EXCHANGE OF TECHNICAL DATA IN GOVERNMENT RESEARCH AND DEVELOPMENT CONTRACTS

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Scientific research and development is big business—and what may be more important, it is rapidly becoming government business. Federally financed research and development has been increasing at an astounding rate and has been estimated to surpass twelve billion dollars annually.¹ Expenditure of eighty per cent of the federal research and development budget through non-federal institutions² has fashioned a kind of partnership where the government through the mechanism of a government contract or grant has enlisted the technical and management competence of non-federal institutions.³ In a generic sense the process is rather redundantly called “contracting-out” and has been defined by one writer⁴ as “the transfer of responsibility for the performance of desired functions, mostly of a personal service (i.e., administrative) nature, to private institutions.” However, “contracting-out” may take a variety of forms and may cover much more than administrative functions.⁵ Some commonly used expressions which fall under the generic term “contracting-out” are “weapon system procurement,” “management-operation” contracts and “associate contract procurement.” It is the purpose of this essay to explore the impact which the contracting-out of research and development programs has upon property rights of government contractors with respect to technical data and to suggest an approach to a solution of a growing problem concerning the acquisition and use of technical data by the government. But before doing so it will be useful to describe in some detail certain of the practices which have evolved.

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The views expressed herein are personal to the writer and do not necessarily reflect the official views of any government agency.


²Id. at vii.


⁴Id. at 968.

Weapon System Procurement

Weapon system procurement has been examined before but some re-traversing of the terrain may be desirable in order to provide a background for what follows. A weapon system is a total entity consisting of an instrument of combat, such as a bomber or an intercontinental ballistic missile, together with all related equipment, supporting facilities, services, and trained personnel required to bring the instrument upon its target or to the place where it carries out the function for which it was built. Development, production, and employment of a weapon system almost invariably involves many military and industrial activities.

Under a weapon system contract the management responsibility for overall design, development, and performance is delegated to the contractor and the contracting agency retains only a veto power over contractor decisions. The contractor assumes the role of an indispensable arm of the government department involved. Weapon system procurement has been defended inter alia on grounds of (1) an evolution in complexity of weapons and (2) insufficient government personnel qualified to manage a completely integrated development.

It has been criticized as involving an unwarranted delegation of governmental authority, lacking in competition and possibly without legal authority. Under the views expressed in some of the older Comptroller General decisions the “policy” of contracting to such an extent might give pause to the wary; however, such doubts seem unlikely to interfere with the procurement method in view of its evident effectiveness and cognizance by Congress.

II

Associate Contract Procurement

Another variation of the contracting-out technique is technical management contracting, sometimes called “associate contractor” procurement. Perhaps the most publicized of this type arrangement is the relationship between the Air Force and Space Technology Laboratory (STL) and later Aerospace Corporation.

following excerpt from a “Survey of Certain Aspects of the Ballistic Missile Program of the Department of the Air Force” succinctly illustrates the difference in concepts between weapon system procurement and associate contract procurement: 16

... The research and development and production phases of the Air Force ballistic missile program are conducted by the associate contract method of procurement. Under this method of procurement, each of several contractors holds a prime contract with the Air Force to accomplish a major subsystem or portion of the weapon systems such as (1) weapon systems engineering and technical direction, (2) airframe and missile assembly, (3) propulsion, (4) guidance, (5) re-entry vehicle.

If an Air Force ballistic missile program were conducted under a single prime weapon systems contract, the functions of weapon systems engineering and technical direction would normally be assigned to the weapons system contractor and other functions would usually be performed either by the weapons system contractor or by a subcontractor responsible to him. ...

The other associate contractors responsible for development and production of “hardware” are contractually required to look to STL for systems engineering and technical direction in the same manner as a subcontractor looks to a weapons system prime contractor for the same functions. Important differences are that (1) no contract exists between STL and the other associate contractors, and (2) STL may not produce any of the missile hardware for these programs under its direction.

III

Recommendations of the Bell Report17

In April 1962, in response to a request from President Kennedy, the Bureau of the Budget submitted a Report on Government Contracting for Research and Development. While the Report contains a wealth of material of general interest, the following conclusions are pertinent to this discussion:

Rep. No. 1121, supra, at 55, reflects Air Force thinking: “In the case of the Air Force, it is generally true we do not go to the other service laboratories. We know what they are doing, but our development, our whole philosophy, has been one of going to industry and having industry develop and produce for us.”

As developed by the Staff of Subcommittee on Manpower Utilization of the House Committee on Post Office and Civil Service, 86th Cong., 2d Sess., and by the Comptroller General of the United States 36 (Comm. Print 1960).

10 The prohibition against the production of hardware as a government policy will be discussed later in this paper.

16 Bell Report, op. cit. supra note 1.
17 While the President’s letter was addressed to Honorable David E. Bell, then Director, Bureau of the Budget, it also stated, in part: “... I am requesting the following officials to participate in the study: the Secretary of Defense, the Chairman of the Atomic Energy Commission, the Chairman of the U.S. Civil Service Commission, the Administrator of the National Aeronautics and Space Administration, and the Special Assistant to the President for Science and Technology.” The signatories to the Report included the distinguished officials noted as well as Dr. Alan T. Waterman, Director, National Science Foundation.
I. . . . [I]t is our fundamental conclusion that it is in the national interest for the government to continue to rely heavily on contracts with non-federal institutions to accomplish scientific and technical work needed for public purposes. A partnership among public and private agencies is the best way in our society to enlist the nation's resources and achieve the most rapid progress.

. . . .

