

**PRIVATE SECTOR INVOLVEMENT
IN THE
U.S. PROGRAM OF TECHNICAL ASSISTANCE TO IAEA SAFEGUARDS***

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ABSTRACT:

The U.S. Program of Technical Assistance to IAEA Safeguards (POTAS) relies on technical expertise found in the U.S. private and public sectors. Since 1993, the International Safeguards Project Office (ISPO) has sought to increase the role of the private sector in POTAS. ISPO maintains and continues to develop a database of U.S. companies that have identified themselves as being interested in providing technical expertise to the IAEA. This database is used by ISPO to find appropriate contractors to respond to IAEA requests for technical assistance when the assistance can be provided by the private sector.

The private sector is currently providing support in the development of equipment, training, and procedure

preparation. POTAS also supports the work of private consultants. This paper discusses ISPO's efforts to identify suitable vendors and discusses conditions that hinder more substantial involvement by the private sector. In addition, the paper will discuss selected projects that are currently in progress and identify common problems that impede the progress and success of tasks performed by the private sector.

BACKGROUND:

The U.S. Program of Technical Assistance to IAEA Safeguards (POTAS) is a major part of the overall United States Support Program (USSP) to IAEA Safeguards. It began in 1977 and since that time, the U.S. has provided over \$117 million in extrabudgetary support for over 600 tasks.

In 1993 the General Accounting

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Office (GAO) evaluated POTAS to assess the contribution made by POTAS to the IAEA Department of Safeguards. During this evaluation, the GAO auditors spoke with members of the International Safeguards Project Office (ISPO), the Technical Support Coordinating Committee (TSCC)**, the International Atomic Energy Agency (IAEA), representatives of the national laboratories, and representatives of the private sector companies that had performed POTAS tasks on behalf of the IAEA. Among the findings of this audit was that POTAS did not sufficiently utilize the capabilities available in the U.S. private sector. Less than 20% of all tasks funded under POTAS were performed by the private sector.

As a result of this finding, the Technical Support Coordinating Committee authored a policy statement to provide guidelines for the selection of contractors and directed ISPO to identify qualified private sector vendors that are interested in providing support to the IAEA under POTAS. The policy statement reflects U.S. law which forbids competition between the public and private sectors. The policy statement was adopted by the newly formed Subgroup on Safeguards Technical Support, the successor to the TSCC, when U.S. support to the IAEA was reorganized in 1994.

VENDOR DATABASE:

Since mid-1993, ISPO has placed four advertisements in Commerce Business Daily and one advertisement in Nuclear News. The advertisement identifies ten areas

of expertise that are currently reflected in IAEA task requests, but generally encourages responses from companies with skills that could be applied to international safeguards. Table 1 identifies the expertise and skills that are currently sought from the private sector (see Exhibit A). Companies are asked to indicate their interest by sending a copy of their corporate statement to ISPO.

All information received by ISPO is kept on file for future reference. For this purpose, ISPO developed a database to cross-reference common areas of IAEA requests with companies that are qualified to provide the support required. ISPO consults this database to identify companies that are suitable for specific IAEA task proposals.

To date, the response to these advertisements has not been as strong as expected. Approximately 130 businesses have responded. Very few companies with expertise in the area of information technology, an area of notable growth for the IAEA, responded. Some companies that responded are more qualified to work in nuclear safety than safeguards. Although no preference is given to small businesses, a large number of the respondents fall into this category. While this is not necessarily a drawback, it indicates a lack of interest on the part of larger corporations. ISPO is considering other advertising media in hopes of attracting more interest from the latter.

In a related initiative, ISPO is attempting to identify Americans living in Vienna that have skills applicable to the work of the Agency. This will enable ISPO

** The Technical Support Coordinating Committee (TSCC) was the multi-U.S. Government Agency Committee that determined the allocation of support funds. It has since been succeeded by the Subgroup on Safeguards Technical Support (SSTS).

to address future IAEA requests for short-term consultants in a more timely and cost-effective manner. Resumes are being collected from interested individuals who will be contacted when requests are received.

CONTRACTOR SELECTION:

When ISPO receives a task proposal (SP-1) from the IAEA, our first step is to determine the appropriate sector. Only those tasks that 1) require unique capabilities not found in the private sector or 2) preserve a capability currently found in the laboratories, can be directed to the national laboratories. Tasks that utilize technology and experience commonly found in the private sector, must be directed towards the private sector.

Because many IAEA task proposals are of a highly specialized technical nature, the necessary expertise is often not found in the private sector. However, the IAEA also requests assistance in obtaining products and services that are commercially available. Due to budgetary limitations at the Agency that are exacerbated by increasing responsibilities, requests of this type are becoming more frequent.

When ISPO determines that a particular SP-1 is appropriate for the private sector, we consult our private vendor database. A request for proposals is sent to the companies that are qualified to perform the proposed task. Companies are given a specified period in which to respond with a detailed proposal. The proposal should include a discussion stating how the task will be completed, a schedule for completion, and a breakdown of costs.

Once proposals are received, ISPO reviews them for content. ISPO presents the proposals to the SSTS which must approve

each proposal. If the SSTS is not convinced that a proposal is responsible, they will not approve it and the company cannot be considered for the task. The approved contractor proposals are forwarded to the IAEA task officer for review. The SSTS asks that the IAEA use a predetermined set of criteria for evaluation of the proposals. On the basis of this evaluation, the IAEA selects a contractor for the task. For tasks performed by the private sector, the Agency enters into contract with the company. POTAS reimburses the Agency for expenses associated with these contracts.

