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**Thank you for joining us
We will start in a few minutes**

Application of a Graded Approach in Regulating Facilities and Activities with Radiation Sources

8. December 2020, 14:00-15:30 (CET)



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Webinar

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Opening remarks

Peter Johnston, DIR-NSRW

Agenda

Time	Item	Presenter
14:00 - 14:05	Opening and welcome	P. Johnston, Director NSRW
14:05 - 14:15	Overview of a graded approach	J. Bosnjak, NSRW
14:15 - 14:30	Applying the graded approach - Finland	R. Bly, STUK, Finland
14:30 - 14:45	Applying the graded approach - Greece	E. Karinou, EEAE, Greece
14:45 - 15:00	Applying the graded approach - Ireland	N. Cunningham, EPA, Ireland
15:00 - 15:15	Applying the graded approach - Canada	L. Pozihun, CNSC, Canada
15:15 - 15:30	Questions and answers	All presenters
15:30 – 15:35	Future work and concluding remarks	



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Application of a Graded Approach in Regulating Facilities and Activities with Radiation Sources

Overview of a Graded Approach

Jovica Bosnjak

Regulatory Infrastructure and Transport Safety Section

Division of Radiation, Transport and Waste Safety

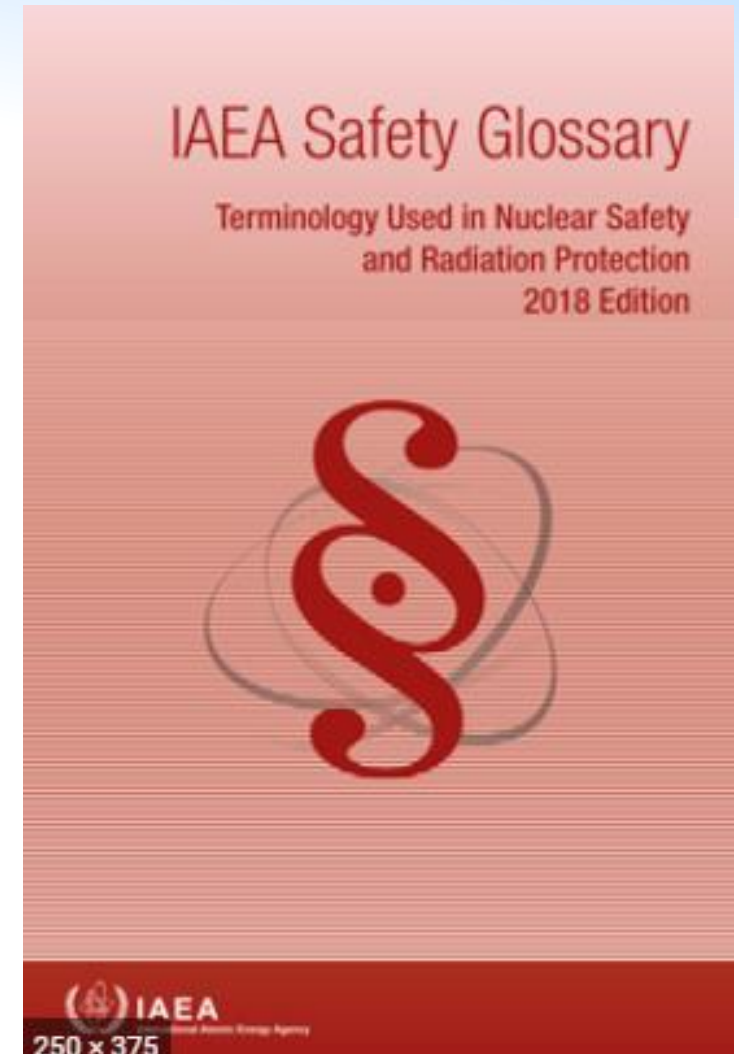
Outline



- Concept of a GA method;
- Challenges;
- Methodology;
- Criteria and factors for the assessment of risk;
- The regulatory functions subject to a graded approach.

