U.S. Department of Energy
Washington, D.C.

Secretary of Energy
NOTICE
SEN-30A-92
DATE: 12-7-92

SUBJECT: STAYING THE COURSE FOR TECHNOLOGY TRANSFER AT THE DEPARTMENT OF ENERGY

In my notice of September 5, 1989, I outlined the management objectives I felt were necessary to set a new course for the Department of Energy (DOE) in executing its mission responsibilities. On January 23, 1991, I issued Secretary of Energy Notice (SEN) 30-91 that outlined my new course of action for one of our most important initiatives for achieving the Nation's energy, environmental, economic, and national security goals: technology transfer. This update to SEN-30-91 reaffirms my commitment to that course of action and to the National Technology Initiative (NTI).

Because U.S. competitiveness is being seriously challenged in the global market, I feel that it is important to continue to move as quickly as possible to expand and enhance DOE's cooperative work with industry. Shorter product cycles demand faster translation of research and development (R&D) into marketable products and services. Existing transfer processes, while much improved, are still too slow to meet these requirements. We must redouble our efforts to allow the private sector to efficiently and effectively utilize the technologies and capabilities residing in DOE facilities to improve U.S. industrial competitiveness. We must make our processes more efficient and effective. The following "Philosophy of Operations" sets the vision and policy framework for the continuation and reinforcement of the Enhanced Technology Transfer Program at DOE.

PHILOSOPHY OF OPERATIONS: TECHNOLOGY TRANSFER

Statement of Purpose

Preamble:

Through the National Energy Strategy (NES) process, it has become clear that basic scientific research and the development of advanced energy technologies are fundamental to the success of the NES. Further, the success of every technology-related strategy proposed in the NES depends on rapidly transferring the results of research and development activities into use. As demonstrated by the NTI, these fundamental principles apply across a broad range of national strategies, from agriculture to national defense.

At DOE, our challenge is to support the search for fundamental knowledge, and then to help translate that knowledge into practical applications for the U.S. economy and U.S. defense. The DOE programs, laboratories and facilities are a national resource, capable of providing significant scientific, engineering, and technological know-how that can help achieve the goals of the NES, support national security, and help enhance U.S. industrial competitiveness.

We have long been successful at sharing the results of our basic research programs (knowledge transfer)--both to and from the scientific community. We have also proven our ability to support the transfer of applied research activities (direct transfer)--both to and from industry, universities, and State and local governments. Finally, our engineers and scientists have worked successfully with industry to find commercial applications for the results of many basic science and defense weapons research programs (spin-off and dual use technologies).

However, there is more that we can do. By working cooperatively with industry, other agencies, Congress, State and local governments, trade associations, universities, and other organizations, we can help "bridge the gap" between the point where Federal R&D has historically stopped and the point where industry commitment to commercialization can be made. With the leadership and support of DOE and contractor management, the Department's programs, Field Offices, laboratories and other facilities can be more responsive to the needs of U.S. industry. In this way, we can help U.S. industry develop economically and environmentally superior products and processes, create new jobs, enhance the skill level of the U.S. labor force,

and increase the tax base, all of which contribute to U.S. economic strength and national security.

Mission:

DOE's technology transfer mission is to help enhance U.S. competitiveness and national security, by expanding and accelerating the transfer of federally-funded technologies and knowledge into commercial applications by U.S.-based industry.

Goals:

In support of this mission, DOE will:

1. Increase the level of U.S.-based industry participation (including small businesses) in DOE research and development at all stages of program development and execution.

2. Increase the level of DOE program and laboratory activity in transferring technology, consistent with other program missions and authorities.

3. Accelerate the process of transferring technology and knowledge to U.S.-based industry and consumers and State and local governments.

Management Philosophy

Based on the analysis of the public input for the National Energy Strategy, preliminary analysis of feedback generated by the National Technology Initiative, as well as the inputs made by an intra-Departmental working group, DOE has developed a comprehensive, integrated technology transfer strategy. Our approach centers on a philosophy of fostering strengthened collaborative relationships between federally-supported programs and U.S.-based industry throughout all phases of the programs. One of the overriding principles of our approach is that technology transfer can be improved by introducing more "market pull," where technology development efforts are more focused on meeting an identified need. To encourage increased collaboration, we need to:

- Improve the speed of the technology transfer process; and

- Improve the predictability of that process.

Improving the speed of the process is supported by the principles of localized decision-making, flexibility to meet the varying needs of outside partners, and simplified procedures. Improving the predictability of the process is supported by the principles of management oversight, consistency and accountability across operations, and clearly articulated policies and guidelines. Achieving the appropriate balance requires a close partnership between DOE, its contractors, industry, and other participants in the technology transfer process.