3. . . . [T]he rapid expansion of the use of government contracts, in a field where 25 years ago they were relatively rare, has brought to the fore a number of different types of possible conflicts of interest, and these should be avoided in assigning research and development work. . . . Some . . . standards are now widely accepted—for example, the undesirability of permitting a firm which holds a contract for technical advisory services to seek a contract to develop or to supply any major item with respect to which the firm has advised the government. . . .

IV

TECHNICAL DATA AND KNOW-HOW

Research, development, and the production of complex systems require "know-how"—i.e., the quality of knowing how the job should be done. Acquisition by the government of contractors' manufacturing know-how has been a rather continual source of disagreement between the "partners" for years and in all likelihood will not be solved to the satisfaction of all concerned for some time to come.20

From a substantive legal standpoint, manufacturing know-how, depending on its particular nature, may be susceptible of protection under the patent law,21 the copyright law22 or under the common law of trade secrets.23 This article will not deal with patent policy considerations24 but will discuss government25 requirements for the delivery of technical data under research and development contracts.20

V

DATA IN GOVERNMENT RESEARCH AND DEVELOPMENT CONTRACTS

"'Data' means writings, sound recordings, pictorial reproductions, drawings, or other graphic representations and works of any similar nature whether or not copyrighted. The term does not include financial reports, cost analyses, and other information incidental to contract administration."27 Crucial to an understanding of

20 See R&D CONTRACTING, op. cit. supra note 19, at 204.
21 Title 35, U.S. Code.
22 Title 17, U.S. Code.
25 The discussion in this paper of government policy is intended to apply only to the Department of Defense (DOD) and the National Aeronautics and Space Administration (NASA), which also generally follows the Armed Services Procurement Regulation (ASPR).
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the Armed Services Procurement Regulation (ASPR) is the realization that by data is meant the tangible medium on which some information is recorded, e.g., manufacturing drawings. Of course, the data is important chiefly because of the information it contains, but nevertheless the government does not normally undertake to protect the intangible information.\textsuperscript{28}

Under ASPR, data may be either "proprietary data"\textsuperscript{29} or "other data."\textsuperscript{30}

About these definitions and their genesis the Comptroller General has had this to say:\textsuperscript{31}

In essence, these definitions have reference, in law, to trade secrets which the courts have recognized as a form of property right so long as they are protected by the owner from public knowledge or are disclosed only in confidence. The wrongful taking of the trade secret is an actionable tort as between private persons. \textit{Restatement, Torts} §757 (1939); Colgate-Palmolive Company v. Carter (230 F.2d 855); E. I. Du Pont de Nemours Powder Co. v. Masland (244 U.S. 100). However, where the trade secret is lawfully acquired, it may be used in any way unless disclosure is specifically restricted (170 A.L.R. 467). Hence, where the Government obtains information under the terms of a contract, possession is lawful, and subsequent misuse cannot be tortious; instead, relief, if any must be predicated on breach of contract. . . .\textsuperscript{32}

In a research and development contract,\textsuperscript{33} the government normally requires, for the price of the work, all data resulting directly from performance of the contract whether or not it would otherwise be proprietary data.\textsuperscript{34} In addition, all data necessary to enable reproduction of the items being developed must also be furnished,\textsuperscript{35} subject to two exceptions\textsuperscript{36} and one qualification.\textsuperscript{37} Unlimited rights

\begin{itemize}
\item \textsuperscript{28} Harris, \textit{Trade Secrets as They Affect the Government}, 18 Bus. Law. 613, 614 (1963).
\item \textsuperscript{29} ASPR 9-201(b) provides: "'Proprietary data' means data providing information concerning the details of a contractor's secrets of manufacture, such as may be contained in but not limited to his manufacturing methods or processes, treatment and chemical composition of materials, plant layout and tooling, to the extent that such information is not disclosed by inspection or analysis of the product itself and to the extent that the contractor has protected such information from unrestricted use by others." C.F.R. § 9.201(b) (1963).
\item \textsuperscript{30} "'Other data' means all data other than 'proprietary data' and includes:
\begin{enumerate}
\item operational data which provides information suitable among other things for instruction, operation, maintenance, evaluation or testing; and
\item descriptive data which provides descriptive or design drawings or descriptive material in the nature of design specifications which, although not including any 'proprietary data,' may nevertheless be adequate to permit manufacture by other competent firms." ASPR 9-201(c), 32 C.F.R. § 9.201(c) (1963).
\item \textsuperscript{31} \textit{Hearings on Proprietary Rights and Data Before Subcommittee No. 2 of the House Select Committee on Small Business}, 86th Cong. 2d Sess. 18 (1960) [hereinafter cited as 1960 \textit{Hearings}], Appendix 9, at 206.
\item \textsuperscript{32} See Munves, \textit{supra} note 26, at 158-68.
\item \textsuperscript{33} A contract, for the purposes of data acquisition and use, is a research and development contract if it has as one of its principal purposes experimental, developmental, or research work and also calls for models of equipment or practical processes. ASPR 9-202.1(c), 32 C.F.R. § 9.202.1(c) (1963).
\item \textsuperscript{34} \textit{Ibid}.
\item \textsuperscript{35} \textit{Ibid}.
\item \textsuperscript{36} ASPR 9-202.1(c) establishes the following exceptions to the requirement that data be furnished which is necessary to enable reproduction of the equipment or performance of the process developed under the contract:
\begin{enumerate}
\item such data shall not be required for standard commercial items to be furnished under the contract and to be incorporated as component parts in or to be used with the product or process being
\end{enumerate}
\end{itemize}
in the data are normally required by the government. Assuming the parties can agree on what data "results" directly from performance of the contract the first sentence of the policy statement is generally acceptable to industry. The second part of the policy requirement, relating to data necessary to enable reproduction, is more troublesome. No attempt will be made to explore herein the long-standing disagreement between the government and industry concerning the government's need for manufacturing rights in proprietary data or the merits of the respective positions of the parties since this has been ably done before in numerous articles.