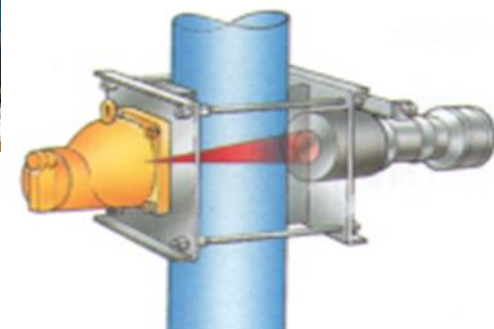
A graded approach is

- A process or **method** in which the stringency of the **control measures** and conditions to be applied is **commensurate**, to the extent practicable, with the **likelihood** and **possible consequences of**, and **the level of risk** associated with, a loss of control.
- An **application of safety requirements** that is commensurate with the **characteristics of the facilities and activities** or the **source** and with the **magnitude and likelihood of the exposures**.



Use of a graded approach

- Contributes to the optimization of resources and the increase of efficiency and effectiveness of the regulatory control;
- Ensures the resources are allocated in a manner that is commensurate with the radiation risks;
- Reduces the regulatory burden on authorized parties;
- Is a proportional application, not a relaxation of safety requirements.



Challenges



- Determine the characteristics of a facility or an activity in terms safety significance;
- Assess the level of radiation risks;
- The diversity of variables and factors that feed into the risk assessment;
- Lack of algorithms/numerical methods;
- Rely on an expert judgement - may involve a lack of consistency and objectivity.

