does not by regulation have the power to nullify statutes, so if there's a conflict, it is the DoD regulation that must yield. (We have been informed that the DoD's special works clause has been used in many development contracts for software. This raises the specter that any software in which the government claims direct copyright interest through the special works clause will be held to be in the public domain).

If DoD wants to own copyrights in certain software, it may want to consider adopting an approach similar to that which NASA or the newly proposed FAR regulations have taken, which allows the government to require the contractor to obtain a copyright in the software developed at government expense and assign it back to the government. (See Chapter 5.)

1.2 Ambiguities or Problems in the Regulations That May Harm Industry's Interests

Just as there are several provisions of the current DoD regulations that seem to offer the government lesser rights than it might have expected it had, there are several provisions that suggest that even when software and its associated documentation have been developed wholly at private expense, unwary contractors may find the government claiming unlimited rights in these materials rather than the more restrictive rights the contractor might have expected. Two instances of this type of problem are discussed in this section.

1.2.1 Getting Unlimited Rights in Privately Developed Software Seemingly Subject to Restricted Rights as to Which a Separate License Agreement Has Not Been Incorporated Into the Contract

The DoD standard data rights clause ([61] sec. 52-227.7013(b)(3)) distinguishes between two types of restricted rights, those applicable to commercial software and those applicable to other software. As to the former, there is a standard set of restrictions on the government's use. As to

the latter, it is clearly contemplated that other restrictions can be negotiated by the parties, subject only to the requirement that the government always has the four minimum rights set forth in the clause. (A different restrictive legend is to be attached to the software depending on which arrangement the contractor has elected to take.) The language of the standard clause contemplates that a separate license agreement containing other restrictions is to be negotiated and made a part of the government contract.

The issue arises: what happens if a separate license agreement has not been negotiated, or if a license agreement has been negotiated but not explicitly made part of the government contract? Reportedly, many firms have provided their proprietary software to DoD, and have not negotiated separate licensing agreements, let alone made such agreements part of the government contracts. These software firms apparently assume that the government will have no more than the four minimum rights.

The government might make the argument that unless there is a separate agreement and it is made a part of the government contract, the government has unlimited rights in the software. The following language of the clause could be used to support this interpretation: "The contractor may not place any legend on computer software indicating restrictions on the Government's rights in such software unless the restrictions are set forth in a license or agreement made a part of this contract prior to the delivery date of the software." On the other hand, industry might argue that the government should be held to the four minimum rights where no separate license was negotiated or made part of the contract, so long as the software was developed wholly at private expense.

If the government did decide to litigate on a claim of unlimited rights in software where no separate agreement was made part of the contract, we think it unlikely that a court would uphold the government's interpretation of this clause. If a software firm provided the government with its proprietary software on the understanding and in the expectation that no more than the four minimum rights would have attached, it would seem likely that the court would protect the party's reasonable expectations. Modern contract law has moved away from hyper-technical approaches to contract formation and tends to enforce reasonable expectations of the parties. This is a case, however, in which even if the government won, it could lose in the long run since the mere pressing of the claim might further impair already strained relations between industry and government.

Some industry people who knew about this little "booby trap" in the regulations were nervous about it, but thought that DoD's contracting personnel would be "reasonable" and not spring the trap. Even where the likelihood of harm may be perceived to be slight, however, a software contractor may be unwilling to take even the risk presented by the DoD procurement regulations when the firm's most valuable technology would be at stake. This disincentive to do business with the DoD is even more pronounced where a small contractor is involved since the valuable technology at issue is likely to be the very "lifeblood" of the company, that is, the competitive edge which allows the company to survive in the marketplace. In such cases, even a slight risk is likely to dissuade such a company from doing business with the DoD, with the result that useful tech-

nological innovations will be unavailable to DoD. For this reason, it would be wise to revamp the DoD procurement regulations so as to avoid such "booby traps."

1.2.2 Getting Unlimited Rights in Software Documentation as to Other Than Commercial Software

Software documentation is often included in manuals. It may also be characterized as instructional material necessary to maintain a system. Manuals and instructional material necessary to maintain a system, which are required to be delivered under a government contract, are materials in which the government, through the standard data rights clause ([61] sec. 52.227-7013(b)(1)(vii)) claims unlimited rights even if it has been developed at private expense. Since virtually all software documentation may be construed to be within the clause, potentially all software documentation may be subject to unlimited rights claims. Since software documentation tends to be particularly sensitive commercial information, this creates a prospect for considerable loss if a company provides documentation to DoD.

If the documentation pertains to commercial software, it might arguably be exempted from the broad reach of the unlimited rights provision because the commercial software restricted rights provision ([61] sec. 52.227-7013(b)(3)(ii)) indicates that not only the machine-readable code but any related software documentation that has been developed at private expense and is not in the public domain will be subject to restricted rights. If the documentation pertains to non-commercial software, there is no comparable basis for claiming an exemption under the other restricted rights provision, ([61] sec. 52.227-7013(b)(3)(i)). Some DoD people think this means that the government will have unlimited rights to other than commercial software documentation, even though it was developed at private expense and is not in the public domain.

Like the previously described example, this "booby trap" requires a highly technical reading of a very complicated and long (nine page) clause. Like the other example, the incongruity is not obviously flagged so that a diligent industry person who read the clause would understand what he or she was giving up. Like the other incongruity, it is most likely the result of imprecise drafting rather than being an intentional statement of clearly articulated policy. It would make no sense to interpret the clause as subjecting the machine-readable code to the restricted rights provision and yet to treat the documentation (which would likely contain all the most sensitive, commercially valuable information) as if the government had unlimited rights in it and could show it to whomever it wished. Again, even if the government chose to litigate the issue and won, it would stand to lose credibility because of the perceived unfairness of such a position.

It should also be noted that the DoD procurement regulations do not clearly distinguish commercial software from other than commercial software. According to the regulations, software is commercial if it is "used regularly for other than government purposes and is sold, licensed or leased in significant quantities to the general public at established market or catalog prices" ([61] sec. 27.401). It seems that as much as 55% non-government sales and use might be required in order for software to qualify for treatment as commercial software ([8] pp 501). The precise dividing line, however, is unclear. It should also be noted that software which is developed for the

government with an intention that it also be sold in the commercial marketplace will not likely qualify for treatment as commercial software since at the time of development there will be no sales outside of the government. Our understanding is that because of the ambiguities of language in the regulations, most contractors do not exercise the option of having software treated as commercial.

1.3 The Need for More Precise Definitions

1.3.1 What Unlimited Rights Means Vis-a-Vis Ownership

There does not seem to be a consensus among DoD personnel about what "unlimited rights" means vis-a-vis ownership. We discovered at least four interpretations DoD personnel had as to this issue.

 (a) Some think it is the equivalent of ownership.

As one person has said, "if it looks like a duck and quacks like a duck, it is a duck."

 (b) Some think it means the government co-owns the subject matter, the government owning it in the governmental sphere, the contractor owning it in the commercial sphere.

The recoupment provision was thought by some to support this interpretation.

 (c) Some think it means the thing is in the public domain.

Certainly, with trade secret data, what the government seems to have is the capability to put the thing in the public domain.

 (d) Some think it means that the the contractor owns the thing and that the government has a license back to use the thing for governmental purposes.

Section 1.1.1 suggests that this last interpretation may be the more appropriate one. Yet there is a big difference between "unlimited rights" as defined by section 27.401 ("to use, duplicate or disclose ... in any manner and for any purpose whatsoever, and to ... permit others to do so") and "license rights" as defined by that same section (which limits the right to use, duplicate or disclose to "governmental purposes"), so something different must have originally been meant by unlimited rights.

Why does it make a difference what it means? Because DoD people (and industry people as well) sometimes think of "unlimited rights" as an ownership interest which means they may act on this belief, which means they can get into trouble if it isn't true. For example, in negotiating a software development contract as to which keeping control over derivative software may be important, the government may use the standard data rights clause and expect to get unlimited rights. The government might have thought it wouldn't need a copyright since it would have unlimited rights or it might think unlimited rights was ownership. But if the contractor copyrights the software, the government may not have unlimited rights; and even if it has unlimited rights as to uncopyrighted software, it isn't clear this includes rights to make derivative software. (See Chapter 7.) What unlimited rights really means vis-a-vis ownership matters.

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The way intellectual property law tends to define "ownership" and "property rights" is not so much in terms of what a particular person can do with a particular thing, but in terms of what right he or she has to <u>exclude</u> other people from doing things with that property. (Patent law, for example, gives the patentee the right to exclude others from making, using, or selling the patented invention for seventeen years ([65], sec. 154). The government's "unlimited rights" definition seems to go to what the government can do with software and its documentation and what it can authorize others to do, and does not grant any rights to the government to exclude others from it. For this reason, intellectual property law would likely treat "unlimited rights" as a broad license, not as an ownership interest (e.g., Regents of the University of Colorado v. K.D.I. Precision Products, Inc., [43], discussing the difference between "unlimited" and "exclusive" rights).

1.3.2 Governmental Purpose

If all "unlimited rights" truly means is a license to use "for governmental purposes," it is important to understand what the latter term means. Unfortunately, the DoD FAR SUPP does not define the term at all. Does it mean:

    a) for use by all federal governmental agencies, or only by DoD, or only by the particular service that obtained the rights? If the former, does that mean NASA can get it for nothing just for the asking?

    b) for use by state or local governments if the DoD thinks it a good idea to share the software?

    c) for use by foreign governments to whom the U.S. government wants to give it?

    d) for use in the defense community as a whole (including all private firms who contract with DoD) if DoD thinks it is a good idea to share the thing?

    e) for use by defense contractors in foreign countries to whom the government might want to give the software?

    f) for use to enable the government to get something at a low cost or for free? (See Chapter 7).

    g) for use in competitive reprocurements or maintenance contracts?

Because of Congress' recent intense concern about competitive reprocurements, the last of these questions may seem to be of the greatest topical interest, but all of these questions are of considerable importance. Prior case law would seem to take a narrow view of the term's meaning ([8] pp 425-426).

1.3.3 Privately Developed Software

Because so much of DoD's policy on the allocation of rights turns on whether software was developed at private or public expense, it would be highly desirable to define this term in the regulations, and to make its definition part of one of the standard clauses required to be placed in all development contracts. In this, we concur with the earlier conclusion of the OSD Technical Data Rights Study [11]. That Study's definition ("developed without direct payment by the government which requires the performance of the developmental effort") is a step in the right direction,

although it still does not address the critical issue of what it means for software or technical data to be "developed" (i.e., what are the critical events, especially as to software -- When the algorithm is developed? When the source code is written? When the code is first compiled? When it is debugged? etc).

The proposed revisions to the DoD FAR SUPP data rights provisions issued in the late summer of 1985 undertook to define "developed" and "developed at private expense" more precisely. Unfortunately, the definition proposed is so stringent that virtually no software would qualify as privately developed software (because of the testing requirement and because of the requirement that all development be completed before any government contract for the software is in existence). The proposed definition (like another similar attempt a few years ago) has proved too controversial to be adopted ([8] pp 443-445). It does seem time to try to develop a definition that both industry and government can live with. The term is too important not to be defined.

1.3.4 Two Types of Restricted Rights

The policy provisions of the DoD FAR SUPP ([61] sec. 27.401) contain only one definition of restricted rights applicable to software. The implementing data rights clause found at ([61] sec. 52.227-7013) sets forth, in subsections (b)(3)(i) and (ii), two different sets of restricted rights, one applicable to commercial software (at the vendor's election) and one applicable to other software.

One of the problems with this approach is that while the two sets of rights resemble each other in some respects, they are not the same, and to the extent they are different, it is not apparent what principled basis exists for the differentiation. (One, for example, focuses on the computer for which software was acquired, whereas the other focuses on the facility. Also, the two sets of rights do not seem to treat modifications the same.) It appears that the differences may be the result of imprecise drafting. If these differences are intentional, then they should be explained.