It is sufficient for present purposes to observe that data is extremely important to both parties to a government contract. Data, particularly proprietary data, is very important to the government, not only for purposes of maintenance, repair, standardization and cataloging but also for reprocurement purposes. The lack of complete data is a principal cause for noncompetitive or sole source procurement and there is, therefore, constant pressure on the part of procurement agencies to obtain manufacturing data from their development contractors.

On the other hand, industrial know-how as embodied in data may be the life blood of a particular business. From an economic standpoint it represents a competitive advantage which is vital to business for both government and commercial applications. Unhappily, the frailty of the trade secret property in the data requires secrecy or a restricted disclosure under a contractual undertaking to preserve its efficacy. Once it gets out—one can't "unring" the bell! Therefore, the delivery of data to the government represents a risk of loss of this competitive advantage, not so much because the government itself will use it, but rather because the government developed if in lieu thereof the contractor shall furnish identification of source and characteristics (including performance specifications, when necessary) sufficient to enable the Government to practice the process or to procure the part or an adequate substitute; and

"(ii) 'proprietary data' shall not be required for other items, including minor modifications thereof, which were developed at private expense and previously sold or offered for sale and which are to be incorporated as component parts in or to be used with the product or process being developed, if in lieu thereof the contractor shall identify such other items and that 'proprietary data' pertaining thereto which is necessary to enable reproduction or manufacture of the item or performance of the process."


ASPR 9-202(c) permits payment for certain previously developed proprietary data of the contractor, if it is necessary to permit manufacture of the item or performance of the process being developed, the government does not enjoy unlimited rights therein, and the contractor's claim is made during the negotiation preceding contract execution. 32 C.F.R. § 9.202(c) (1961).

1960 Hearings, supra note 31, at 121.


Statement of G. C. Bannerman, Director of Procurement Policy, Office of the Assistant Secretary of Defense (Supply and Logistics), 1960 Hearings, supra note 31, at 122.

Hearings on Sole Source Procurement Before the Subcommittee for Special Investigations of the House Committee on Armed Services, 87th Cong., 1st Sess. 21-22 (1961).

1960 Hearings, supra note 31, at 123.

R&D Contracting, op. cit. supra note 19, at 204.
ment has exhibited a predilection to broadcast the data and the information it contains in an attempt to secure reasonable prices through competition.\textsuperscript{45}

VI

\textbf{CONTRACTING-OUT AGGRAVATES THE DATA CONTROVERSY}

Heretofore, prime contractor-subcontractor disputes regarding the acquisition of subcontractor-originated manufacturing data by the prime have constituted one of the more heated areas of disagreement concerning the ASPR data policy.\textsuperscript{46} And, while the sensitivity of the controversy remains, a new irritant has been added. By contracting-out overall responsibility for the design, development, integration and check out of an entire system or program (hereinafter collectively termed technical management), the government has placed the technical management contractor in a position where he must acquire and \textit{use} data originated by others because he assumes responsibility for the complete design, integration and operation of a system containing components and subsystems made by other prime contractors and subcontractors. For instance, in the ballistic missile program, where the Air Force assigned broad technical management functions to STL,\textsuperscript{47} the following finding was made:\textsuperscript{48}

Industry, too, was becoming restive. The contractors subject to STL’s direction did not relish that group’s access to their technical data and its position of advantage in carrying on long-range weapon and space studies and experimental projects for the Air Force. Nor were the contractors impressed by the temporary hardware ban imposed on Ramo-Wooldridge. They looked forward apprehensively to the day when, heavily armed with technical knowledge and equipment, Ramo-Wooldridge would offer formidable competition in the industrial arena.

VII

\textbf{THE HARDWARE BAN}

One government reaction to organizational conflicts of interest, such as may be inherent when technical management is contracted-out, is to impose a ban on procurement from the contractor receiving the technical data. The Air Force included in its original letter contract and the definitized version, AF-1190, with Ramo-Wooldridge the following clause:

\textsuperscript{46} See 1960 Hearings, supra note 31, at 157.
\textsuperscript{47} \textit{Staff of Subcomm. on Manpower Utilization}, \textit{op. cit. supra}, note 15, at 37. A few of the functions were:

\textit{“(a) Preparation of subsystem work statements and general specifications for propulsion, guidance, airframe, ground support equipment, re-entry vehicles, and so on. . . .

(b) Establishing and maintaining control of specific technical interface specifications. . . .

(c) System and subsystem analysis . . . as necessary to carry out systems engineering . . . .

(d) Specific technical direction of all associate contractors to insure their efforts meet the specifications . . . .”}

The contractor agrees that due to its unique position in the administration and supervision of the program contemplated hereunder, The Ramo-Wooldridge Corp. will not engage in the physical development or production of any components for use in the ICBM contemplated herein except with the express approval of the Assistant Secretary of the Air Force (Material) or his authorized representative.49

This notion of restricting procurement from the contractor having access to technical data of other contractors shows promise of emerging as rather fundamental government policy to offset organizational conflicts of interest arising from contracting for research and development. It has been used by NASA60 as well as the Air Force and, as already noted, it forms one of the basic conclusions of the Bell Report, quoted above. More recent than any of the above, however, the principle of restricting later procurement appears as the cornerstone of the Department of Defense “Rules for Avoidance of Organizational Conflicts of Interest,” DOD Inst. 5500.10 of June 1963.

