

APRIL 2025 - PETTEN

RADIATION PROTECTION OF TRANSPORTS IN FRANCE

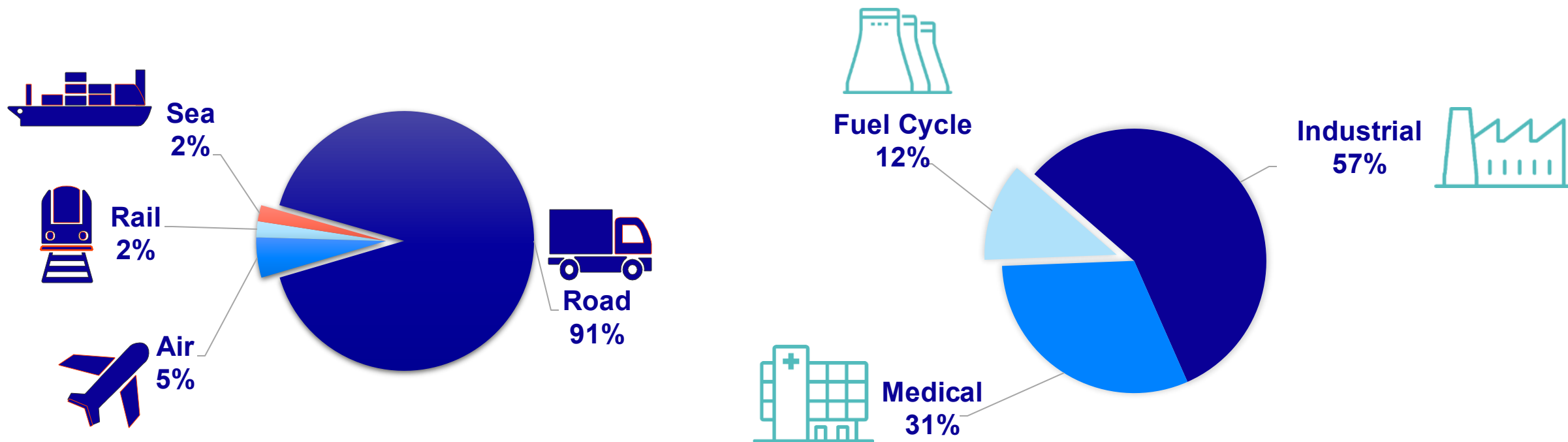
REGULATORY FRAMEWORK AND GUIDE

01

INTRODUCTION

TRANSPORT OF RADIOACTIVE MATERIAL IN FRANCE

SOME NUMBERS

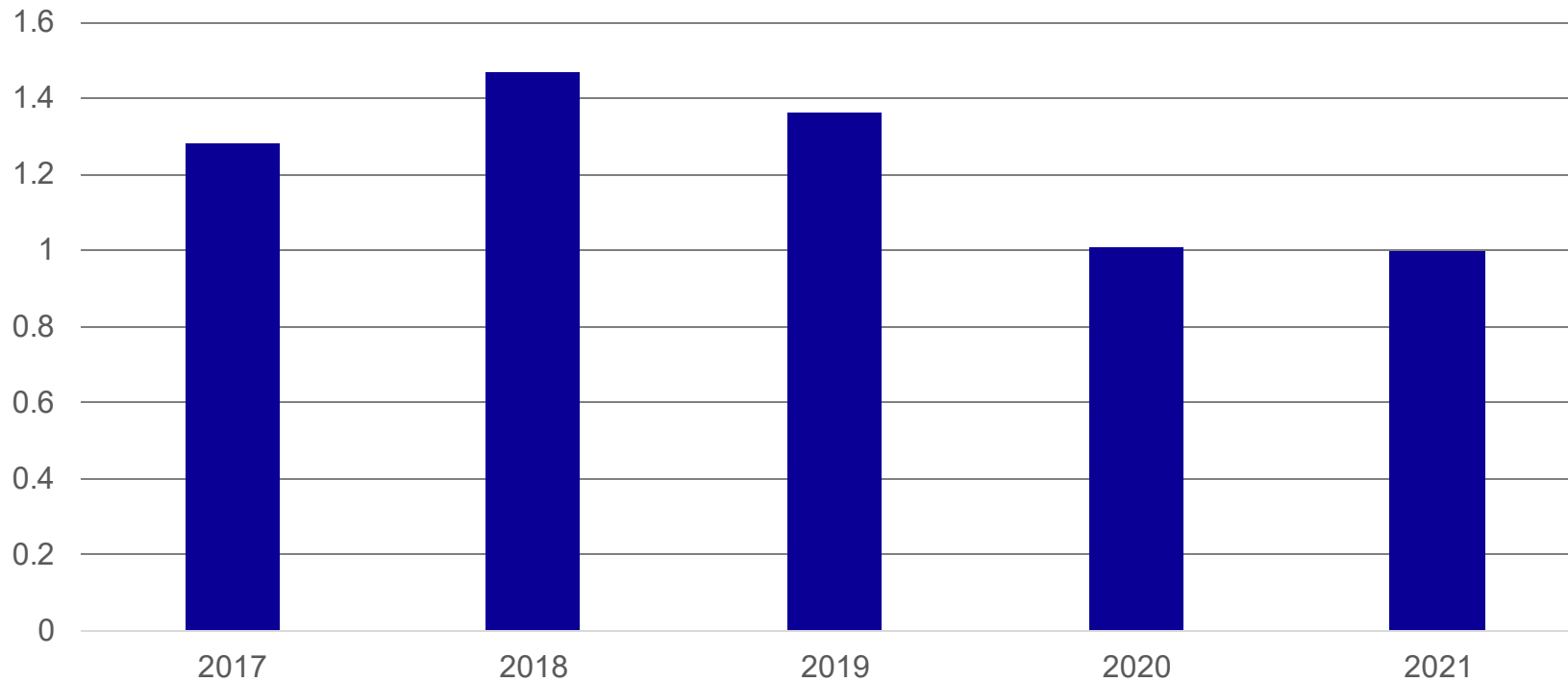


770 000 carriages per year

980 000 packages per year

EXPOSURE OF FRENCH CARRIERS FOR MEDICAL APPLICATIONS

Average individual dose rate (mSv per year) of carriers



