



# Supporting Member States: Nuclear Security at Major Public Events (MPEs)

Nuclear Safety and Security Programme



Nuclear  
Safety and  
Security

## Foreword



The organization of major public events (MPEs), such as sporting events or high level political meetings, presents unique security challenges, including threats involving nuclear or other radioactive material.

The IAEA works with countries around the world in enhancing security of nuclear and other radioactive material, by integrating nuclear security measures in their overall plans developed to tackle security challenges at large scale events.

The IAEA provides assistance upon request to States in their national efforts to implement nuclear security strategies, concepts and measures for MPEs. The Agency support includes training for national authorities responsible for the implementation of the security measures and the operation of specialized equipment, as well as the loan of detection equipment.

The awareness among States of the need to ensure nuclear security at major public events is growing, and as such, it is a key area of importance for the IAEA. Since 2004, when the IAEA first provided its support to Greece for the Athens Olympic Games, the number of requests submitted to the IAEA has rapidly increased. During the period 2004–2022 the IAEA has supported 43 countries and 68 MPEs.

Throughout the years the IAEA support to MPEs host countries has evolved into a very successful and effective programme with far-reaching benefits for States. The IAEA Member States' expertise has also been paramount in the Agency's efforts to strengthen nuclear security measures in major public events around the world.

I encourage all States to make full use of IAEA expertise and support when organizing an MPE.

### **Lydie Evrard**

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This brochure provides detailed description of the IAEA support provided to Member States to assist them in implementing nuclear security measures during the organization of MPEs.

More information about nuclear security is available at: [www.iaea.org/ns](http://www.iaea.org/ns)



A major public event (MPE) is a planned national or international event, classified by the host country as 'major' and requiring the implementation of security measures. The organization of an MPE, where for example a large number of people congregate, may present security challenges for the host country.

MPEs could be targeted for criminal acts or intentional unauthorized acts involving nuclear and other radioactive material. A terrorist attack involving nuclear or other radioactive material could also result in severe consequences, depending upon the specific material involved, the mode of dispersal, the location and the population impacted.

Adding nuclear security measures to traditional arrangements for the organization of an MPE is a complex task that requires a high degree of planning and coordination. The nuclear security measures for an MPE should be integrated

into the overall event security plan, with the host country ensuring that appropriate nuclear security measures, consistent with IAEA and other international guidance, are implemented according to national requirements.

In order to effectively achieve the implementation of nuclear security measures at an MPE, the following must be addressed by the host country:

- Preliminary Nuclear Security Arrangements for MPEs
- Nuclear Security Preventive Measures for MPEs
- Nuclear Security Preparedness Considerations for MPEs
- Nuclear Security Concept of Operations (CONOPS) for MPEs
- Post Event Analysis for MPEs

## Major public events



### Sportive events



- Olympic Games
- FIFA World Cup
- Africa Cup of Nations

### Political summits



- Asia-Pacific Economic Cooperation (APEC) Summits
- G20 Summit
- UN Climate Change Conference

### Cultural/other events



- Eurovision
- Water Festival
- Exhibitions
- Catholic World Youth Day
- Hung King Temple Festival

## How the IAEA supports host countries of MPEs

The IAEA is implementing a global programme to support countries hosting MPEs. Since 2004 the Agency has been requested to provide support for a total of 68 MPEs in 43 States. Between 2016 – 2022, the IAEA has provided support for 42 MPEs, compared with 24 in the preceding 12 years and now supports an average of 7 MPEs per year.

The increase in demand for MPE support from the IAEA continues to grow at a significant rate.

The benefits for host countries when nuclear security measures are effectively applied for MPEs are substantial. In recent years, many countries have used the IAEA comprehensive and multi-dimensional MPE programme as a 'starting point' to develop or further enhance their national nuclear security capabilities.

The IAEA support to an MPE host country starts with the submission of a formal request to the IAEA. Then, in a coordination meeting between IAEA experts and host country MPE stakeholders, the host country needs are identified and a plan of activities to support the implementation of nuclear security measures for the MPE is agreed. The agreed plan of activities is formalized between the IAEA and the host country by an exchange of official letters.

### Step 1

The host country submits a formal request to the IAEA

### Step 2

Coordination meeting

### Step 3

Agreement on a plan of activities

## The IAEA assistance: elements of the MPEs programme

The IAEA offers its assistance and tailors its support considering both the host country needs and the type of the MPE being planned. In this context, the IAEA may be asked to conduct coordination and technical meetings, provide both standardized and customised training activities, organize assessment and expert missions, support the exchange of information, and, if needed, loan radiation detection instruments.

