



**IAEA**

International Atomic Energy Agency  
*Atoms for Peace and Development*

# Security of Radioactive Material in Use and Storage

The National Academies of Sciences, Engineering and  
Medicine, 10<sup>th</sup> June 2020

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**Division of Nuclear Security**

**Department of Nuclear Safety and Security**

# Content



1. Introduction - Role of the IAEA
2. Introduction - IAEA's Nuclear Security  
Guidance on Security of Radioactive Material
3. IAEA Support to Member States – Overview
4. Highlights of activities from 2018 & 2019.

# Introduction - Role of the IAEA



The IAEA:

- Supports States, upon request, in their efforts to establish and maintain effective nuclear security through assistance in capacity building, guidance, human resource development and risk reduction
- Facilitates adherence to implementation of international legal instruments related to nuclear security

**Nuclear Security is a National Responsibility!**

# Nuclear Security – The Definition

“Nuclear Security” means...



Prevention



Detection of



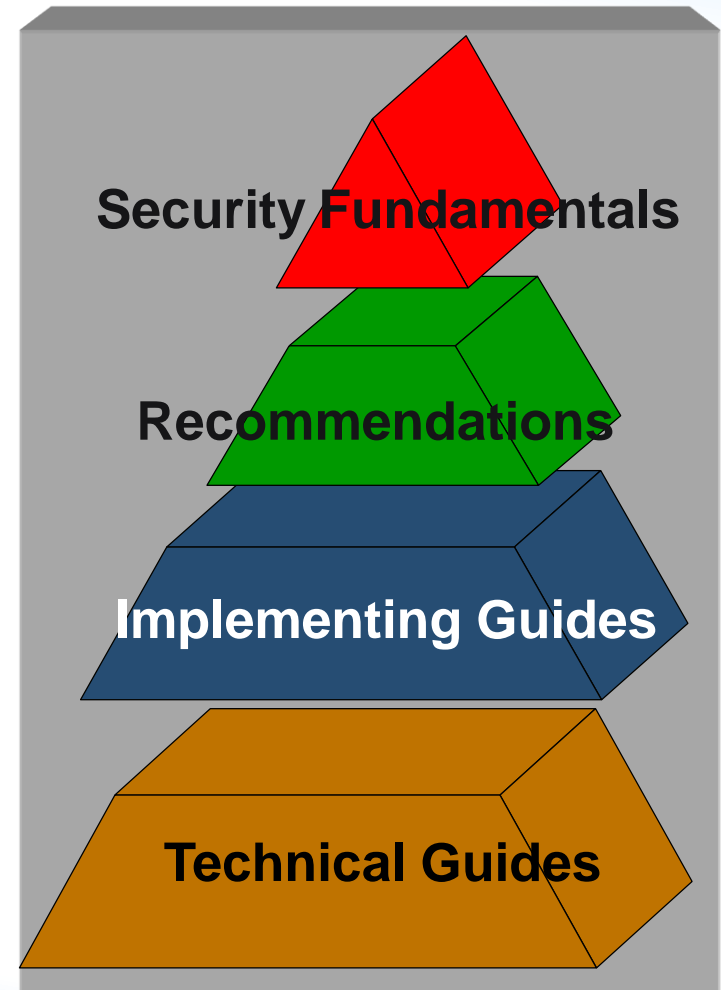
Response to

... theft, sabotage, unauthorized access, illegal transfer or other malicious acts involving nuclear or other radioactive material or their associated facilities