Another problem is that there isn't an easy way to refer to the two kinds of restricted rights. That is, it would, at a minimum, be helpful to be able to refer to "commercial software restricted rights" and "trade secret software restricted rights." It is also hard to comprehend why documentation concerning commercial software should be allowed to get restricted rights treatment, but not documentation for other software. Subjecting other than commercial software documentation to the broader "limited rights" policy (giving the government the right to use, disclose and duplicate the documentation throughout the government) has an added disadvantage for the government in that it deters many software firms from doing business with DoD or from selling rights to their most valuable technologies. Moreover, none of the contract officers to whom we spoke could tell us the difference between these two sets of restricted rights or could tell us how to apply them. Industry people also seemed somewhat confused by these two sets of rights. This creates needless confusion.

What seems to be the general intent of this segment of the regulations is to set a "floor" of minimum rights which the government must always have (as well as setting a standard "ceiling" of unlimited rights when government funding has been used) and then to indicate that inter-

mediate arrangements between the "floor" and "ceiling" may be appropriate, depending on governmental needs. If that is the intent, there are simpler ways to say this than the current DoD regulations do.

1.3.5 Distinguishing Types of Documentation

The definitions to the procurement regulations do not differentiate at all among the various types of software documentation. Some documentation contains sensitive information, and hence, is jealously guarded by the developer. For example, documentation which reveals internal design information, algorithms, and proprietary information of a program may need to be distinguished from training and user manuals. Industry may be willing to accept a broader rights package as to the latter types of documentation. However, unless a more restrictive rights package is available as to the former, the company may choose not to do business with DoD, or may sell only "old" technology to DoD. DoD's policy should reflect these concerns by distinguishing forms of documentation in such a way that differential rights treatment can be effected.

1.4 Issues Not Addressed in the DoD Regulations

1.4.1 CAD/CAM Programs

An issue frequently raised by DoD procurement personnel in our interviews was how to fit computer-aided design/computer-aided manufacturing (CAD/CAM) programs into the regulatory structure for DoD procurements. A separate chapter (Chapter 10) discusses the CAD/CAM issues at greater length. The primary reason CAD/CAM programs seem difficult to fit into the DoD FAR SUPP structure is that the structure assumes that the government will obtain a physical copy of any proprietary software which it chooses to acquire. If the government gets a physical copy, it will get at least the four minimum rights in the software that are set forth in the regulations.

Purveyors of CAD/CAM programs have sometimes been willing only to license certain access to their CAD/CAM programs, and not to allow the government to get a copy of the program itself and not to get the standard set of minimum rights to the software. A second important facet of the CAD/CAM dilemma is that manufacturers of major systems for the government who use CAD/CAM programs may be much less willing to deliver large volumes of technical data about the system, arguing instead that the government's needs can be met by controlled access to the manufacturer's CAD/CAM program. This may make the government more dependent on firms using CAD/CAM programs when seeking competitive reprocurements. The present regulations do not provide guidance about how to deal with this situation.

1.4.2 Local Area Networks

It is becoming more common for units within the Defense Department to establish local area networks which share software. The DoD procurement regulations do not provide guidance about making acquisitions of software intended for use in network environments. NASA regulations do

make provisions to accommodate this technological development ([64], sec. 18-27.473-2(e)). The DoD should think about doing so as well.

1.4.3 "Time Bombs," "Worms," and "Triggers"

Some software being sold commercially contains "time bombs," software devices that at a prescribed time either stop the software from working or stop it from working accurately. Other software contains "worms," software devices that, upon a certain condition being met, cause destruction to that software, other software, or stored data. Still other software contains "triggers," software devices which prevent software from running on any but a specifically identified C.P.U. Because of the possibility that a software firm might install "time bombs" or "worms" or "triggers" in software acquired by the government, perhaps the regulations ought at least to require notice to the government if software is to be delivered with "time bombs" or other such devices.

1.4.4 The New Chip Law

The only forms of intellectual property law to which the DoD FAR SUPP makes reference are patent and copyright law. In fall of 1984, Congress created a new form of intellectual property law to protect designs of semiconductor chips. Because much of the software that DoD buys is delivered on chips, the new chip law seems at least somewhat related to DoD's software licensing practices, and hence within the broad scope of this report. Chapter 12 discusses the features of the chip law as they may affect the Defense Department.

1.4.5 Trademarks

Another form of intellectual property law to which the DoD FAR SUPP makes no reference is trademark law. Because it is becoming more common for the government to take trademark rights as to software under development (especially in connection with the government's promotion of Ada as a standard language for military applications), some standard clauses for obtaining trademark rights in software products produced for the government by private firms should be available. Because of some nonobvious wrinkles in the trademark law which could trip up the government's efforts to maintain trademark rights, explained at some length in Chapter 6, it is important to have a policy which will get it right the first time.

1.4.6 Government Rights in Derivative Works

As Chapter 4 explains at greater length, there are a number of "derivative works" issues not currently addressed by the current regulations which are of some considerable importance in software acquisitions. Two of the issues are: (a) what if any rights the government has in contractor-prepared derivative works of software in which the government claims unlimited rights (see also Chapter 7) and, (b) what if any rights the government has in modifications it makes to restricted rights software prepared either by it, or for it by private firms.

1.4.7 Software Warranties

A number of people raised the issue of what if any warranties the government can or should get in software. Those persons pointed out that there are provisions in the DoD FAR SUPP ([61] specifically sections 27.410-5 and 52.246-7001) regarding warranties for technical data. Because software is a developing art, it may be difficult to obtain warranties for it, but numerous people have indicated a desire for a policy about software warranties. Whether, in the absence of any contractual provision concerning warranties, the government may claim implied warranties (e.g., of merchantability or fitness for a particular purpose) have attached to delivered software is addressed in Chapter 11). If getting more explicit standard warranties for software is desired, some regulatory guidance might be helpful to procurement personnel.

1.4.8 "Shrink Wrap" Licenses

Much of the commercial software presently available in the market comes with what purports to be a "licensing agreement" either inside the box or just under the plastic wrapping (commonly known as "shrink wrap" licenses). Typically these forms provide that by opening the box or the plastic wrapping, one will be presumed (by the software vendor, if not by the law) to have consented to a series of restrictions on use of the software, as well as to have accepted that one is not really the owner of a copy of the software, but only a licensee of the manufacturer, and to have agreed to respect the manufacturer's trade secrets and other proprietary rights in the software, and to have consented to a variety of other matters (e.g., what state law will apply in a dispute). When the government buys this kind of software, the question is whether these licenses bind the government. This question was raised time and again in our interviews with DoD personnel.

One view within DoD is that the procurement regulations (and in particular the standard data rights clause) would be given legal effect, even if not explicitly incorporated into the contract. Others thought that perhaps the shrink wrap licenses might be viewed as modifying (and controlling) the standard clause, or that the absence of the basic data rights clause in the purchase arrangement might mean it would not govern. Because a raft of questions about shrink wraps often come up, it is worth going into them in somewhat more detail, as the next subsection does.

1.5 Shrink Wrap and Other Standard Licenses

The first three subsections deal with a set of questions which were posed to us about shrink wrap licenses. The last several subsections deal with questions which DoD might want to ask.

1.5.1 Authority to Bind

By far the most commonly asked question about these licenses was who was supposed to open the package to validate them (or who is to sign in the case of other standard licensing arrangements). It was widely thought that unless the contract officer broke open the package or

signed the agreement, the government could not be bound by the terms of the license because only the contract officer has the power to bind the government. Yet companies widely insisted on getting the actual user either to sign or to break open the package. Those who believed that such acts by users would not bind the government also believed that if users opened the package or signed, they would expose themselves to personal liability and potentially to injunctive relief (even if acting in a governmental capacity), which was thought to be undesirable and perhaps inconsistent with the regulatory mandate. It would be very helpful to the people who have to use these regulations for procuring software to be able to get clear guidance from the regulations about this troublesome issue.

1.5.2 What Effect on Government's Rights

What effect the failure of the contract officer to open the package or sign the agreement would have on the extent of the government's rights thereafter was also a subject of some debate. Would it be unlimited rights because of the failure to follow proper procedures and to make the restrictions a part of the government contract? Or restricted rights normally applicable to commercial software? Since these licenses typically restrict the government's ability to modify the software, they contain less than the four minimum rights the procurement regulations say the government must have. How that affects the government's rights also mystified some, although others pointed out that ([61], sec. 27.404-1(c)) states that "[a]s a minimum, however, the Government shall have the rights provided in the definition of restricted rights in Section 27.401," and that the Christian Associates case [29] suggests that clauses that are mandatory in government contracts will be read into a contract even if not found there. (That case involved a contract silent on a clause, not one contradicting the clause.) (See Chapter 8 for more discussion of this problem.)

1.5.3 Other Terms in Violation of Federal Procurement Regulations

Many of the other standard terms of these licenses are in conflict with federal procurement law. For example, they typically set forth such things as what state law will govern disputes, and where lawsuits are to be brought, as well as providing for instant termination of the license in the event of any violation of the terms of the license, and a return of the software to the vendor. The government could be expected to argue that none of these would bind the government even if the contract officer broke open the package or signed the license agreement. Since the contract officer is not authorized to agree to things which are in violation of the procurement regulations, the argument would conclude that the government would not be bound by these conditions. That may well be so, but what would be helpful to the people in the field is to have a regulation that explicitly addresses this problem.

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1.5.4 Are These "Licenses" Enforceable?

A question which should be asked is whether these shrink wrap licenses have any legal effect whatever. Although the States of Louisiana and Illinois have passed laws recognizing their validity, there are many who regard these "shrink wrap" licenses as unenforceable as a matter of contract law, imposing, as they attempt to do, restrictions on the purchaser's rights after the contract has been made, and relying, as they do, on opening a package or box as indicative of consent when it may easily be indicative of disregard.

Others question the legality of certain provisions of shrink wrap licenses under the copyright law because the licenses purport to control uses that can be made of the software. Copyright law does not give copyright owners any rights to control use. These "licenses" also purport to deprive purchasers of rights they would be entitled to as "owners" of a copy of software, such as the right to resell the copy and the right to make a "backup" copy.

1.5.5 NASA's Special Data Rights Clause

To give clear guidance to NASA personnel who are responsible for procuring commercial software, NASA has adopted a regulation to clarify that the government's data rights under the original sales contract will not be superceded by delivery documents containing inconsistent data rights provisions ([64] sec. 1827.473-4(b)(2) and 1852.227-79). In essence, what that clause says is "notwithstanding anything that might be construed to the contrary, the government always gets the following minimum rights and government procurement regulations govern if there are any other seemingly inconsistent terms." In effect, this clears up all the problems described in the first three subsections above.

1.5.6 "Published" Commercial Software

One other part of the same NASA regulation which DoD might want to consider adopting is that which "lifts" the restriction on the government's right to disclose copyrighted software that has been "published" (widely distributed with a copyright notice) within the meaning of the copyright law. If copyrighted material has been "published," the ideas and information it contains are considered to be in the public domain, which should mean that restrictions on disclosure should cease. Whether the government can simply disregard such a restriction, or whether the data rights clause contractually binds the government to respect the limitations that others in the world are free to ignore is a close question (see Aronson v. Quick Point Pencil Co. [20] suggesting that the government would be bound.)

Because copyright law does not give the copyright owner any rights to control "uses" of his or her work (except public performances and displays), it may be that both DoD and NASA could adopt a regulation for "published" software which would lift restrictions as to what computers or facilities could use the software.