VIII

RULE FOUR OF DEPARTMENT OF DEFENSE INSTRUCTION 5500.10

Of perhaps most pertinence to a discussion of the exchange of technical data in government contracting is the following rule of the DOD regulation:

4. If a contractor agrees to conduct studies or provide advice concerning a system, which work requires access to proprietary data of other companies, the contractor must agree with such companies to protect such data from unauthorized use or disclosure so long as it remains proprietary. In addition, the contractor shall not be permitted to utilize the data in supplying the system, or components thereof, procured, either by formal advertising or negotiation, as a direct result of that study or advice, or in performing for the Department of Defense additional studies in the same field which are obtained competitively.61

Broadly stated, the rule contemplates two safeguards, namely, (1) an agreement between the originator of the data and the recipient to “protect” the data; and (2) a restriction on future departmental procurement from the recipient. Rule Four

49 H.R. REP. No. 1121, op. cit. supra note 5, at 89.
50 Johnson, supra note 5, at 759.
61 The following material immediately follows Rule 4 in DOD Inst. 5500.10: “Explanation: Proprietary data is information considered so valuable by its owners that it is held secret by them and their licensees. Where a contractor must obtain such data from others for purposes of the study, and can obtain it by the leverage of the Department of Defense contract, he will gain an advantage over other companies unless there are restrictions upon his use of the data. Such restrictions are necessary both to protect the data, and to encourage companies to furnish it to contractors for the necessary performance of the Department of Defense contract. The rule is not intended to protect proprietary data furnished voluntarily by companies without limitations as to use, or data which falls into the public domain.

Example A: Company A is selected to study the use of lasers in military communications. The Department of Defense will request that firms doing research in the field make proprietary data available to A. In order to receive the contract, A must agree with such firms to protect any proprietary data it obtains, so long as it remains proprietary, and shall not be permitted to utilize the data in supplying any lasers to the Department of Defense. Furthermore, while A could not receive a competitively awarded contract to perform additional studies of lasers using such data, it may receive a sole source contract for such studies.”
represents a significant beginning to a solution of the problem but may not provide
eough detailed guidance or protection to data originators to insure the ready
interchange of data in a large research and development program.

As may be apparent to the reader, the second aspect of the policy—the restriction
on later procurement from the technical management contractor—is difficult to
administer, especially where industrial contractors are concerned. This is because
of the likelihood that an industrial contractor will be most qualified for technical
management in its own commercial field. If, by taking a contract for technical
management, the contractor will be barred from more profitable production orders,
he simply cannot afford to perform technical management for the government.62
On the other hand, if the procurement bar is very temporary or not restrictive
enough in its application, the policy may well fail to allay the fears of the data
originators that they are assisting to set up another competitor.

It is, of course, possible for the government to refuse to employ industrial
concerns in technical management roles and to rely instead on nonprofit corpora-
tions or even to create government institutes53 for technical management functions.
Nonetheless, from other indications54 it does not appear that the trend is in that
direction, at least at present.

The first safeguard contemplated may also prove troublesome in its application
to large research and development programs, since the technical management con-
tractor may meet considerable difficulty in negotiating agreements with all the
associated contractors whose proprietary data might be required within any time
frame acceptable to the government. Moreover, if such agreements are consummated,
the government will presumably be paying for the exchange of data as costs under
the contracts involved, and the agreements may not be acceptable to the government
as negotiated by the parties.

IX

Multi-Party Contracting—A Proposal

Since it is evident that the contracting-out of technical management of large
research and development programs by the government is likely to continue55 in the

62 See Homann, supra note 6, at 416 n.40, where the following statement is attributed to Dr.
Wooldridge: "You can't make any money on systems management—you get twice as much profit on
machinist's work as on the cerebrations of a physics Ph.D."
63 Bell Report, op. cit. supra note 7, at 24.
64 DOD Inst. 5500.10 of June 1, 1963, states in pertinent part: "... [T]he rules do not deal
with the criteria for the creation of additional government-sponsored nonprofit organizations in this
category. It is the policy of the Department of Defense that such organizations are created only under
extraordinary circumstances, when private resources are not available to accomplish a necessary objective
beyond the scope of in-house capabilities. ..." See also the following statement by John H. Rubel,
Assistant Secretary of Defense, Research and Engineering, in R&D Contracting, op. cit. supra note 19, at 21.
"... [W]e in the Department of Defense take a basic premise as our starting point. It is
the premise that we must utilize to the maximum the great vigor, flexibility, and strength of our
private enterprise system....
65 See Bell Report, op. cit. supra note 1, at vii; See also R&D Contracting, op. cit. supra note 19,
at 21.
future, and in as much as these functions require the ready interchange of proprietary and other data by the program participants, the remainder of this paper will be devoted to a discussion of one approach to facilitating this interchange.

A. The Parties

A principal difficulty with the approach of “Rule Four” for large programs, it is submitted, is that the key person—the government—is not a party to the agreements contemplated. Before the reader applauds this absence of “governmental interference” it should be recalled that the government is already heavily involved. For instance, it is the government that is:

· contracting-out functions which require the exchange of technical data,
· the principal beneficiary of the data exchange; and
· financing the exchange as costs under the various contracts.