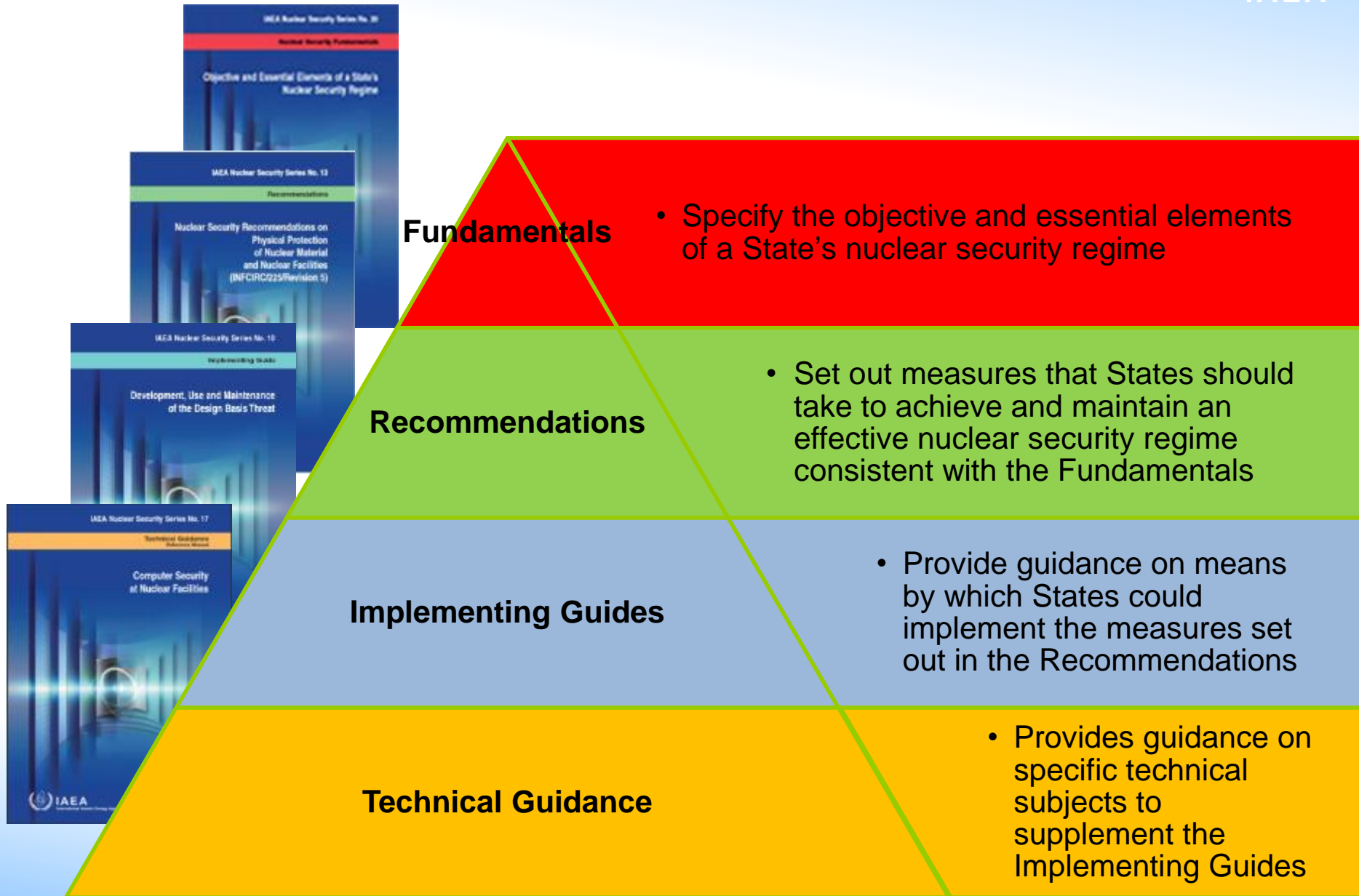
# IAEA Nuclear Security Series Guidance

- Provides guidance to assist States in implementing regulatory control over nuclear material, other radioactive material and associated facilities and activities
- Non-binding
- Can become binding within a State if incorporated in national law

