REGULATING CONFLICTS OF INTEREST IN THE TECHNOLOGY TRANSFER AGE: PROMOTING PUBLIC TRUST OR DEFEATING PUBLIC INTEREST?

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I. Introduction

In terms of public policy, the 1980s may be described as the "Technology Decade." Underlying most of the public policy interest in technological development, especially high technologies, was a concern that the nation's innovative capacity, scientific prowess, and productivity were declining in the face of international competition. Faced with lagging performances of such industries as semiconducters, steel, and automobiles, as well as a mounting trade deficit, Congress made a number of proposals for boosting the developments of new industrial technologies.

Traditionally, "new high-technology products were an important source of prestige" that increased employment and productivity.[1] The general perception of the last decade is that the position of the United States as the center of technological innovation and high-technology development has been substantially eroded. Other countries, Japan in particular, have demonstrated more productive and efficient approaches to both innovation and technology transfer. The United States may have already lost its ability to compete in many markets involving high technology.

Pinning their economic development hopes on high-technology industries, policymakers stress the importance of interaction between universities, government laboratories, and industries to foster innovation. Government officials recognize the relationships between industry, government, and academia are not as strong in the United States as those in other technologically-advanced countries such as West Germany and Japan. In its preoccupation with foreign competition and development, Congress formulated new policies with regard to industrial innovation. Consequently, legislation in the past decade has been directed toward encouraging and strengthening university-industry-government research and development ("R&D") interaction. By 1983, over 200 state and local economic development initiatives, all of which had some feature directed at high-technology development, were underway.[2] All state governments now operate some program aimed at promoting university-industry-government interaction to spawn economic growth.[3]

As research relationships between universities, industries, and federal laboratories become increasingly incestuous, however, concerns about the conflicts of interest continue to mount. In 1981, an advisory committee of

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1. Abelson, *The Federal Government and Innovation*, 201 Sci. 487, 487 (1978).

2. U.S. Congress, Office of Technology Assessment, Technology, Innovation, and Regional Economic Development 54-55 (1983).

3. Jaschik, *University-Industry-Government Projects: Promising Too Much Too Soon?*, 21 Chronicle of Higher Educ., Jan. 29, 1986, at 1.

the National Institutes of Health ("NIH") concluded there were serious potential problems with the free flow of information, the transformation of universities into industrial training institutes, and the influx of industrial monies into medical and biomedical research, including patent rights.[4]

Other problems emerged as university scientists began to hold equity interests in companies with which they collaborated. Particular incidents include: Graduate students being forced to abandon projects after discovering faculty advisors had turned the research concept over to a company in which the advisors held proprietary interests;[5] faculty members assigning graduate students to work directly in company laboratories in which the professors had economic interests;[6] a professor heading a company that was given exclusive rights to market a drug the professor developed with federal grant money;[7] and faculty members fabricating data for a company in which they held equity interests.[8]

Responding to congressional concerns that such financial conflicts of interest taint federally funded research, NIH, the primary federal funding agency for biomedical research, proposed conflict of interest guidelines for its university contract and grant recipients.[9] The guidelines would have required anyone involved in NIH-funded research to make "full disclosure of all financial interest and outside professional activities."[10] These guidelines were summarily withdrawn following harsh criticism from grant recipients. The recipients argued the guidelines might harm industrial competitiveness, subject researchers to overly burdensome financial disclosure requirements, and stifle technology transfer from federally sponsored research to the private sector.[11] They also criticized the agency for failing to clarify what constituted a conflict of interest.[12]

Unlike university scientists, government scientists must operate within the confines of existing federal conflict of interest law. The increasing R&D collaborations between federal and industrial scientists, which Congress has

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4. Sun, *NIH Ponders Pitfalls of Industrial Support*, 213 Sci. 113, 113 (1981).

5. J. Doyle, Altered Harvest 342 (1985).

6. *Id.* at 341.

7. Blum, *Stricter Conflict Rules Could Stifle Campuses, NIH Is Warned*, 35 Chronicle of Higher Educ., July 5, 1989, at A11.

8. *Scientific Fraud and Misconduct and the Federal Response: Hearing Before the Subcom. on Human Resources and Intergovernmental Relations of the House Government Operations Comm.*, 100th Cong., 2d Sess. 24-25 (1988).

9. 18 NIH Guide to Contracts and Grants (Sept. 15, 1989); *see also* Palca, *Conflict Over Conflict of Interest*, 245 Sci. 1440, 1440 (1989).

10. *Id.*

11. Palca, *NIH Conflict of Interest Guidelines Shot Down*, 247 Sci. 154, 154 (1990). The NIH is currently redrafting the proposed guidelines, and the revised guidelines will undergo formal rulemaking procedures, including Federal Register publication and a comments period. *See generally* Pramik, *NIH Redrafts its Guidelines to Cover Conflicts of Interest*, 10 Genetic Eng'g News, March 1990, at 1, 24-25.

12. *Id.*

encouraged, effectively create situations inconsistent with existing conflict of interest law. Striking a balance between competing policy interests of preserving public trust in federal employees and encouraging technology transfer from government laboratories to private industry has become both a challenge and a frustration for government officials.[13] This Note examines the constitutional, administrative, and public policy problems inherent in regulating conflicts of interest in the technology transfer area under both existing law and future guidelines.

II. Federal Conflict of Interest Law

In agency law, the conflict of interest concept generally refers to "conduct that tempts an agent to deal unfairly by preferring his own interests to the interests of the [principal]."[14] The regulation of conflicts of interest in the public sector has been debated since shortly after the spoils system of the Jacksonian Presidency.[15] Thus, since the mid-1800s, conflict of interest regulations have defined two goals: (1) to prevent the use of public office for private gain; and (2) to maintain public confidence in the integrity and objectivity of decision-making in executive branch agencies.

Two challenges face policymakers when attempting to regulate conflicts of interest in the public sector. At the congressional level, high standards and public accountability must be enforced without making every violation a partisan issue. At the administrative level, the challenge is to attract qualified persons to public service.[16]

The primary problem has been limiting opportunities in which officials gain private advantage without simultaneously precluding public agencies from recruiting and retaining especially qualified persons from the private sector. Consequently, a variety of federal statutes, executive orders, and administrative regulations have been promulgated, resulting in complex reporting and other administrative requirements for federal employees.

A. *Reporting Requirements*

Conflicts of interest are guarded against, in part, by requiring certain civil servants and political appointees to file detailed reports concerning financial matters and institutional responsibilities under the Ethics in Government Act of 1978.[17] The Act relies on public financial disclosure to ensure public rather than private purposes are served by executive branch

13. Culliton, *NIH, Inc.: The CRADA Boom*, 245 Sci. 1034, 1034 (1989).

14. R. Vaughn, Conflict-of-Interest Regulation in the Federal Executive Branch, at 1 (1979).

15. R. Roberts, White House Ethics: The History of the Politics of Conflict of Interest Regulation, at 8 (1988).

16. *Id.* at 201.

17. 5 U.S.C.A. app. §§ 101-111 (West Supp. 1991).

personnel classified as GS-16 or above.[18] A disclosure report indicating the source, type, and amount or value of income from any source must be filed by government personnel within thirty days of assuming office.[19] Similar financial information is required of spouses and dependent children.[20] Persons who knowingly violate the requirements of the Act may incur civil penalties up to $10,000.[21]

The innovative aspects of the statute lie in its detailed reporting requirements. With limited exceptions to accommodate the national interest, all reports must be made available to the public and retained for six years.[22] Although the dominant philosophy underlying the Act is one of disclosure, aspects of its requirements extend beyond disclosure and purport to restructure the personal financial affairs of affected officers. Agency officials or the Director of the Office of Government Ethics review the reports and determine whether conflicts of interest exist and recommend corrective action, such as divesting or limiting duties. Moreover, all presidentially-appointed employees in nonjudicial full-time positions at the level of GS-16 or above

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18. *Id.* The rank of GS-16 refers generally to high-level officials. The act also contains similar financial disclosure requirements for members of the legislative and judicial branches. *See* 2 U.S.C.A. §§ 701-709 (1988); 28 U.S.C.A. §§ 301-309 (1988).