Maximum average : 1,47 mSv

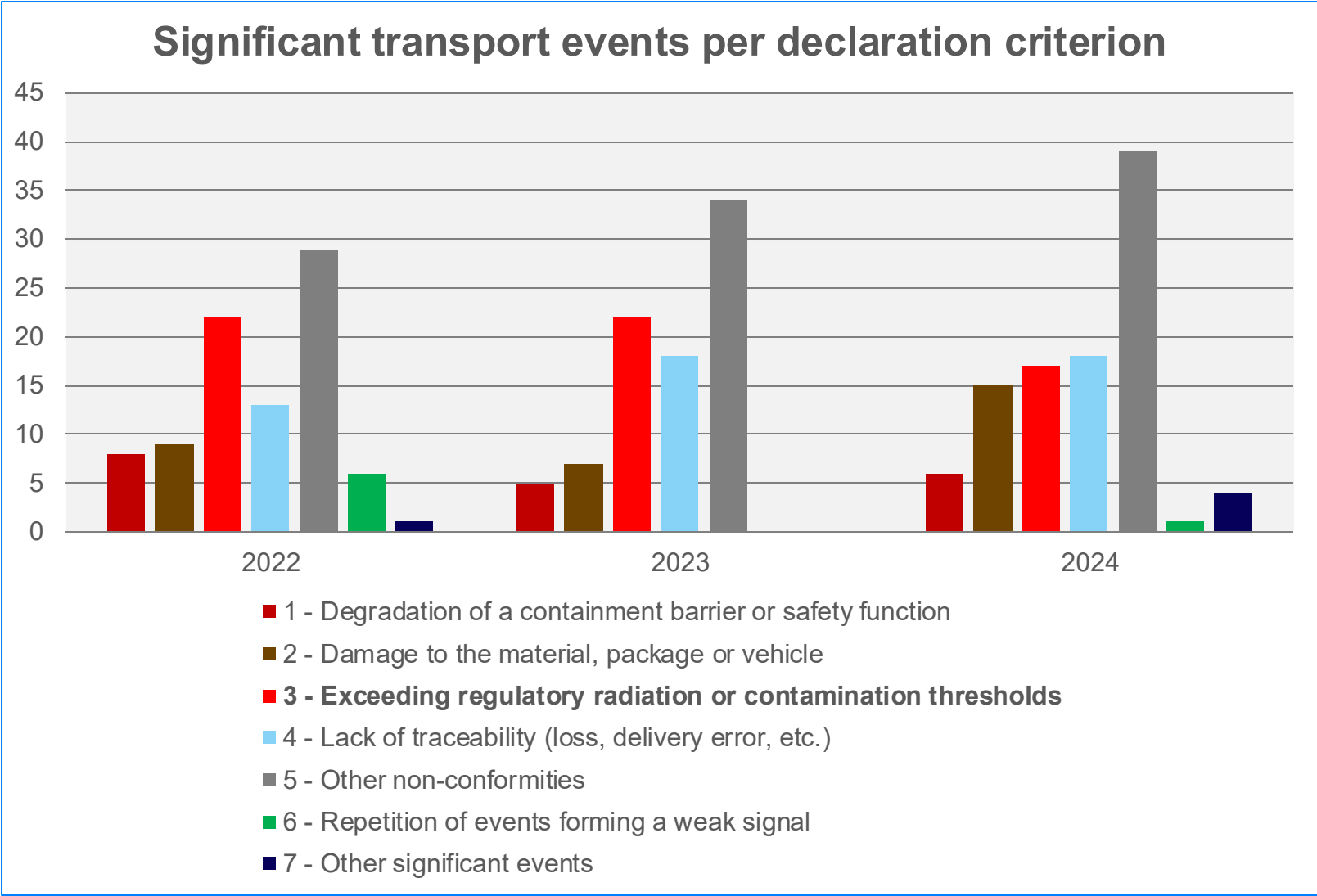
In comparison

Doctor/nurse : 0,84 mSv

Dentist : 0,20 mSv

Few times, exceeding regulatory threshold for french workers (20 mSv per year)

SIGNIFICANT TRANSPORT EVENTS IN FRANCE



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REGULATORY FRAMEWORK

FRENCH REGULATORY FRAMEWORK



COUNCIL DIRECTIVE 2013/59/EURATOM
« Basic Safety Standards »



