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CRADA Final Report
for
CRADA Number ORNL95-0339

**OAK RIDGE
NATIONAL
LABORATORY**



**DEVELOPMENT OF A TECHNOLOGY
STRATEGY FOR THE STATE OF TENNESSEE**

B. G. Eads
Oak Ridge National Laboratory

A. W. Neel
Tennessee's Resource Valley

Prepared by the
Oak Ridge National Laboratory
Oak Ridge, Tennessee 37831
managed by
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Final Report
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with
Tennessee's Resource Valley

Abstract

The Department of Energy supports and continues to lead in cultivating new initiatives in federal-state partnerships. The resources and capabilities of the DOE facilities should be used to enhance the economic growth of the U.S. and the states have demonstrated expertise and commitment to economic development. DOE seeks to assure that the principal economic benefits of its collaboration with the private sector flow to the U.S. taxpayer. Specifically, under U.S. Code, Title 15, Chapter 53, federal laboratories should "provide means of access..." to scientific and technological developments (Section 3701) and "provide technical assistance to State and local government officials" (Section 3710).

The Department of Economic and Community Development (ECD) has the responsibility in Tennessee to provide the technological vision and leadership required for long-term growth and prosperity for the state in the global marketplace. Through the sponsorship of new and innovative programs in assisting existing industry, fostering endeavors in research and development, and aggressive pursuit of federally-sponsored development programs, ECD seeks to advance the State's competitive position, enhance the State's ability to foster new business growth and meet the economic and security needs of the State's citizens.

ECD has found that collaborations with Lockheed Martin Energy Research Corporation, and the DOE operations located in Oak Ridge, Tennessee, significantly benefits the State. ECD has created a senior executive advisory group for the Commissioner and developed plans for establish a high technology office for the State. Energy Research and ECD believe that their common interests and goals create a unique opportunity to demonstrate the commitment to America's economic leadership. Increased collaboration will be created for developing a technology strategy for Tennessee, employing technological advantages in the State, and advancing the implementation of technology in the private sector. To this end, Energy Research and ECD established and jointly support the position of Chief Scientific and Technology Advisor to the Commissioner, located in Nashville.

Statement of the Objectives

The primary objective is to develop and facilitate the implementation of strategies and plans which foster economic growth through the adoption and use of science and technology.

Other functions include: (1) providing information/advice, response to inquiries (internal and external), (2) staffing the Tennessee Science and Technology Advisory Council, and (3) developing information and analyzing data which characterizes the science and technology assets of the state.

Benefits to the Funding DOE Office's Mission

Significant contributions to or the formation of three major programs have resulted from this CRADA activity. These programs and related benefits are:

1. The Tennessee Information Infrastructure (TNII)

This program creates the high-speed public sector information infrastructure for the state. The CRADA activities served as a catalyst for various agencies and organizations to come together to plan and implement a new information infrastructure for the State of Tennessee. Results include enhanced and expanded communications capability between DOE facilities and research institutions and institutions of higher education. This network enables delivery of educational programs into and out of the DOE complex. It facilitates interactions with companies interested in Oak Ridge technologies. The greatest impact is on the state's educational systems, K-12 and higher education, in delivery of information, data and research results directly to the student's desk.

2. Tennessee Manufacturing Extension Partnership

CRADA activity included preparation of a winning proposal to the Department of Commerce to launch a greatly expanded program of technology deployment in the state. Technology consulting and assistance is provided to small and medium manufacturers to help them become more competitive. The DOE Complex has been a major participant in providing this assistance. This effort has resulted in technology transfer from Oak Ridge. It has also aided in maintaining technological relevance and viability of the manufacturing technological assets in Oak Ridge.

3. Tennessee Technology Development Corporation

The Tennessee Technology Development Corporation (TTDC) is a newly created non-profit corporation to conduct science and technology-centered economic development in TN. It institutionalizes many of the functions supported in this CRADA activity over the past five years.

TTDC will focus on two primary activities, (1) stimulate the formation and growth of companies which are high in technology content and pay high wages, and (2) foster continuation and expansion of the science and technology base of the state as a source of economic development.

Key points to consider relative to TTDC and the associated funding:

- a. This is an investment for the future.
- b. This provides organization and funding for technology-driven economic development.
- c. Other states have similar programs and are enjoying success.
- d. TTDC provides the potential for long-term support to build the state's S&T infrastructure and promote the creation and growth of high tech businesses.
- e. Having an organization outside of state government provides the essential flexibility to act and work with the private sector.

TTDC will provide assistance to existing and start-up companies to gain information and access to technologies that can help them grow. Efforts will be concentrated on technology-intensive companies such as information technology, software, environmental, biotechnology, medical technology, etc.

The science and technology (S&T) base will be expanded through competitively selected programs:

- to provide seed funding to attract new federal S&T programs and facilities.
- to facilitate partnerships to attract new S&T capabilities,
- to make investments through loans and/or grants to promote cooperative R&D between industry and universities.

Technical Discussion of Work Performed by All Parties

See section on benefits above for description.

Inventions

None

Commercialization Possibilities

Although not directly applicable in terms of commercialization of specific technologies, it is important to note that the new Development Corporation is expected to be a factor in fostering and facilitating commercialization of DOE technologies through its work with technology firms throughout the state.

Plans for Future Collaboration

The staff and board of directors of the new Technology Development Corporation will work proactively with the DOE complex to facilitate collaborative activities. Examples could include cooperative R&D programs with universities and private sector firms in the state.

Conclusions

Cooperative federal-state initiatives, such as implemented under this CRADA, are very valuable in creating new relationships. The result is a breaking out of past business practices to create new mechanisms for cooperation and collaboration. This effect occurs not only between the DOE and the state, but it also spills over into the organizations and institutions with which both normally interact.