19. The disclosure report includes information concerning the source, date, and amount of any honorariums aggregating $200 or more in value. 5 U.S.C.A. app. § 102(a)(1)(A) (West Supp. 1991). Dividends, rents, interest, and capital gains need not be disclosed in such detail. *Id.* § 102(a)(1)(B). Although the source and type of income must be shown, the amounts may be indicated within specified ranges, such as "greater than $5,000 but not more than $15,000." *Id.* at § 102(a)(1)(B)(iv). In addition, any gifts of transportation, lodging, food, or entertainment aggregating more than $250, from a source other than a relative, are subject to reporting, unless received as "personal hospitality of an individual" or worth less than $75. *Id.* at § 102(a)(2)(A)-(B) (West Supp. 1991). Reimbursement aggregating more than $250 must also be reported, including the source's identity and a brief description. *Id.* at § 102(a)(2)(C). The identity and category of value of any interest in property in a trade or business, or property held for investment or production of income having a fair market value greater than $1000, must be disclosed, but personal debts of relatives and personal savings accounts of less than $5000 are excluded. *Id.* at § 102(a)(3).

The identity and category of value of liabilities greater than $10,000 owed to a creditor, other than a relative, must be reported, except for mortgages on personal residences and certain loans secured by personal property. *Id.* at § 102(a)(4). Unless the other party to a transaction is the reporting person's spouse or dependent child, transactions in real property, other than a personal residence, and in securities that exceed $1000, must be reported. *Id.* at § 102(a)(5).

The disclosure report requires the listing of positions held during the reporting year, or if it is a first report, during the two preceding years. *Id.* at § 102(a)(6)(A). While no disclosure is required concerning honorary positions, or those held in religious, social, fraternal, or political organizations, disclosure is required for positions as an officer, director, trustee, partner, proprietor, representative, employee, or consultant of any business enterprise, nonprofit organization, labor organization, or educational or other institution. *Id.* All compensation in excess of $5,000 received by nonelected officials must be reported for the two preceding calendar years, with a brief description of the duties performed. *Id.* at § 102(a)(6)(B).

20. *Id.* at § 102(e).

21. *Id.* at § 104.

22. *Id.* at § 105(d).

are limited to an outside income equal to fifteen percent of the employee's government salary.[23]

While the Ethics in Government Act sought to take a proactive stance toward conflicts of interest involving high-level government officials, the definitions of conflicts of interest have been governed, since 1962, by 18 U.S.C. §§ 203, 205, 208, and by Executive Order 11,222 and its implementing agency regulations.[24]

B. *Criminal Prohibitions*

Due to the difficulty of formulating, applying, and enforcing standards dealing with employees' personal motivations or beliefs that potentially create favoritism in the performance of public duties, federal conflict of interest law covers only conflicts between official duties and personal economic interest. This focus may be due, in part, to Congress' perception that the "prevailing ethical concern of the populace is economic."[25] Thus, conflicts of interest at the federal level are often defined in terms of an employee "plac[ing] himself in a position where a conflict exists between his private financial interests and the interests of the public he is to serve."[26]

Policy objectives underlying statutes proscribing certain conduct as criminal include achieving government efficiency, treating claims and public confidence equally, preventing the use of public office for private gain, and preserving the integrity of government policy-making institutions.[27] Balancing these policy objectives with those expressed in federal technology transfer requirements creates problems for agencies struggling to implement the objectives of the technology transfer policy.

Federal criminal provisions address four problem areas: (1) outside activities in certain matters involving the United States; (2) particular types of post-employment activities; (3) self-dealing transactions; and (4) receipt of certain forms of outside compensation.

1. *Outside Activities*

One principle underlying the federal conflict of interest laws is that public officials should not be permitted to step out of their official roles to

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23. *Id.* at § 501(a).

24. For detailed discussions of the statutory provisions, see Comment, *Fighting Conflicts of Interest in Officialdom: Constitutional and Practical Guidelines for State Financial Disclosure Laws*, 73 MICH. L. REV. 758 (1975); B. MANNING, FEDERAL CONFLICT OF INTEREST LAW (1964); Perkins, *The New Federal Conflict-of-Interest Law*, 76 HARV. L. REV. 1113 (1963); United States v. Mississippi Valley Generating Co., 364 U.S. 520 (1961).

25. ASSOCIATION OF THE BAR OF THE CITY OF NEW YORK, CONFLICT OF INTEREST AND THE FEDERAL SERVICE 18 (1960) [hereinafter BAR REPORT]. Nonetheless, federal law has also restricted political activities of federal employees. *See* 5 U.S.C. § 7324(a)(2) (1988).

26. R. VAUGHN, *supra* note 14, at 80.

27. BAR REPORT, *supra* note 25, at 6-7.

assist private entities or persons in their dealings with the government. Two statutory provisions, 18 U.S.C. § 203 and § 205, are essentially identical as to prohibited services.[28] Both sections limit representational activity by federal employees before federal agencies or courts on "any particular matter" in which the United States is a party or has a direct and substantial interest.[29]

Section 203 prohibits federal employees from receiving "any compensation for any representational services . . . rendered . . . in relation to any proceeding . . . before any department."[30] The main purpose of this section is "to secure the integrity of executive action against undue influence on the part of members of the Government whose favor might have much to do with appointment to, or retention in, the public position of those whose official action it was sought to control or direct."[31] Hence, this section is intended to reach any situation in which the judgment of a federal agent might be clouded because of payments or gifts made to him by reason of his position. "Even if corruption is not intended by either the donor or donee, there is still a tendency in such situations to provide conscious or unconscious preferential treatment . . . or inefficient management of public affairs."[32] Section 203 is a congressional effort to eliminate such inherent temptations.

The Justice Department has indicated "any utilization of official position to serve a private client, whether to influence the action of others or not, seems within the ban of the statute."[33] This broad statement suggests section 203 may encompass services performed in furtherance of a government proceeding or contract although the services are not rendered before a federal department or agency.

Section 205 is unambiguously limited to representational activity. The statutory language prohibits a federal employee from acting as "agent or attorney . . . before any department, [or] agency."[34] Furthermore, the House and Senate committee reports use the words "representative activity" or "representational activity" to describe the ban in section 205.[35]

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28. *See* Memorandum Regarding Conflict of Interest Provisions of P.L. 87-849, 28 Fed. Reg. 985 (1963).

29. 18 U.S.C.A. §§ 203, 205 (West Supp. 1991).

30. 18 U.S.C.A. § 203(b) (West Supp. 1991).

31. United States v. Johnson, 215 F. Supp. 300, 315 (D. Md. 1963).

32. United States v. Evans, 572 F.2d 455, 480 (5th Cir. 1978).

33. *Hearings Before the Antitrust Subcomm. of the House Comm. on the Judiciary*, 86th Cong., 2d Sess. 645-46 (1960).

34. 18 U.S.C.A. § 205(a)(2) (West Supp. 1991).

35. S. REP. No. 2213, 87th Cong., 2d Sess. 14, *reprinted in* 1962 U.S. CODE CONG. & ADMIN. NEWS 3852, 3859-60.

2. *Post-Employment Activities*

A former federal employee is barred for life from knowingly acting as an agent for anyone, in connection with matters in which he participated personally and substantially, while an employee of the government.[36] However, this provision is not without exception when scientific research is involved:

> [I]n order to make sure that a scientific agency is not cut off from the benefits which may accrue in an important situation from permitting the appearance of a former employee with outstanding scientific qualifications, [Congress] has added a proviso permitting such appearance, despite the provisions of subsection (a) . . . upon an agency certification [by the head of the agency involved], published in the Federal Register, that the national interest would be served thereby.[37]

This exemption can be invoked only for communications made "solely for the purpose of furnishing scientific or technological information."[38] It may be applied (1) in favor of an individual with "outstanding qualifications in a scientific, technological, or other technical discipline;" (2) in connection with "a particular matter" requiring such qualifications; and (3) in furtherance of the national interest.[39]

3. *Self-Dealing*

Section 208(a) of the United States Code prohibits a federal employee from participating "personally and substantially as a Government officer or employee" in a federal matter in which he, his minor child, spouse, partner, or organization in which he is serving has a financial interest.[40] The primary purpose of this section is "to insure honesty in the Government's business dealings by preventing federal agents . . . from advancing their own interests at the expense of the public welfare."[41] This provision establishes an objective standard of conduct. If a government agent fails to act in accordance with that standard he is guilty of violating this section, regardless of whether positive corruption existed.[42] Thus, a financial interest exists when

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36. 18 U.S.C. § 207(a) (1988); *see also* Annotation, *Limitation, Under 18 USCS § 207, on Participation of Former Federal Government Officers and Employees in Proceedings Involving Federal Government*, 71 A.L.R. FED. 360 (1984). Other restrictions are imposed on personnel seeking post-government employment with government contractors by 18 U.S.C. section 208 and 10 U.S.C. section 2397. *See generally* Brown, *The Current State of the Federal Law on Post-Government Employment Restrictions*, 35 FED. B. NEWS & J. 434 (1988).

