International Atomic Energy Agency

Workshop on Sealing, Containment, and Authentication Technologies

9–11 November 2011, Vienna, Austria

General Statement of Intent

The IAEA is soliciting manufacturers and technology developers to come to Vienna to demonstrate relevant technologies that are close to, or on the commercial market. The technologies of interest are listed below. This demonstration will be attended by variety of experts in the safeguards area and provide an excellent opportunity to meet together and show to the community capabilities of new products.

Safeguards System's Mission

The safeguards system comprises an extensive set of various measures, including sophisticated technical means, by which the IAEA Secretariat independently verifies the correctness and the completeness of the declarations made by Member States about their nuclear material and activities.

Seals Team's Mission

The Seals Team within the Department of Safeguards provides both routine support to field inspectors for the issuing and verification of seals, as well as the development, modernisation, and deployment of new seals and containment verification technologies.

Objective of the Workshop

The Safeguards Department has identified key challenges in the areas of sealing, containment and authentication that may be met with technologies emerging on the market. We are hosting a Workshop to identify and assess which products at or near the commercial market would be valuable in addressing these safeguards challenges. Selected vendors will set-up actual demonstrations which will then be evaluated by a small international expert team to determine which of their technologies merit further field testing.

Overall Structure of the Workshop and Dates

Subsequently to the acceptance of proposals submitted by vendors not later than 15 September 2011, invitations to the Workshop will be sent by e-mail, or in hard copy for visa purposes. Experts may qualify for funding of their travel expenses through their Member State Support Programs. On 9 November 2011 Vendors will meet with the Expert Team, receive assistance in setting-up their displays, and evaluations will start. Using the original Technical Requirements as a guide, evaluations will continue on 10 November 2011, and in the morning of 11 November 2011. The results of the evaluations will be discussed in the afternoon of 11 November 2011.

How to Apply for Selection

The list of challenges and possible technologies that meet these challenges is provided on the next page. General technical requirements are listed in a separate Annex.

Review both the challenges and their mapped technologies to see if you can provide a proposal with follow-on demonstration that meets the IAEA needs.

The proposals must be sent to the e-mail address SealsWorkshop@iaea.org as PDF files containing no more than two A4 pages with mandatory photographs of working devices or prototypes.

Submission deadline:

15 September 2011

Contact Us

SealsWorkshop@iaea.org

Scientific Secretary:
Mr Timofey Moskalev
Tel: +43-1-2600-26372
E-mail: T.Moskalev@iaea.org

Administrative Support:
Ms Inna Cherkasskaya
Tel: +43-1-2600-26566
E-mail: I.Cherkasskaya@iaea.org

Section for Systems Integration and Coordination
Division of Technical Support and Scientific Services
Department of Safeguards

International Atomic Energy Agency
PO Box 100
Wagramer Strasse 5
1400 Vienna, Austria

List of Technologies of Interest for the Workshop

Needs	Technologies
Inexpensive electronic loop seal	Fibre optic or conductive loop, IR or RF communication (particularly ultra-wide band)
Replacement for the IAEA's metal seal	Non-metallic (glass, ceramic, etc.) passive loop seals
Enhancement of Cobra Sealing System	Reusable Cobra seals, active version of Cobra, automated Cobra verification
Secure anchoring of containers and sealing wires to concrete and metal structures	Authenticated epoxies, smart bolts
Remote verification of underwater seals in spent fuel ponds	A radiation-hardened electronics integrated into underwater seals
Monitoring of doors and gates in Material Balance Areas	Authenticated tamper-resistant door and gate sensors
Securing of cages containing accountable assets	Cages integrated with fibre optic grid
Material enclosures with embedded physical signatures that can be read from a distance	Micro-engraving, optically stimulated luminescence, etc.
Tamper indication for unusually shaped items	Tamper indicating foils and authenticated heat shrink wraps
Protecting internals of cabinets and equipment enclosures from unauthorized access	Acoustic, optical, etc.
Inexpensive mutual authentication of inspectors and equipment	Smart cards (RFID or contact) in combination with technologies to attach them to passive seals or to embed them in active seals
A single light-weight computer platform for inspectors to review procedures (text, images and videos) and analyse data	Tablet computers offer a convenient platform but require that security features be built-in to mutually authenticate the inspector and the system and prevent unauthorized access
Protecting security sensitive electronics and data during shipment	Secure cases for equipment, documents and data storage media
An attended scales that could be remotely monitored	Fully authenticated weighing systems from 1 kg to 14 t
Tracking containers with accountable items within nuclear facilities	Long range RFID (particularly ultra-wide band)
Tracking containers with accountable items worldwide	Cargo tracking