

Applying the graded approach

Improving radiation protection in practice

A **graded approach** is a method applied to any process or product which might require a certain level of control. When applying the graded approach, we use our resources, which are often limited, in a manner that takes account of the associated risks.

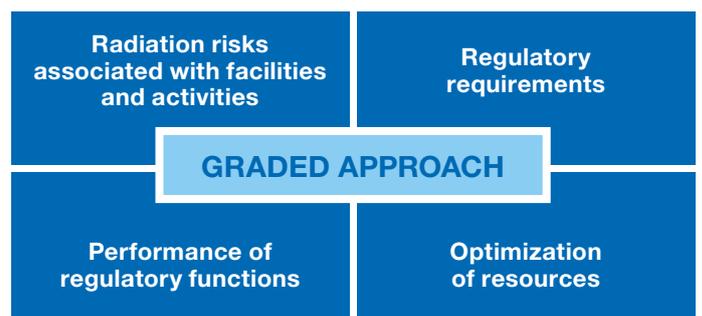
To ensure effective regulatory control of different facilities and activities with radiation sources, it is necessary to apply a graded approach in a way that the degree of implementation of regulatory requirements corresponds to the associated radiation risk. The higher the risk associated with a facility or activity, the more stringent the regulatory requirements that apply to it need to be.

A regulatory system built in accordance with a graded approach contributes to the optimization of resources and the increase of efficiency and effectiveness of the regulatory control.

What is the graded approach?

A graded approach is a structured method determining:

- The characteristics of a facility or activity and operational procedures according to the safety significance and complexity.
- The potential impacts of the facility or activity on human life and health and the environment.
- The possible consequences of an unanticipated event or an activity improperly carried out.



Visit:

www.iaea.org/publications/10643/use-of-a-graded-approach-in-the-application-of-the-management-system-requirements-for-facilities-and-activities

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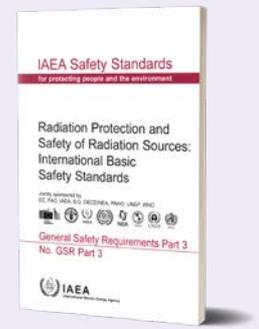
What do the IAEA Safety Standards say?

The implementation of safety requirements in accordance with a graded approach is extensively covered in the IAEA Safety Standards.

In 2016, the IAEA has published *General Safety Requirements Part 1: Governmental, Legal and Regulatory Framework for Safety (GSR Part 1 (rev. 1))* on the essential aspects of the framework for establishing a regulatory body and taking other actions necessary to ensure the effective regulatory control of facilities and activities utilized for peaceful purposes.

GSR Part 1 (rev.1) states that the regulatory body shall structure its organization and manage its resources so as to discharge its responsibilities and perform its functions effectively; this shall be accomplished in a manner commensurate with the radiation risks associated with facilities and activities. The performance of regulatory functions shall be commensurate with the radiation risks associated with facilities and activities, in accordance with a graded approach.

In 2014, the IAEA has published the *General Safety Requirements Part 3: Radiation Protection and Safety of Radiation Sources: International*



Basic Safety Standards. This is often referred to simply as the BSS. The BSS is jointly sponsored by eight international organizations with responsibilities in various areas of radiation protection.

The requirements in the BSS take account of the most recent scientific evidence relating to exposure due to radiation. The BSS is used by many States as the basis for their national regulations dealing with radiation protection and safety.

The BSS states that the application of the requirements of these Standards in planned exposure situations shall be commensurate with the characteristics of the practice or the source within a practice, and with the likelihood and magnitude of exposures. In other words, the graded approach should be applied to all facilities and all activities that give rise to radiation risks.

In addition to the IAEA, the BSS is jointly sponsored by the European Commission, the Food and Agriculture Organization of the United Nations, the International Labour Organization, the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development, the Pan American Health Organization, the United Nations Environment Programme and the World Health Organization.

Challenges



Determining the most appropriate regulatory strategy to direct a regulatory body's activities and optimize the use of its resources can be challenging. This is particularly true in the early stages of establishing a graded approach, as regulatory staff may not be sufficiently experienced, this will improve over time.

The development of a more systematic and complex graded approach model requires historical data of doses to members of public and workers in the analysis of the normal and potential exposures.

The application of a graded approach may be a challenge for the regulatory body in determining the most appropriate level of regulatory control, such as deciding on:

- Form of authorization (registration or licensing).
- Duration of the authorisation.
- The scope and depth in the review and assessment of an application for authorization.
- Methods, priority and frequency of inspections.
- The enforcement actions considering the significance of a non-compliance.
- The scope and content of regulation and guides for expressing and describing the requirements and processes for all the above.

How does the IAEA support Member States?



The IAEA supports its Member States in the implementation of all aspects of the Safety Standards through the organization of national and regional workshops and other training events. [Online webinars](#) are also regularly organized.



Remember:

Applying the graded approach enhances safety – it does not compromise it.

Understanding risks and mitigating them is essential in applying the graded approach.

The principles behind the graded approach can also be applied to control existing exposure situations such as radon at home.