37. S. REP. No. 2213, 87th Cong., 2d Sess. 1, 13, *reprinted in* 1962 U.S. CODE CONG. & ADMIN. NEWS 3852, 3861-62.

38. 18 U.S.C.A. § 207(j)(5) (West Supp. 1991).

39. *Id.*

40. 18 U.S.C. § 208(a) (1988).

41. United States v. Mississippi Valley Generating Co., 364 U.S. 520, 548 (1961) (citing United States v. Chem. Found., 272 U.S. 1, 18 (1926)).

42. *Id.* at 549.

a real possibility of gain or loss is present, but the gain or loss need not be probable for this section to apply.[43]

In prohibiting government employees to make decisions affecting organizations with which the employees were negotiating or had arrangements concerning prospective employment, Congress intended to expand the reach of this section.[44] It, however, was also concerned with "permitting qualified persons to move between the public and private sectors," and with "facilitating the Government's recruitment and retention of talented personnel."[45] Thus, "to penalize by criminal prosecution indefinite and inchoate links to outside firms, such as unsolicited offers of future employment or even unilateral hopes and plans," would defeat the congressional purpose.[46]

The purpose of this section is "to insure honesty in the Government's business dealings by preventing federal agents who have interests adverse to those of the Government from advancing their own interests at the expense of the public welfare."[47] For example, "one may not have a personal financial interest in the outcome of advice that [one] gives as a federal employee."[48]

The restrictions of 18 U.S.C. § 208 may be waived if the employee first advises the appointing government official "of the nature and circumstances of the judicial or other proceeding . . . and makes full disclosure of the financial interest."[49] To satisfy the waiver provision, the employee must receive, "in advance a written determination . . . that the interest is not so substantial as to be deemed likely to affect the integrity of [his] services."[50] Alternatively, a general rule or regulation may be published in the Federal Register indicating the type of financial interest exempted from the approval requirement as being "too remote or too inconsequential to affect the integrity of Government . . . employees' services."[51]

4. *Outside Compensation*

Federal conflict of interest law also prohibits discretionary transfers of

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43. United States v. Gorman, 807 F.2d 1299, 1303 (6th Cir. 1986) (citing 83 Op. Off. Gov't Ethics 1 (Jan. 7, 1983)); *see generally* Annotation, *What Constitutes Acts Affecting Personal Financial Interest Within Meaning of 18 USCS § 208(a), Penalizing Participation by Government Employees in Matters in Which They Have Personal Financial Interest*, 59 A.L.R. FED. 872 (1982).

44. United States v. Conlon, 481 F. Supp. 654, 666-67 (D.D.C. 1979).

45. *Id.* at 667 (quoting S. REP. No. 2213, 87th Cong., 2d Sess. 1, 6-7, *reprinted in* 1962 U.S. CODE CONG. & ADMIN. NEWS 3852, 3856).

46. *Id.*

47. Exchange Nat'l Bank v. Abramson, 295 F. Supp. 87, 90-91 (D. Minn. 1969) (quoting United States v. Mississippi Valley Generating Co., 364 U.S. 520 (1960)).

48. *Id.* at 91.

49. 18 U.S.C. § 208(b)(1) (1988).

50. *Id.*

51. *Id.* § 208(b)(2).

value to a public official from a private source.[52] The key language bars the receipt from any source other than the government of "any salary, or any contribution to or supplementation of salary, as compensation for his services as an officer or employee."[53] The prohibition, however, does not apply to a special government employee or to an employee serving without compensation from the federal government.[54] Nor does it prohibit a government official from receiving compensation for services rendered in a nonofficial capacity, such as private consulting fees.[55]

5. *Miscellaneous Provisions*

Other criminal laws are tangentially related to conflicts of interest. In particular, criminal provisions prohibit an employee from acting as the agent of a foreign principal registered under the Foreign Agents Registration Act.[56] Furthermore, federal employees are subject to criminal prosecution for the unauthorized use of documents relating to claims from or by the government,[57] and are prohibited from mutilating or destroying a public document.[58] Other provisions prohibit federal employees from committing fraud, making false statements in a government matter,[59] and disclosing trade secrets and similar information the employee obtains in the course of performing official duties.[60]

C. *Administrative Regulations*

Government-wide administrative regulations dealing with conflicts of interest have existed since the 1960s. In 1965 President Johnson issued an executive order seeking to prevent federal employees from having a direct or indirect financial interest that conflicted substantially, or appears to conflict substantially, with his or her official duties.[61] The executive order and implementing regulations were more stringent than the criminal statutory prohibitions because an employee need not have a financial interest that conflicts with his or her duties to violate the executive order.[62]

Hearings on the 1962 conflict of interest statutes emphasized that much of the conflict of interest regulation could be dealt with administratively.[63]

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52. *Id.* § 209.
53. 18 U.S.C.A. § 209(a) (West Supp. 1991).
54. *Id.* § 209(c).
55. *See* 42 Op. Att'y Gen. 111 (1962).
56. 18 U.S.C. § 219 (1988).
57. *Id.* § 285.
58. *Id.* § 2071.
59. *Id.* § 1001.
60. *Id.* § 1905.
61. Exec. Order No. 11,222, 30 Fed. Reg. 6469, 6470 (1965).
62. 45 C.F.R. § 73.735-.802(a)(2) (1988).
63. *Conflicts of Interest: Hearings on H.R. 8140 Before the Senate Comm. on the Judici-*

Administrative conflict of interest policies, therefore, have been directed at the regulation of potential harm. As a result, administrative regulation assumes the "appearance" of a conflicting interest "poses a serious enough threat to objective decision-making and public confidence in that objectivity to warrant a prohibition on conduct that might create a conflict of interest or the appearance thereof."[64]

Theoretically, the purpose of conflict of interest regulation at the administrative level is three-fold: (1) to prohibit conduct that increases the temptation which often leads to dereliction; (2) to give definite guidance to employees by forcing them to consider carefully temptations they confront, thereby reducing the likelihood officials will be caught in a precarious situation; and (3) to facilitate enforcement by alleviating the need for specific wrongdoing or damage to be shown.[65] When weighed against technology transfer interests, however, some regulations bear little resemblance to the purposes they purport to carry out. Moreover, many of the regulations may be unconstitutionally vague and overbroad in their application to government scientists.

In general, the regulations provide employees should:

> avoid any action . . . which might result in, or create the appearance of:
> (a) Using public office for private gain;
> (b) Giving preferential treatment to any person;
> (c) Impeding Government efficiency or economy;
> (d) Losing complete independence or impartiality;
> (e) Making a Government decision outside official channels; or
> (f) Affecting adversely the confidence of the public in the integrity of the Government.[66]

Each agency is required to appoint a counselor to interpret questions of conflicts of interest and to notify all employees of the availability of counseling services, including how and where they are available.[67] The regulations, however, are not always interpreted consistently. They impose complex and burdensome requirements on government officials regarding gifts,[68] outside employment,[69] misuse of government property,[70] adverse financial interests,[71] wrongful use of official information,[72] indebtedness,[73] and gambling and bet-

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ary, 87th Cong., 2d Sess. 8, 33, 55, 92 (1962).

64. R. ROBERTS, *supra* note 15, at 7.
65. R. VAUGHN, *supra* note 14, at 27-28.
66. 5 C.F.R. § 735.201a (1988).
67. *Id.* § 735.105.
68. *Id.* § 735.202.
69. *Id.* § 735.203.
70. *Id.* § 735.205.
71. *Id.* § 735.204.
72. *Id.* § 735.206.
73. *Id.* § 735.207.

ting.[74] In the area of technology transfer, only three of these requirements directly apply to conflicts of interest: (1) limitations on outside activities; (2) adverse financial interests; and (3) wrongful use of official information.

1. *Outside Activities*

The Department of Agriculture has defined "outside activity" as any outside work or activity, other than official duties, performed by a government employee.[75] In general, federal employees are prohibited from engaging in outside activities that are incompatible with the full and proper discharge of their official duties.[76] Incompatible activities include the acceptance of anything of monetary value creating a real or apparent conflict of interest.[77]

Agencies have implemented this provision with varying degrees of restraint and clarity.[78] Those agencies heavily involved in scientific research have established comprehensive guidelines to handle the demand for many of their scientists to perform off-duty consulting functions for private parties. The Departments of Health and Human Services and Agriculture, for example, require administrative approval prior to performing any professional or consultative services.[79] Moreover, requests to perform outside activities in a consultative capacity are carefully screened to avoid conflicts of interest or the appearance of such conflicts.[80] At the extreme level, the NIH goes so far as to limit the amount and type of compensation its scientists

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74. *Id.* § 735.208.