1.6 Issues Arising from the OSD Technical Data Rights Study

1.6.1 Fixed Expirations for Restrictions

In September 1983, the Secretary of the Air Force, Vernon Orr, issued a directive [55] (since modified) requiring that a clause be inserted in all future Air Force development contracts to provide that all restrictions on technical data and software delivered to the government under contract would expire no later than five years after delivery (referred to below as "the Orr clause"). NASA had been using a similar clause for some years. This idea interested one of the committees of the House of Representatives which asked OSD to study the idea. The OSD Technical Data Rights Study was organized. Its report, issued in June of 1984 [11], rejected the Orr clause approach, at least as to technical data. The 1985 DoD Authorization Act gave the Secretary of Defense authority to issue regulations permitting fixed expiration periods of up to seven years. (See [52] sec. 2320(c).) The DAR Council studied the OSD Study Proposal and the Authorization Act and issued proposed changes to the DoD FAR SUPP for public comment. Those proposed regulations would have permitted but not mandated fixed expiration periods.

From the standpoint of traditional intellectual property theory, fixed expirations for restrictive legends make sense. If the technical data or software being delivered is not inventive enough to be patented, why should the government create what is in essence perpetual protection for the thing when if it was patented, it would be in the public domain after 17 years? If copyright law would not protect the information, ideas, processes, procedures, and other valuable things contained in technical data, drawings and software, why should the government's data rights policy treat them as protectable property? Intellectual property law does not accept the idea that information and ideas are capable of being "owned" by anyone. Even traditional trade secret law does not protect any "property" right in the valuable secret per se, but only protects the confidential relationship that may have been formed when one person disclosed something valuable in confidence to another, or protects against industrial espionage or other tortious conduct by one who wants to obtain the secret [14]. Trade secret law also recognizes that over time old technology may become less valuable, or valueless, which makes fixed expirations seem reasonable. It is also in keeping with the modern law of trade secrets to grant injunctive relief only for the period of time it would take to discover the secret oneself (and if that time is past, no injunction may issue) and to grant monetary relief for a similarly limited period.

From the standpoint of how industry regards its secrets, the fixed expiration approach poses some difficulties. Fixed expiration periods are sometimes used by industry, but generally in the context of negotiations focused on a particular item of software to be acquired. The inflexible approach of the original Orr directive has now been rethought and DoD seems to have kept the option but allowed greater flexibility about it in the acquisition process. It may be possible to provide for a specification during the planning stage or system acquisition as to whether an expiration period would be desirable, and if so, how long the period should be.

1.6.2 "License Rights"

Apart from the repudiation of the fixed expirations, the other major recommendation of the OSD Technical Data Rights Study was to add a third option to the arsenal of potential ways to get rights to technical data. Although the OSD study [11] did not address software issues, in speaking with members of the Study Group, it was clear that they intended the "license rights" option to be applicable to software as well. The proposed DoD data rights regulations issued in the late summer of 1985 would create a new "license rights" option, although the intent of this provision seems to be somewhat different than what had been intended by the OSD Study Group, which in turn was different from what industry had in mind when it began promoting the idea of "licensing". It may be helpful to lay out what we have been able to discern as to the thrust of the OSD study proposal, of the industry proposal, and of the proposed regulations, and to comment on each in turn.

What we take to be the aim of the OSD study recommendation is to enable the government to impose a requirement upon its contractors that they license competitors to make use of proprietary data in competitive reprocurement (or in the case of software, maintenance/enhancement) situations. Because industry strongly objects to the government simply handing proprietary data and software over to any low bidder that comes along, and has been arguing forcefully for a "licensing" approach alternative, adoption of a proposal of this sort may be an important step in improvement in relations with industry. Implemented in an optimal way, the OSD Study Proposal might even save DoD a lot of money. It is worth noting, however, that industry's intent in promoting the licensing concept seems to be twofold: first, to maximize the amount of control a contractor may have over the competitor or potential competitor as to its use of the proprietary software (industry wants a direct relationship, not just granting power to the government to sublicense whomever it pleases) and second, to begin to move the government closer to the standards that prevail in the commercial arena (See e.g., [12]). By contrast, the intent of the recently proposed DoD regulation for "license rights" seems to be to give the government the option to negotiate expirations for restrictions on software or technical data. The regulation proposal thus would shift substantially the thrust of the "license rights" proposal as originally conceived by the OSD Study Group.

The major reservation we have about the OSD Study Proposal and the proposed regulation is that the "license rights" option may not be explained well enough for contract officers and other people who will look to the regulations for guidance to understand the intent and implement it as it was intended to be implemented.

To be more specific, one of the problems with both the OSD proposal and the proposed regulation is in the name it gives the option. The OSD Study, for example, states: "Current policy provides only two recognized ways to acquire technical data rights: Limited and unlimited. The policy should be expanded to include licensing" ([11] at 20). The ordinary person reading this would tend to think that "licensing" must be something different from "limited" or "unlimited" rights, when in fact, both limited and unlimited rights seem to be particular types of licensing arrangements. (If you own something, you own something. If you let someone else use that thing, you license its use, regardless of whether you give the person a broad or a narrow license.)

Here is a second problem with the proposal. The ordinary person might tend to wonder whether "license rights" were more or less than other things. The ordinary person would say, "Well, 'license rights' surely has to be less than unlimited rights, but is it more or less than limited (or in the case of software, restricted) rights?" Now on the one hand, it would seem that if the government, in getting "license rights," was getting the right to show the valuable data or software of one company to another company for reprocurement purposes, it would seem like the government was getting more than limited or restricted rights because limited and restricted rights allow only use and disclosure within the government (except in emergencies).

On the other hand, from talking with the OSD study's members and from reviewing the OSD Study's discussion of "direct licensing," the ordinary person might well think that this proposal was intended to enable the government to get the benefit of data or software which it might not possess, but which a third party might have gained licensed access to. In other words, this might be a way for the government to get the benefit of certain data or software without getting any rights or less than minimum rights to them. So this would tend to make someone think it was less than limited or restricted rights. If this was intended, then the regulations would have to make this very clear.

Furthermore, if all one wanted was a middle ground between "unlimited" and "limited" rights, it isn't clear that a special "license rights" provision is necessary. The present "limited rights" and "restricted rights" provisions already allow for a middle ground. With the original contractor's written permission, it has always been possible to give out to another contractor limited rights technical data or restricted rights software. There is no prohibition against getting that written permission in the original contract.

What DoD seems really to need is not a middle ground, but a contractual commitment from the original contractor to agree to one of three things: (1) to license the government to sublicense a second firm for reprocurement or maintenance purposes, (2) to enter into a license agreement with a second firm to allow it to use the data or software for reprocurement or maintenance purposes, or (3) to allow restrictions on the government's use and disclosure to expire after a period of time so that competitive maintenance or reprocurement can occur. If the commitment to allow third party access for maintenance or reprocurements is what is truly needed, any such regulation should say so very clearly. Neither the OSD Study Proposal nor the recently issued proposed DoD regulation on license rights provides this clear guidance.

Yet another problem with both the OSD Study Proposal and the proposed DoD regulations concerning "license rights" is that there is already one set of "license rights" in the DoD FAR SUPP ([61] sec. 52.227-7025). It is downright confusing to have two entirely different "license rights" clauses in the same set of regulations (one applicable to SBIR and one applicable to reprocurements). The OSD Study would not have revised the existing definition of "license right" (although the current definition only gives the government the right to sublicense "for governmental purposes." This, unfortunately, begs the question whether competitive reprocurements are within the meaning of that phrase). The proposed DoD regulations give license rights two different meanings which only exacerbates the problem. If the narrow interpretation of "unlimited rights" is

accurate (discussed in Section 1.3.1), and that term means only a license to use for governmental purposes and to sublicense for the same, then there would be no difference between the OSD Study "license rights" option and "unlimited rights."

Furthermore, the OSD Study draft reprocurement license clause was long, complex, and unclear. (For instance, it often referred to "direct license rights" which it did not define. Is this a direct license between the contractor and the government, or a license between two contractors?) The OSD draft license rights clause also seems to be written as though it is unrelated to the standard data rights clause although in fact it would modify it. The aim of the draft clause seems to be only to address the spare parts reprocurement issue, although the need for licenses to get competition may be broader than that (e.g., software maintenance). Software is not mentioned at all, and the draft license rights clause would not be readily adaptable to software.

Industry would seem to have a decided preference that if another firm has to be licensed to use the first firm's trade secrets, the two firms make arrangements directly so that in the event of an abuse, the first firm can proceed directly against the second firm rather than have to try to push the government to do something. Industry also doesn't like the government to dictate or supervise terms of licenses. The OSD draft clause accepts the industry preference for contractor-to-contractor licenses. It is worth noting (as unfortunately the OSD study does not) that there are serious dangers of overreaching (exclusionary conduct in antitrust parlance) by the original contractor in any arrangement which would involve licensing of competitors as to valuable technologies. If the government does not want to end up paying through licensing essentially the same amount as if there had been a sole source, some government supervision of the terms and conditions of the license would seem to be necessary in direct competitor situations.

The license rights option, as reflected in the proposed DoD regulations, is a far cry from the license rights proposal that industry has been promoting. It is far from clear that the new DoD option will be acceptable to industry which can always opt to stick with limited or restricted rights for valuable technologies.

1.6.3 Predetermination (to be Renamed as Prenotification) of Rights

The OSD Study favored use of a predetermination of rights clause in all development contracts although the Study thought it should be called a "prenotification" clause instead of a predetermination clause. The clause, in essence, requires the parties to identify all software and technical data that will be delivered under the contract with restrictions on the government's use of it. Many of the DoD personnel to whom we spoke supported use of this clause. Some regarded it as essential. While the aim of the clause -- to clarify data rights as much as possible at the outset -- is laudable, many people in the field regard the clause as unrealistic and unworkable, especially as to software. How can one say what rights the government will get in software from third tier subcontractors when the software may not yet exist, or if it does, the prime may not yet have identified who will deliver it, let alone with what rights? One person likened the predetermination process to asking Lewis and Clark to prepare a set of "triptiks" for their exploration of the Oregon Territory before they'd set out on their journey.

1.7 Rethinking and Simplifying DoD's Data Rights

As DoD well knows, industry people have a lot of complaints about the DoD procurement regulations, especially as they affect software data rights. "Revise Part 27.4 of the DoD FAR SUPP," they are wont to say. Just how, they do not usually say, or if they do, they tend to pull out a huge laundry list of grouses and do not differentiate among them at all.

We take as "givens" much of what industry doesn't like about government procurement practices (e.g., the auditing of the books, the limits on profits, the record keeping requirements) and much of what the government has insisted it needs (more rights than industry commonly gives to its commercial customers, especially as to reprocurements and maintenance.)

On the other hand, perhaps a revision of the procurement regulations as to data rights would be a good idea. A lot of DoD people, particularly those who are actually doing procurements, favor the idea.

Doing so might be a step toward improvement of relations with industry. And if the government can clarify what _its_ priorities are in the data rights area, perhaps it can strike a balance with industry to get a little more of what it truly needs to achieve competition in reprocurements, maintenance, and enhancements, by giving up a little of what it already has, but does not truly need, perhaps trimming back somewhat on its unlimited rights policy. At the same time perhaps the government can simplify the regulations and make them more comprehensible which would be a benefit both to the government and industry.

1.7.1 Comprehensibility as a Goal of the Regulations

One of the priorities DoD should have for its data rights regulations is having regulations which are as simple, straightforward and clear as possible. The current DoD data rights regulations fall short of this goal.

Procurement regulations - especially as to data rights - need to be readily understood and applied by people of ordinary intelligence who aren't lawyers and who often have to work under extreme pressure and have many things to worry about besides data rights. Given this, one can perhaps see the value of at least attempting a more simple, straightforward approach. When a contracting officer is being rushed to field a system, and when future promotions will ride on how quickly he is able to field that system, he is likely to avoid becoming enmeshed in complicated data rights issues which he will likely not understand all that well to begin with and which, if he pursues their depths, will surely slow the procurement process down. If the system is fielded with inadequate data rights for, say, organic maintenance/enhancement purposes, well, that will be someone else's problem anyway. A more streamlined, understandable regulatory structure might help the contracting officers to overcome their reluctance to address data rights issues.