In detail, the main elements of the IAEA MPEs programme are the following:



**Assessment missions:** International Nuclear Security Service (INSServ) Missions are available, to assist host countries in capability and gap analysis and to set recommendations for implementing nuclear security measures at MPEs.



**Expert missions:** Expert missions are available to support host countries to design their detection architecture, and for supporting the design of the Concept of Operations for the MPE.



**Training activities:** The IAEA can facilitate the provision of the necessary expertise and associated training material and/or equipment as needed.



**Information exchange:** Prior to an MPE, the IAEA can provide a tailored Incident and Trafficking Database (ITDB) analysis report on nuclear security threats, trends and patterns focused on the host country and its neighbouring countries. Should any additional relevant incidents be reported to the ITDB after the initial analysis report, the IAEA can update the host country accordingly. The IAEA can also, if requested, alert the host country to other possible incidents of note within the scope of the ITDB that the ITDB secretariat may identify during the routine monitoring of information.



**Radiation detection instruments:** To enhance nuclear security at an MPE, the IAEA can loan to countries hosting MPES, free of charge, the following radiation detection instruments:

- Personal radiation detectors (PRDs);
- Low resolution radionuclide identification devices (RIDs);
- Portable radiation scanners (PRSs – backpacks);
- High resolution radionuclide identification devices;
- Transportable radiation detection systems.



**Information management tools:** Information management tools are available to support host countries' nuclear security activities for MPES. Among these tools are:

- The Mobile-Integrated Nuclear Security Network (M-INSN) tool to enable commanders to carry out real-time monitoring of radiation detection operations, including a visual overview of radiation detection instrument status and alarm information;
- A Personnel Alarm Assessment Tool (PAAT) to assist security officers in the assessment of radiation alarms; and
- A Tool for Radiation Alarm and Commodity Evaluation (TRACE).



**Technical visits:** The IAEA can facilitate technical visits for officials from countries hosting an MPE, to observe the implementation of nuclear security measures at an MPE in another country.



**Coordination and technical meetings:** The IAEA can facilitate the conduct of coordination and/or technical meetings as required for the implementation of nuclear security strategies, concepts and measures for MPES. In addition, the IAEA envisages holding post-MPE technical meetings to prepare outreach reports that can serve as examples of good practice for Member States hosting future MPES, where similar nuclear security arrangements may be required.



**Emergency response:** The IAEA, through its Incident and Emergency Centre can provide the operative channels for sharing of information with Member States and International Organisations in the case of nuclear or radiological emergency triggered by a criminal or intentional unauthorized act involving nuclear or other radioactive material which may impact on an MPE. These operative channels are available 24/7 and are accessible\* to competent authorities and points of contact identified under the implementation of the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

\* Training on the arrangements and procedures for the use of these operative channels are provided through the Workshop on Notification, Reporting and Requesting Assistance.



## The timeline of support

Depending on the available time, the IAEA support activities may vary, mainly in terms of the number of training workshops offered. An example of what can be done within a period of more than 12 months before an MPE is presented in the graphic below.

In case the time available is less than 12 months before an MPE, the IAEA tailors the assistance provided to meet the needs of the host country.

As requests for MPE support continue to grow, the IAEA plans a set of actions for the future to advance the assistance provided. These actions include the establishment of a comprehensive programme for assisting countries in preparing for MPEs at the new IAEA Nuclear Security Training and Demonstration Centre at Seibersdorf, Austria, and the development of digital tools for supporting the secure communication of technical information from radiation detection instruments.

### Time available: more than 12 months before the MPE

#### INSServ mission

- Assist in capability and gap analysis
- Set recommendations for implementing nuclear security measures

#### Expert mission

- Design the detection architecture and the Concept of Operations\*

#### Workshops

- Workshop on developing and implementing nuclear security measures for MPEs — an overview
- Workshop on developing and implementing nuclear security measures for MPEs
- Workshop on concept of operations for front line officers and mobile expert support teams for MPEs
- Workshop on communication arrangements for MPEs
- Workshop on radiological crime scene management in relation to preparing for MPEs
- Workshop on arrangements for notification, reporting and assistance in nuclear or radiological incidents and emergencies in relation to preparing for MPEs
- Workshop for senior officials on nuclear security concepts and measures for MPEs\*
- Workshop on responding to criminal or intentional unauthorized acts involving nuclear and other radioactive material at main venues and other strategic locations of MPEs\*
- Workshop on equipment operation, testing and maintenance in preparation to MPEs\*
- Table top and field exercises on response to criminal acts involving nuclear and other radioactive material nuclear security events and emergencies triggered by such acts at MPEs\*

#### Provision of radiation detection equipment and information management tools

- Free-of-charge loan, subject to availability\*

#### Exchange of nuclear security information

- IAEA ITDB database\*

\*These are the activities that can be provided to the host country in case the time available is less than 12 months.