75. 7 C.F.R. § 0.735-2(h) (1989).

76. 5 C.F.R. § 735.203(a) (1988).

77. *Id.* § 735.203(a)(1).

78. *See, e.g.*, 7 C.F.R. § 0.735-13 (1989) (Department of Agriculture); 15 C.F.R. § 0.735-12 (1989) (Commerce Department); 32 C.F.R. § 40.4(b)(11) (1989) (Department of Defense); 10 C.F.R. § 1010.204 (1989) (Department of Energy); 40 C.F.R. §§ 3.500-.508 (1989) (Environmental Protection Agency); 45 C.F.R. §§ 73.735-701 to -710 (1989) (Department of Health and Human Services).

79. 45 C.F.R. § 73.735-.706(a)(3) (1989) (Department of Health and Human Services); 7 C.F.R. § 0.735-13(c) (1989) (Department of Agriculture). For detailed discussions of the administrative approval processes of the Agricultural Research Service and the National Institute of Health, see AGRICULTURAL RESEARCH SERVICE, OUTSIDE EMPLOYMENT GUIDE (May 1989) and NATIONAL INSTITUTES OF HEALTH POLICY MANUAL 2300-735-4, OUTSIDE WORK AND ACTIVITIES (Sept. 1, 1988).

Professional and consultative work has been defined by the Department of Health and Human Services as:

> performance of work requiring knowledge of an advanced type in a field of science or learning customarily acquired by course of specialized instruction and study in an institution of higher education, or hospital which requires the exercise of judgment and direction in its performance and is primarily intellectual in nature as opposed to manual, mechanical or physical work.

45 C.F.R. § 73.735-.704(c) (1989).

80. 45 C.F.R. § 73.735-.704(a) (1989); 7 C.F.R. § 0.735-13(d)(2) (1989).

can receive as consultants.[81] Only the Department of Agriculture, however, provides a regulatory definition of the terms "conflict of interest" and "appearance of conflict of interest,"[82] even though the terms appear regularly in agency approval and enforcement policies.

2. *Adverse Financial Interests*

All federal agencies are required to have a system for reviewing employee financial and employment statements, which is designed to disclose real or apparent conflicts of interest of employees.[83] At a minimum, each agency must require employees classified GS-13 or above, who are responsible for activities "where the decision or action has an economic impact on the interests of any non-Federal enterprise," to file employment and financial statements.[84] An agency may also require other employees to file financial and employment disclosures "in order to avoid involvement in a possible conflicts-of-interest situation."[85] All such statements are considered confidential and only a few employees are authorized to review and retain the statements.[86]

Federal employees are prohibited from having even an "indirect" financial interest that conflicts, or appears to conflict, substantially with their government duties.[87] This prohibition also restricts an employee from entering into a financial transaction based on information obtained through government employment.[88] The practical result of this provision is to extend the criminal prohibition against a federal employee, participating in a matter in which he or she has a financial interest, to situations in which the financial interest does not actually conflict but merely appears to conflict

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81. "Total compensation from consulting with profit-making organizations . . . is limited to $25,000 per year, with no more than $12,500 from any individual company. . . . Compensation may not include stock options, nor may the employee own stock in the company for which he/she consults." NATIONAL INSTITUTES OF HEALTH POLICY MANUAL 2300-735-4, at 17 OUTSIDE WORK AND ACTIVITIES (Sept. 1, 1988).

82. " 'Conflict-of-interest' means a situation in which a Federal employee's private interest, usually of an economic nature, conflicts with his or her Government duties and responsibilities." 7 C.F.R. § 0.735-2(c) (1989). " 'Appearance of conflict-of-interest' means a situation where it could reasonably be concluded that an employee's private interest is in conflict with his or her Government duties and responsibilities, even though there may not actually be such a conflict." 7 C.F.R. § 0.735-2(d) (1989).

83. 5 C.F.R. § 735.106 (1988).

84. *Id.* § 735.403(b)(4). The Office of Personnel Management ("OPM") designates the information required in financial disclosures, and an agency cannot include any questions that go beyond the OPM's requirements without prior approval. *Id.* § 735.401. For purposes of the reporting requirements, the employee's financial interests include those of a spouse, minor child, or other member of the employee's immediate household. *Id.* § 735.407.

85. *Id.* § 735.403(c).

86. *Id.* § 735.410.

87. *Id.* § 735.204(a)(1).

88. *Id.* § 735.204(a)(2).

with official duties. Many agencies have extended the prohibition, arguing Executive Order 11,222 was a blanket prohibition.[89]

3. *Wrongful Use of Official Information*

A federal employee may not use information obtained by virtue of government employment, which has not been made publicly available, to further a private interest.[90] The regulation is unclear about the precise meaning of "furthering a private interest." Some commentators argue that, considering the number of policy and constitutional issues involved, this regulation should not be interpreted to extend beyond furthering private financial interests.[91] In this respect, the prohibition is perhaps representative of a major problem currently underlying conflict of interest regulations—how far should they extend into the technology transfer realm? Answering this question demands a careful examination of the policy dimensions underlying technology transfer initiatives by the federal government.

III. The History of Technology Transfer Policy

Technological innovation is a positive force that can spawn both economic growth and industrial productivity. It provides improved commercial products and processes, and creates jobs and income as new industries are born or existing industries expand. Policymakers know technological innovation is necessary to restore competitiveness in basic industries, especially in the rapidly growing high-technology fields.[92] A great deal of technology has been produced in federal laboratories or financed with federal dollars. Much of this technology, however, has not been efficiently transferred to the commercial sector. Many economic analysts warned that the roots of the recession of the late 1970s were in a longer-term economic malaise arising from a failure of American industry to keep pace with the increased productivity of foreign competitors.[93] Therefore, beginning with the Carter administration, Congress sought ways to improve the movement of federally-owned or originated technology from federal laboratories to industry and to state and local governments, a process commonly referred to as technology transfer.[94]

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89. *See, e.g.*, 45 C.F.R. § 73.735-.802(a)(2) (1989) (Department of Health and Human Services); 7 C.F.R. § 0.735-2(d) (1989) (Department of Agriculture).

90. 5 C.F.R. § 735.206 (1988).

91. R. Vaughn, *supra* note 14, at 38.

92. H.R. Rep. No. 1199, 96th Cong., 2d Sess. 6-7, *reprinted in* 1980 U.S. Code Cong. & Admin. News 4892, 4896-97.

93. *See Report of the President's Advisory Committee on Industrial Innovation* (Sept. 1979).

94. For a detailed definition of technology transfer, see *Technology Transfer: Utilization of Federally Funded Research and Development*, Cong. Research Serv. (April 14, 1988) (Issue Brief IB85031).

A. *The Stevenson-Wydler Act*

As concerns grew about United States competitiveness during the 1970s, Congress began questioning whether the federal government was receiving an adequate return from its "R&D" expenditures. In 1980 Congress passed the Stevenson-Wydler Technology Innovation Act,[95] making technology transfer part of the mission of all federal agencies involved in R&D. At the time this Act was passed, the National Aeronautics and Space Administration was the only federal agency that had technology transfer as part of its mission. The Stevenson-Wydler Act was an important first step in improving the use of federal technology.

The goal of the Act was to reverse a trend in which some of the nation's most innovative scientific discoveries were being turned into commercial products overseas.[96] The Act sought to make ideas that originate in federal laboratories and have commercial potential more readily available to those in the private sector.[97] It also sought new ways to encourage cooperative technology development among the private sector, universities, and government.[98] In so doing, the Act required federal agencies to establish an Office of Research and Technology Applications at their laboratories which would identify technologies and ideas with potential applications in other settings.[99] The Act envisioned federal scientists working side-by-side with their university or industry counterparts on projects that were co-funded by their institutions.[100]

B. *The Bayh-Dole Patent and Trademark Amendments*

In a series of amendments to the patent and trademark acts, Congress sought to provide for a uniform policy governing the disposition of patent rights in government-funded research.[101] The then-existing "melange of 26 different agency policies on vesting of patent rights in government funded research" sparked a "uniform national policy designed to cut down on bureaucracy and encourage private industry to utilize government funded inventions through the commitment of the risk capital necessary to develop such inventions to the point of commercial application."[102] Specifically, the

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95. Stevenson-Wydler Technology Innovation Act of 1980, Pub. L. No. 96-480, 94 Stat. 2311 (1980).