One good example of how the regulations unnecessarily complicate data rights matters is the provisions for two kinds of restricted rights for software and yet another set of restrictions ("limited rights") for technical data (See section 1.3.4). It is difficult to understand why there are two kinds

of restricted rights for software and yet another set of restrictions ("limited rights") for technical data. It is also difficult to comprehend why the regulations subject software documentation (which is classified as "technical data") to different restrictions than machine-readable code (i.e., "software"). This doesn't seem to make sense given that in the commercial market these things are treated as subject to the same restrictions. Why one would treat documentation for commercial software differently than other software documentation is also mysterious.

Even if there is good justification for treating technical data other than software documentation differently than software, it doesn't make sense to have two so similar and yet not identical sets of restricted rights for software. What DoD seems to need to do is set a "floor" of minimum rights it must always get in software (perhaps to be named "minimum rights") and then let the parties negotiate other rights and restrictions (perhaps to be stamped "negotiated rights - see Contract No. _____") as they see fit. The proposal found at the end of this section attempts to develop a set of minimum rights for software and technical data (lumped together under the definition of intellectual property). Simplifying these provisions would also eliminate the "booby traps" that the current regulations set for the unwary business, as well as eliminating the "booby traps" that might close on the government.

1.7.2 Not Getting as Many Rights as DoD Needs

It is understandable that in reaction to the spare parts competition problems which were due in part to the government having gotten inadequate rights to certain technical data and which have come under intense Congressional scrutiny, DoD would make efforts to adopt policies aimed at assuring that such problems would not occur in the future. The seemingly obvious ways to accomplish this are either: (a) to acquire unlimited rights in all technical data and software (either initially or through fixed expirations on restrictions) or (b) to get the option to allow the government to acquire at a later time unlimited rights to technical data or software for a price negotiated at the time the contract was made. Both would seem to achieve the objective sought (being free of restrictions on use and disclosure), but at a very high cost. Industry has been outraged by efforts of these sorts and has apparently expressed their outrage by pricing their technology at stratospheric levels. Perhaps such approaches were overreactions to the problem. Not having asked for enough for awhile, now perhaps the government was asking for more than it needed, and the problem deepened rather than being resolved.

What was true when the procurement scandals "broke" -- and what probably remains true today -- is that there are instances in which the government is not getting as much data rights as it needs. The two areas as to which we have reason to think present data rights policies may be insufficient pertain to use and disclosure of technical data to third parties for spare parts reprocurement purposes, and use and disclosure of software and documentation to third parties for maintenance or enhancement purposes. Perhaps specific provisions could be written to accomplish these objectives. As the discussion of "license rights" above indicates, some efforts are in the process of being made to do this, at least as to technical data. A more limited reaction is one which industry may be willing to try to live with.

1.7.3 Getting More Rights Than DoD Needs

Government procurement people frequently say (and there is even a DoD regulation to back it up) that it is the policy of the Defense Department to acquire only so much rights as the government needs ([61] sec. 27.403-2(a)). The truth is that DoD routinely acquires more rights than it needs. Its practice reveals that its priorities often lie elsewhere.

Perhaps the clearest illustration of overacquisition of rights is the government's standard policy of acquiring unlimited rights in software and data produced at government expense, even as to what is non-deliverable under the government contract. The government doesn't always need to have unlimited rights in these items although perhaps sometimes it does. Another illustration is its insistence on treating many things clearly not in the public domain and not developed at public expense (such as manuals) as subject to unlimited rights. Still another illustration is its policy of treating something as having been developed at government expense if so much as $1 (or for that matter, a dime) of government money has been spent in its development, which of course will mean that the government will get unlimited rights in it. Again, it isn't the case that the government always needs all those additional rights, especially since if that $1 of government money had not been spent on "fine-tuning" the product, the government would have contented itself with restricted rights to the proprietary software. The vigilant search by government lawyers for some technical defect in compliance with the DoD FAR SUPP to enable the government to get unlimited rights in something which both parties reasonably expected to be subject to restrictions (the price itself also reflecting the expectation of restrictions) would be viewed by industry as yet another instance of the government searching for more rights than perhaps it truly needs (and has paid for).

From our interviews with DoD personnel, it appears that getting unlimited rights in publicly funded software and technical data is, for many people, a fixed star in the firmament of the DoD procurement universe. Industry seems to have adjusted to it, although this is one of its least favorite government policies.

There is a certain elemental appeal to the policy. People generally tend to think that if they pay money to have something made for them, they "own" it and should be able to do with it as they please. Government people frequently express this kind of sentiment toward the spending of government money, and seem not to understand why private firms might object to the policy. The private firms, of course, tend to think that the government is trying to get something for nothing.

The truth is that private firms understand this principle of getting all the rights and benefits when one pays for something very well when it comes to their rights as against those of their employees. Within a firm, ownership of intellectual property and profits resulting from the value of the intellectual property do not go to the creative employee, but to the shareholders of the firm. (But then, that is the essence of the free enterprise system which the Department was created to defend.)

Yet government people do understand -- even if they don't much like it -- that private firms seem to lack incentives to develop and deliver their best products to the government when the firms

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have no reasonable expectation of receiving a continuing stream of income from the product, and that, as a result, the government isn't getting the best technology. Some government people might think, "a private firm has incentive to deliver the best software to us (even though we have unlimited rights) because it's OK with us if they take the thing to the commercial market."

There are a couple of problems with this theory. One is that since the government claims an unlimited right to disclose the software developed at public expense to any one for any purpose, the government always has the power to pull the rug out from under the commercial market (for in today's market, it is the valuable secrets embodied in the software that seem to determine its commercial value). This means the firm can never be sure there will be a commercial market there to tap. Secondly, the government sometimes wants to "give away" valuable software in which it has unlimited rights to other private defense firms to enable those firms to perform better work on government projects. The problem is that the software's developer may see these other defense firms as its primary commercial market. This too can undermine the potential incentives that government people tend to think the private firm has retained.

It is worth pointing out that Congress has enacted a law to encourage small firms to develop and deliver to the government the highest quality, most innovative products, namely the Small Business Innovation Development Act [68] which gives participating small firms the right to retain ownership rights in patents developed at public expense, with a license back to the government to use the patent for governmental purposes. Previously the government could have taken ownership of patents developed at public expense. It is not surprising that software firms hail the SBIDA as the "enlightened" and "modern" policy that the government should follow as to software.

As far as we are concerned, the government is welcome to retain its broad unlimited rights policy. It just shouldn't be surprised if this policy results in its getting less high quality products. Whether it should retain this policy or narrow it to a governmental purpose policy depends on what its goals are. If the primary goal is to get the best available technology and improve incentives, it should adopt the SBIDA approach. If its primary goal is to get as much data rights as it possibly can in hopes that will save money down the line, it should stick with unlimited rights.

It might be wise for the government to consider voluntarily giving up its broad unlimited rights policy for software and explicitly adopting a policy more in line with the SBIR policy as to patents, or adopting a policy under which the government would take less than unlimited rights when mixed funding was used for software development. This might be a step toward improving relations with industry without giving up what the government truly needs. The government may still wish to retain the power to obtain ownership rights in intellectual property when achievement of certain well defined goals would seem to require broader control than simply a license to use for governmental purposes. But it might be easier for industry to accept the government's need to sublicense for reprocurement and maintenance purposes if the government was willing to trim back somewhat its unlimited rights policy.

1.7.4 Proposed Alternative Data Rights Clauses

There are many ways a standard data rights clause for DoD might be structured and written. Among the problems with the existing standard data rights clause is its great length (nine pages) and its turgidity. It is a clause which has been much amended, as first this situation, then that, is taken into account. The amendments have, unfortunately, not always been simple, straightforward, unambiguous and comprehensible. Perhaps it is time for a fresh start. Over time a new clause may also become encrusted, but at least for a while, it may be an improvement.

Even without altering the substance of the data rights clause, DoD might be able to get some "mileage" from a revision of the standard data rights clause that would make the clause more readable and less ambiguous. One of industry's standard complaints about the clause is its jesuitical complexity, a complaint which could be eliminated by such a revision.

The draft alternative data rights clause found below does not retain all of the substantive provisions of the existing data rights clause. It drops, for example, the claim to unlimited rights in non-deliverables produced at government expense on the ground that this provision serves only to frustrate the government when it believes it has rights it cannot enforce. On the other hand, it gives the government back its unlimited rights in copyrighted material produced at government expense. And it defines unlimited rights in a broader manner so as to allow creation of derivative works, among other things. This draft is offered simply as an item for consideration, as something to think about if DoD decides that a revision of the standard data rights clause might be desirable.

Following the draft clause is a short discussion of two other possible alternative draft clauses, one of which industry people might greet as reflecting a more "enlightened" policy, and one of which we suggest might be a workable compromise of the government's and of industry's concerns.

1.7.5 An Alternative Standard Data Rights Clause

Rights of the Government

(1) Underlined Rights Licenses: The government shall have unlimited rights in:

    (i) all intellectual property to be delivered under this contract which was developed at public expense;

    (ii) all intellectual property to be delivered under this contract which is in the public domain or otherwise distributed without restriction;

    (iii) all intellectual property to be delivered under this contract which incorporates intellectual property in which the government already has unlimited rights; and

    (iv) all intellectual property delivered under this contract which is not properly marked as to the restrictions pertaining to it.

(2) Minimum Rights Licenses: The government shall have a minimum rights license in all intellectual property delivered under this contract which has been developed at private expense. Written permission of the owner of such intellectual property will be required before the government may make other uses or disclosures of this intellectual property.

(3) Other Licenses Possible: When the government needs to have more than minimum rights in certain intellectual property, the government and contractor can enter into other licensing arrangements, but in no event can the government enter into a licensing agreement for intellectual property which gives the government less than minimum rights.

Rights of the Contractor

(1) Ownership: The contractor shall be considered the owner of all intellectual property developed at public expense under this contract, except as to contracts in which the special works clause is used, subject only to granting the government an unlimited rights license to the intellectual property.

(2) Copyright: The contractor may obtain and retain a copyright on all intellectual property delivered to the government under this contract except when the special works clause is used. The contractor's obtaining of a copyright shall not limit the government's rights under its unlimited rights, minimum rights, or any other license.

(3) Restrictive Markings: The contractor may attach appropriate restrictive legends to its intellectual property, as set forth below in section (d).

Rights of Subcontractors

(1) Getting Same Data Rights From Subcontractor: Whenever intellectual property is to be obtained from a subcontractor under this contract, the parties shall use this same clause in the subcontract, without alteration. No other clause shall be used to diminish or enlarge the government's or contractor's rights in the subcontractor's intellectual property required for the government.

(2) Direct Delivery to the Government: Subcontractors under this contract may deliver technical data in which the government will have less than unlimited rights directly to the government rather than through the prime contractor.

(3) No Leverage: The contractor and higher-tier subcontractors shall not use their power to award subcontracts as economic leverage to acquire rights in intellectual property from their subcontractors for themselves.

(4) Right to Attach Restrictive Markings: Subcontractors under this contract shall have the same rights to attach restrictive markings to their intellectual property as the contractor does to intellectual property.

Restrictive Legends

(1) No Marking If Unlimited Rights: Intellectual property in which the government has unlimited rights shall be delivered with no restrictive markings. Unmarked items delivered under this contract will be presumed to be items in which the government has unlimited rights.