Further reflection should also reveal that it is the government which must reconcile, in any agreement governing the exchange of technical data, the opposing interests of those originating data and those receiving it. To the accomplishment of that end, the superior bargaining position of the government—the same position which permits “federalism by contract” in other areas—may be brought to bear to fashion a common set of ground rules governing the exchange of technical data. In addition to the government, it is submitted that all contractors and subcontractors who will either furnish or receive data of a sensitive nature in performance of the program should be required to agree to the same terms and conditions governing the data exchange. Such “multi-party” contracting has the advantage of setting forth in reasonable detail as part of each program contract the rights and obligations of each party involved in the data exchange. In order to attempt to arrive at a common set of principles to which all participants can agree, the principal interests of each should be noted.

B. Primary Interests of the Parties

Obviously, as an initial consideration, two opposed interests must be accommodated: that of the data originator or producer and that of the data recipient or consumer. At the risk of over-simplification, they might be briefly summarized as follows:

· The originator doesn’t want to furnish data, but if furnish it he must, he wants protection or payment for his “proprietary” interest.
· The recipient wants all the data he needs when he needs it and preferably free of encumbrances. As long as he is sure that he will be reimbursed by the government, he is not overly concerned by the prospect of payment for its use.
· The government position would appear to be somewhere in between. From a program standpoint, the interest of the recipient is closer to its own, but it knows for other reasons protection or payment must be given or the data will not be furnished at all.

66 See Miller, supra note 3, at 958-67.
67 See Discussion of Protection of Data Originator’s Rights, infra, at 603.
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C. Fundamentals of the Agreement

While agreements governing the exchange of technical data can undoubtedly become quite complex, what are considered to be the essentials of a workable data exchange agreement for large, contracted-out, research and development programs are discussed below. For use in connection with the discussion there is included as an appendix to this paper an illustrative data article which might be suitable for a hypothetical program, Applejack, in which the technical manager must acquire very complete data to insure the accomplishment of the program. The purpose of the appendix is to illustrate in contractual language one possible application of some of the principles discussed. It should be specifically noted that the appendix does not purport to represent any approved or official government view.

D. Data Requirements

The government's fundamental purpose in establishing data requirements for a research and development program is the success of the program. As a primary concern then, it must determine what data is necessary to accomplish the program within the time required. From the previous discussion of the ASPR research and development policy, it can be expected that all contractors will be required to furnish all data resulting directly from performance of the contract; and all data necessary to reproduce any equipment or process developed subject, however, to two exceptions. These exceptions, dealing with data for standard commercial items and items previously developed, must be scrutinized by the government representatives (presumably in consultation with the management contractor) to determine if the normal research and development data policy is adequate to achieve the program objectives. Obviously, a judgment factor is involved and the proper determination will be dependent upon the particular circumstances of the program. Where a substantial research and development effort is being contracted-out, a need may well arise (in the integration of the system, for instance) to have data furnished concerning either standard commercial items or previously and privately developed items if they are crucial to the overall system being developed. Where such a need is foreseeable, a contractual right to have furnished any data necessary for the program when requested should be provided for in each contract under which important components or subsystems are being procured. The concept of leaving data with its originator until required is not new, and is a technique which has been used by NASA with reasonable success for some years. The above discussion of the exceptions is identified in note 36 supra.

Note, for instance, subparagraph (d)(1) of the Appendix, where an attempt has been made to set forth a contract right to call for all the data which a large research and development program might conceivably need. Clearly much of the data may never be required or requested.

Beach, supra note 23, at 1087, suggested this approach as his first feature of a fair government data policy.

Paragraph (a) of the NASA Data Requirements clause, NASA Procurement Regulations (P.R.) 18-9.202-1(e), 47 C.F.R. § 18-9.202-1 (1963), provides: "(a) To the extent that the following data is not elsewhere required to be furnished to the government under this contract, and is of the type
discussion is not to imply that unlimited rights in the data must necessarily be required, as will be evident from what appears below.

It would also appear desirable to provide that the request for data may come from the government contracting officer or from another participating contractor, providing the contracting officer certifies the need of the requestor.\(^{62}\) The government should also have the right to designate the place to which the data is to be furnished\(^{63}\) since it serves no useful purpose to have all the data furnished to the government if the need exists elsewhere.

E. Protectible Data and Data Rights

Inseparably related to the question of the rights of the parties in the data furnished is a determination as to what kind of data will be protectible. As a general rule it would seem clear that all data should not and cannot be protected. According to the particular program’s circumstances, however, the parties may agree to give protection to more or less than proprietary data as defined by ASPR. On the other hand, the ASPR principles have reasonably wide acceptance and radical departures therefrom may cause undue difficulty in negotiating the agreement with all the participants.

As may be found illustrated in the appendix, a somewhat more complex arrangement is therein set forth\(^{64}\) which may be useful in certain applications. Essentially, under the Applejack Data Article, two kinds of data are protectible and to different extents, depending on who is the recipient. One kind of data (which can be thought of as “nonproprietary”), if delivered directly to a participant other than the government, can be used only for program purposes by the recipient." In other words, the protection of limited—i.e., program—use, does not apply as against the government or one receiving the data from the government. The distinction here is based on the assumption that if the recipient wants to use the data for governmental purposes outside the program, he can obtain it from the government. But, to the extent it is possible, it is desired to discourage his use, for commercial purposes, without permission of the originator.

The other kind of data contemplated in the appendix is truly protectible against all parties, if it meets the criteria of paragraph (g). Paragraph (g) establishes what is protectible data under the Applejack Article. It will be immediately evident that certain data is protectible under the criteria suggested in paragraph (g) of the appendix which is not proprietary data according to ASPR. While this variation may be assailed by the purist as unnecessarily complicating the whole agreement and contrary to the admonition that to change ASPR policy is to invite difficulty, the

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\(^{62}\) Subparagraphs (d)(1) and (d)(2) of the Appendix.