96. 15 U.S.C. § 3701 (1988).

97. H.R. REP. No. 1199, 96th Cong., 2d Sess. 1, *reprinted in* 1980 U.S. CODE CONG. & ADMIN. NEWS 4892, 4893.

98. *Id.*

99. 15 U.S.C. § 3710(b) (1988).

100. *Id.* § 3706.

101. Bayh-Dole Patent and Trademark Amendments of 1980, Pub. L. No. 96-517, 94 Stat. 3015 (1980).

102. H.R. REP. No. 1307, 96th Cong., 2d Sess. 3, *reprinted in* 1980 U.S. CODE CONG. & ADMIN. NEWS 6460, 6462.

legislation established a presumption that ownership of all patent rights in government-funded research would vest in any contractor who is a nonprofit research institution or small business.[103] In effect, the amendments gave universities and small businesses the right of first refusal on any invention created, in whole or in part, with federal funding. The practical result was to increase university-industry collaboration as universities that developed and patented fundamental technologies under federal funding were allowed to manage and promote their discoveries.[104]

C. *The Federal Technology Transfer Act*

1. *Background*

Although the patent and trademark amendments were an effective means of stimulating industry-university interaction, the technology flow between federal laboratories and industry envisioned under the Stevenson-Wydler Act was not realized. Despite the Bayh-Dole Act and the Stevenson-Wydler Act, only five percent of government patents were licensed[105] and "federal laboratories still face[d] problems and disincentives in trying to transfer technology."[106] To facilitate the implementation of the nation's technology transfer policy goals, President Reagan explicitly endorsed recommendations of the 1983 White House Science Council Federal Laboratory Review Panel, better known as the "Packard" Report.[107]

The Packard Report recommended granting formal authority to federal laboratories to enter into "cooperative research projects with industry, universities, and nonprofit organizations."[108] To encourage cooperation in federal laboratory research, the Packard Report also recommended the authority of federally-operated laboratories be extended to include the granting of "patent rights to private sector organizations."[109]

In response, Congress enacted the Federal Technology Transfer Act of 1986 ("FTTA"), which had the practical effect of amending the Stevenson-Wydler Act.[110] The FTTA authorized agencies to permit their laboratories

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103. 35 U.S.C. § 202 (1988).

104. *See Technology Transfer: Hearings on H.R. 695 Before the Subcomm. on Science, Research, and Technology of the House Comm. on Science and Technology*, 99th Cong., 1st Sess. 22, 37 (1985) [hereinafter *Technology Transfer Hearings*].

105. *See* UNITED STATES DEPARTMENT OF COMMERCE, THE STEVENSON-WYDLER TECHNOLOGY INNOVATION ACT OF 1980 (1984); S. REP. No. 283, 99th Cong., 2d Sess. 1-2, *reprinted in* 1986 U.S. CODE CONG. & ADMIN. NEWS 3442, 3443.

106. S. REP. No. 283, 99th Cong., 2d Sess. 3, *reprinted in* 1986 U.S. CODE CONG. & ADMIN. NEWS 3442, 3445.

107. FEDERAL LABORATORY REVIEW PANEL, REPORT OF THE WHITE HOUSE SCIENCE COUNCIL (1983) [hereinafter SCIENCE COUNCIL REPORT].

108. *Id.*; *Technology Transfer Hearings*, *supra* note 104, at 20.

109. SCIENCE COUNCIL REPORT; *Technology Transfer Hearings*, *supra* note 104 at 20.

110. Federal Technology Transfer Act of 1986, Pub. L. No. 99-502, 100 Stat. 1785.

to enter into cooperative research and development agreements ("CRDAs") with private entities, including the authority to accept from or provide resources to, collaborating parties.[111]

The definition of a CRDA is broad. Under a CRDA a federal agency, through its laboratories, may provide personnel, services, facilities, equipment, or other resources excluding funds, to one or more nonfederal parties.[112] These nonfederal parties, in turn, may provide personnel, services, equipment, or other resources including funds, toward the conduct of specified R&D efforts consistent with the agency's mission.[113] The FTTA also provided laboratories legal authority to grant collaborating parties the rights to inventions made during such arrangements, and authorized an agency to allow its laboratories to negotiate patent licenses.[114] Federal scientists received creativity incentives consisting of no less than fifteen percent of patent-generated royalties resulting from a government invention.[115]

2. *Agency Implementation of the FTTA*

Federal agencies have attempted to implement the FTTA and have had mixed results. According to a recent survey of the twelve agencies reporting implementation,[116] the majority of CRDAs have involved either the Public Health Service[117] of the Department of Health and Human Services or the Agricultural Research Service ("ARS") of the United States Department of Agriculture. As of late 1989, ARS had entered into sixty-six CRDAs with

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111. 15 U.S.C. § 3710(a) (1988). Although the 1986 Act made agency delegation of authority to laboratory directors permissive, Exec. Order 12,591, 52 Fed. Reg. 13,414 (1987), mandated agencies shall, within overall funding allocations and as permissible by law, delegate authority to their laboratories to enter into CRDAs. Executive Order No. 12,591, 52 Fed. Reg. 13,414 (1987).

112. *Id.*

113. *Id.*

114. *Id.*

115. 15 U.S.C. § 3710c (1988).

116. The twelve agencies include the Agricultural Research Service ("ARS"), National Institute of Standards and Technology ("NIST"), National Oceanic and Atmospheric Administration ("NOAA"), Department of the Air Force, Department of the Army, Department of the Navy, Department of Energy ("DOE"), Environmental Protection Agency ("EPA"), Bureau of Mines, United States Geological Survey ("USGS"), National Aeronautics and Space Administration ("NASA"), and the National Institute of Health ("NIH"). UNITED STATES GOVERNMENT ACCOUNTING OFFICE, TECHNOLOGY TRANSFER: IMPLEMENTATION STATUS OF THE FEDERAL TECHNOLOGY TRANSFER ACT OF 1986, 26 (1989) [hereinafter GAO REPORT].

117. The Public Health Service includes the National Institutes of Health ("NIH"), the Alcohol, Drug, and Mental Health Administration ("ADAMHA"), the Center for Disease Control ("CDC"), and the Food and Drug Administration ("FDA"). Each agency has established an internal mechanism for implementing the FTTA. *Implementation of the Federal Technology Transfer Act: Hearings Before the Subcomm. on Science, Research and Technology of the House Comm. on Science, Space and Technology*, 101st Cong., 1st Sess. 183 (1989) (statement of Reid Adler, Director of the Office of Invention Development, National Institutes of Health) [hereinafter *FTTA Hearings*].

industrial firms and had at least thirty-two additional CRDAs in negotiation.[118] Since December 1986 the Public Health Service has reported signing one hundred CRDAs with another eighty under negotiation,[119] and the Department of Defense has reported forty-five CRDAs in place or under negotiation.[120] In general, the number of reported inventions increased by forty percent for some agencies between fiscal years 1987 and 1988, and future royalties may be substantial.[121] Current royalty distributions, however, remain meager—a mere $4,617,070 among the 12 agencies implementing the FTTA, $3,946,263 of which was earned by NIH.[122]

Federal agencies remain concerned about existing barriers in implementing the FTTA. Officials from many federal laboratories and agencies believe "the limited authority to conduct proprietary research" restricts effective technology transfer.[123] Prospective industrial collaborators are concerned proprietary information will be made available to competitors under the Freedom of Information Act ("FOIA").[124] A few select agencies have taken affirmative steps to deal with this concern.[125] In any event, providing assurances to industrial collaborators that proprietary information shared under a CRDA will be held in confidence should not prove problematic because the FOIA allows an agency to exempt matters that are "trade secrets and commercial or financial information obtained from a person and privileged or confidential."[126]

3. *Addressing Conflict of Interest Concerns*

The greater concern for many agencies is the types of conflicts of interest created by CRDAs.[127] In particular, collaborative work under CRDAs can create conflicts with an agency's primary mission. Any agency implementing

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118. *See FTTA Hearings*, *supra* note 117, at 152, 153. Most of these CRDAs are directed at developing vaccines to fight animal disease and improving animal and plant production methods. *USDA, Industry Work Together on New Technologies for Agriculture*, Feedstuffs, Aug. 28, 1989, at 25.

119. *See FTAA Hearings*, *supra* note 117, at 182. NIH is the signatory party in about 80% of PHS' CRDAs. *Id.*

120. *FTTA Hearings*, *supra* note 117, at 243.

121. *Id.* at 523.

