Security Equipment and Systems Certification Program (SESCP)

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INTRODUCTION

Sandia National Laboratories (SNL) and Underwriters Laboratories, Inc., (UL) have jointly established the Security Equipment and Systems Certification Program (SESCP). The goal of this program is to enhance industrial and national security by providing a nationally recognized method for making informed selection and use decisions when buying security equipment and systems. The SESCP will provide a coordinated structure for private and governmental security standardization review. Members will participate in meetings to identify security problems, develop ad-hoc subcommittees (as needed) to address these identified problems, and to maintain a communications network that encourages a meaningful exchange of ideas. This program will enhance national security by providing improved security equipment and security systems based on consistent, reliable standards and certification programs.

BACKGROUND

National and international security industries are presented with unique challenges and opportunities in the current post cold-war era. These include the evolution and emergence of new splinter political and fanatical groups as a result of the new world order, as well as economic constraints on national budgets and competitive challenges to U.S. industry. In this environment,

a unique new set of security needs is emerging. The grave need for developing solutions to these security-related problems at the international, national, and local level is real and immediate.

International Problems

Numerous international incidents over the last decade have highlighted the need for more effective and reliable security systems throughout the world. For instance, the Pan Am Flight 103 disaster in the late 1980s revealed major weaknesses in the entire European airport security system. Subsequent reviews of U.S. airports by the FBI and the FAA showed potential for similar breaches in security.

National Problems

More recently in the U.S., a lone fanatic crashed the entrance gate at Three Mile Island, and terrorists bombed the New York City World Trade Center and the federal building in Oklahoma City. These incidents and others raise serious questions about the vulnerability of our nuclear complex, our government buildings, and commercial security systems. In the case of our nuclear sites, any security incident at one of those facilities could have extremely high—or immeasurable—dollar-value consequences.

Law Enforcement Problems

Law enforcement officials also struggle with inadequate security measures on several levels. Local law enforcement agencies, for example, cannot communicate electronically with the FBI's nationwide fingerprint system. In addition, burglaries, bank robberies, and prison riots/escapes add further strain to the already burdened police security systems.

Another big problem for police departments is the amount of false security alarm calls. Roughly 13% of all calls to the police for service are for response to alarms, and out of those, nearly 99% are false alarms. Police in cities such as Dallas, Boston, Bethesda, Las Vegas, and Troy, New York, are taking measures to reduce this trend, such as charging fines, ceasing to respond after a certain number of false alarms, and even ceasing to respond to any alarms at all.

Insurance Company Problems

The recent flurry of natural disasters in this country has also significantly impacted the insurance industry, and thus the business environment, for the foreseeable future. The tremendous losses sustained by the insurance industry, coupled with a declining return on their investments, have radically altered the actuarial and underwriting practices of all major insurance carriers.

The development of standards and certification programs for security systems could reduce these problems and improve international, national, and private security systems. Current security-related standards obviously do not meet the many security needs. Unfortunately, an examination of activities in the security field shows a jumble of standardization efforts by various groups and a patchwork of standards and specifications. Many trade associations exist and have tried to write product or installation standards. However, due to extreme competitive pressures, progress with these standards has been less than the growing number of problems dictate. In addition,

there remains an inadequate certification of security components and systems. As a result, most of today's security systems have gaping vulnerabilities.

PARTICIPANTS

As initial participants, SNL contributed the security-related expertise; UL provided the standardization and certification expertise. This program has quickly expanded to include experts from other government agencies, private industry, research laboratories, and universities.

Due to their different security-related backgrounds and missions, Sandia National Laboratories and Underwriters Laboratories, Inc., formed this partnership to attack some of the security problems, especially those that can be solved through standardization and certification. These challenges can be addressed through a combination of their technology and test capabilities, as well as the contributions of other appropriate agencies.

Underwriters Laboratories, Inc.

Founded in 1894, Underwriters Laboratories, Inc., is a not-for-profit organization that has been formed to establish, maintain, and operate certification laboratories. These laboratories examine and test devices, systems, and materials to determine if they are hazards to either life or property—and to what extent. Underwriters Laboratories, Inc., is an independent, third party standards development and certifying organization. In the private sector, UL monitors security systems and their installation for insurance companies and evaluates components and systems for the low to medium security community. They also evaluate and certify equipment installers and identify the level of protection and conformance required by individual installations. This work is facilitated by standards developed and maintained by UL technical staff.