## Workshop for senior officials on nuclear security concepts and measures for MPEs

**Duration** Two and a half (2.5) days

**Target audience** Senior officials of organizations responsible for the security at MPEs such as law enforcement, military, intelligence, nuclear regulatory authority, technical support and other relevant organizations.

**Purpose** The purpose of the training course is to raise awareness among senior officials of the nuclear security systems and measures described in the IAEA Implementing Guide Nuclear Security Systems and Measures for Major Public Events (IAEA Nuclear Security Series No. 18), and to present the benefits of implementing these measures as part of a State's overall security of an MPE.

The workshop consists of presentations, practical demonstrations, panel discussions and a technical visit.



## Workshop on developing and implementing nuclear security measures for MPEs: an overview

**Duration** Four and a half (4.5) days

**Target audience** Senior officials of organizations responsible for nuclear security at MPEs such as law enforcement, military, intelligence, nuclear regulatory authority, technical support and similar security-focused organisations.

**Purpose** The purpose of the workshop is to provide participants with a comprehensive overview of how to plan, develop and implement nuclear security measures for MPEs.

The workshop consists of presentations, practical demonstrations, table top exercises, and technical visits.



## National workshop on developing and implementing nuclear security measures for MPES

<b>Duration</b>	Four and a half (4.5) days
<b>Target audience</b>	Senior and operational commanders, specialist responders and planners of organizations responsible for nuclear security at MPES such as law enforcement, military, intelligence, nuclear regulatory authority, technical support and similar security-focused organisations.

<b>Purpose</b>	The purpose of the workshop is to provide participants with a comprehensive overview of how to plan, develop and implement nuclear security measures for MPES.
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The workshop consists of presentations, practical demonstrations and activities, tabletop exercises and live-play exercises.



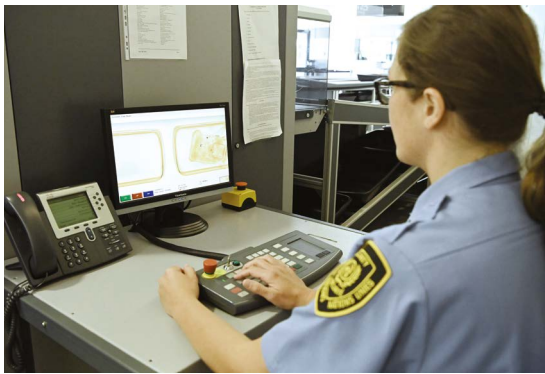
## Workshop on responding to criminal or intentional unauthorized acts involving nuclear and other radioactive material at main venues and other strategic locations of MPES

<b>Duration</b>	Four and a half (4.5) days
<b>Target audience</b>	Front line officers and operational commanders from organizations responsible for nuclear security at MPES such as law enforcement, military, intelligence, nuclear regulatory authority, technical support and other relevant organizations.

<b>Purpose</b>	To provide participants with a comprehensive understanding of established concepts, methods and best practices for responding to criminal or unauthorized acts involving nuclear and other radioactive material at main venues and other strategic locations at MPE.
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The workshop consists of presentations, practical demonstrations and activities, tabletop exercises and filed exercises.





### Workshop on concept of operations for front line officers and mobile expert support teams for MPES

- Duration** Four and a half (4.5) days
- Target audience** The workshop is intended for law enforcement, nuclear regulatory authority and technical support organizations with responsibilities for the detection and assessment of instrument alarms at MPE.
- Purpose** To provide a comprehensive understanding on concept of operations between front-line officers and mobile expert support teams (MEST) in case of instrument alarms at MPE.

The workshop is based on a combination of lectures, working sessions and field activities.



### Workshop on equipment operation, testing and maintenance in preparation to MPES

- Duration** Four (4) days
- Target audience** The workshop is intended for operational level participants from the nuclear regulatory authority, technical support authorities and/or law enforcement.
- Purpose** To provide the participants with the basic knowledge and enable them to operate, test and maintain handheld radiation detection instruments used for detection, localization and identification of nuclear and other radioactive material.

The workshop consists of classroom presentations, demonstrations and hands on training, including practical exercises on basic operations, testing and maintenance of radiation detection instruments.