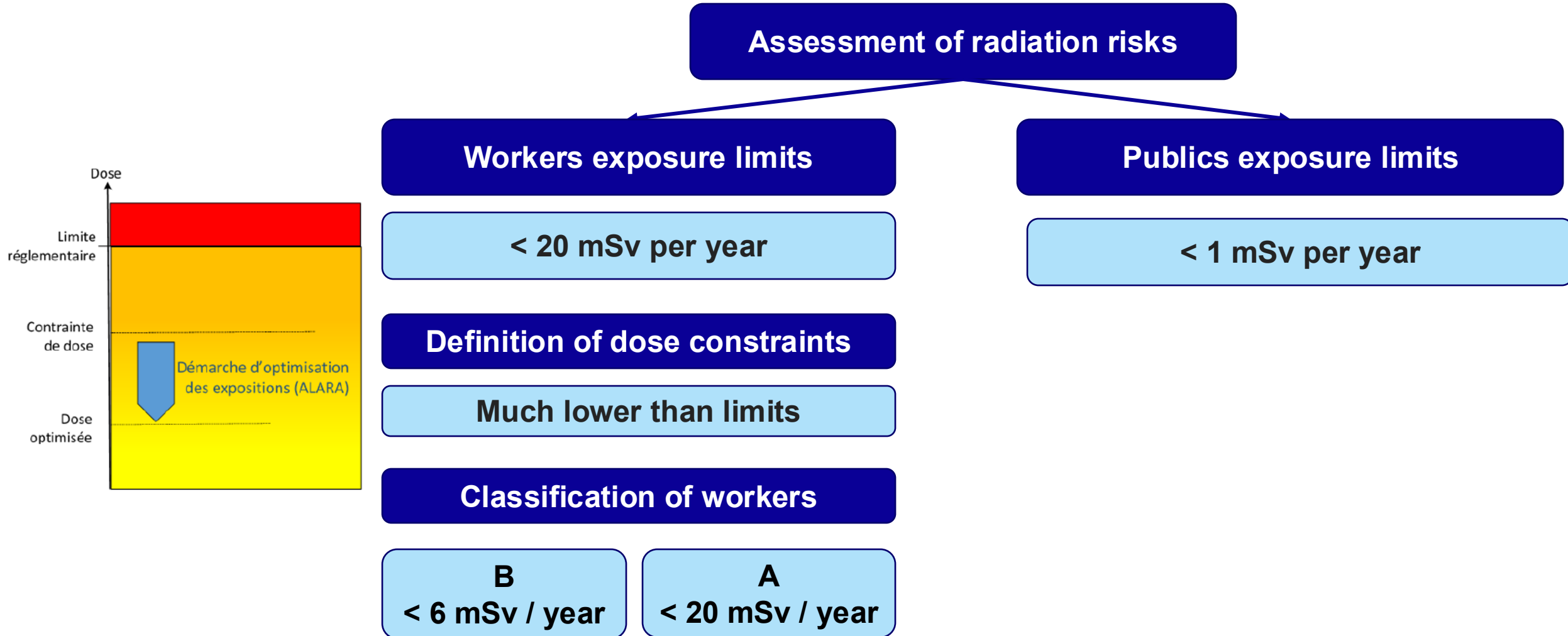
**Public
Health
Code**



**Labour
Code**



FRENCH FUNDAMENTAL REQUIREMENTS



SOME RESPONSIBILITIES OF EMPLOYERS FOR THE PROTECTION OF WORKERS

Recording and control of occupational exposure



SISERI

Health surveillance



Workers of :
Category A : 1 per year
Category B : 1 every two years

Appropriate training



1 every three years

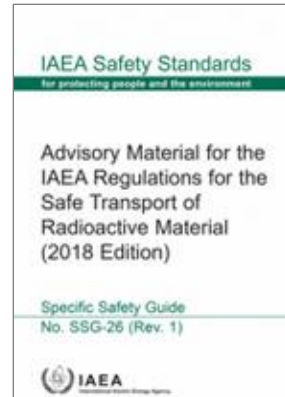
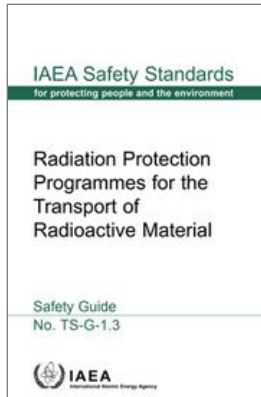
Classification of areas



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ASNR GUIDE N° 29

SOME INTERNATIONAL GUIDES



Safety Guide No. TS-G-1.3 : Radiation Protection Programmes for the Transport of Radioactive Material
SSG-26 : Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material



