**Title**

**Place**
Vienna, Austria

**Dates**
4–8 April 2016

**Duration**
Five (5) days

**Host Institute**
International Atomic Energy Agency (IAEA)

**Deadline for Nominations**
22 January 2016

**Organizer**
IAEA Division of Nuclear Security

**Scientific Secretary**
Mr Charles Massey, Nuclear Security Officer  
Nuclear Security of Materials outside of Regulatory Control Section

**Technical Officer**
Mr Anayat Ullah, Nuclear Security Officer  
Nuclear Security of Materials outside of Regulatory Control Section

**Background**
The risk that nuclear or other radioactive material could be used in criminal or intentional unauthorized acts remains a matter of concern internationally and continues to be regarded as a threat to international security. Nuclear security capabilities to detect and respond to nuclear or other radioactive material that could be used in criminal or intentional unauthorized acts require continuous improvement to effectively deal with an evolving threat. For this reason, it is necessary to conduct research and development (R&D) work on advancing the radiation detection instruments and improving their specifications for an effective and sustainable nuclear security regime.

**Overall Aim of the Meeting**
The overall aim is a common understanding of the current state of radiation detection equipment and the needs for improvement in technical capabilities and specifications to support an effective and sustainable global effort for detection of nuclear or other radioactive material out of regulatory control.
| **Objective of the Meeting** | The objective of the meeting is to bring together experts in, and users of, radiation detection instruments with the manufacturers of such equipment in order to determine:  
(a) The current status of radiation detection equipment;  
(b) What needs exist for improvements to the underlying technology; and  
(c) What functional and technical specifications are needed and desired to achieve more effective use and application of such instruments in the detection of nuclear and other radioactive material out of regulatory control. |
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<td><strong>Target Audience</strong></td>
<td>The target audience comprises participants from organizations that have been directly involved in the detection of nuclear and other radioactive material out of regulatory control, or in the response to nuclear security events. The participants should have an in-depth technical and/or operational knowledge of handheld and fixed installed radiation detection instruments used for nuclear security. The above-mentioned organizations include customs, border guard agencies, regulatory bodies, emergency services and police.</td>
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| **Participants’ Qualifications** | The ideal participant has in-depth knowledge of, and experience with, radiation detection instruments used for the detection of nuclear and other radioactive material out of regulatory control or during the response to nuclear security events. The participants should be responsible for one or more of the following:  
- Use of instruments in a field environment;  
- R&D on instruments and their analytical use;  
- Technical specifications of the instruments for procurement and use;  
- Acceptance testing, calibration and repair of the instruments. |
| **Language** | The meeting will be conducted in English. |
| **Language Requirements** | As the meeting will be conducted in English, participants should have sufficient proficiency to follow technical discussions and express themselves in English with ease. |
| **Nature of the Meeting** | Presentations, poster sessions, group/panel discussions and an exhibition will be used during the meeting to facilitate discussions. Topics to be discussed will include:  
- National and international experiences with the detection of nuclear and other radioactive material out of regulatory control or during the response to nuclear security events;  
- Current status of radiation detection instruments;  
- Challenges and future improvements;  
- R&D on radiation detection instruments; and  
- Discussion on the specifications for radiation detection instruments. Participants must be prepared to give presentations on their experiences and feedback for the improvement of technical specifications for radiation detection instruments. |
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<th>Content</th>
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<tr>
<td>• National and international experiences/best practices</td>
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<tr>
<td>• Current status of radiation detection instruments, challenges and future improvements</td>
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<td>• R&amp;D on radiation detection instruments</td>
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<td>• Technical and functional specifications for radiation detection instruments</td>
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<td>• Poster session, group/panel discussion</td>
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<td>• Wrap-up, review and conclusion</td>
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| Member States to be Invited | All |

| Application Procedure | Nominations should be submitted using the attached standard Nomination Form. An additional Personal Information Form (included as an annex to the Nomination Form) for visa purposes must also be completed for this meeting. Completed forms should be endorsed by the competent national authority (e.g. Ministry of Foreign Affairs or National Atomic Energy Authority) and returned through the established official channels. Nominations must be received at the IAEA, Vienna International Centre, PO Box 100, 1400 Vienna, Austria, not later than **22 January 2016**. Nominations received after that date or applications sent directly by individuals or by private institutions will not be considered. Advance nominations by email ([Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) and [A.Calmette-Fosse@iaea.org](mailto:A.Calmette-Fosse@iaea.org)) or fax (+43 1 26007) are encouraged. The email or fax should contain the following basic information about the candidate: name, age, academic/professional qualifications, current position (including exact nature of duties carried out), level of proficiency in English, and full working address (including email address and telephone/fax numbers) to enable the IAEA to carry out a preliminary evaluation of the candidates. For further enquiries, please do not hesitate to contact the IAEA as follows:  