## Workshop on communication arrangements for MPES

<b>Duration</b>	Two and a half (2.5) days
<b>Target audience</b>	The training is designed for the staff of governmental organizations responsible for communication with the public in case of criminal or intentional unauthorised acts involving nuclear and other radioactive material at MPES.

<b>Purpose</b>	The purpose of the event is to provide fundamental information and practical guidance to officers, acting within a command-and-control system, on public communications in case of criminal or intentional unauthorised acts involving nuclear and other radioactive material at MPES.
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The workshop consists of lectures and working sessions.



## Workshop on radiological crime scene management in relation to preparing for MPES

<b>Duration</b>	Four (4) days
<b>Target audience</b>	Traditional crime scene trained personnel and those involved in the management of crime scenes at operational level. Regulatory personnel trained to operate at a crime scene are also invited.

<b>Purpose</b>	The purpose of the event is to train the participants in the management of a radiological crime scene, including command arrangements, safety aspects, mitigation of risks and hazards, and the operating procedures that are unique to a radiological crime scene.
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The workshop consists of presentations, practical demonstrations and activities, tabletop exercises and filed exercises.



## Workshop on Arrangements for Notification, Reporting and Assistance in Nuclear or Radiological Incidents and Emergencies in relation to preparing for MPES

**Duration** Four (4) days

**Target audience** The event is intended for two categories of participants: one from the established Contact Points under the Early Notification Convention or the Assistance Convention, and the second from the established Contact Point under the CPPNM and its Amendment. Other official points of contact for liaison with the IAEA on related matters from Member States that are not yet party to these conventions can also participate in the event.

**Purpose** The purpose of this event is to assist Member States in developing National operation arrangements that are consistent with the Operations Manual for Incident and Emergency Communication.

The workshop consists of lectures, working sessions and exercises.

## List of MPEs supported by the IAEA in the period 2004–2021

- 2004 Summer Olympic Games and 2004 Summer Paralympics Games, Athens, Greece
- 2005 World Athletic Championship, Finland
- 2006 FIFA World Cup, Germany
- 2007 Pan American Games and 2007 Parapan American Games, Rio de Janeiro, Brazil
- 2008 Summer Olympic Games and 2008 Summer Paralympics Games, Beijing, China  
APEC Summit, Lima, Peru
- 2010 South American Games, Medellin, Colombia  
FIFA Men's World Cup, South Africa  
Commonwealth Games, Delhi, India
- 2011 FIFA U-20 World Cup, Colombia  
RIO + G20, Brazil  
Pan American Games and 2011 Parapan American Games, Guadalajara, Mexico
- 2012 African Cup of Nations, Gabon  
EUFA European Football Championship, Poland and Ukraine  
Water Festival, Phnom Penh, Cambodia
- 2013 FIFA Confederations Cup, Brazil  
Catholic World Youth Day, Rio de Janeiro, Brazil  
Global Entrepreneurship Summit, Kuala Lumpur, Malaysia  
Commonwealth Heads of Government Meeting, Colombo, Sri Lanka
- 2014 Ice Hockey World Championship, Minsk, Belarus  
FIFA Men's World Cup, Brazil  
Lima Climate Change Conference, Lima, Peru
- 2015 APEC Summit, Philippines  
Pope's Francis Visit to Ecuador  
Pope's Francis Visit to Uganda
- 2016 Hung King Temple Festival, Viet Nam  
Catholic World Youth Day, Poland  
Olympic and Paralympic Games, Brazil  
16th Francophone Summit, Madagascar  
Africa Women Cup of Nations, Cameroon
- 2017 27th Africa-France Summit, Mali  
31st African Cup of Nations, Gabon  
International Musical Festival "Sharq Taronalari", Uzbekistan  
Eurovision Song Contest 2017, Ukraine  
EXPO-2017, Kazakhstan  
29th Southeast Asian Games, Malaysia  
31st ASEAN Leaders Summit and celebration of the ASEAN 50th Anniversary, Philippines
- 2018 Asian Games 2018, Indonesia  
IMF and World Bank Summit, Indonesia  
G20 Buenos Aires Summit, Argentina