## NUCLEAR SECURITY SERIES



# Hierarchy





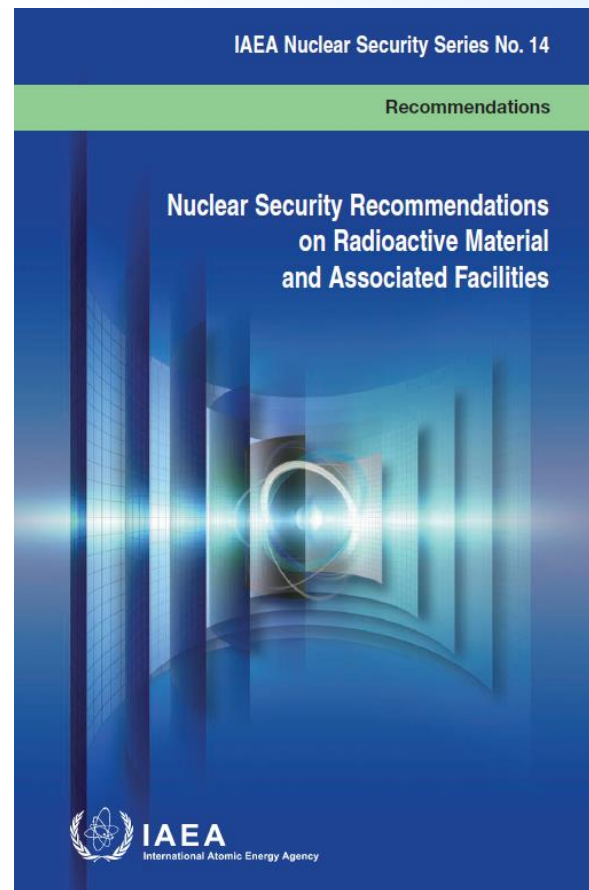
# Code of Conduct on Safety and Security of Radioactive Sources



# Guidance on Security of Radioactive Material – NSS 14

Provides guidance to States and competent authorities on how to develop or enhance, implement and maintain a nuclear security regime for facilities dealing with radioactive material and associated activities.

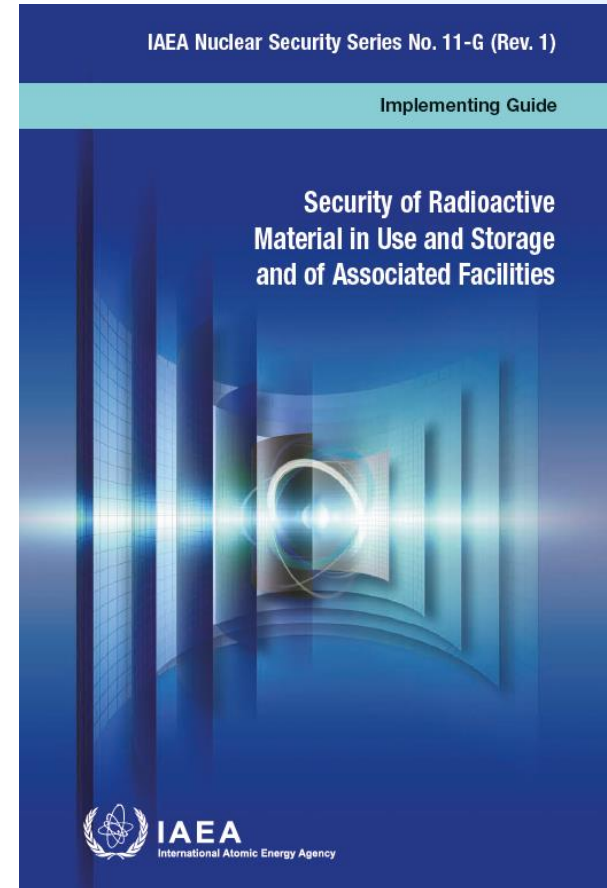
These recommendations reflect a broad consensus among States on the requirements which should be met for the security of radioactive material, and associated facilities and activities.