Strategies

DOE will build on existing, successful technology transfer models to pursue the following strategies in accomplishing our goals:

Goal 1: Increase U.S.-based industry participation

- Increase the use of cost-shared, collaborative agreements to better leverage public and private funds and to further encourage "market pull" of new technologies into and out of DOE programs, laboratories, and facilities.

- Protect technologies and information that can be used to enhance U.S. competitiveness or national security, to the extent permitted by U.S. law, international treaties and agreements, and consistent with other DOE missions.

- Establish clear policies on participation in collaborative programs and licensing agreements to ensure that the economic arid technological benefits accrue to the U.S. economy.

- Encourage all Departmental elements and other facilities to ensure fairness of opportunity for potential participants, recognizing the special needs of small and disadvantaged businesses and non-profit organizations.

Goal 2: Increase DOE participation

- Establish technology transfer as a fully-integrated mission of all Departmental elements, laboratories, and other appropriate facilities and evaluate the performance of each organization relative to fulfilling this mission.

- Provide the sustained funding and resources necessary to implement the technology transfer mission, including support for cost-shared programs to develop "spinoff" and "dual use" technology applications and the development of generic, pre-competitive technologies.

- Expand the use of incentives and recognition programs that encourage participation of Federal and contractor employees in the technology transfer program, including recognition and capability for accelerating the conversion of DOE technology and know-how into a form that can be protected, such as patents, copyrights, data, engineering drawings, etc.

- Maintain support for basic scientific and technological research programs that are important to the Nation's long-term energy, economic, environmental, and national security goals, in order to retain a national pool of scientific and engineering expertise.

Goal 3: Accelerate the process

- Develop more effective technology transfer partnerships between DOE, its laboratories and other facilities, other Federal agencies, State and local governments, universities, industry, and various professional and industry associations.

- Extend the use of end-user and technical advisory groups, industry consortia, joint ventures, and other interactive mechanisms to ensure industry input in all phases of research and development.

- Improve "outreach" to industry, provide greater access to facilities that promote technology deployment, and increase the exchange of personnel and information between the laboratories, production plants and other facilities, and universities and industry.

- Eliminate administrative barriers to collaboration between industry and DOE or its agents by simplifying procedures and promoting greater consistency across operations.

Roles and Responsibilities

There are four general levels of management at DOE with line responsibility for developing and implementing the Department's technology transfer program:

- The Secretary of Energy. As the senior Departmental official, the Secretary of Energy provides the broad policy direction for the Department and implements technology transfer programs and policies through the Program Secretarial Officers.

- Program Secretarial Officers (PSOs). This category includes Assistant Secretaries and Directors who have line management responsibilities for DOE's R&D and technology transfer programs (e.g., Energy Research, Fossil Energy, Defense Programs, Conservation and Renewable Energy, Environmental Restoration and Waste Management, etc). Some of these officers also have management oversight responsibility for DOE's Field Offices, laboratories and facilities.

- Field Office Managers. These offices include the nine field offices, their affiliated area offices and regional support offices. In the case of Fossil Energy, this category may also encompass the Energy

Technology Centers at Morgantown, WV, and Pittsburgh, PA, for certain activities.

- Laboratory Director or Equivalent. Most of DOE's laboratories and facilities are run by Management and Operating (M&O) contractors. While the titles may vary, each laboratory and facility has a lead manager, employed by the contractor, who acts on behalf of the contractor and in furtherance of DOE policy in conducting technology transfer activities.

The broad roles and responsibilities of each of the line management levels are as follows:

DOE Secretary

- Establish the broad policies and guidelines that serve as the consistent framework within which the Department's technology transfer activities are conducted.

- Coordinate with other agencies, Congress, and other national and international organizations in establishing policies and programs that facilitate private sector access to the scientific and technological capability of DOE and its laboratories and facilities.

- Provide the required financial and human resources, including those needed for intellectual property protection and training and education, to support the technology transfer missions of DOE and its laboratories and other facilities.

- Delegate, to the extent feasible, decision-making for the technology transfer program to the appropriate organizations for more effective implementation of the program and provide adequate flexibility for these organizations to be responsive to the needs of the marketplace.

- Establish and communicate the standards of performance and success by which these organizations will be measured and review that progress.

Program Secretarial Officers

- Determine each program's technology transfer role within the broad policy framework of the Department and consistent with other programmatic missions and statutory authorities.

- Provide input to the development of Departmental policies and procedures, assure coordination of activities that have multiprogram implications, and promote the sharing of information on activities and "lessons learned" in technology transfer both inside and outside DOE.

- Develop the supporting policies, strategies, and plans to implement each program's technology transfer mission, consistent with other program missions, and to further delegate decision-making responsibility, as appropriate, to the Field Offices and facility directors.