122. GAO REPORT, *supra* note 116, at 28.

123. *Id.* at 38.

124. *FTTA Hearings*, *supra* note 117, at 523.

125. NIH/ADAMHA's policy statement limits disclosure of confidential and proprietary information "to the amount necessary to carry out the research plan of the CRADA." *FTTA Hearings supra* note 116, at 207. Licensing and CRDA policy statements have been developed by NIH/ADAMHA to promote the free exchange of ideas and information by, for example, preserving the freedom of federal investigators to publish the results of their research. *Id.*

126. 5 U.S.C. § 552b(c)(4) (1988).

127. *See* GAO REPORT, *supra* note 116, at 38-39; Booth, *NIH Scientists Agonize Over Technology Transfer*, 243 Sci. 20 (1989); Culltion, *NIH, Inc.: The CRADA Boom*, 245 Sci. 1034 (1989).

the FTTA is required to "review [its] employee standards of conduct for resolving conflicts of interests to make sure they adequately establish guidelines for situations likely to arise through the use of [CRDAs]."[128] Furthermore, if "an agency is unable to resolve potential conflicts of interest within its current statutory framework, it shall propose necessary statutory changes to be forwarded to its authorizing committees in Congress."[129]

As agencies struggle under congressional mandates to resolve existing and potential conflict of interest dilemmas created by CRDAs and current conflict of interest law, President Bush ordered the Office of Government Ethics to promulgate "regulations that establish a single, comprehensive, and clear set of executive-branch standards of conduct that shall be objective, reasonable, and enforceable."[130] Consequently, agencies are faced with implementing CRDAs within the limits of current conflict of interest regulations and with suggesting possible changes in existing law. The key is to propose standards of conduct that are "objective, reasonable, and enforceable" in light of a public policy environment currently stressing closer collaboration with private industry. A review of existing conflict of interest situations unique to the technology transfer forum may help to resolve this dilemma.

IV. Applicability of Conflict of Interest Law to Technology Transfer

A. *Common Problem Areas*

Generally, an "actual" conflict of interest is a situation in which an employee's outside interests, usually financial in nature, conflict with the full, fair, and impartial performance expected of that employee in his or her official federal duties.[131] An "apparent" conflict of interest, although not defined or regulated by Congress, has been defined formally by the Department of Agriculture as any situation in which a reasonable person might conclude a conflict of interest exists or may exist in the near future if the situation is allowed to continue.[132]

An example of an apparent conflict of interest might be when a government employee working under a CRDA has a fiancee who is an employee of the collaborating company. Although no federal statutory law is violated under this circumstance, the supervising agency may interpret this situation as favoritism toward the company, a violation of agency regulations.[133] An

128. 15 U.S.C. § 3710a(c)(3)(A) (1988).

129. *Id.* § 3710a(c)(3)(B).

130. Exec. Order No. 12,674, 3 C.F.R. 215 (1990).

131. 7 C.F.R. § 0.735-2(d) (1989).

132. *Id.*

133. *See, e.g.*, 5 C.F.R. § 735.201a(b) (1988). "An employee shall avoid any action . . . which might result in, or create the appearance of . . . [g]iving preferential treatment to any

apparent conflict of interest may also arise when a federal employee is perceived as using public office for private gain,[134] impeding government efficiency or economy,[135] losing complete independence in the performance of government duties,[136] making official decisions outside of proper channels,[137] or otherwise affecting adversely the confidence of the public in the integrity of the government.[138]

1. *Financial Interests*

A "financial interest" has been defined as any interest of monetary value that may be directly and predictably affected by the official action of an employee.[139] Congress has not specified a minimum amount of value or control that constitutes a financial interest. However, stocks in business entities held by an intermediary such as a mutual fund may be too remote or inconsequential to affect the integrity of an employee's services, and therefore may be waivable financial interests under 18 U.S.C. § 208(b). Examples of financial interests include stocks, salaries, and consultant agreements.

In addition, federal employees are prohibited from receiving compensation from a source other than the government for the performance of their official duties, which includes work under a CRDA.[140] Government employees cannot receive payment for overtime work from a collaborating party under a CRDA, nor may the employee accept royalty payments directly from a nonfederal party. For purposes of that provision, however, the Office of Government Ethics has determined royalties received from the government under the FTTA or under Title 35 of the patent law are not prohibited compensation.[141] The decision implies the royalty payments are legal so long as they are funnelled through the federal government. Because of this fact, one could logically conclude potential royalties from inventions under a CRDA should not constitute a prohibited financial interest in a collaborating company under 18 U.S.C. § 208.

By law, a government employee cannot participate personally and substantially in a "particular matter" if he or she has a financial interest in one of the nonfederal parties.[142] The employee's financial interests include those

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person." *Id.*

134. 5 C.F.R. § 735.201a(a) (1988).

135. *Id.* § 735.201a(c).

136. *Id.* § 735.201a(d).

137. *Id.* § 735.201a(e).

138. *Id.* § 735.201a(f).

139. 45 C.F.R. § 73.735-.801(b)(1) (1989); *see also* United States v. Gorman, 807 F.2d 1299, 1303 (6th Cir. 1986) (financial interest exists when there is a real possibility of economic gain or loss as a result of government action).

140. 18 U.S.C. § 209 (1988).

141. Letter from Office of Government Ethics to Department of Commerce (Sept. 27, 1988).

142. 18 U.S.C. § 208 (1988).

of a spouse, minor child, or an organization with which he or she is serving or negotiating for future employment.[143] The Justice Department has interpreted the term "particular matter" to include virtually any sort of government activity, such as developing general policy and making rules, which would have a direct and predictable effect on the employee's financial interest.[144] Therefore, a government employee is prohibited from collaborating under a CRDA with a company in which he, his spouse or minor child, or an organization with which he is serving or negotiating for prospective employment, has a financial interest.

The effects of applying this provision to the CRDA arena are dramatic. For instance, a government employee cannot simultaneously consult and collaborate under a CRDA for the same company, even if the two projects are wholly independent of each other. Nor may the employee own a single share of stock in the company with whom he desires to collaborate. Furthermore, while involved in a CRDA, the employee is prohibited from negotiating for post-CRDA employment with a nonfederal collaborating party.

Problems also arise when an employee's spouse is involved. A government employee would be prohibited from collaborating under a CRDA with a company when his or her spouse is employed, regardless of the merits of the proposed project. Moreover, when a federal employee's spouse is a member of a firm likely to seek an exclusive patent license on an invention being developed by the employee, the employee would be prohibited from actively participating in discussions leading to licensing.

Perhaps the most complicated scenario involves companies with spin-offs or venture capital backing. What happens when an employee is consulting with a company funded by the same venture capital group that finances a company with whom the employee wishes to establish a CRDA? What if the employee is a consultant to a company that has a spin-off with whom the employee wishes to enter into a CRDA? The financial interest involved in such cases is so remote it is unlikely to affect adversely the integrity of the government employee involved, and the policy goal of encouraging technology transfer might be better served by allowing the CRDA collaboration to move forward. Thus, applicable federal law might be appropriately waived under such circumstances.[145]

2. *Representational Activity*

Federal criminal law prohibits federal employees from representing others before a federal agency or court concerning any "particular mat-

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143. *Id.*

144. Memorandum from the Office of the Deputy Assistant Attorney General to the Solicitor General of the Interior (Jan. 12, 1987).

145. 18 U.S.C. § 208(b) (1988).

ter."[146] Representational activity includes any communication with the intent to influence.[147] Thus, a government employee cannot attempt to influence a federal agency on behalf of another concerning a license or other right to an invention developed under a CRDA (e.g., when an employee and a company plan a joint commercial exploitation of a government invention as an outside activity). Taken to a logical extreme, an employee may not negotiate on behalf of a company in which he or she is the sole stockholder because the company is a separate legal entity. A government employee is not, however, prohibited from participating in negotiations on his or her own behalf with the government.

3. *Proprietary Information*

Proprietary information includes trade secrets and similar information. As has been discussed, federal employees are prohibited from disclosing trade secrets and similar information obtained in the course of performing official duties.[148] Effective collaboration under a CRDA may require the disclosure of proprietary information to federal employees. Although agreements to maintain confidentiality are permitted under the FOIA per the agency's discretion,[149] proprietary information should be limited to an amount necessary to carry out the research plan of a CRDA to remove communication barriers among government scientists.