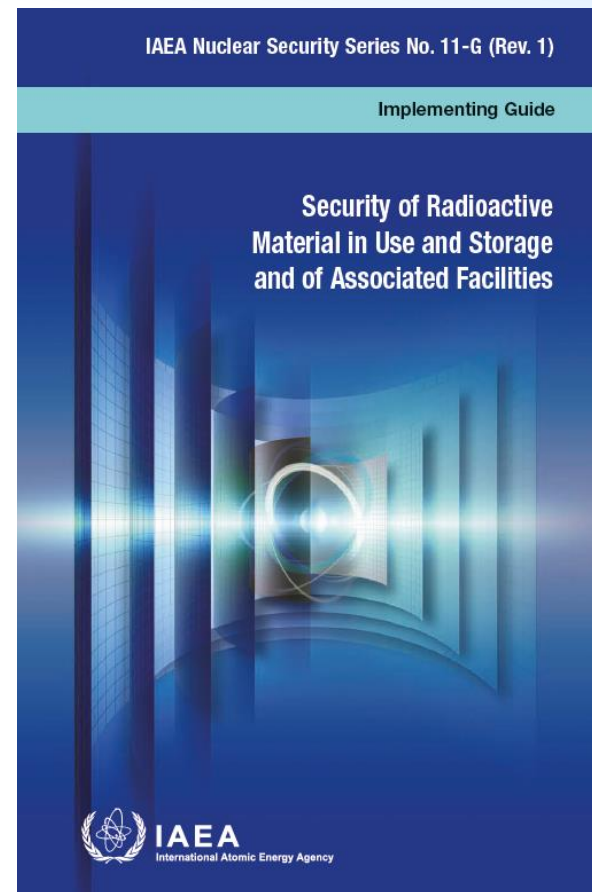
# Guidance on Security of Radioactive Material – NSS 11-G (Rev.1)

1. Establish graded security levels
2. Determine the security level applicable to given radioactive material based on potential consequence severity and attractiveness;
3. Establish regulatory requirements to achieve the goals, using prescriptive, performance-based, or a combined approach.



# Guidance on Security of Radioactive Material – NSS 11-G (Rev.1)

1. Establish graded security levels
2. Determine the security level applicable to given radioactive material based on potential consequence severity and attractiveness;
3. Establish regulatory requirements to achieve the goals, using prescriptive, performance-based, or a combined approach.



# IAEA Support to MSs – Overview



- Supporting regulatory bodies and competent authorities in the establishment or strengthening of their **national regulatory infrastructure for nuclear security**

*Translation of different available training courses to French, Arabic and Portuguese to better address the needs across the whole continent*



**First School on Drafting Nuclear Security Regulations for African Countries (Vienna, Feb 2019)**



**Pilot Regional Training Course for New Regulators in Latin America on “National Regulatory Infrastructure for the Safety of Radiation Sources and Security of Radioactive Material” (Buenos Aires, April-May, 2018)**



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## IAEA Kicks off New Phase of Project Strengthening Regulatory Infrastructure for Radiation Safety and Nuclear Security in Latin America and the Caribbean

Lenka Dojcanova, IAEA Department of Nuclear Safety and Security

MAY  
8  
2019



### Related Stories

- IAEA Trains African Professionals in Searching for Orphan Radioactive Sources
- IAEA Trains Latin American and Caribbean Senior Regulators on Integrated Management Systems
- IAEA Advises The Gambia on Strengthening Regulatory Infrastructure
- IAEA Advises El Salvador on Strengthening Regulatory Infrastructure