\(^{63}\) ibid.

\(^{64}\) Compare paragraphs (e) and (g) of the Appendix.

\(^{65}\) Appendix, paragraphs (d) and (e).
liberality may well be justified as a "trade-off" for the greater data requirements of the hypothetical program which are imposed on the participants by paragraph (d) of the Appendix.

F. Protection of Data Originator's Rights

What protection can be afforded? As noted previously, because of the nature of the trade secret right disclosed in data, only two protections are available: (1) secrecy and (2) disclosure under a contractual undertaking to preserve its secrecy.

The agreement contemplated attempts, as far as possible, to utilize both protections. By means of permitting the data originator to retain data until requested under the contract, the first protection, secrecy, is invoked to the extent practicable. Because all program participants who will originate or receive data are made parties to the agreement, to the extent that suitable provisions are incorporated therein, the second kind of protection for data is also available to the originator. In this regard, by making all program participants parties to the agreement with express undertakings concerning all data received, an injured data originator has at least a direct cause of action for breach of contract against a wrongdoer who violates the agreement.

As a general observation, it would appear that rights to use data could usually be restricted, as far as the contractor participants are concerned, to non-manufacturing program purposes. From the government's standpoint and since a major premise is success of the program, the agreement might well permit the government to require manufacturing rights for program purposes, subject to proper notice and due compensation, as will be further discussed below. Other safeguards, principally of an administrative nature, will be apparent by referring to the appendix.

G. Rights of Data Recipient

Clearly no workable agreement for the protection of data rights can proceed from the standpoint of only one party. The agreement should provide that those receiving data are entitled to have the protected data identified by an appropriate legend. It is also important that the right to use information and data from sources having no connection with the program and which is available to the recipient without restrictions should not be affected by the receipt of data under the agreement herein proposed. Time limitations on the restrictions on the use of data might also be appropriate in a particular procurement setting.

H. Due Compensation

Where manufacturing rights in protectible data are required by the government for furtherance of the program, the agreement should provide for payment for the

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65 Appendix, paragraphs (f) and (h).
66 See subparagraphs (h)(2) and (h)(3) of the Appendix, for instance.
67 Two legends are suggested in the Appendix; one in paragraph (e) and the other in paragraph (g).
68 Paragraphs (f) and (i) of the Appendix contain limitations on the data recipient's obligation...
data. It is exceedingly important that the agreement forthrightly treat the question of payment for data considered proprietary or protectible under the agreement. Unfortunately, while the principle of due compensation for proprietary data has widespread acceptance, its implementation by the government is a source of considerable dissatisfaction to industry.\footnote{R&D Contracting, op. cit. supra note 19, at 206.}

At the heart of the difficulty is the question of determining the value of the data, and perhaps more fundamentally—value to whom.\footnote{Munves, supra note 26, at 179-80.} There are bound to be great differences of opinion on this question.

It should suffice here to say that where the program needs require manufacturing rights to be granted by an individual participant, those rights must be acquired, subject only to compensation therefor. The consent of the participants to this concept may be likened to a condition precedent to their being accepted as participants in the program. The choice is initially their own to make.

In the solution suggested by the appendix, the right of the government to exact manufacturing rights for program purposes is set forth in paragraph (j). It is therein proposed that notice be given of the government's intent to use data for manufacturing purposes in connection with the program and the originator be permitted to request compensation by means of an equitable adjustment of the contract price. Provision is made that the contracting officer may consult other program participants having skill in the art to attempt to establish a fair value of the data\footnote{Appendix, paragraph (m).} and that a proffer will be made to the data originator. Failure to agree on the compensation proffered will be treated as a "dispute" under the contract.

Obviously, difficulties remain. Perhaps the "disputes" procedure is not the best way to resolve disagreements respecting value of data. It might seem to some that while the boards of contract appeals of the various agencies are admirably impartial, they lack competence to ascertain the value of data. As an alternative, a special board comprised of experts might be established to deal with data compensation problems.

CONCLUSION

The partnership of government and private institutions promises to become even closer as the nation bends to its task of pushing back the frontiers of science. One of the thorniest areas of disagreement between the representatives of the private and public sector involves the acquisition and use by the government of the technical data of its contractors. Nothing is accomplished by merely agreeing that the problem is difficult of solution. As elusive as a solution may be, the writer for one refuses to believe that some compromise is unattainable.

What has been suggested herein does not purport to be a panacea. It is not expected that even the principles stated will be fully acceptable to all readers. It is,
however, a beginning. It is one attempt to respond to the challenge issued to lawyers by an eminent scientist\textsuperscript{79} to help make visual the process of research and development and its impact on our democracy and institutions.

APPENDIX

APPLEJACK CONTRACTOR DATA ARTICLE

(a) When used in this Article the following terms shall have the meanings set forth below:

(i) "APPLEJACK work" means any work performed or any service rendered under a contract, subcontract, or purchase order, having as a purpose, the accomplishment of the APPLEJACK Program of the (government agency).

(ii) "APPLEJACK Participant" means any contractor or subcontractor (at any tier) performing APPLEJACK work.

(iii) "Contractor" means the Contractor or any subcontractor (at any tier) under this contract.

(iv) "This Contractor" (found in paragraphs (l), (m) and (n) of this Article) means the prime APPLEJACK Contractor to the Government, and does not include any subcontractor to such prime contractor.