ACTIVE TASKS UNDER DEVELOPMENT BY PRIVATE VENDORS:

POTAS is currently funding tasks that are being performed by the Advanced Concepts Center of Martin Marietta, Aquila Technologies Group, CPS Nuclear, and KPMG Peat Marwick. In addition, POTAS is providing funding for six consultants. A brief description of some of these tasks is given below.

ACC specializes in training for software developers. In 1993 and 1994, POTAS provided funding for ACC courses in Object Oriented Design and C++ Programming. This training allows the Agency's resident computer experts to keep current with developments in the field.

Aquila provides a wide range of services to the Agency. Currently, Aquila is developing the GEMINI, a digital image surveillance system, as a replacement for the MIVS. GEMINI is being developed in cooperation with Euratom under the New Partnership Approach. Aquila also provides training support to the Agency. In the past year, Aquila provided training on the MARS

and MORE review stations and on various LAN applications. They are currently developing an interactive computer-based training system to meet the Agency's need for refresher training in maintenance of the MIVS surveillance system.

CPS Nuclear provides support in the preparation of Instruction Manuals for Instrumentation (IMIs) for the Division of Safeguards Development and Technical Support. CPS has completed a number of IMIs including those for the Inventory Sample Coincidence Counter, the Cadmium Telluride Detector and the Active Well Coincidence Counter. They are now developing IMIs for the Joyo/Monju Spent Fuel Flow Monitors and the CANDU Bundle Verifier. This task is being performed jointly with Los Alamos National Laboratory whose staff members provide technical support to the CPS procedure writers.

The Agency selected Peat Marwick at the end of 1991 to develop a training course in basic auditing principles. The Agency specifically sought the assistance of a financial accounting firm because it was thought that the non-nuclear perspective would be beneficial to safeguards inspectors. This training was delivered once in 1993 and once in 1994.

POTAS is currently providing funding for private consultants in the areas of technical writing, database design, procedure development, information treatment, development of statistical methods and spent fuel reprocessing. Consulting contracts range from several months to several years.

CONCLUSIONS AND LESSONS LEARNED:

Since reaching out to the private

sector in 1993, ISPO has learned important lessons regarding the use of private vendors to complete POTAS tasks. Some of these lessons are summarized below.

1. Private, commercially-competitive U.S. companies are generally not familiar with the IAEA or international safeguards. In order to complete a POTAS task successfully, the company must invest a considerable amount of time learning about their customer. The time required to become familiar with safeguards and the organization can increase the cost of the task considerably or become a burden for the contractor.
2. Similarly, the IAEA staff is not familiar with a wide variety of U.S. private vendors. They have had dealings with only a limited number of companies. When POTAS presents an opportunity to review proposals from several companies, the IAEA is inclined to select a vendor with whom they have had positive experiences in order to ensure success of the task. Past dealings with a vendor engender confidence.
3. Trade shows have been suggested as a way to introduce a variety of U.S. firms to the IAEA. However, because of the expense of travel, it is difficult to arrange for vendor shows such that a large number of representatives from both sides can be present. When ISPO hosted a trade show on the occasion of the 1994 IAEA/USSP Review Meeting at Brookhaven National Laboratory, the majority of vendors that

participated had worked with the Agency in the past. POTAS has had to rely on the initiatives of aggressive companies to introduce themselves to the IAEA.

4. The POTAS budget is relatively small. Accordingly, task budgets range from \$15,000 to \$300,000 with \$25,000 to \$150,000 tasks being most typical. In addition, the safeguards market is small with a demand for specialized equipment. These conditions are not encouraging to large private vendors. However, the availability of POTAS funding to cover development costs should lessen the risks involved. Recently, interest in a POTAS task, which involves satellite communications, has been manifested by two large international corporations. ISPO is hopeful that interest in IAEA safeguards by large companies will grow.

5. ISPO has found that tasks can be completed successfully by private companies with no prior IAEA experience when the need being addressed does not have a direct relationship to inspection work. An example of this type of support is the computer training that has been provided by the Advanced Concepts Center to programmers in the Division of Information Treatment. The training package was not modified to be made safeguards-specific but the programmers were provided with a tool that could easily be applied to their work never the less.

EXHIBIT A

TABLE 1: Expertise and Skills Sought for POTAS

GENERAL CATEGORIES	
TRAINING	INVENTORY AND DESIGN VERIFICATION
COMPUTER SOFTWARE AND HARDWARE	NON-DESTRUCTIVE ASSAY
PREPARATION OF PROCEDURES	ENVIRONMENTAL MONITORING (SAMPLING & STATISTICAL)
TAMPER-PROOFING TECHNIQUES	LARGE SCALE INFORMATION HANDLING
FACILITY INSPECTION	CONTAINMENT AND VIDEO SURVEILLANCE

SPECIALIZED CATEGORIES	
ENCRYPTION/AUTHENTICATION	MANAGEMENT
NEUTRON AND GAMMA RAY DETECTORS	FUEL INVENTORY
RADIATION MONITORING	REACTOR ENGINEERING
ELECTRONIC MAIL	CONTAINMENT TESTING
NETWORKS	HEALTH PHYSICS
INTRUSION DETECTION	SYSTEM STUDIES
TECHNICAL DOCUMENTATION	EVALUATION OF WEAPONS PROGRAMS
SECURE COMMUNICATIONS SYSTEMS	PERSONNEL
TREATY VERIFICATION	REPROCESSING
TRANSPORTATION	LONG TERM PLANNING
ANTI-THEFT TECHNOLOGY	FRACTURE MECHANICS
WASTE MANAGEMENT	RADIATION EFFECTS
INSTRUMENTATION AND CONTROL	SAFETY/LICENSING REGULATION
COMPUTER-BASED TRAINING	SATELLITE COMMUNICATION SYSTEMS
GAMMA RAY SPECTROMETRY	

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