# IAEA Support to MSs - Overview II

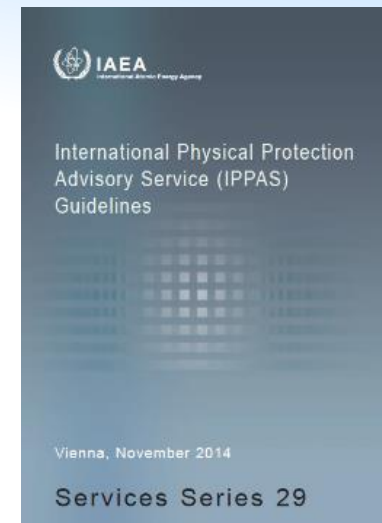
- Assisting States to develop **plans for the end-of-lifecycle management of radioactive sources** and to meet the provisions of international instruments relevant to the security of radioactive sources (e.g., through the **export** or **disposal** of high activity disused radioactive sources)
- Providing technical assistance to improve the **effectiveness of security systems** (e.g., through physical protection upgrades) and security management



# IAEA Support to MSs - Overview III



- Providing **expert support & advisory services** such as **International Physical Protection Advisory Service (IPPAS)**.
- Providing **technical backstopping** in the field of security of radioactive material in use and storage for **IAEA crosscutting activities/ projects** such as **TC projects** and safety-security initiatives, in a **“One-house” approach**.





# 2018 & 2019 Highlights



## Security of Radioactive Material: Why it Matters

Inna Pletukhina, IAEA Department of Nuclear Safety and Security

DEC  
7  
2018



International Conference on the Security of Radioactive Material: The Way Forward for Prevention and Detection, IAEA, Vienna, Austria. 5 December 2018. (Photo: D. Calma/IAEA)






## Cooperation, Coordination, and Communication Key to Securing Radioactive Material: IAEA Conference

Inna Pletukhina, IAEA Department of Nuclear Safety and Security

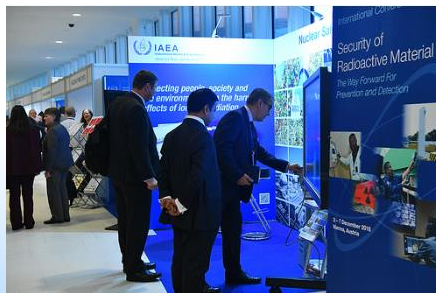
DEC  
14  
2018



### Related Stories

-  Security of Radioactive Material: Why it Matters
-  Better Together: IAEA Conference on Security of Radioactive Material I
-  Call for Presentations International Conference on the Security of Radioactive Material due 30 April

### Related Resources





# 2018 & 2019 Highlights II

**8<sup>th</sup> WGRSS**

**90 Participants**

**61 Countries**

*Vienna, 15-18 April 2019*



## Looking for More: IAEA and National Experts Discuss Security of Radioactive Sources

Inna Pletukhina, IAEA Department of Nuclear Safety and Security

APR  
29  
2019



### Related Stories



IAEA Working Group on Radioactive Source Security Fosters Experience Sharing to Enhance Nuclear Security



Radioactive Source Security Working Group to Help Improve Security Programmes for Member States



Better Together: IAEA Conference on Security of Radioactive Material Links Prevention and Detection

# 2018 & 2019 Highlights III

## IAEA Helps Remove Highly Radioactive Material from Five South American Countries

20/2018

APR  
30  
2018



One of the containers with highly radioactive sources which were transported from Paraguay for recycling. (Photo: National Radiological and Nuclear Control Agency of Paraguay)

The International Atomic Energy Agency (IAEA) has helped remove 27 disused highly radioactive sources from five South American countries in a significant step forward for nuclear safety and security in the region. It was the largest such project ever facilitated by the IAEA.

## End-of-Lifecycle Management Sealed Radioactive Sources

## First multi-Regional Project on Sustainable Management of Disused Sealed Radioactive Sources Kick-off Meeting Held in April 2019

### IAEA Kicks Off Multi-Regional Project on Sustainable Management of Disused Sealed Radioactive Sources

Inna Pletukhina, IAEA Department of Nuclear Safety and Security

JUN  
4  
2019



#### Related Stories

-  Looking for More: IAEA National Experts Discuss Security of Radioactive Sources
-  Better Together: IAEA Conference on Security of Radioactive Material Use, Prevention and Detection
-  Security of Radioactive Material: Why it Matters