(2) Minimum Rights Legend: Intellectual property in which the government has only minimum rights must be delivered with a restrictive marking of the following type:

Minimum Rights

Property of: (contractor or subcontractor's name)

(3) Restrictive Legend for Other Licenses: Intellectual property delivered to the government under other kinds of licensing arrangements must be delivered with the following restrictive marking:

Negotiated Rights

Property of: (contractor or subcontractor)

Contract No:_____

(4) Substantiating Restrictive Legends: The government may challenge restrictive legends attached to intellectual property delivered or intended to be delivered under this contract on the ground that public funds were used to develop the intellectual property. Within 60 days after a written request for substantiation of a restrictive legend, the contractor or subcontractor shall provide clear and convincing evidence that the intellectual property was developed wholly at private expense. If the contract officer finds that the intellectual property was not developed wholly at private expense, the government may ignore or cancel the restrictive legends.

(5) Right to Appeal Cancellations of Restrictive Legends: If the contract officer finds that intellectual property delivered under this contract with restrictive rights has not been developed wholly at private expense, the contractor or subcontractor shall have the right to appeal any decision of the government to cancel or ignore the restrictive marking in accordance with the provisions of the Contracts Dispute Act.

(6) Contractor Challenges to Subcontractor Restrictive Legends: When a subcontractor delivers to the contractor any intellectual property for eventual delivery to the government under this contract, and the intellectual property is marked with a restrictive legend which the contractor believes to be inappropriate, the contractor shall notify the contract officer of the inappropriate legend so that the contract officer may challenge it.

Definitions

[NOTE: Only the definitions to be changed are mentioned here. Additional definitions of such terms as "developed at public expense" and "government purpose" are not offered here, although they too should be added.]

The following terms used in this clause have the following meanings:

(1) Unlimited Rights: "Unlimited rights" means the right to use, copy, disclose, distribute, perform, display, and prepare derivative works of intellectual property, in whole or in part, in any manner and for any purpose whatsoever, and to have and permit others to do so.

(2) Intellectual Property: "Intellectual property" refers to technical data and computer software.

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(3) Computer Software: "Computer software" means all firmware, software, data bases, and documentation for the same.

(4) Technical Data: "Technical data" means [same as the current definition but excluding computer software documentation].

(5) Minimum Rights: "Minimum rights" means:

(a) as to technical data, the right to use, copy, and disclose the material within the government; and

(b) as to computer software, the right to

(i) use it at the facility for which it was acquired or to which it is transferred;

(ii) the right to use it with a back-up computer if the computer for which it was acquired becomes inoperative;

(iii) make back-up copies for safekeeping, and for modification purposes;

(iv) modify it, or combine it with other software (modification will not alter restrictions on the software).

[end of clause]

Additionally, DoD might want to develop standard licensing clauses giving the government the right to sublicense use of proprietary intellectual property for competitive reprocurement or competitive software maintenance purposes, subject to appropriate restrictions on any third party use of this property. In Chapter 2 we offer some suggestions about how the potential for competition in software maintenance situations could be maximized.

Another thing that might be desirable to consider is the development of one standard data rights clause for all intellectual property, including patents and chips, which would define the minimum rights in each respective type of subject matter in the definition of "minimum rights." It does not seem desirable to have a wholly different policy (and structure for that policy) for patents and for other types of intellectual property. Integration at least ought to be considered, and hopefully attempted.

If the alternative draft clause set forth above was adopted by DoD, it would remove some of industry's complaints about it, but that might only serve to sharpen the areas of disagreement. Industry would like for DoD to give up claiming "unlimited rights" in software and technical data developed at public expense, and to adopt a policy of only taking what the current regulations call "license rights" in these things, that is, a license to use intellectual property for governmental purposes and to sublicense for the same purposes. Industry regards this SBIR-type approach as the "modern" and "enlightened" solution to data rights acquisitions. Only modest changes to the draft clause above would be necessary to incorporate this industry preference in the standard data rights clause. An intermediate position would be to have the government take unlimited rights in things completely funded by the government, and only a governmental purpose license

in things funded only in part with government money. The 1985 DoD Authorization Act (creating 10 U.S.C., sec. 2320(a) [52]) suggests this may be compatible with Congressional thinking.

A second variation on the draft standard data rights clause above, which we would have DoD consider would be one that would have the government bend to industry's demands for getting only a governmental purpose license as to intellectual property developed at public expense instead of "unlimited rights" and would require industry to bend by giving DoD the right to sub-license for competitive reprocurement or maintenance purposes (subject to appropriate restrictions on the third party) as part of its "minimum rights." Again, only modest changes in the draft above would seem to be required to accomplish this. If getting competition for reprocurement and maintenance purposes is a high priority of DoD, it may be worthwhile to consider whether the government can live with being able to use and sublicense use of intellectual property for governmental purposes. If it can, maybe this wouldn't be a bad deal to make.

1.8 Recently Proposed Revisions to the DoD Procurement Regulations

Until recently, there has been no substantive "data rights" policy under the FAR. Because DoD has long needed to have a standard policy for acquiring rights in software and technical data, DoD developed its own elaborate policy, which is currently embodied in the DoD FAR SUPP ([61], Subpart 27.4).

The Competition in Contracting Act (CICA) [57], passed last year, required development of a substantive data rights policy for all federal agency acquisitions. Both CICA and the 1985 DoD Authorization Act reflect Congress' intent that there be a uniform data rights policy for all federal agencies. The newly proposed Subpart 27.4 of the FAR is the substantive data rights policy that was developed to respond to this Congressional mandate.

Shortly after issuance of the newly proposed FAR data rights provisions, DoD issued a set of proposed revisions to the DoD FAR SUPP. Although said to "supplement" the FAR, the proposed DoD regulations, if adopted, will entirely supplant the FAR.

Supplantation of the FAR is inconsistent with the Congressional mandate for a uniform policy for federal acquisitions. Because of this and because the proposed FAR contains a superior data rights policy, one which is more straightforward and concise, more consistent with commercial practice, and more compatible with other Congressional directives in the CICA and the 1985 DoD Authorization Act, DoD should give serious consideration to adopting the FAR proposal rather than the DoD FAR SUPP proposal. If a few additional provisions are necessary to enable the Defense Department to carry out its special mission, DoD should, of course, be able to supplement the FAR to accomplish these objectives. Complete supplantation of the FAR is, however, neither necessary nor desirable.

1.8.1 The Proposed DoD FAR SUPP May Be Inconsistent with the Proposed FAR

The proposed DoD FAR SUPP doesn't even define terms the same as the proposed FAR. For example, the FAR definition of "unlimited rights" is more precise and comprehensive than that found in the proposed DoD FAR SUPP. Other terms common to both are defined somewhat differently for no apparent reason. Such inconsistencies are likely to result in confusion and misinterpretation.

In substance, the DoD FAR SUPP provisions are quite different from the FAR provisions. In particular, the DoD FAR SUPP fails to claim the full set of minimum rights the FAR proposal says that government is supposed to acquire in restricted rights software. The failure of the DoD FAR SUPP to claim the fifth minimum right that the FAR would allow, namely the right to sublicense support contractors, may seriously impede the ability of DoD to obtain competition for maintenance and enhancement of its software.

1.8.2 The Proposed FAR Policy is Preferable to the DoD Policy

The proposed FAR policy is more comprehensible than the DoD Policy.
It is:

- more concise
- more straightforward
- more consistent with commercial practice
- more consistent with intellectual property law

The proposed FAR policy avoids the anomolies and inconsistencies inherent in DoD Policy. For example:

- The FAR avoids the conflict between the DoD FAR SUPP "special works" clause and Section 105 of the Copyright Act.
- The FAR, in contrast to the DoD FAR SUPP, avoids the conflict between the unlimited rights clause and the retention of copyright clause.
- The FAR avoids the confusion caused by the two sets of restricted rights found in the DoD FAR SUPP.
- The FAR avoids the problems caused under the DoD FAR SUPP by treating software and documentation differently.
- The FAR avoids the problems caused by the DoD FAR SUPP practice attaching two different meanings to the term "license rights."
- The FAR avoids the potentially harsh result which could occur from failure to negotiate a separate licensing agreement as to restricted rights software under the DoD FAR SUPP.

The proposed FAR provides a more precise definition of "unlimited rights," including within this definition the right to make derivative works. This right is important if DoD is to be able to maintain, enhance and reuse software. The more limited definition of the DoD FAR SUPP, in contrast to the FAR, may be seen as a rejection of this right by the DoD. This could have extremely serious repercussions for DoD.

1.8.3 The Proposed FAR Policy is More Compatible with CICA and the 1985 DoD Authorization Act Than Is the DoD Policy

The CICA and the DoD Authorization Act indicate that Congress intended there to be a uniform system of federal procurement policy. The proposed DoD FAR SUPP runs counter, in many instances, to the policy which other federal agencies will follow under the FAR.

Congress intended that federal procurement regulations achieve a balance as to the interests of contractors and the government. The proposed FAR more reasonably balances the interests of the parties involved than does the DoD FAR SUPP. It, for example, creates the potential for the government to take less than unlimited rights when both public and private funds are used to develop software. The proposed DoD FAR SUPP would not permit this. In fact, the proposed DoD policy, while in most respects the same as the existing policy, would shift substantially the rights balance in favor of the government because the definition of "developed at private expense" would make it nearly impossible for any software to qualify. This would significantly reduce incentives to do business with the government.

1.9 Conclusion

An even better solution to DoD's software data rights problems than revising the standard data rights clauses as suggested in Section 1.7 would be for DoD to adopt the same basic "data rights" policy as soon will govern all other federal agency acquisitions. More specifically, DoD should adopt the proposed Subpart 27.4 of the Federal Acquisition Regulations (FAR) rather than the proposed Subpart 27.4 of the DoD FAR Supplement (DoD FAR SUPP).

Even if DoD chooses not to adopt the FAR data rights provisions, it should recognize that the current software acquisition policy is seriously flawed in a number of respects. It is highly ambiguous about certain rights provisions concerning matters which need to be clear. It conflicts with intellectual property law in some instances. It creates needless disincentives to do business with DoD in the software acquisition area. It is not tailored to take into account the kind of technology software is. The present policy is too closely tied to the technical data rights policy and fails to recognize that the economics of software development are significantly different from the economics of technical data. If DoD wishes to acquire rights in the best software technology, it must adopt a software data rights policy that is no more divergent from standard commercial practices than is essential to fulfill its mission.

2. Problems Arising from the Need to Maintain and Enhance Software

Apart from the set of software acquisition problems arising from the DoD procurement regulations discussed in Chapter 1, the next most complex and difficult set of software acquisition problems that were identified by DoD personnel in the course of our investigation related to the maintenance and enhancement of software. Software often requires some modification to correct "bugs" or other deficiencies which may not be discovered until after the software has been acquired, and perhaps even after it has been embedded in a larger system. In addition, the user may want to have software modified so as to add some new capability or function beyond that which the product was originally intended to perform, or to upgrade the software when new technological developments are achieved. (Problems relating to these sorts of modifications will hereinafter be referred to as "maintenance/enhancement" problems.)

The adaptability of software over time is one of the great advantages of software as compared with hardware, but adaptability is not an unmixed blessing. Along with adaptability comes a complex set of licensing problems that have frustrated DoD personnel as they have sought to acquire excellent adaptable software at the lowest cost. One set of these problems arises from the debate within DoD over whether it is wise or cost-effective to compete the maintenance or enhancement of software to third party contractors, or even to do maintenance/enhancement work in-house.

The first four sections of this chapter discuss the licensing aspects of this controversy and recommend some strategies for how DoD might compete software maintenance if it chooses to do so. The chapter also discusses some of the disadvantages of competing software maintenance. The remaining two sections of the chapter discuss a variety of other problems identified by DoD personnel as software maintenance/enhancement problems. One of the reasons software maintenance/enhancement problems may seem intractable is that they are not one but many problems. There is no quick fix that will solve all of them at once.