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

(b) It is understood that the complexity of the APPLEJACK Program and the expeditious accomplishment thereof may require the ready interchange of technical assistance and data from time to time among some or all of the APPLEJACK Participants and the Government. Further, because of the need in the APPLEJACK Program for detailed reliability assessment, integration, checkout and systems engineering, it is recognized that some of the data required may not be of the type generally required to be furnished to the Government or to other Government contractors and that some necessary data may be proprietary in nature. The parties to this contract agree that all data necessary to accomplishment of the above stated needs will be transmitted and extended among APPLEJACK Participants on a ready basis in accordance with the terms of this Article without regard to other proprietary or ownership considerations which may be considered to exist.

(c) The Government agrees to include this Article in each contract it makes for assemblies, sub-assemblies, systems and subsystems in connection with APPLEJACK work except orders for off-the-shelf items or routine services, and Contractor agrees to include this Article in each subcontract or purchase order hereunder calling for APPLEJACK work and to take necessary steps to insure the inclusion

of this Article in all subcontracts or purchase orders (regardless of tier) awarded under this contract, except orders for off-the-shelf items or routine services.

(d)(1) Contractor shall furnish, upon request of the Contracting Officer, to the place designated in the request any part or all of the following:

(i) Data used in, prepared, or assembled in connection with the performance of any work performed under this contract; and

(ii) Data necessary to enable reproduction, or where appropriate, manufacture of any equipment, or performance of each process which is developed under the contract; and

(iii) Data considered by the Government to be useful in performing systems engineering, reliability assessment and integration or check-out of each component and/or system used in the APPLEJACK Program.

(2) Upon request of any other APPLEJACK Participant certified by the Contracting Officer as having a \textit{bona fide} requirement for the data described in (d)(1) above for use in APPLEJACK work, Contractor shall furnish such data to the place designated in the request.

(e) Except as provided in paragraph (g) of this Article, data furnished directly to another APPLEJACK Participant under paragraph (d)(2) above may be marked with the following legend:

\begin{quote}
"FURNISHED UNDER GOVERNMENT CONTRACT \__________, FOR USE ONLY IN THE APPLEJACK PROGRAM, AND THIS LEGEND SHALL BE MARKED ON ANY REPRODUCTION HEREOF, IN WHOLE OR IN PART."
\end{quote}

Whenever data furnished directly to another APPLEJACK Participant marked with the legend provided for above is furnished by such other APPLEJACK Participant to the Government, the legend shall cease to be in effect, and may be removed. The rights of the government in such data shall thereafter be as provided in sub-paragraph (iv) of paragraph (o) of this Article.

(f) Where Contractor receives data from another APPLEJACK Participant, marked with the legend of paragraph (e) of this Article, Contractor agrees to use such data only in performance of APPLEJACK work. Contractor shall establish and maintain suitable safeguards to ensure that such data will not be used for other than APPLEJACK work. It is understood and agreed that nothing contained herein will in any way limit Contractor's right to use information the same as or similar to that contained in such data, or to constitute a cause of action for the use of the information, when it is obtained independently without such limitation, or when it is received from the Government. Contractor expressly agrees to be liable to the APPLEJACK Participant originating such data for any damages resulting from breach of this paragraph (f).
(g) Where, pursuant to paragraph (d) of this Article, data is required to be delivered by Contractor for use in the APPLEJACK Program, and such data includes data which Contractor asserts meets all the following criteria:

(i) The data was developed prior to or outside the scope and independently of this contract and is not in the public domain or otherwise readily available to the Government;
(ii) The Government does not have unlimited rights to such data;
(iii) The data relates to the Contractor's secrets of manufacture and has been protected by Contractor from unlimited use by others.

Contractor shall furnish such data notwithstanding his claims to proprietary status therefor, as above defined; shall affix thereto the legend prescribed next below; and shall notify the recipient of the data, and the Contracting Officer, if the Government is not the recipient, of the data to which proprietary claim is made. Contractor shall identify those portions of the data delivered which are considered by him to be proprietary as aforesaid (by circling or underscoring) and shall mark the data delivered as follows:

"THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF THE COMPANY. IT IS FURNISHED UNDER CONTRACT FOR LIMITED USE IN THE APPLEJACK PROGRAM OF THE (GOVERNMENT AGENCY) AND THE PORTIONS INDICATED BY CIRCLING OR UNDERSCORING SHALL NOT OTHERWISE BE USED WITHOUT THE WRITTEN PERMISSION OF THE COMPANY OR THE CONTRACTING OFFICER. THIS LEGEND SHALL BE MARKED ON ANY REPRODUCTION, IN WHOLE OR IN PART."

(h) With respect to data marked with the legend provided for in paragraph (g) of this Article which the Contractor receives from another APPLEJACK Participant either directly or through the Government, and with respect to such data which the Government receives from the Contractor or from another APPLEJACK Participant through the Contractor, the Government and the Contractor individually agree as follows:

(i) To make no use of such data other than as permitted by the terms of the legend and not to use circled or underscored data for manufacture or reproduction in the APPLEJACK Program without the written authorization of the APPLEJACK Participant originating such data; provided however, that when the Government shall have given the notice provided for in paragraph (j) of this Article, the data may be used for manufacture or reprocurement in the APPLEJACK Program subject to the provisions of paragraphs (l) and (m) of this Article;
(2) To establish and maintain suitable safeguards to ensure that such data is not disclosed or used other than in performance of APPLEJACK work;

(3) To obtain receipts for such data whenever it is transferred to another APPLEJACK Participant, or whenever, the Contractor transfers it to the Government;

(4) Except when the data has been transferred from the possession of either the Government or the Contractor (either of which hereinafter in this provision (4) is called the Possessor) to some other APPLEJACK Participant, and except when the Government shall have given the notice provided for in paragraph (j) of this Article; to return such data, together with all copies that the Possessor may have made or caused to be made, to the APPLEJACK Participant originating the data at either of the following times:

   (i) voluntarily at any time after receiving the data; or
   (ii) if the APPLEJACK Participant (including This Contractor) requests the return of the data the Possessor agrees to return the data within six months after the date of final payment to This Contractor under this Contract.