#### Related Resources

% Disused sources

# 2018 & 2019 Highlights IV

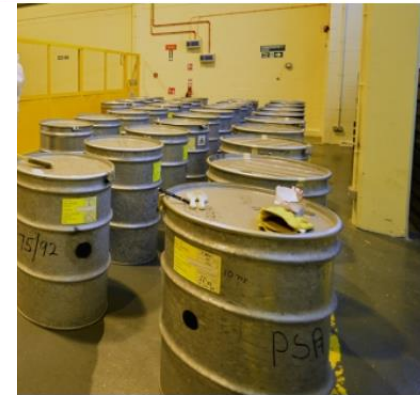
## IAEA Guidance on Managing Disused Radioactive Sources Now Available

Matt Fisher, IAEA Office of Public Information and Communication

### Published

- Guidance under the *Code of Conduct* on the Management of Disused Sources

JUL  
5  
2018



aste storage facility in the United Kingdom. (Photo: D.

### Related Stories



Experts Com  
Strengthen  
Implementat  
Guidance on  
Export of Ra



Managing Ra  
Sources from  
Identifying Cl  
Developing F



IAEA, Membe  
Import-expoi  
Radioactive S



Building on s  
Developing p  
expand 'Crac  
control afen

### Approved for Publication

- Revisions of Implementing Guidance NSS 9 'Security in Transport of Radioactive Material'
- Technical Guidance NST024 Security management and security plans for radioactive material and associated facilities
- TECDOCs on Notification, Authorization, Inspection and Enforcement for the Safety and Security of Radiation Sources



# 2018 & 2019 Highlights V

## Pilot Course Based on New Guidance Helps to Increase Security of Radioactive Material in Eastern Europe and Central Asia

Miklos Gaspar, IAEA Office of Public Information and Communication

JAN  
4  
2019



A pilot training course based on a new IAEA nuclear security guidance document will help increase the security of radioactive sources in countries in Eastern Europe and Central Asia. (Photo: A. Rodriguez y Baena/IAEA)

## First Bilingual Regional Course on Security of Radioactive Material Held in Russia

Inna Pletukhina, IAEA Department of Nuclear Safety and Security

JUN  
14  
2019



### Related Stories

-  Cooperation, Coordination, and Communication Key to Securing Radioactive Material: IAEA Conference
-  Better Together: IAEA Conference on Security of Radioactive Material Links Prevention and Detection
-  Wider Implementation of IAEA Code of Conduct to Enhance Safety and Security: Review Meeting Concludes
-  Pilot Course Based on New

## Young Regulators Complete IAEA's First Regional Safety and Security Training Course

Lenka Dojčanova, IAEA Department of Nuclear Safety and Security



JUL  
19  
2018



### Related Stories

-  IAEA Advises Benin on Strengthening Regulatory Infrastructure
-  IAEA Advises Mozambique Strengthening Regulatory Infrastructure
-  IAEA Supports African Countries to Strengthen Regulatory Infrastructure

### Related Resources

-  Regulatory Infrastructure
-  Security of nuclear and other

## Training Material



## New Insider Threat Training Course



## New Physical Protection Training Course

# 2018 & 2019 Highlights VI

## IAEA Holds First School on Drafting Nuclear Security Regulations for African Countries

Inna Pletukhina, IAEA Department of Nuclear Safety and Security

FEB  
21  
2019



The IAEA's first School on Drafting Nuclear Security Regulations for African Countries was held at the IAEA's headquarters in Vienna. (Photo: D. Calma/IAEA)



## Regulatory Infrastructure Africa





# 2018 & 2019 Highlights VIII

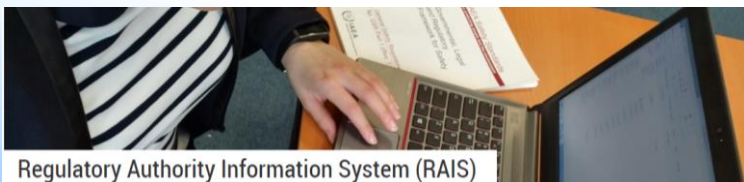
## IAEA Kicks off New Phase of Project Strengthening Regulatory Infrastructure for Radiation Safety and Nuclear Security in Latin America and the Caribbean