2.1 Getting Sufficient Rights in or Documentation about Software to Enable DoD to Do "Organic" or Competitive Maintenance or Enhancement for Software

The initial statement of work for the Software Licensing Project (as reflected in the SEI RFP) indicated that DoD had been having trouble acquiring sufficient rights in software and software documentation to enable it to maintain or enhance software, either in-house (commonly referred to as "organic maintenance") or by private firms through competitive bidding. DoD sought assistance in solution of these problems.

2.1.1 Getting Rights to Modify

Obtaining rights for the government to modify software is not a current software licensing problem of the Defense Department. While many other buyers or licensees of software are experiencing difficulty in negotiating with software firms about whether or not they can modify software, this does not seem to be DoD's problem. The DoD procurement regulations require that in all software acquisition contracts the government must get the right to modify the software ([61] sec. 52.227-7013(b)(3)). Government lawyers, on the whole, tend to think that this means that even when a contract between the government and a software contractor is silent about modification rights, the standard data rights clause will be construed by a court to be incorporated into the contract under the Christian doctrine. (See [29]) in which the court read a "termination for the convenience of the government" clause into a military housing contract.) On the other hand, some DoD contract officers seemed to believe that if prime contractors had negotiated away the government's right to modify software in dealing with a subcontractor, the government would be bound by the prime's action. This may not in fact be so for reasons discussed, at Chapter 8.

If, instead of relying on the DoD standard data rights clause, the government was relying on the copyright law as a basis for obtaining rights to modify software, the government's rights would be on more shaky grounds. Copyright law regards any modification of copyrighted software as the creation of a "derivative work" which one needs permission of the copyright owner to do ([59] sec. 106(2)). Although owners of copies of software have a limited right to modify software under Section 117 of the copyright law, the right is so limited as to be virtually nonexistent (1) because only "owners" of copies (and seemingly not licensees) have such rights, and (2) because modifications are only permitted to the extent they are created as an "essential step in the utilization of a computer program in conjunction with a machine." One court has interpreted this to mean that modifications are only permitted if the program won't execute as is (Midway Mfg. Co. v. Strohon [38]). Because copyright law currently offers such limited rights to modify software, it is a good thing for DoD that it has made modification rights part of the package of minimum rights that it always gets in software.

2.1.2 Getting Adequate Documentation to Make Modifications

Getting adequate software documentation seems to be the major software maintenance/enhancement problem experienced by the Defense Department. Many of the "horror stories" we heard were instances of one of the following sorts:

(a)   not being farsighted enough to ask for delivery of all the documentation needed to enhance or maintain a system (by far the most common and most significant problem);

(b)   not being sufficiently diligent in supervising the delivery of documentation to insure that everything that should have been delivered was, in fact, delivered;

(c)   not supervising the attachment of restrictive notices to software to ensure they were only attached to software wholly developed at private expense;

(d)   not being able to comprehend the documentation delivered because of its complexity or turgidity; or

(e)   companies being unwilling to give their source code to the government at any price or under any conditions.

There was general agreement among DoD persons to whom we spoke that steps needed to be taken to remedy this situation. Some were hopeful that solutions could be devised that would create greater incentives for industry to voluntarily cooperate with DoD in its efforts to get better documentation for maintenance purposes. Some worry that punitive approaches would enhance already strong disincentives to cooperate with the government in this respect.

2.1.3 Getting Sufficient Rights in Software and Documentation to Get Competition as to Software Maintenance and Enhancements

Whether the government can get competition in software maintenance and enhancement contracts seems largely to turn on whether the government has ownership of or unlimited rights in software and its associated documentation, or whether the government has only restricted rights as to the software and limited rights as to the documentation. If the government has ownership or unlimited rights, getting competition in software maintenance/enhancement contracts is said to be easy. If instead the government has only restricted and limited rights, it seems that getting competition is very difficult. Defense Department personnel generally report little success in getting "proprietary" software competitively maintained.

As the DoD regulations are presently written, while DoD virtually always has rights to modify the software, the regulations do not provide DoD with the rights necessary to sublicense the modification right to others. Such a right must be specifically negotiated. That means that getting competition as to maintenance and enhancement of restricted rights software will only be feasible if the software's owner will agree, which he need not. If he will not agree, DoD will either have to do the modifications itself or hire the original firm to do the maintenance on a sole source basis. Because many software companies may wish to have sole source maintenance contracts with DoD, their incentives to agree to competitive maintenance are minimal. The critical point is that the only time there may be any opportunity to get such agreements to allow competitive maintenance is during the original competition when the development contract is let.

2.2 Maintenance Needs for Things Used in Performance of Government Contracts: Software Tools and CAD/CAM Programs

Documentation may not be the only thing which may be needed in order to maintain or enhance software and the systems of which they may be a part. Access to software tools or CAD/CAM programs which a firm may have employed in developing the system may also be needed. Industry is likely to be even more sensitive when the government expresses its interest in obtaining such tools or CAD/CAM systems for maintenance and enhancement purposes than it would be about the government obtaining software documentation, especially if the government seeks to obtain such things for competitive maintenance purposes.

2.2.1 Software Tools

Software tools are a set of programs that may be used to produce other programs. Software tools commonly include editors, compilers, and debuggers, among other things. The application software produced by the tools could be anything from the guidance system of a missile to an inventory control program. Much of the expensive software the government buys is software which is expected to be modified over time. For example, satellite monitoring systems must be revised whenever a new satellite is launched. In order to modify application software in an optimal way --and in some cases, in order to modify it at all -- it may be desirable or necessary to have access to the tools that were used to create the program in the first place. Even if the government's contract officers have the foresight to try to bargain to obtain rights in software tools, the company may be extremely reluctant to grant anyone -- let alone the government (which is widely perceived by industry to be unable to protect commercial secrets) -- to have a copy of the software tools, or even to have access to the tools. A software producer's tools may be perceived to be the major factor in the company's competitive edge in the industry. Parting with them may be a highly charged subject. Indeed, for the government to be able to make any deal to get proprietary software tools is thought a remarkable event.

One potential approach to solving this problem might be for non-governmental third parties to enter into licensing arrangements with the software tool producer (assuming that the company would license anyone) on more restrictive terms than government procurement practices would allow. The government could then allow this third party licensee to do the maintenance/enhancement work. This may not be a solution in all instances, however.

There seems to be a strong preference, if not a clear policy, for DoD to do "organic" maintenance/enhancement work for all weapons system software and weapon related software. We were also frequently told that many companies would not license proprietary software tools to anyone.

Those software tools which companies are likely to be willing to make available to the government with unlimited rights are the older, less valuable technologies. If DoD's priority is to get the best technology, using old tools doesn't seem to be desirable. If DoD's priority is to be able to do all maintenance and enhancement organically or competitively, then having rights to old tools is better than having rights in none.

2.2.2 CAD/CAM Programs

Increasingly, industries are using computer aided design/computer aided manufacturing (CAD/CAM) programs to design and manufacture systems. Most of the examples we heard concerning systems designed for the government with CAD/CAM programs were from the aerospace industry. Because aircraft tend to be rather expensive systems and systems which require more than a modest amount of maintenance and enhancement, both as to software and hardware components, there is growing concern within the Defense Department about getting access to and rights in the CAD/CAM programs used to design the systems in the first place.

These programs may be essential to do maintenance and enhancement work for the system. Chapter 10 discusses the CAD/CAM problem at somewhat greater length, but because the government's need for CAD/CAM programs largely centers on maintenance needs, it seemed necessary to flag the issue in the maintenance section as well.

As with the software tool problem, the CAD/CAM problem is one about which the industry is extremely sensitive, and one for which, as a consequence, it may be difficult to find a compromise solution that will be acceptable to both the government and industry.

2.3 Structural Problems with Getting Delivery of Adequately Supportable Systems

2.3.1 Different Interests of Buyers and Maintainers within the Government

There appear to be some structural problems internal to the Defense Department that may make adequate planning for software maintenance and enhancement difficult to achieve. Major weapons or communication systems acquired by DoD may include complex software components. These systems may also require significant and complex software systems to support the major systems. If the command which purchases the system is not the command which will use, maintain, or enhance the system, it may not be aware of the extent of software documentation that will be needed to use, enhance, or maintain the software, and it may not be as sensitive to the need for supportability software as the using or maintaining command might need it to be. Although there are some structural mechanisms within DoD that are intended to provide opportunities for communications about such matters, they do not seem to be working as successfully as DoD may wish. This is seen by many to be a contributing cause toward the software maintenance and enhancement problems DoD has encountered down the line.

2.3.2 Sole Source Maintenance as a Habit

From procurement personnel's point of view, if a company has built a complex piece of software for DoD, and it's a good piece of software, that company will know that software better and will be able to maintain it better than any other company, even if the other company gets the source code. That software engineering is still in fairly primitive stages as an engineering discipline makes reliance on the original developer to do maintenance work seem the most expedient route to take. The developing company will have a better idea of how to avoid the problems that enhancing software so often creates for another part of code. Theoretically, the developing firm will be able to do the job faster, more reliably, and more cheaply than a competitor. And if it's a good piece of code, then the developing company may be thought to deserve to reap some more rewards for it. Besides, procurement personnel may be wont to think, we already know these guys and they do a good job for us. Quality and quickness count for something; money isn't everything. So why not deal with that company instead of having to go through a long drawn out competition process?

Over time, the original developer may become more and more confident of its position as the sole source for maintenance of software, and may increase the price for its services accordingly. It may be difficult for the government to break away from sole source maintenances no matter what the cost. It should be noted that commercial buyers tend to have similar difficulties in this respect.

2.3.3 Lack of Experience and Training as Contributors to the Problems

If one adds to this set of already described structural disincentives to adequate planning for software maintenance and supportability, the fact that procurement personnel are often not well trained about software, system lifecycles, or data rights, one can see that the structural problems internal to the Defense Department may be significant contributors to software maintenance problems. It takes considerable sophistication and experience with major systems and what it takes to support them to plan ahead for system supportability. Adequate planning may be made additionally difficult because at the time a development contract may be let, the software for the system may not yet be in existence, but only in the preliminary planning stages, and supportability of the software system may not be easily plannable until after the system is more fully developed.

2.3.4 How Internal Structural Problems Work to the Advantage of Industry

It is perhaps an obvious point that the structural problems internal to the Defense Department create opportunities in software maintenance and supportability contexts for industry to charge very large sums of money for work or rights that could have been purchased more cheaply had they been bargained for at the early phases of the contractual arrangement. It is often in the industry's interest to take advantage of these opportunities when they arise.

2.4 Recommendations about How to Plan Better for Maintenance and Enhancement of Software

Although further work could surely be done about the government's software maintenance licensing problems discussed thus far, it is possible to identify some ways in which DoD might improve its approach to solving this class of maintenance/enhancement problems. New regulations won't help much. The best solution to this class of problems is improved planning for maintenance and enhancement of software at the time the contract is made.

2.4.1 Getting Adequate Documentation to Enable Maintenance or Enhancements

(a) DoD would do well to develop a better, more standardized set of specifications about what software documentation must be delivered to DoD and with what rights.

(b) DoD should decide upfront what arrangements the government wants or needs to make about who should do the maintenance or enhancement work. For reasons other than merely cost, the government may need to do the maintenance in-house. How much rights and how much data the government needs from a contractor will in large measure depend on this decision.

(c)   DoD should assess the relative costs of acquiring different levels of rights and of sole source, internal, or competitive maintenance over time so that cost-effective choices can be made upfront. DoD should recognize that sometimes sole source maintenance will be cheaper than acquiring all the rights and data needed to do the maintenance in-house.

(d)   DoD should insist that its procurement personnel involve both the using command and the maintaining command in the supportability planning, perhaps even getting engineers from these latter commands to sign off on the system.

