2

CONF-9007106--13

The Sandia National Laboratories Technology Transfer Program for Physical Protection Technologies

SAND--90-0723C

DE90 013838

by
Mary Green
Dennis Miyoshi
Barbara Dry

Introduction. As the Lead Laboratory for the Department of Energy in the field of physical security, Sandia National Laboratories has had the opportunity to collect extensive amounts of information on the technologies of physical security. Over the past 15 years, the volume of this knowledge has become so extensive that Sandia is now taking steps to make this information as available as possible to the DOE community and, where possible, other government agencies and NRC licensees. Through these technology transfer efforts, there are also programs available that allow cooperative research agreements between Sandia and the private sector as well. Six different technology transfer resources are being developed and used by the Safeguards Engineering Department:

1. Tech Transfer Manuals
2. SAND documents
3. Safeguards libraries
4. Training courses & conferences
5. Technical assistance & tours
6. Cooperative Research & Developments Agreements (CRADAs)

1. Tech Transfer Manuals. This is a series of ten documents that are intended to serve as a general introduction and reference to the various technologies associated with the physical protection of sensitive facilities. In general, they cover the following:

- -- the objective of the technology
- -- how the technology fits into a total physical protection system
- -- the various types of products available on the commercial market
- -- the strengths and weaknesses of the different product types
- -- installation and calibration guidelines
- -- possible applications
- -- maintenance recommendations
- -- approximate costs
- -- product lifespan

Five of these ten Tech Transfer Manuals have been published. They are

Entry-Control Systems (UCNI)
Access Delay, Vol. I (UCNI)
Access Delay, Vol. II (Classified-Confidential)
Video Assessment (UCNI)

Protecting Security Communications (UCNI)

Two additional manuals will be available by the end of the summer:
Exterior Intrusion Detection Systems (UCNI)
Alarm Communication & Display (UCNI)

The remaining three manuals should be released in early 1991:
Interior Intrusion Detection Systems (UCNI)
Insider Protection (UCNI)
Protective Force Equipment (UCNI)

UCNI (Unclassified Controlled Nuclear Information) is a fairly recent DOE classification of information which allows it to be shared with authorized personnel who have a need to know. This access to UCNI material does not have to be recorded but it does have to be protected, and the penalties associated with an illegal transfer of the material are very high.

At this time, these Tech Transfer Manuals are free and available to all DOE and DOE contractor personnel by request. DOE and DOE contractor personnel who are working with Sandia's Safeguards Program may request copies of these documents directly from Sandia Dept. 5240 (Mary Green, 505-844-7746). Other DOE, government agencies, and NRC licensees can obtain these documents according to UCNI Distribution Guidelines through the Office of Scientific Information (OSTI). To initiate a request to OSTI, call Judy Young/DOE HQ at (301) 353-6430.

2. SAND Documents. In order to share information learned through research, testing, and development, Sandia publishes SAND documents. Sandia's Safeguards Program uses SAND documents as a means of publishing results of tests performed at the laboratories on prototype and commercially-available sensors and other physical protection products. Most of these reports are unclassified and available to the public.

To find out what is available, watch for announcements in Sandia's Quarterly Report, or contact Mary Green (505-844-7746). These reports are also available through the main Sandia library (505-845-8187).

3. Sandia's Safeguards Libraries. Two years ago, Sandia's Safeguards Program began an effort to collect and organize the huge volume of written technical material that had been accumulating in desks, filing cabinets, and book shelves for the past 15 years. This effort is now evolving into a series of Safeguards Libraries, with one to be assembled for each of the major Safeguards technologies. Each collection of technical reports, memos, articles, vendor brochures, test data, and maintenance manuals is being cataloged on a PC-based library system which can search for particular documents, keywords, authors, or subjects. The Exterior Sensor and Interior Sensor collections are now complete, with over 2000 indexed records. The Access

Delay library will be completed by summer of 1991, while the Entry-Control, Video Assessment, Alarm Communication, and Insider Threat libraries are scheduled for completion over the next 3 years.

This resource is being made available through phone-in requests by DOE and DOE contractor personnel only. To access, call the Safeguards librarian at (505-844-7648) between 10 a.m. and 2 p.m., Monday through Friday. If the librarian is unable to locate a particular resource you are seeking, your call will be routed to the project leader of the appropriate technology. After the information has been located, it will be faxed to you if it is fairly short. Extensive copying may take as long as two weeks, and will be mailed when ready.

4. Training Courses & Conferences. Sandia has had the opportunity to put on several workshops and courses on various physical protection subjects. Recent offerings included:

- -- Airspace Monitoring Workshop
- -- Entry-Control Workshop
- -- Physical Protection Technology UPDATE
- -- International Training Course on Physical Protection of Nuclear Materials and Facilities
- -- Performance Testing Workshop for the Nuclear Regulatory Commission

The next scheduled event is the Insider Protection Workshop scheduled for September 12-14, 1990 in Albuquerque, New Mexico. This particular event will be classified. To find out about other upcoming events, watch the Sandia Quarterly Report or contact Mary Green (505-844-7746). These workshops are generally free, although attendance may be restricted.

One additional course resulting from Sandia technology and research is the Physical Protection Systems course taught regularly by B. E., Inc. For information as to course costs and scheduled offerings, call 803-259-2346.

5. Technical Assistance & Tours. The technical experts at Sandia are available for consultation either over the phone, through tours of Sandia, or through site visits. Very SHORT phone consultations and tours are free, however, preference is given to DOE applications. Longer consultations or site visits may require a contract with Sandia. In general, this assistance is restricted to U.S. except where specifically approved by DOE Headquarters. To make arrangements, call Mary Green (505-844-7746).

6. Cooperative Research & Development Agreements. As a result of the National Competitiveness Technology Transfer Act of 1989, Sandia now has the authority to enter into agreements with private companies under Cooperative

Research and Development Agreements (CRADAs). A CRADA is different from a contract, grant, or typical cooperative agreement, and is intended to

-- Enhance U.S. economic competition
-- Focus on market pull for rapid commercialization
-- Apply lab strengths to problems of national importance
-- Emphasize partnerships with industry and universities
-- Create lasting value to the taxpayer.

Through Cooperative Research and Development Agreements, Sandia may negotiate to

ACCEPT
Personnel -- Services -- Property -- Funds
from collaborating parties,

PROVIDE
Personnel -- Services -- Property -- (X)
to collaborating parties,

GRANT (in advance) licenses/assignments while Sandia retains nonexclusive license to practice invention, and

WAIVE government ownership rights to an invention made by a collaborating party.

At this time, the only major restriction is that preference will be given to those arrangements that will most enhance the U.S. economic position. To obtain additional information, contact Dennis Miyoshi (505-844-3163) or Mary Green (505-844-7746).

Conclusion. Sandia National Laboratories is anxious to share with the DOE, other government agencies, and the private sector whatever technology is available and appropriate in their physical protection program. The various resources now available include the Tech Transfer Manuals; SAND documents; the Safeguards Libraries; training courses and conferences; technical assistance and tours; and Cooperative Research and Development Agreements.