- Seek the necessary resources to implement these plans, including intellectual property protection, and maintain oversight of those resources to assure appropriate uses.

- Evaluate the progress and effectiveness of these technology transfer programs, whether they are managed directly by the program office or whether they have been delegated to a field office manager or facility director.

- Conduct outreach initiatives that focus on program-specific, third-party participants, such as industry consortia, State and local governments, universities, trade associations, etc., and support DOE-wide outreach activities.

Field Office Managers

- Support and implement the directions and policies of the Secretary and Program Secretarial Officers.

- Assist in formulating and refining Departmental and programmatic policies and procedures.

- Negotiate appropriate technology transfer contract provisions with the M&O contractors on behalf of DOE.

- Review and approve collaborative agreements in consultation with the Program Secretarial Officers.

- Develop and improve local procedures for processing these agreements in a timely manner consistent with the guidance of DOE management.

- Appraise and report on the technology transfer program of each DOE laboratory and facility.

- Assure protection of intellectual property and commercially valuable information for the technology transfer mission.

Laboratory Director or Equivalent

- Plan and conduct the laboratory or facility technology transfer program.

- Provide input on policies and procedures.

- Comply with contract provisions and any other agreed-upon policies, and define supporting laboratory facility procedures where required.

- Plan, monitor, and evaluate the laboratory's or facility's technology transfer program, consistent with departmental and programmatic guidance.

- Request adequate funding for the laboratory's or facility's technology transfer program.

- Demonstrate fiscal and mission responsibility to all missions while conducting the technology transfer mission.

In addition to these line management offices, the Secretary of Energy relies on senior staff officers to advise him and help implement his policy directions. Three of these officers have specific responsibilities for supporting technology transfer:

The Science and Technology Advisor to the Secretary (ST-1) is responsible for advising the Secretary on cross-cutting science and technology matters, including technology transfer. On technology transfer matters, ST-1 is assisted by the Deputy Science and Technology Advisors for Civilian Labs, for Civilian R&D, and for Defense Programs and by the Director of the Office of Technology Utilization, as defined in SEN-33-91 "Departmental Management of Science and Technology" issued July 15, 1991.

Assistant Secretary for Domestic and International Energy Policy (EP-1) is responsible for reviewing major technology policy initiatives, including technology transfer and utilization policies and initiatives that cut across program lines to assure consistency with approved national technology policies. EP is also responsible for leading the development of DOE policy related to emerging technology issues, such as technology transfer to developing countries and critical technologies. ST-1 will provide input to the development of these policies, including analysis of the impact of these policies on DOE's R&D and domestic technology transfer activities.

The General Counsel (GC-1) is responsible for providing legal advice on technology transfer issues, for protecting and licensing intellectual property owned by the Government, and for assuring M&O contractor protection of intellectual property developed at DOE facilities. In this regard, GC-1 is assisted by headquarters and field counsel, and by patent counsel.

Authorizations

As part of the National Defense Authorization Act for fiscal years 1990 and 1991 (Public Law 101-189), Congress enacted the National Competitiveness

Technology Transfer Act (NCTTA) of 1989. The law further amends the Stevenson-Wydler Technology Innovation Act of 1980, which was previously amended by the Technology Transfer Act of 1986. The NCTTA directed DOE to offer contract provisions to establish technology transfer as a mission of DOE Government-Owned, Contractor-Operated (GOCO) research and development (R&D) laboratories setting forth new contract provisions and operating requirements for government agencies and their GOCOs. In addition, the law provides GOCO R&D laboratory directors with the authority to negotiate and enter into Cooperative Research and Development Agreements (CRADAs) subject to approved joint work statements, similar to authority previously granted to the directors of Government-Owned, Government-Operated (GOGO) R&D laboratories.

The technology transfer mission of the R&D laboratories, including CPADAs, will be conducted in a manner that is consistent with the policy, principles, and purposes of the Stevenson-Wydler Technology Innovation Act of 1980 (as amended) (15 U.S.C. 3710(a)); Section 3132(b) of Public Law 101-189; chapter 18 of title 35, U.S. Code, commonly referred to as Bayh-Dole (35 U.S.C. 200 et seq); Section 152 of the Atomic Energy Act of 1954 (as amended) (42 U.S.C. 2182); Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5908); and Executive Order 12591 of April 10, 1987, and consistent with the overall technology transfer mission of the Department.

The Science and Technology Advisor will coordinate departmental efforts to implement this enhanced technology transfer strategy, including developing recommendations for my approval on any required changes in policies and organizational responsibilities.

James D. Watkins
Admiral, U.S. Navy (Retired)