(e)   DoD should train contracting personnel about software life cycle needs, about data rights, and about software documentation as regards supportability needs. (See Chapter 3.)

(f)   DoD should consider entering into escrow arrangements whereby documentation may be placed in the hands of a third party, such that upon the happening of certain contingencies, the documentation will be released to the government for maintenance purposes. This would assure that until the happening of this contingency, the industry's valuable software documentation will be protected from disclosure, while at the same time assuring that the government can get access to it under specified conditions.

2.4.2 Getting Sufficient Rights to Enable Competition for Maintenance

(a)   DoD should recognize that it may be difficult or impossible to compete maintenance and enhancement of software held as a trade secret by its owner. DoD needs to assess, to the extent it can, what the long term maintenance needs and costs are likely to be, taking into account what cost savings may be achievable by competition. It may not be worthwhile to buy rights to compete maintenance.

(b)   DoD's best chance to get competition as to software maintenance will be when it is initially negotiating the system's development contract.

(c)   If DoD decides to try to compete the maintenance, it must recognize that it will need to get upfront:

   (i)   the ability to sublicense its software modification right or a commitment by the contractor to license another company to modify the software;

   (ii)   the ability to sublicense the documentation about the software, or a commitment by the contractor to license the other company to have access to the documentation;

   (iii)   very detailed documentation; and possibly

   (iv)   rights in the software tools, or a commitment from the developing firm to license a competitor's access to the tools.

(d)   It may be desirable for DoD to develop a standard competitive reprocurement or maintenance license provision and clause for the DoD FAR SUPP in order to alert contract officers to the need for and the appropriate manner of obtaining rights for these purposes.

(e)   To be able to maximize the possibility of gaining agreement for competitive maintenance of proprietary software, DoD should be prepared to make arrangements :

>   (i)   either to name who will be the third party maintainer or define what process will be used to qualify a potential third party maintainer; and

>   (ii)   to promise the developer of the software to put the competitive maintainer under a specific set of restrictions (such as those under which the government operates as to that software).

The government might also want to consider naming the original software developer as a third party beneficiary of the agreement between the government and the third party maintainer as to restrictions on rights so that if there is abuse, the developer can sue the maintainer directly.

2.5 Other Legal Issues Relating to Modifications

Although the government clearly has the right to modify software developed at private expense, a number of legal questions have been raised about modifications, some of which derive from the DoD regulations and some from copyright law.

2.5.1 Questions under the DoD FAR SUPP

Unlimited Rights and Derivative Works Rights

An important question that affects its rights to modify and enhance software developed at public expense -- a question to which the DoD regulations give no answer -- is whether the Defense Department has the right to prepare derivative software. The definition of unlimited rights makes no mention of a derivative works right. It should if DoD wants to be sure it has one.

Effect of Modification on Pre-existing Restrictions

If DoD modifies proprietary software in which it has only restricted rights, how does the modification affect the restrictions? The standard data rights clause ([61] sec. 52.227-7013) seems to answer the question somewhat differently, depending on what kind of restricted rights software one is talking about. It provides as to commercial software (or rather to software that a firm has elected to have treated as commercial software) that "unmodified portions [of the restricted rights commercial software] shall remain subject to these restrictions." (See subsection (b)(3)(ii).) Other than commercial software is governed by subsection (b)(3)(i) which refers the reader back to the definition of restricted rights in subsection (a), which in its subsection (4) provides that "those portions of the derivative software incorporating restricted rights software are subject to the same restricted rights."

It may be that the intent of the drafters of this clause was for these two provisions to mean the same thing. If that is so, it is a shame that precisely the same wording wasn't used in both places, for that would remove the potential for ambiguity. If they were intended to mean different things, it is not clear why this would be so. Several lawyers to whom we spoke thought that these provisions were not substantively the same and believed the commercial software provision to be

less generous to industry than the other provision. Others were utterly baffled by this inconsistency.

Restrictions Attaching to Modified Portions

Several lawyers -- some from government, some from industry -- raised the question of how DoD would treat those portions of the software that were modified. Who would "own" the rights in them? What, if any, restrictions might they be subject to? The DoD regulations are not clear about this (except perhaps as to modifications of unlimited rights software, for which DoD FAR SUPP sec. 27.404-1(a)(4) says the government will have unlimited rights to changes in things in which they already have unlimited rights.) In the absence of clear guidance from the regulations, most of those who have thought about the question have assumed that the government would have unlimited rights in all modifications, whether done by the government or a private firm. Because of the problems arising from the copyright retention provisions of the DoD FAR SUPP and because of certain provisions of the copyright law, which may have a bearing on rights in these circumstances, it is not clear that this assumption is entirely correct (see subsection 2.1.2 and Chapter 4).

Duty Not to Prepare Similar Software

The DoD regulations provide that when software has been delivered at private expense and acquired by the government with restricted rights, the associated documentation will not be used to prepare similar software ([61] sec. 27.404-1(e)). Some have thought this may have some limiting effect on the government's rights to modify software.

Reverse Engineering

If the government has not obtained sufficient documentation in software to enable it to modify the software easily and if either there is not time to get the original contractor to modify it, or the contractor wants an unreasonable sum for the modification, government personnel may try to reverse engineer the software to figure out what needs to be fixed.

Reverse engineering will very likely involve making a copy of the program for reverse engineering purposes. An interesting question is whether the making of such a copy is authorized under the restricted rights provisions of the standard data rights clause. Those provisions seem to limit the right to copy software to archival or back up purposes ([61], sec. 52.227-7013(a) and (b)(3)). Of course, the government might argue that since it is often necessary to make a copy of the software in order to be able to figure out how to modify it, it is impliedly within its modification rights. Software firms, of course, might read the provision more literally, and argue that modifying the code is all the government has bought rights to under the data rights clause.

2.5.2 Questions Under Copyright Law

Reverse Engineering

Apart from the DoD regulations, might DoD be able to rely on the copyright law to obtain rights to reverse engineer software? The answer, at least currently, would seem to be it doesn't look so good. A recent software copyright infringement case held that making a copy (including making a core dump of the code into printed I's and O's of a program for reverse engineering purposes) was an infringement of the copyright, notwithstanding that the parties charged with infringement had lawfully obtained a copy of the software (Hubco Data Products Corp. v. Management Assistance, Inc. [31]). While there are some copyright scholars who would argue that reverse engineering ought to be permissible in software cases as a matter of copyright law, this precedent stands for the contrary proposition. Any prudent user of software ought to be aware of the legal risks he or she is taking if any copy of the software is made in the process of reverse engineering the software.

Ownership Rights In Modifications

The unclarity of the DoD regulations about ownership rights and restrictions as to software modifications may mean that if the original software is claimed to be protected under copyright law (even as an unpublished work), it is copyright law that will fill in the gaps. The general principle of copyright law is to assign ownership rights to whoever is the "author" of an "original work." Creation of a derivative work may involve original authorship. (Even an edited work will involve the editor's judgment about what to include and what to leave out. Even the translation of a book from one language to another involves selecting this adjective instead of its synonym for incorporation into the translation.) Modifications of software are derivative works that may qualify for some copyright protection.

However, unless one has the permission of a copyright owner from whose work one's own work derives to make such a derivative work, one infringes the copyright. If the original author has given a second author only limited permission to make the derivative work (e.g., only for a particular purpose) the latter's ownership rights may be curtailed to that extent. As Chapter 4 explains, copyright protection will not be afforded to any unauthorized derivative work to the extent it incorporates the original work's expression. It will also not be given to a derivative work authorized for a limited purpose and then used beyond the original purpose ([59] sec. 103(a)). (See also Chapter 7 for an elaboration on this point.)

It is probably also worth mentioning that the government would not likely be free from obligations to the owner of proprietary software simply because at some point the government's enhancements would be substantial enough to make the proprietary software unrecognizable.

To the extent that the government has a firm other than the copyright owner do maintenance or enhancement work for it, the government ought to recognize that the maintenance/enhancement firm may claim rights to the enhancements (It may even deliver the enhanced version with its copyright notice) but the viability of these rights claims would be limited by the scope of authorization DoD has from the original contractor.

2.6 Other Software Maintenance/Enhancement Licensing Problems

2.6.1 Effect on Warranties When Software Is Modified

Much of the software available commercially, and much of the software developed for DoD, is unwarranted software, that is, software delivered under contracts which disclaim liability for defects. One DoD lawyer complained to us that often the nearest thing to a warranty the government can negotiate for as to software is a promise from the contractor to take a look at the software and try to fix it if problems later arise. Increasingly, however, the government has been able to negotiate warranties for software systems, and perceives itself to need warranties. As reluctant as firms may be to warrant software, their willingness to negotiate warranties may depend on whether they will get the contract to do all the maintenance/enhancement work or whether the government plans to do the maintenance itself or compete the maintenance. Because enhancements to software will sometimes adversely affect the functioning of the unmodified portions of the code, software producers have legitimate concerns about what might be done to any software they have warranted, but which they are precluded from maintaining. In making licensing arrangements, the government may have to trade getting a warranty in software for getting maintenance competition. Indeed, a contractor will generally include a clause providing that modifications to the software will void the warranty.

2.6.2 Configuration Management

The Air Force, in particular, reports having some difficulty in managing the large volume of information about software and all its many versions that may be necessary to have in order to do maintenance/enhancement work organically or to contract out for such services. This seems to be due, in part, to resource constraints (personnel, expertise, and equipment) and in part, to having "old" information. Delays caused by bureaucratic procedures that must be followed to accomplish a change in the configuration are reportedly also a serious problem. Sometimes, Air Force personnel said, the Air Force takes delivery of software documentation at an early stage, following which some substantial modifications of the software are be made by the developer, about which the government may not have or get full documentation. In some cases, we were told, this was a problem of not having arranged for delivery of later developed material, and in some cases, of not following up on getting delivery of the needed material. Several of the Air Force people with whom we spoke about this matter favored the idea of having the developer do configuration management for Air Force software on the theory that it would be done better by industry than by the government.

2.6.3 Insertion of Proprietary Modules Into Unlimited Rights Software

We were told that firms that do software enhancement work on software in which DoD has unlimited rights have on occasion delivered back to the government software into which the companies have inserted proprietary modules.

2.6.4 Use of Unusual Computer Languages or Equipment to Get into Sole Source Maintenance Arrangements

We heard of several examples of contractors using nonstandard programming languages and equipment to prepare software for delivery to the government. DoD personnel to whom we spoke seemed to believe that a primary motivation for this was in order to facilitate being in a sole source maintenance position.

2.6.5 Indemnification if Third Party Software Maintainer Abuses Rights

Many government lawyers were very concerned about whether the government would be liable if a firm to whom the government provided proprietary software and its associated documentation for the limited purpose of doing maintenance or enhancement work abused the right to have this material, for example, using it to prepare a competitive product. Some persons in the Defense Department believed it appropriate for the government to assume responsibility for this. Others were adamant that the government should not be liable.

3. The Need for Better Training about Software, Data Rights, and Intellectual Property Law

Chapter 1 has elucidated the many complexities that the Defense Department's standard data rights policy entails, as well as the necessary and complex interaction of intellectual property law and the data rights regulations. Chapter 2 has observed that software development contracts involve acquiring not only rights in software, but acquiring a substantial volume of documentation that may be needed to maintain or enhance the software. To do this job well, DoD's procurement personnel need to have considerable expertise about software as a technology, about software life cycles, about the supportability needs of software systems, and about the complex data rights provisions. Although our investigation taught us that DoD has many dedicated and intelligent procurement officers, it also taught us that, by and large, DoD's procurement personnel felt that they would greatly benefit by more training about software and about data rights. Many DoD lawyers who have been working in the patent and technical data rights areas could also benefit from broadening their intellectual property expertise to include copyright, trade secret, and chip protection.