The development and implementation of a graded approach method

Step
1

Identification of the scope of the application of a graded approach

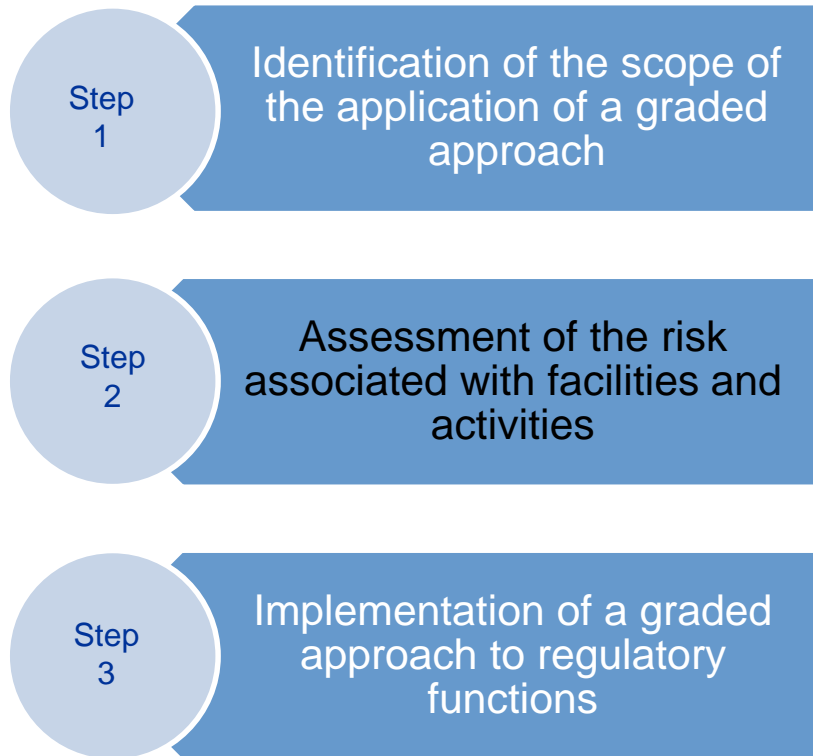
Step
2

Assessment of the risk associated with facilities and activities

Step
3

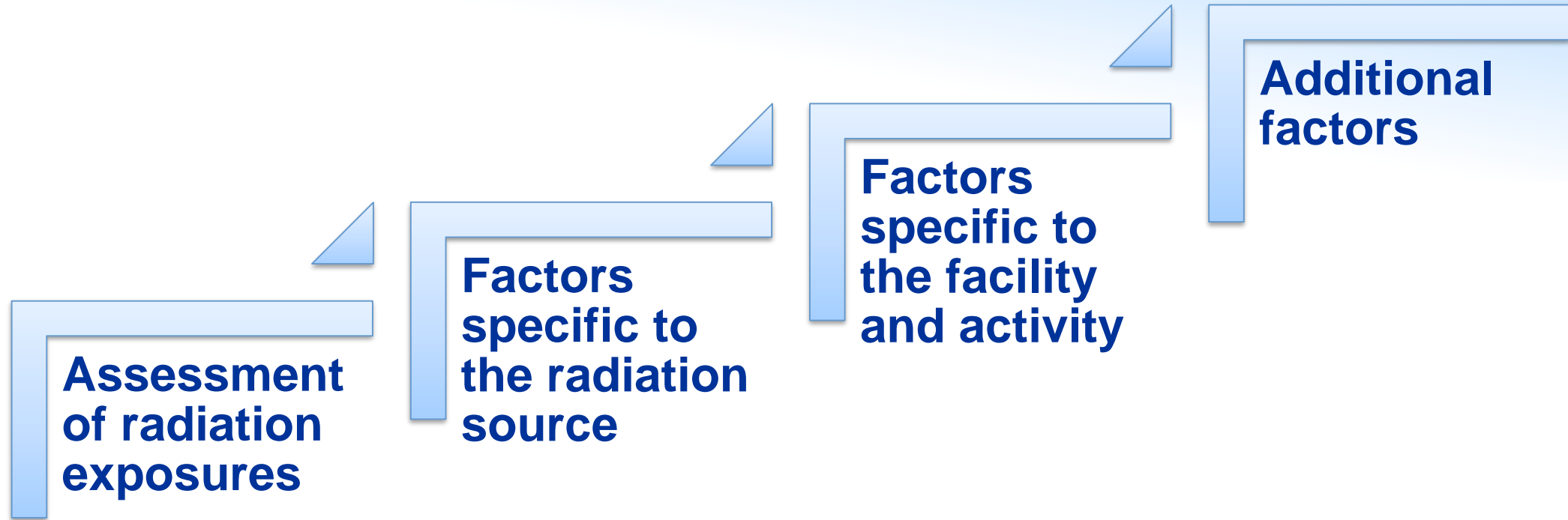
Implementation of a graded approach to regulatory functions

The development and implementation of a graded approach method



- Establish and prioritize criteria for grading (generic and specific factors).
- Consider other factors that may have significant impact on the proposed model.
- Determine the optimum number of grading levels that encompass identified criteria.
- Evaluate the level of risk associated with facilities and activities.
- Categorize facilities and activities according to the level of associated risk.

Criteria (Evaluation of the level of risk)



**Categorize facilities and activities according to the level of associated risk
(high, moderate or low)**

Assessment of radiation exposures

- Estimate radiation exposures arising from normal operation;
- Estimate the probabilities and magnitude of potential exposures.

Factors specific to the facility and activity

- Whether the operating procedures are simple to follow or not;
- The competence on safety required;
- Safety dependency on human performance;
- Safety can largely be ensured by the design of the facilities and equipment (e.g. shielding, interlock, maintenance), and site characteristics (e.g. field use or use in a fixed facility);
- History of problems relating to safety in operations.

Factors specific to the radiation source

- Categorization of sealed sources (e.g. based on the IAEA categorization);
- Categorization of some unsealed sources (e.g. based on the IAEA categorization and comparison of the activity level of the unsealed sources with the exemption level);
- Categorisation of radiation generators?

Additional factors

- The maturity of the facility or activity;
- The knowledge and expertise of the authorized party's staff;
- The compliance history of the facility or activity;
- The level of safety culture existing in the organizations;
- The adequacy of financial and human resources related to safety.

The regulatory functions subject to a graded approach

Development of regulations and guides;

Notification and authorization, including review and assessment;

Inspection of facilities and activities;

Enforcement;

Communication and consultation with interested parties.



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Thank you!