Disclosure of unpublished research results is similarly within the discretion of agency directors. Nonetheless, agreements to keep CRDA research results confidential until they are disclosed by mutual agreement, published in scientific literature, or presented at public forum, may be necessary to preserve the government's intellectual property rights.[150]

4. *Post-Employment Restrictions*

Former government employees are prohibited from acting as another's representative to the government in a particular matter involving a specific party or parties.[151] A CRDA with which an employee was substantially involved may constitute such a particular matter. An employee's participation in a CRDA must have been personal and substantial to constitute a violation of this provision.[152] "To participate 'personally' means directly, and in-

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146. *Id.* §§ 203, 205.

147. DEPARTMENT OF COMMERCE, TECHNOLOGY TRANSFER ACT CONFLICT OF INTEREST GUIDELINES 3 (1989).

148. 18 U.S.C. § 1905 (1988); *supra* note 60 and accompanying text.

149. 5 U.S.C. § 552b(c)(4) (1988).

150. Under patent law, public knowledge of an invention destroys its patentability. Once a patent application on an invention has been filed, however, intellectual property rights for that invention are preserved.

151. 18 U.S.C. § 207 (1988); *see also* 5 C.F.R. § 2637.201(d) (1988).

152. 18 U.S.C. § 207(a)(3); *see also* 5 C.F.R. § 2637.201(d) (1988).

cludes the participation of a subordinate when actually directed by the former Government employee in the matter."[153]

" 'Substantially' means that the employee's involvement must be of significance to the matter, or form a basis for a reasonable appearance of such significance."[154] Examples of substantial involvement might include approval, disapproval, or recommendation of a CRDA. "It requires, however, more than official responsibility, knowledge, or involvement on an administrative or peripheral issue."[155] Thus, a government employee's mere participation in research projects prior to the formulation of a CRDA should generally not restrict the former government employee from entering into a CRDA at a later date.

In certain cases, determining whether a CRDA should be treated as a particular matter involving specific parties may depend on the employer's participation in events that gave particularity and specificity to the CRDA. For example, if a government employee (1) personally participated in a stage of the CRDA formulation in which significant requirements were discussed and one or more collaborators were selected to perform services, and (2) actively urged such a CRDA be approved, but the CRDA was actually approved only after the employee left, the CRDA may nevertheless be a particular matter involving a specific party as to the government employee.

To constitute a prohibited activity, the CRDA must involve specific parties both at the time the government employee acts in an official capacity and at the time in question after government service.[156] The CRDA may continue in another form or part and still meet this condition. "In determining whether two particular [CRDAs] . . . are the same, the . . . extent to which the [CRDAs] . . . involve the same basic facts, related issues, the same or related parties, time elapsed, the same confidential information, and the continuing existence of an important Federal interest" should be assessed.[157]

The most common situations in which a former employee would be barred from CRDA collaboration occur when an employee files a patent application on an invention created in a government laboratory and advises the agency that a CRDA should be pursued with company X on the invention. If the employee leaves the agency and the CRDA with company X is approved, the employee is prohibited from representing company X on the CRDA.

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153. 5 C.F.R. § 737.5 (1988).
154. *Id.*
155. *Id.*
156. *Id.*
157. *Id.* § 737.5(c)(4).

5. *Preferential Treatment*

Administrative regulations mandate federal employees to avoid the appearance of giving preferential treatment to any person.[158] Agencies, however, may be tempted, on the part of collaborating companies, to retain an exclusive license to inventions created under a CRDA. While the promise of exclusive licenses to inventions created under a CRDA may be necessary to attract private companies, the government can retain some control over the inventions, and simultaneously alleviate any appearance of preferential treatment, by: (1) issuing separate licenses for the same invention for different purposes; (2) requiring companies provide products commercialized under the license at reasonable prices; or (3) terminating a commercial license if a company fails to bring a product to market in a timely manner, thereby alleviating any appearance of preferential treatment.[159]

A related problem is multiple CRDAs with the same collaborator may give the appearance of favoritism in the collaborator selection. To resolve this problem, the Public Health Service developed a policy for ensuring fairness of access to CRDAs based on various notification activities, such as Federal Register announcements, federal laboratory directory listings, and collaboration forums.[160] Only when the government is the sole desired collaborator and is not promising proprietary rights to the other party is any type of public announcement unnecessary.[161]

B. *Potential Solutions*

CRDAs should be conducted effectively, objectively, and without improper influence. No one would dispute that federal employees should not engage in any conduct prejudicial to the government and should avoid conflicts of private interests with public duties and responsibilities. There may be, however, circumstances in which the public interest in technology transfer generally outweighs the public interest in avoiding an apparent conflict of interest. To deal effectively with such situations, agencies should be prepared to evaluate each CRDA proposal on a case-by-case basis.

1. *Reporting Requirements*

In many respects, administrative reporting and monitoring require-

158. 5 C.F.R. § 735.201a (1988).

159. Although these tactics have been proposed by the NIH with CRDAs involving AIDS research, harsh criticism has been voiced over the ability to enforce such clauses, raising the fear that future agreements designed to bring new drugs to market will offer little economic protection to consumers. *See* Erdman, *AIDS Drugs: Is the Government Research Program a Helping Hand for Patients, or a Handout for the Pharmaceutical Industry?*, Public Citizen, May/June 1989, at 17.

160. *FTTA Hearings*, *supra* note 117, at 171-77.

161. *Id.* at 177.

ments can easily be incorporated into CRDA approval processes. Currently, all agencies are required to maintain deputy ethics counselors who provide authoritative advice and interpretative guidance on conflict of interest matters.[162] Additionally, certain classes of employees are required to file financial disclosures.[163] Administrative regulations require an employee to file a financial disclosure when federal action has an economic impact on a nonfederal party's interests.[164] CRDAs have such an economic impact.

Essentially, agencies involved in CRDA activity could require employees to submit financial disclosure forms in conjunction with CRDA proposals. In so doing, agency deputy ethics counselors could then review the proposal and disclosure form to determine whether a conflict of interest existed and attempt to resolve the conflict before the CRDA is approved. Furthermore, the filing of supplementary statements is required[165] to provide a continuous device for monitoringz potential conflict of interest developments in CRDAs. Methods of resolving financial conflicts of interest may include a change of assignment, withdrawal from the CRDA, construction of a trust, financial divestiture, or concession of a waiver.

2. *Waivers*

An employee who indicates a conflict of interest may exist with a proposed CRDA should be allowed to request a waiver as a means of going forward with the CRDA.[166] In determining whether a waiver is appropriate under the circumstances, the deputy ethics counselor should review the conflict of interest in question. If the counselor determines a financial interest "is not so substantial as to be deemed likely to affect the integrity of the services which the Government may expect from . . . [the] employee" involved in the CRDA, a waiver should be granted.[167]

A standing waiver may also be granted for a recurring situation that is generally too remote or inconsequential to affect the integrity of a federal employee's services.[168] On recommendation by the deputy ethics counselor, this type of waiver would be published as a general rule or regulation in the Federal Register.[169]

3. *Institutionalized Policy Guidelines*

The FTTA requires all implementing agencies to evaluate their conflict

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162. 5 C.F.R. § 735.105 (1988).
163. 5 U.S.C. § 101-111 (1989); 5 C.F.R. § 735.401-.412 (1988).
164. 5 C.F.R. § 735.403(b)(4) (1988).
165. *Id.* § 735.406.
166. 18 U.S.C. § 208(b) (1988).
167. *Id.* § 208(b)(1).
168. *Id.* § 208(b)(2).
169. *Id.*

of interest guidelines,[170] and to propose any necessary changes to Congress.[171] At the very least, agencies should promulgate policy guidelines regarding the applicability of agency regulations to technology transfer situations.

Technology transfer in federal agencies is an evolving mission. Circumstances may exist in which the public interest in a particular project or in technology transfer generally outweighs the public interest in avoiding an apparent conflict of interest. In instances when the potential public benefits of technology transfer are great, agencies should maintain a willingness to consider or reconsider the guidelines and decisions made pursuant to them and to grant a waiver in any appropriate situation. Furthermore, agencies should consider potential constitutional constraints in applying current conflict of interest regulations.

C. *Constitutional and Policy Considerations*

Perhaps the principal consideration in developing conflict of interest standards is to determine whether a rational justification exists for agency regulation. Generally, an agency should show the employee's capacity to perform his government duties are jeopardized or conflict with other factors as a result of a particular situation.[172] In the absence of such a showing, an agency's promulgation and enforcement of conflict of interest regulations becomes nothing more than arbitrary and capricious action. Any rational justification for regulating the conduct of federal employees must rest on the assumption that selecting government employees for regulation is necessary. Defining the problem and assessing a need for regulation is, however, only the first step. Determining the means by which regulation is to take place is the more difficult task.