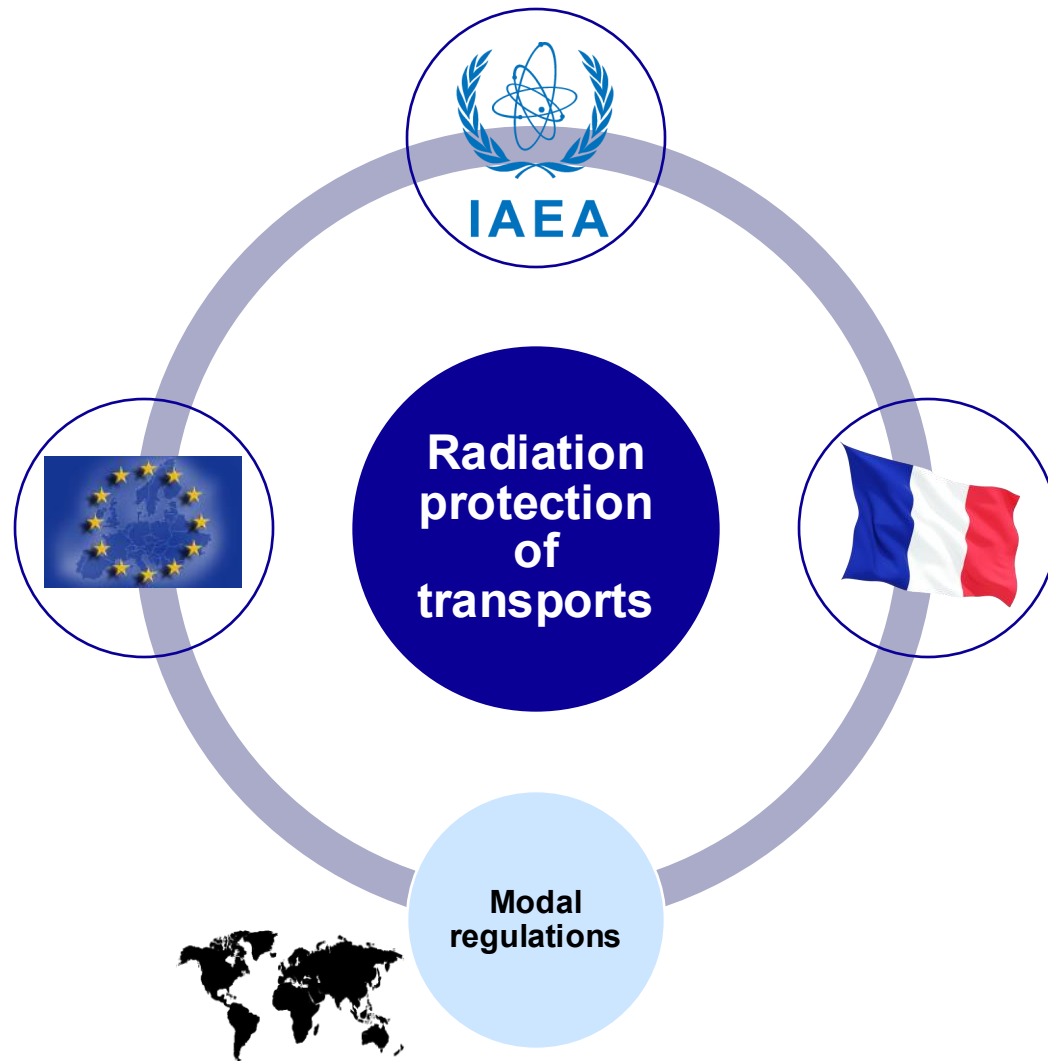
Office for Nuclear Regulation

UK Guidance on Radiation Protection Programmes for the Transport of Radioactive Material



Guía de Seguridad 6.2, Programa de protección radiológica aplicable al transporte de materiales radiactivos

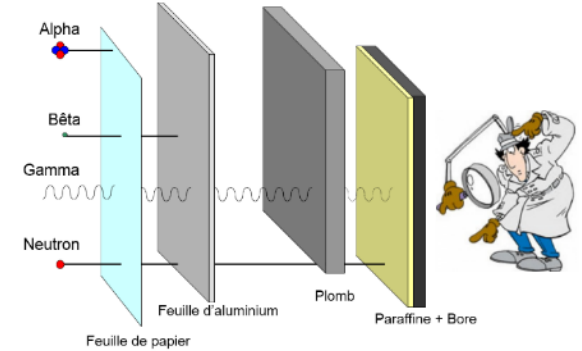
OBJECTIVE OF ASNR GUIDE N° 29



Explained to
professionnels
in a graded
approach

Recommendations regarding
Radiation protection programme (RPP)

GOOD PRACTICES RECOGNIZED BY ASNR



Remote measuring devices

Reduced loading/unloading times

Roads with the fewest traffic jams;
Motorway toll payment

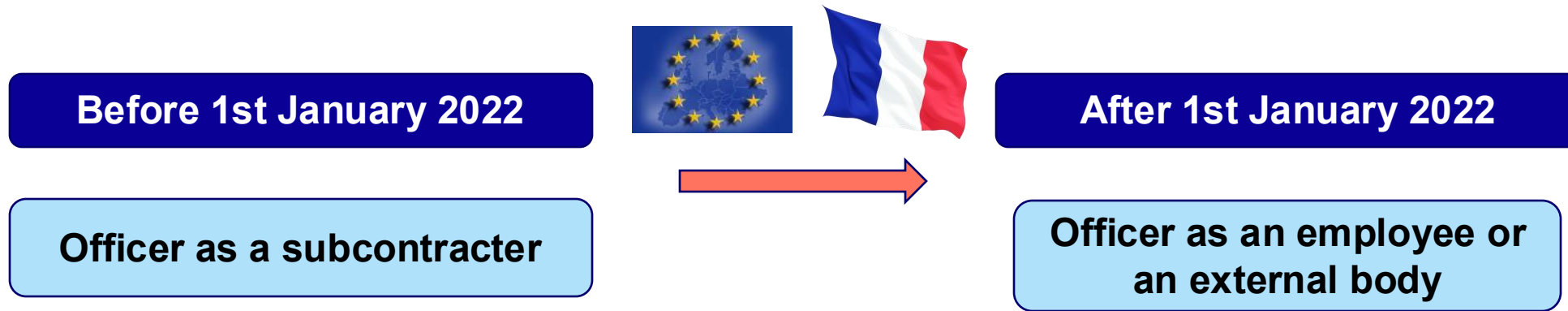
Preparation of documentation
as far away as possible

Arrangement of packages
inside vehicle

Handling without hands
(devices as cart or trolley)

If possible, shields between
the driver's cab and packages

FOR EXAMPLE (1/2) – ROLE OF THE RADIATION PROTECTION OFFICER



Measurements (dosimetry, contamination) on packages and vehicles

Regular calibration and checking of measuring instruments

Employer take notice of consultation and advice of the officer.

FOR EXAMPLE (2/2) – MEASUREMENTS ON VEHICLES



Thresholds		
Contamination	Dose rate	
	Contact	At 2 m
4 Bq/cm ² (or 0,4)	2 mSv/h	0,1 mSv/h

Measurements of contamination and dose rate on vehicles « *without radioactive material inside* »

Periodicity of controls graded to danger (unsealed sources) : at least three months

Same international thresholds

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CONCLUSION

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No more exceeding of exposure limits for transport workers (20 mSv per year) since 2020

Decrease of average annual individual dose rate for transport workers since 2020

Radiation protection programmes updated and improved