Lenka Dojcanova, IAEA Department of Nuclear Safety and Security

MAY  
8  
2019



*New RAIS+ with enhanced security elements under development*



## IAEA Advises Paraguay on Strengthening Regulatory Infrastructure

Lenka Dojcanova, IAEA Department of Nuclear Safety and Security

SEP  
13  
2018



Related



# Regulatory Infrastructure Latin America and the Caribbean



# 2019 Regional & International Events I

- **Pilot Drafting School** for Nuclear Security, 4-7 February 2019, Vienna → *with TCAF and NSRW*
- **8<sup>th</sup> Meeting of the Working Group on Radioactive Source Security** (WGRSS), 15-18 April 2019, Vienna
- **Regional Workshop (RWS)** on Regulatory Infrastructure Development Project (RIDP) in Latin America and the Caribbean, 23-26 April 2019, Vienna → *with TCLAC and NSRW*
- **1<sup>st</sup> Coordination Meeting** of NSNS Project “Enhancing Nuclear Security through the Sustainable Management of Disused Sealed Radioactive Sources in Latin America, Africa and the Pacific”, 29-30 April 2019, Vienna → *with NEFW and NSRW*
- **Regional Training Course (RTC)** on the Security of Radioactive Material in Use and Storage, 13-17 May 2019, Russian Federation

# 2019 Regional & International Events II



- **RTC** on Authorization and Inspection for the Security of Radioactive Materials and Associated Facilities, 20-24 May 2019, Uruguay
- **International Meeting** on the Code of Conduct on the Safety and Security of Radioactive Sources, 27-31 May 2019, Vienna  
→ *with NSRW*
- **RTC** on Authorization and Inspection for the Security of Radioactive Material and Associated Facilities, 10-14 June 2019, Uganda
- **1<sup>st</sup> Coordination Meeting** on the Coordinated Research Project J02011 “Improving the Security of Radioactive Material Throughout its Lifecycle”, 24-25 June 2019, Vienna
- **1<sup>st</sup> Regional School** for Drafting Radiation Safety and Security Regulations in Asia and the Pacific Region, 15 July-2 August 2019, Vienna → *with TCAP and NSRW*
- **RTC** on Addressing Insider Threats for Radioactive Material and Associated Facilities, 22-26 July 2019, Cameroon

# 2019 Regional & International Events III



- **International Workshop** on Nuclear Security Support Centre Programmes on the Security of Radioactive Material and Associated Facilities, 22-25 July 2019, Vienna
- **RTC** on Addressing Insider Threats to Radioactive Material and Associated Facilities, 30 September - 4 October 2019, Peru
- **RTC** on Authorization and Inspection for the Security of Radioactive Material and Associated Facilities, 20-24 October 2019, Algeria
- **RTC** on Security of Radioactive Material in Use and Storage, 18-22 November 2019, Costa Rica
- **Pilot RTC** on Basic Aspects of the Design of Physical Protection Systems for Radioactive Sources, 5-14 November 2019, Russian Federation
- **RWS** to Facilitate the Creation of a Qualified Workforce of Nuclear Security Experts in the Africa Region, 2-6 December 2019, Tunisia

# Conclusions

- Nuclear security Series NSS 11-G Rev.1 serves as primary Implementing Guide for the Nuclear Security Recommendations on Radioactive Material and Associated Facilities;
- The IAEA, supports States, upon request, in their efforts to establish and maintain effective nuclear security through assistance in capacity building, guidance, human resource development and risk reduction;
- Facilitates adherence to implementation of international legal instruments related to nuclear security.



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*Thank you!*