1. *The Danger of Vagueness*

As a matter of due process, a law is void on its face if it is so vague that persons "of common intelligence must necessarily guess at its meaning and differ as to its application."[173] A law failing to define clearly the conduct it proscribes "may trap the innocent by not providing fair warning" and may in practical effect impermissibly delegate "basic policy matters to policemen, judges and juries for resolution on an ad hoc and subjective basis, with the attendant dangers of arbitrary and discriminatory application."[174] The failure of agency regulation to define explicitly the terms "conflict of interest" and the "appearance of a conflict of interest" implies a lack of consen-

170. 15 U.S.C. § 3710a(c)(3)(A) (1988).
171. *Id.* § 3710a(c)(3)(A).
172. A. NEELY, ETHICS-IN-GOVERNMENT LAWS 56 (1984).
173. Connally v. General Constr. Co., 269 U.S. 385, 391 (1926).
174. Grayned v. City of Rockford, 408 U.S. 104, 108-09 (1972).

sus over when and where such situations actually exist. While federal criminal law specifies prohibited activities, administrative regulation effectively reserves a right for an agency to deem any number of activities as apparent conflicts of interest. The potentially overbroad use of the "appearance of" concept is both standardless and unconstitutional.

2. *First Amendment Rights of Government Scientists*

Several theories for considering the rights of scientists have been proposed. Some scholars argue science has a specially protected status under the establishment clause of the fourteenth amendment because the prohibition on governmental establishment of religion was motivated by the strong intent to prevent religion from interfering with science.[175] An additional basis of protection for research conducted by government scientists may be the first amendment's guarantee of freedom of speech.[176] "To exercise one's right to speak, one must also be free to think, formulate concepts and hypotheses, perform calculations, and if one is dealing with scientific ideas, to plan and carry out experiments."[177] This reasoning "is analogous to the rationale for the protection given to the press in newsgathering . . . . [T]he right to gather information is necessary and integral to the right to publish or disseminate information."[178] "The [Supreme] Court has in some situations distinguished between 'pure speech' and action, . . . and has suggested that restrictions on the latter are more easily justified."[179] In restricting actions, the Court will consider whether the action "is essential to generating and communicating information."[180]

The government may not condition public employment on an individual's relinquishment of constitutional rights on which it could not directly infringe (e.g., freedom of expression and association).[181] "According to this standard, a showing of requisite necessity must be made before a researcher can be forced to relinquish his right to conduct nonfunded research by institutional conditions placed on his employment."[182] Restricting government employees from consulting with private industries while not on official duty imposes a burden on the government. It must establish the conduct is vitally important and cannot be achieved by less restrictive means, the benefits of

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175. Goldberg, *The Constitutional Status of American Science*, 1979 U. ILL. L.F. 1.

176. U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, BIOLOGY, MEDICINE, AND THE BILL OF RIGHTS—SPECIAL REPORT 50-52 (1988) [hereinafter OTA SPECIAL REPORT].

177. *Id.* at 50-51.

178. *Id.* at 51.

179. *Id*; *cf.* Saxbe v. Washington Post Co., 417 U.S. 843 (1974) (upholding restrictions on interviews of prisoners by media).

180. OTA SPECIAL REPORT, *supra* note 176, at 51.

181. Elrod v. Burns, 427 U.S. 347, 361 (1976).

182. Robertson, *The Scientist's Right to Research: A Constitutional Analysis*, 51 S. CAL. L. REV. 1203, 1276 (1977).

which outweigh the loss of the constitutionally protected right to research.[183] If the government cannot meet this test, the regulation functions as an unconstitutional prior restraint on government scientists.

Regardless of the extent of constitutional protection afforded to scientists, all federal employees possess first amendment rights to criticize matters of general concern as citizens.[184] When the criticism involves the operations of agencies in which they are employed, however, the courts have indicated the right to speak must be tempered by the needs of the entire polity for an efficient government.[185] The rationales of the courts involve their balancing of the employee's right to exercise free speech against the government's right as an employer.

3. *Separation of Powers Concerns*

Congress has identified certain activities of government employees that may be deemed criminal.[186] Regulation by the executive branch, however, takes a far broader approach in defining employee misconduct. Presumably, the executive branch, being responsible for the enforcement of law, can develop regulations to ensure the conduct proscribed by Congress is not exceeded. In enacting the criminal prohibitions, however, Congress did not grant enforcement authority to federal agencies; such criminal laws are enforced by the justice department.

The ultra vires doctrine generally prohibits administrative acts beyond conferred authority.[187] This doctrine helps ensure fundamental policy choices will be made by the legislature, and not by officials within the executive branch. It also promotes predictability for those benefited or burdened by regulation, and tends to work against arbitrary decisions of administrators because it limits their discretion in the enforcement process.

Arguably, each branch of government has inherent power to regulate the conduct of its officials. When such regulation conflicts with the intent or scope of law enacted by Congress pursuant to constitutionally proscribed powers, the explicit should prevail over the implicit. Thus, because Congress is given explicit and sole authority to regulate commerce,[188] conflict of interest policy bearing directly on laws passed pursuant to the commerce clause

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183. *See* Elrod v. Burns, 427 U.S. at 362-63.

184. This situation has recently arisen at the United States Geological Survey when an agency employee, using his expertise on his own time to help a private cause, criticized another federal agency's plan. *See* Marshall, *Ethics Debate Sends Tremors Through USGS*, 246 Sci. 570 (1989).

185. *See, e.g.*, Connick v. Meyers, 461 U.S. 138 (1983); Pickering v. Board of Educ., 391 U.S. 563 (1968).

186. 18 U.S.C. §§ 201-209 (1988).

187. *See, e.g.*, Industrial Union Dept., AFL-CIO v. American Petroleum Inst., 448 U.S. 607 (980).

188. U.S. CONST. art. I, § 8, cl. 3.

should be interpreted in light of congressional law. In other words, Congress has expressed a substantial government interest in stimulating commerce via technology transfer that may outweigh administrative regulations by way of the separation of powers doctrine. From this point of view, because executive conflict of interest regulations affect commerce, they are inapplicable to the technology transfers absent specific congressional delegation.

The more contemporary view, however, incorporates the view that the branches of government are not mutual, but are interdependent. This perspective suggests all three branches of government enjoy both a certain degree of autonomy and subservience to the other branches of government:

> Each agency is subject to control relationships with some or all of the three constitutionally named branches and those relationships give an assurance—functionally similar to that provided by the separation-of-powers notion for the constitutionally named bodies—that they will not pass out of control . . . . What we have, then, are three named repositories of authorizing power and control, and an infinity of institutions to which parts of the authority of each may be lent. The three must share the reins of control; means must be found of assuring that no one of them becomes dominant. But it is not terribly important to number or allocate the horses that pull the carriage of government.[189]

The structure of the government prevents any one branch from becoming dominant over another; each has constitutionally proscribed powers unique to it. One unique congressional power is the regulation of commerce. Administrative conflict of interest regulations should in no way hinder the ability to implement policy authorized pursuant to the commerce clause. Deference to congressional regulatory power regarding technology transfer can best be expressed through agency proposals, made pursuant to the FTTA,[190] for Congress to modify existing conflict of interest norms.

V. Conclusion

Several policy considerations must be taken into account in evaluating the application of conflict of interest regulations to technology transfer initiatives of government agencies. A primary purpose of the FTTA is to change the effects of otherwise inadequate compensation of government scientists.[191] When government competes in the wider marketplace for services of experts, conflict of interest laws become part of the job package. If the laws are unduly restrictive, conflict of interest regulations may have the harmful effect of deterring highly qualified persons from entering government services. Any reassessment of existing conflict of interest laws should

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189. Strauss, *The Place of Agencies in Government: Separation of Powers and the Fourth Branch*, 84 Colum. L. Rev. 573, 579-80 (1984).

190. 15 U.S.C. § 3710a(c)(3)(B) (1988).

191. *See Technology Transfer Hearings*, *supra* note 104.

consider the impact their changes will have on attracting and retaining quality personnel.

Attempting to avoid all appearances of conflicts of interest may mean sacrificing other important public policy values. Such absolutes are neither realistic nor in the public interest.[192] "Modification of the laws need not be viewed as a sacrifice of the public interest to the cause of private gain. The ultimate interest of the government in modification of these laws may be just as great as that of private persons or even greater."[193]

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192. *Ethical Perspectives Explored at Conference*, PA Times, Dec. 15, 1989, at 1.
193. A. NEELY, *supra* note 172, at 55.