**IAEA Scientific Secretary:**  
Mr Charles Massey  
Email: [C.Massey@iaea.org](mailto:C.Massey@iaea.org); Tel.: +43 1 2600 23146  

**IAEA Technical Officer:**  
Mr Anayat Ullah  
Email: [A.Ullah@iaea.org](mailto:A.Ullah@iaea.org); Tel.: +43 1 2600 21318  

**IAEA Administrative Coordinator:**  
Ms Anne Calmette-Fossé  
Email: [A.Calmette-Fosse@iaea.org](mailto:A.Calmette-Fosse@iaea.org); Tel.: +43 1 2600 21813 |

4–8 April 2016
Vienna, Austria

4 April 2016, Monday

Morning session:

Welcome address and opening remarks

- Goals, objectives and expected results of the IAEA coordinated research project “Advancing Radiation Detection Equipment” and feedback for the revision of Technical and Functional Specifications for Border Monitoring Equipment (IAEA Nuclear Security Series No. 1)

Member States’ experiences related to:

- Fixed installations and handheld equipment for the detection of illicit trafficking of nuclear and other radioactive material
- Mechanisms and measures for the identification of detected materials and subsequent communication with national stakeholders
- Systems and measures for searches of nuclear and other radioactive material out of regulatory control

Lunch break

Afternoon session:

Member States’ experiences related to:

- Capabilities and national approaches for the provision of expert opinion to front line officers
- Effective methodologies and technologies to deter and detect the illicit trafficking of nuclear and other radioactive material at borders
- Operational considerations of radiation detection technologies
- Panel discussion (key considerations for advancement in detection technologies)

IAEA Reception
5 April 2016, Tuesday

Morning session:

Illicit Trafficking Radiation Detection Assessment Programme

- ITRAP+10 — Feedback analysis of equipment performance and functionality

Technical challenges faced by Member States in relation to the current status of radiation detection instruments

- Technical challenges and operational constraints faced by Member States in relation to fixed installed radiation portal monitors
- Technical challenges and operational constraints faced by Member States in relation to handheld personal radiation detectors
- Technical challenges and operational constraints faced by front line officers in relation to radionuclide identification devices (RIDs)
- Technical challenges and operational constraints faced by technical experts in relation to high resolution RIDs
- Technical challenges and operational constraints faced by end users in relation to handheld search equipment (backpacks, survey meters, neutron search detectors (NSDs))

Lunch break

Afternoon session:

Technical Challenges faced by Member States in relation to the current status of radiation detection instruments

- Technical challenges and operational constraints faced in relation to search equipment (air and vehicle)
- Issues with scintillation detector degradation
- Technical challenges and operational constraints of high purity germanium detector systems
- Technical challenges in preventive and corrective maintenance
- Best practices for the repair and maintenance of radiation detection instruments
- Detection of neutrons: Helium-3 and alternatives
6 April 2016, Wednesday

**Morning session:**

**Vendor setup for exhibition of radiation detection instruments**

**Research and development (R&D) on radiation detection instruments**

- Activities on improvement of the specifications for radiation detection technologies
- Advancement of essential features and application of radiation detection technology
- **Panel discussion:** Way forward for advancing radiation detection instruments in terms of improvements to hardware and software

**Lunch break**

**Afternoon session:**

**Radiation detection instrument specifications**

- Standardized requirements/specifications of personal radiation detectors, fixed portal monitors, search instruments, low and high resolution RIDs
- Challenges in the current specification of radiation detection instruments and future improvements

**Poster session:**

- R&D accomplishments on radiation detection instruments

**Vendor displays and poster session:**

- Challenges to meet the specifications for radiation detection instruments
- Opening of equipment exhibition

**Close of afternoon session**
7 April 2016, Thursday

Morning session:

Technical specifications of radiation detection instruments; current and future improvements

Announcement:

- Main conference room: Introduction to group discussions and objectives

Group discussions: Designing the specifications of radiation detection instruments

- Group 1: Personal radiation detectors
- Group 2: Fixed radiation portal monitors
- Group 3: High resolution RIDs
- Group 4: Low resolution RIDs
- Group 5: Search instruments (NSDs, backpacks, survey meters)
- Group 6: Search instruments (vehicle and airborne)