3.1 Procurement Personnel Need Training

SLP investigators interviewed many individuals whose job included acquiring software for the government. Those with whom we spoke typically exhibited a dedication and loyalty to their position; they seemed to sincerely want to do a good job. Our conclusion is that DoD already possesses the most important resource needed for a good procurement process — good people. The DoD could, however, benefit from better development of that resource.

3.1.1 Acquiring Software, Technical Documentation and Data Rights Is a Complicated Process

The process of procuring a system is extremely complex and, at times, confusing. The contracting people must have a grasp of and be able to deal effectively with both complicated procurement regulations and sophisticated technology. The procurement personnel must concern themselves not only with the actual physical procurement of items such as software, but also must obtain sufficient technical data as well as rights in the data and the software in order to allow maintenance and enhancement of the system, and of the software on which the system is likely to be dependent. Adequate assessment of one's needs with regard to documentation and data rights requires at least a basic understanding of the technology to be acquired, including some knowledge of software life cycles.

To further complicate matters, the negotiations regarding the software, technical data and rights thereto will often occur prior to or simultaneously with the actual development of the software, and the data which explains the software. A particular piece of software will often be a small, but vital

component to be embedded within a sophisticated system. In procuring the larger, more complex system, the procurement personnel must deal with many smaller components, any one of which, while it may seem but a minor element in the overall picture, may effectively cripple the system if the technical data and rights that have been acquired prove to be insufficient to implement, maintain and/or enhance the component or product.

Moreover, this procurement process often takes place in the context of strong pressure on contracting personnel to "field" the system as fast as possible, and within tight budget constraints. The procurement person knows that his or her performance will be judged on the basis of how quickly, and often how cheaply, the system goes from inception to fielding, not on how well the system is supported by needed documentation and data rights. As one contracting individual informed us, "If there's a delay in the fielding of a system I am responsible for procuring and I say it's because I'm negotiating over data rights or technical documentation which will be needed for maintenance and enhancement, I'm going to be gone in a hurry."

3.1.2 Procurement Personnel Do Not Generally Understand Software As a Technology or Data Rights

Procurement personnel with whom we spoke often indicated to us that they felt that their understanding of software as a technology was insufficient to allow them to make procurements in an optimal way. Moreover, many of these individuals informed us that their lack of understanding of the technology that they must acquire inhibits their ability to apply the software/data rights procurement regulations. In talking with these individuals, we noted that they sometimes had difficulty responding to questions which required some understanding of software technology.

Further, virtually all of the contracting people we talked with informed us that they do not have sufficient knowledge of software and data rights to enable them to value one package of rights as opposed to another. That is, procurement personnel seem not to understand how the range of potential limitations on software or data rights may affect the value of the product being acquired. A lack of valuation ability may place the government at a disadvantage in any negotiation involving limited or restricted rights packages. It is difficult to effectively negotiate a price for a particular package of rights if one cannot gauge the value of that package as opposed to another. It seems like trying to buy a plane when one does not know what a plane actually does. Without such knowledge, it is impossible to determine the value of the product.

Similarly, because the procurement people seem not to fully understand the technology which they are purchasing, they may not fully understand the application of the procurement regulations regarding software and data rights to the acquisition of that technology. They also may not realize the extend of discretion afforded them under those regulations. They may not realize that the regulations allow them to structure licensing agreements which could, in effect, serve as middle ground alternatives to the traditional extreme categories of unlimited and limited or restricted rights. Again, it is difficult to negotiate effectively when one does not understand the range of freedom one is permitted to exercise in those negotiations.

If contracting personnel lack an understanding about the technology they are purchasing, they may ask for much more in the way of technical documentation, data rights and software tools than is actually needed to maintain and/or enhance the system. The same is true if they do not understand the life cycle of the software they are acquiring, or what information, rights, and tools will be needed in order to maintain and enhance the system properly throughout its life cycle. As a result, RFPs are said to be vaguely worded about maintenance, and contracting people may ask for more than would be necessary to support the system.

Industry people with whom we have spoken have indicated to us that if DoD contracting personnel were better able to articulate why they need certain documentation, rights or tools in order to support a system, they (industry) would be more willing to provide that which has been requested. As stated in the "Report of the Rights in Data Technical Working Group (RTDWG) Volume II: Supporting Data [13] (a report prepared under the auspices of the Institute for Defense Analysis for the Office of the Under Secretary of Defense for Research and Engineering, and released January 23, 1984), the government needs to

> . . . identify what this equipment is going to do, what the system is going to be, and what its life cycle is going to be and that will give the contractor a warmer feeling that the Government has really done its homework instead of just going out on a fishing trip for all of the data rights, because they really don't know what they want. Report at 211-212.

As long as DoD contracting personnel are unable to specify their needs as to technical documentation, data rights and software tools, it seems likely that industry people will regard DoD's expansive but vague claims of need as an indication that the government has simply not done its "homework" and does not really know what it wants, and will regard such claims with suspicion.

A report prepared by the OSD Technical Data Rights Study Group [11] released June 22, 1984, specifically noted the need for additional training of DoD procurement personnel in the area of technical data rights. This report, prepared by a study group panel which included representatives of the Air Force, Army and Navy, noted that "[c]urrently, training is minimal and there is no requirement to attend mandatory training in the data rights area. Consequently, personnel are not generally conversant with policies, procedures and clauses regarding application of rights in technical data." See "Who Should Own Data Rights: Government or Industry? Seeking a Balance" at 42. The OSD Study Group went on to recommend that OSD "coordinate the development of a comprehensive training program in the area of technical data rights" for DoD contracting personnel. Another OSD report, entitled "DoD Acquisition Improvement - The Challenges Ahead: Perspectives of the Assistant Secretary of Defense for Acquisition and Logistics" (WadeReport, released November 5, 1985) noted this same concern and suggested even more far-reaching changes with respect to the DoD acquisition and logistics work force ([4] at 6-16).

3.1.3 Need for a Feedback Mechanism

Upon the fielding of a system, responsibility for that system passes from one command to another. As a result, the people who must deal with maintenance and enhancement problems which arise due to inadequate acquisition of documentation and/or data rights are different than the people who originally procured the system and supporting material. In other words, the people who failed to get adequate documentation and rights do not have to deal with the subsequent problems which their lack of foresight have occasioned. Moreover, it appears that no mechanism exists whereby the procurement personnel are made aware of the problems occasioned by their failure to acquire certain documentation and/or rights. Without such feedback, it seems unlikely that the procurement people will have the incentive, or for that matter the knowledge, necessary to cause them to confront this problem.

3.1.4 Industry Can Be Expected to Exploit DoD Weaknesses

It can also be expected that industry will exploit the weaknesses in DoD procurement practices. If DoD contracting personnel do not understand the product they are purchasing, and make broad vague requests for rights and documentation in RFP's, then it seems likely that industry will sell the government those rights and that documentation which industry is willing to part with, whether the government really needs it or not. In a sense, that is simply good business. If the government tells you it wants to buy your product and is willing to meet your price, why not sell it to them. If the government later finds it really didn't need the product, or that it was not as valuable to the government as it originally thought, it is really the government's own fault for not having done its "homework."

3.2 Preparation of Procurement Personnel for Their Role in System Acquisition

3.2.1 Background from Which Procurement Personnel Come to the Job

Our research indicates that procurement personnel come from a variety of academic and professional backgrounds, often unrelated to the type of work they will be doing as a contracting representative for the government. Very few have any background in technically oriented fields, such as engineering, which would aid them in understanding the technology involved in the systems they are charged with acquiring. An almost universal response of those with whom we spoke, a group which included procurement personnel, engineers, and attorneys, was that some understanding of the technology involved in the system --- especially with regard to software, technical documentation, life cycle concerns, and data rights --- would be very helpful to the procurement personnel in the performance of their mission. It was as widely acknowledged that such knowledge is, at this time, lacking.

3.2.2 Initial Training Received by Procurement Personnel Does Not Prepare Them to Deal with Software/Data Rights Acquisitions

Currently, it appears that procurement personnel receive no initial training as to the technology involved in software, technical documentation, and data rights which they are charged with acquiring; nor do they receive any training which would enable them to understand life cycle concerns which are so important in this area. Consequently, the software/data rights area is an area of weakness with regard to DoD procurement practices.

The contracting personnel with whom we have spoken identified this deficiency as a major flaw in their preparation for the role in which they function. Indeed, the people we spoke with indicated that, with the exception of a few initial courses covering areas such as basic contract law and procurement management, almost all of the preparation they have received for the work they do has been in the form of on the job training.

3.2.3 Supervision and on the Job Training of Contracting Personnel Has Been Weak in Recent Years Due to a Shortage of Experienced Personnel in This Area

Procurement personnel normally work their way up through the ranks. (Division Chiefs were at one time Contract Officers, Contract Officers began as Contract Negotiators, and so on.) Supervisory personnel thus understand the job of those they supervise, and have the knowledge necessary to assist them. Thus, on the job training plays an important role in the development of the procurement officer's skills. There has, however, reportedly been a decline in the number of experienced procurement personnel on the job for the DoD. In one command, we were told, fifty-five per cent of the procurement people were inexperienced. The more inexperienced the staff, the less efficient will be the on-the-job training.

3.3 Ongoing Training of Procurement Personnel

3.3.1 Current Status of Ongoing Training

Our research found that procurement personnel typically do receive some form of ongoing training, a kind of continuing education or in-service training. This ongoing training, generally provided on a monthly basis, has, however, tended to focus on what one contracting person referred to as current "hot issues." For example, the emphasis of sessions during our interview period had been on the Competition in Contracting Act, particularly what it means to procurement personnel. Software and data rights issues, we were told, have tended to be overlooked in such training.

3.3.2 Thoughts of Procurement Personnel Regarding Ongoing Training Needs

Procurement personnel with whom we spoke generally felt that some form of training in the areas of software and data rights would be very useful for them. Most expressed the view that some background in these areas would give them a greater feeling of confidence in their ability to effectively negotiate for and purchase such products. Further, the people with whom we have spoken have often expressed the view that such training should include some coverage of the regulations (FAR and DoD FAR SUPP) which cover software and data rights procurement issues. Many of the individuals who must work with and within these regulations find them to be confusing, and therefore feel that some explanation of their function and purpose would be helpful.

While those we have spoken with have expressed differing views on the structure a course on software and data rights issues should take, most have felt that a two day seminar format would be most appropriate. A common complaint about training attempts in other areas was that too often there has been too much material crammed into a few short hours of time, with the result that the participants took little useful information away from the course. Many felt a two or three day format was the optimal blend --- allowing enough time for some in depth coverage of a subject, but not so long that people lost interest. Most of the people with whom we spoke were concerned that if an effort was undertaken to provide training as to software and data rights, the course should be relatively substantive in nature, not, as one contracting person we spoke with put it, "a summary of the fact that we have problems."

Other suggestions included that the course be developed and implemented by an outside consultant so as to provide a more objective view of some of the controversial issues which arise when discussing software and data rights issues. It was also suggested that such a course could then be presented at various bases.

3.4 The Need for More Specialization and Broader Expertise by DoD Lawyers

DoD has some very fine and experienced patent and technical data rights lawyers. These are the people who tend to advise DoD about software intellectual property matters. Unfortunately, sometimes these lawyers do not have as much expertise in the areas of copyright, trade secret, trademark, and chip protection laws, all of which are now necessary to provide comprehensive legal guidance in software acquisition matters. Copyright law differs from patent law in a number of important respects. (The government, for example, can own patents but not copyrights directly.) DoD should encourage more specialization on software intellectual property matters as well as a broadened approach to understanding software legal protection by its lawyers.

3.5 Recommendations

1. Develop and implement a training program regarding software and data rights acquisition for procurement personnel, as previously recommended by the OSD Study Group. Such training might be done in a two to three day seminar format which could be presented periodically at