Sandia National Laboratories

Sandia National Laboratories is a multiprogram laboratory funded by the Department of Energy (DOE). As DOE's lead lab in physical security research and development, SNL has extensive experience in security analysis and in designing/implementing security systems and components, primarily for the government and maximum-level security community.

Other Participants

Participants in the two meetings of SESCP have included government agencies, security manufacturers, insurance companies, end users, standard writers, and trade associations. The following is a list of the participating organizations.

Advance Safeguards, Inc.	Interagency Advisory Committee on Security
American Society for Testing and Materials	Equipment
American Insurance Services Group, Inc.	IAPSC
Aritech Corporation	LaGard, Inc.
CADDX-Caddi Controls	National Fire Protection Association
Computer Sciences Corporation	National Reconnaissance Office

Defense Logistics Agency
Department of Energy
Department of the Air Force
Department of Transportation
Digital Equipment Corporation
FAA Technical Center
Federal Bureau of Prisons
Fort Belvoir Army PIPE Division
Gage Babcock and Associates
General Service Administration

Naval Criminal Investigation Service
Naval Criminal Investigative Service
Naval Criminal Investigative Service
Participants at the two meetings of SESCP
  also included:
Russell Corporation
Sargeant & Greenleaf, Inc.
Security Industry
Simplex Time Recorder
U.S. Postal Inspection Service

PROPOSED PROGRAM

The Security Systems Certification Program will address both private and public security needs and interests by performing the following:

- requirement specification
- training
- standards development
- product testing and certification (both systems and components)
- vendor qualification
- installation conformity
- product development and/or enhancement.

To accomplish these tasks, advanced technological capabilities and resources will be required. A logical choice is a joint venture (overlapping current UL, SNL, and other partner operations). The participation of SNL will permit segmentation of activities based on capabilities, resources, security requirements, and corporate mission. Another reason for Sandia's participation is that many of the certification activities will include classified products and services that fall outside the scope and charter of private concerns, such as UL. However, much of UL's current activity does fall within the scope of this new program, such as the certification program for the Defense Investigative Service (DIS). In this case, a system was developed that includes an application specific standard, UL2050, and a certification program. The net result has been a considerable cost reduction to the Department of Defense (DoD) contractors that can be passed on to DoD.

PROPOSED OUTPUT

The current proposed product of the SESCP will be similar to that used by the FDA. A *performance label* will be developed for security products, and a directory will be compiled identifying these products as performance tested. The Interagency Advisory Committee on Security Equipment has played a large role in developing this concept. With this type of testing, the security industry and users will be able to save money by using the performance data to

compare products and determine which ones best meet their requirements. A draft set of protocols for testing have been developed for interior passive infrared (PIR) sensors. At the next SESCP meeting in August, the entire SESCP membership will have an opportunity to comment on the draft document. The next step will be to use the agreed upon protocols to test several candidate PIR sensors. The label and supporting testing data can then be analyzed by the membership to verify that the required data has been reliably produced by the protocol.

CONCLUSION

In the future, many new security problems will arise as our world becomes more complex and interconnected. To help meet these challenges, a certification program is critical. This program—initially involving at least SNL and UL—will help utilize the investment that has been made in SNL during the cold-war years by transferring technology between the public and the private sector. The unique facilities already developed at government expense will be used for research and development of security-related products and services, and for developing standards and certification test programs. Eventually, this research will help develop and enhance U.S. industry's technological position in world markets. Finally, the establishment of a Security Systems Certification Program helps meet the universal challenge of increasing security threats and vulnerabilities.

Security is often addressed in a reactive versus a proactive mode, e.g., spending hundreds of millions of dollars *after* the bombing of Pan Am 103 in an attempt to prevent similar tragedies. The proposed Security Equipment and Systems Certification Program is a proactive endeavor in the support of industrial and national security. Educating the industry and users, as well as coordinating the SESCP Program, will be a joint effort between SNL, UL, and other program members.

For further information, including meeting minutes and current activities, SESCP's Home Page may be accessed at the following address: *http://www.interaccess.com/ul/* on the World Wide Web.