Lunch break

Afternoon session:

Panel discussion (Member States and technical experts):

- Technical specifications of radiation detection instruments for input to the revision of IAEA Nuclear Security Series No. 1, including outline preparation

Close of afternoon session

4–8 April 2016
Vienna, Austria

8 April 2016, Friday

Morning session:

Report session (Member States and technical experts)

- Title and purpose of proposed new IAEA coordinated research project on advancing radiation detection instruments, and draft outline of revision to IAEA Nuclear Security Series No. 1

- Wrap-up keynote speech — meeting recommendations and conclusions drawn; ‘next step’ by IAEA

- Closing session

Adjourned
The Government of:

Nominates the following candidate:

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<thead>
<tr>
<th>Family name: (as in passport)</th>
<th>Date of birth:</th>
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<tr>
<td>First name:</td>
<td>Place of birth:</td>
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<td>Complete mailing address (office):</td>
<td>Nationality:</td>
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<th>Date/Place of issue:</th>
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<tr>
<td>Telephone (office):</td>
<td>Fax:</td>
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<td>Email:</td>
<td>Recent photograph of candidate</td>
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**EDUCATION** (commencing with secondary school)

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<tr>
<th>Years attended from</th>
<th>to</th>
<th>Name and place of institution</th>
<th>Field of study</th>
<th>Diploma or degree</th>
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| RECENT EMPLOYMENT RECORD

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<th>Years of service from</th>
<th>to</th>
<th>Name and place of employer/organization</th>
<th>Title of position</th>
<th>Type of work</th>
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DESCRIPTION OF WORK
Type of work done by the candidate during the past three years (Please attach list of any material the candidate may have published)

RELEVANCE OF THE MEETING
How is the knowledge and experience gained at the meeting to be applied in the candidate’s country?
SUBMISSION DEADLINE: 22 January 2016

**LANGUAGE CERTIFICATE**

I, as a qualified language examiner, hereby certify that I have examined the above candidate and give the following information on his/her language qualification

(a) Mother tongue of the candidate: 
(b) Other languages: 
(c) Language of the meeting: English 
(d) Proficiency in the language of the meeting: 

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<th>Read</th>
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<th>Speak</th>
<th>Understand</th>
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Date

Name (printed) and signature of examiner

**MEDICAL CERTIFICATE**

I, as a qualified medical doctor, hereby certify that I have examined the above candidate and found him/her in good health, free from infectious diseases and able physically and mentally to carry out any relevant duties away from his/her home.

Date

Name (printed) and signature of examiner

**GOVERNMENT STATEMENT**

The nominating Government gives the following assurances:

(a) All information supplied in this form is complete and correct;

(b) Should the candidate’s language qualification prove to be insufficient or should the candidate’s state of health not correspond to the examining physician’s statement, the nominating Government will accept the responsibility for the consequences and any costs arising therefrom;

(c) It is noted that the sponsoring organization(s), host country(ies) and host institution(s) do not accept liability for the payment of any costs or compensation arising from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the meeting, and it, the nominating Government, undertakes the responsibility for such coverage;

(d) The position of the candidate will be retained for him/her and he/she will continue to receive during the meeting a salary and related emoluments to enable him/her to meet his/her financial commitments in his/her home country;

(e) If selected, the nominee will conduct himself/herself in a manner compatible with his/her status as a participant and will refrain from engaging in any political and commercial activities;

(f) No facts are known to the Government as regards the reliability and character of the candidate that would militate against the granting of access to nuclear installations.

Date: Name and title (printed) and signature of certifying Government official:
PERSONAL INFORMATION FORM

Candidate’s name: ___________________________________________________________

Gender: ____________________________________________________________________

Date of birth: ____________________________
   Day   Month   Year

Place of birth: ______________________________________________________________
   City   Province   Country

Nationality: ________________________________________________________________________________
   primary AND secondary (if dual citizenship)

Passport number: ____________________________ Date of expiry: ____________________________

Phone (work): _______________________________________________________________

Fax: ___________________________________________________________________________

Email: _____________________________________________________________

Employer’s name: ___________________________________________________________

Employer’s address___________________________________________________________
   Street
      ____________________________
   City    Country     Postal code

Candidate’s position/title: _____________________________________________________

Type of work: _____________________________________________________________

Home address: _____________________________________________________________
   ____________________________
   City    Country     Postal code

Home telephone no: ____________________________

Visa: __________________________________________________________________
   (if available) Type of visa held   Date of issue   Date of expiry

Please fill in this form and submit together with the Nomination Form