(5) That if the Government or the Contractor shall breach this paragraph (h), the party committing such breach shall be liable to the APPLEJACK Participant originating such data for any damages resulting from breach of this paragraph (h), provided that the data so marked with the legend of paragraph (g) meets the criteria therein set forth.

(i) It is understood and agreed that nothing contained herein will in any way limit the right of the Contractor or of the Government to use information the same as or similar to that contained in data marked with the legend of paragraph (g), when such information is obtained independently without such limitation, or to constitute a cause of action for the use of the information when it is obtained independently without such limitation.

(j) Whenever the Government shall determine that any data which the Contractor shall have furnished marked with the legend provided for in paragraph (g) above is necessary for use for manufacture or reprocurement in connection with APPLEJACK work, the Contracting Officer will notify the Contractor that the Government proposes to use or to have used for it the data for such purpose.

(k) When the Contractor shall have furnished data marked with the legends of paragraphs (e) or (g) of this Article, he agrees not to claim any amount as allowable costs for the furnishing of such data nor to make any claim for equitable adjustment in contract price as payment for furnishing such data, except as follows:

   a. For use of the data contrary to the provisions of the legend, and other claims based on the provisions of paragraphs (f) or (h), except that the legend of paragraph (e) shall not apply to uses of data made by or on behalf of the Government.
b. Against the Government for use of data marked with the legend of paragraph (g) when the Government shall have authorized use of such data for manufacture or reprocurement in connection with APPLEJACK work.

(1) When the Contractor shall have furnished data marked with the legend provided for in paragraph (g) and the Government shall have given the notice provided for in paragraph (j), the Contractor may request an equitable adjustment in the price, if this is a fixed price contract, or in the estimated cost and any fixed fee, if this is a cost type contract, for the value of the data for manufacture or reprocurement in connection with APPLEJACK work. The request for equitable adjustment shall be submitted to the Contracting Officer, regardless of whether the data shall have been furnished to the Government or to another APPLEJACK Participant. In case the data was furnished by an APPLEJACK Participant subcontractor to This Contractor, such subcontractor shall submit his request for compensation to This Contractor through intermediate subcontractors, if any, and This Contractor shall process the request of the subcontractor to the Contracting Officer on behalf of the subcontractor. If the Contracting Officer determines that the data meets the criteria set forth in paragraph (g), he shall proffer to This Contractor such additional amount which he determines to be reasonable, as an equitable adjustment for the value of the data for manufacture or reprocurement in the APPLEJACK Program. Any equitable adjustment or payment to be made by the Government for data furnished by a subcontractor to This Contractor shall be made to This Contractor for and on behalf of the subcontractor.

(m) Whenever an APPLEJACK Participant other than This Contractor shall have furnished data marked with the legend provided for in paragraph (g) above and shall request compensation for the value thereof, This Contractor shall assist the Government, upon request of the Contracting Officer, in determining whether the data so marked meets the criteria set forth in paragraph (g) and the amount of compensation to be proffered for such data.

(n) Failure of the Contractor to agree to the amount of equitable adjustment or payment proffered by the Contracting Officer pursuant to paragraph (l) above, shall constitute a dispute concerning a question of fact within the meaning of the clause of this contract entitled “disputes,” and the Government or any other APPLEJACK Participant shall have the rights provided in this Article to use or have used for it or him the data for which compensation is requested pending resolution of the dispute. In the case of any dispute concerning the acceptability of the amount of compensation to a subcontractor to This Contractor, This Contractor shall take the appeal on behalf of the subcontractor provided for in the “disputes” clause of this contract.

(o) It is understood and agreed by the parties hereto that with respect to all data delivered to the Government under this Article, the rights and obligations of
the Contractor and the Government not already specified hereinabove, shall be as follows:

(i) The Contractor agrees to and does hereby grant to the Government and to its officers, agents and employees acting within the scope of their official duties, a royalty-free, nonexclusive and irrevocable license throughout the world for Government purposes to publish, translate, reproduce, deliver, perform, dispose of, and to authorize others so to do, all data which is furnished under this contract and which is now or hereafter covered by copyright.

(ii) The Contractor shall not include in the data furnished any copyrighted matter, without the written approval of the Contracting Officer, unless he provides the Government with the written permission of the copyright owner for the Government to use such copyrighted matter in the manner provided in subparagraph (i) of paragraph (o) above.

(iii) Nothing contained in this Article shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other rights otherwise granted to the Government under any patent.

(iv) Subject to the limitations of subparagraphs (i) and (v) of this paragraph (o), and of paragraph (h), the Government may use, duplicate or disclose in any manner and for any purpose whatsoever, and have others so to do all data furnished under this contract.

(v) All data furnished to the Government which bears the legend prescribed in paragraph (g) hereof and which meets the criteria therein set forth, shall be marked with the appropriate legend when furnished by the Government to other APPLEJACK Participants for APPLEJACK work.