- 2019 World Youth Conference, Panama  
African Cup of Nations, Egypt  
Africa U-17 Cup of Nations, Tanzania  
European Games, Belarus  
Assembly of Heads of State and Government of the African Union, Niger  
Pan-American Games and Parapan American Games, Peru  
Pope Francis' Visit, Mozambique  
Pope Francis' Visit, Madagascar  
Royal Barge Procession, Thailand  
APEC Summit, Chile  
South East Asia Games, Philippines  
UN Climate Change Conference, Chile
- 2020 Tokyo 2020 Olympic and Paralympic Games, Japan  
African Nations Championship (CHAN 2020), Cameroon  
Commonwealth Heads of Government Meeting, Rwanda  
ASEAN Summit, Viet Nam
- 2021 Euro 2020 Football Championship, Romania  
Africa's Summit on Industrialization and Economic Diversification, Niger
- 2022 Africa Cup of Nations, Cameroon  
2022 Olympic Winter Games, China  
Commonwealth Heads of Government Meeting, Rwanda  
FIFA Women's U-20 World Cup, Costa Rica  
UN Climate Change Conference (COP27), Egypt  
18th Francophone Summit, Tunisia  
FIFA Men's World Cup, Qatar  
South American Games, Paraguay  
Central American Games, Costa Rica

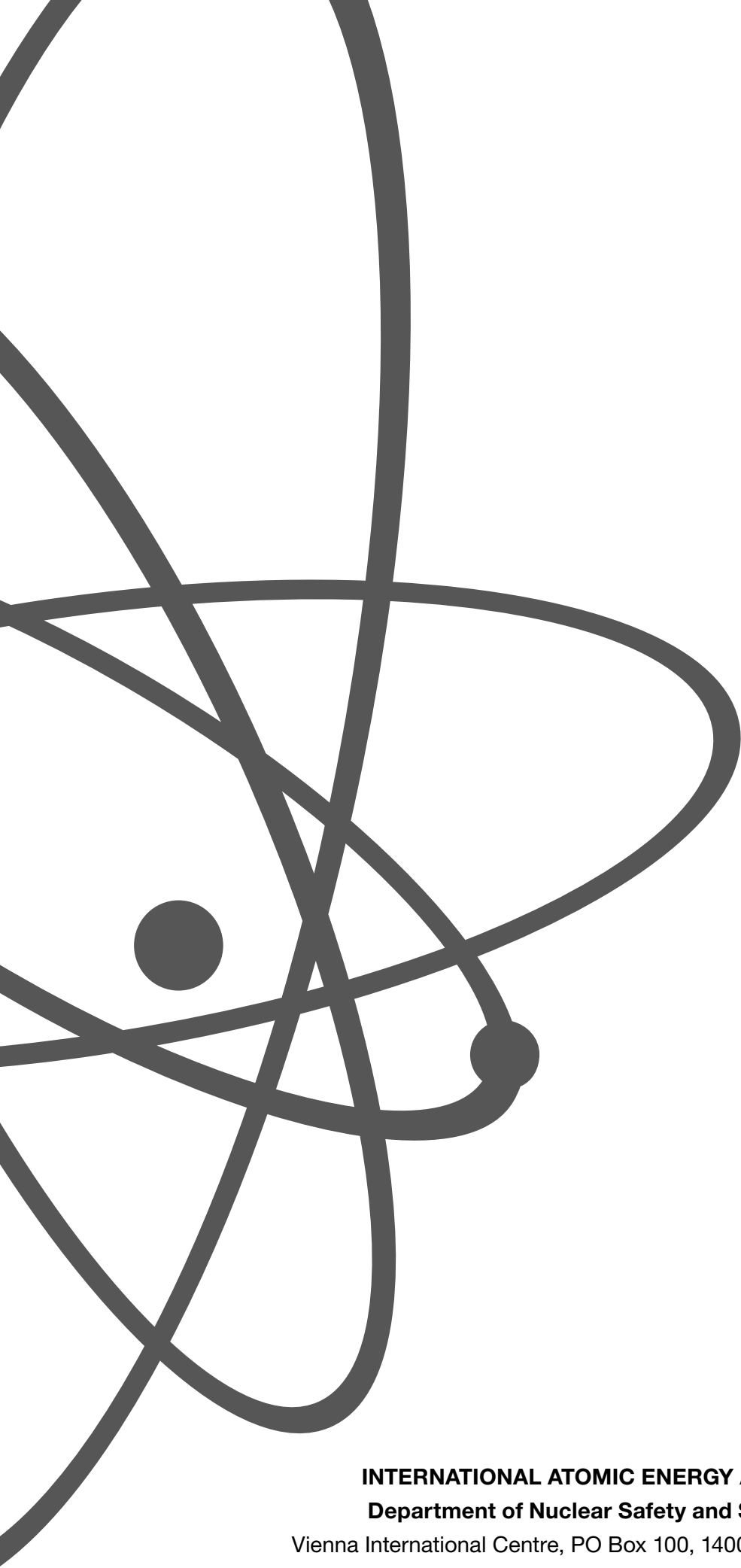


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