2025 LONG TERM PLAN
FOR THE IAEA SAFETY STANDARDS

The proposal for the long term plan was developed by the CSS Working Group for the long term plan for the safety standards and approved by the CSS at its 57th meeting in 20-23 May 2025.

INTENT OF THE SAFETY STANDARDS

The vision for the IAEA Safety Standards, as outlined in SPESS A, remains relevant. However, the CSS suggests revisiting the vision to ensure alignment with new developments in the operating environment as identified by the environmental scanning undertaken for the long-term plan development.

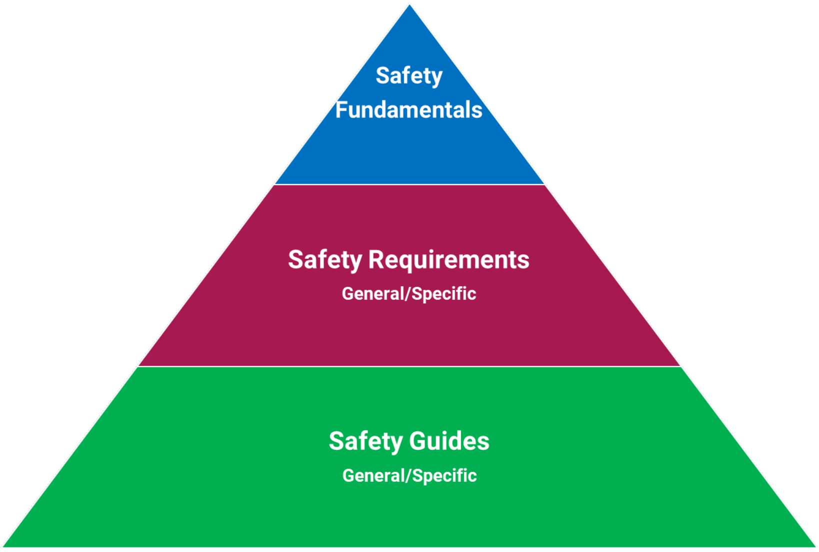
The overall purpose is to achieve that the IAEA Safety Standards constitute an integrated, comprehensive and consistent set of up-to-date, user friendly and fit-for-purpose safety standards of high quality. Through their use and application across Member States, the IAEA Safety Standards provide for a worldwide consistent high level of protection for people and the environment from the harmful effects of ionizing radiation without unduly limiting the operation of facilities, innovative developments, or the conduct of activities, and following a graded approach taking into account the associated risk of the facility or activity.

STRUCTURE AND KEY CONTENT OF THE SAFETY STANDARDS SERIES

The current structure and hierarchy of the Safety Standards comprising Safety Fundamentals, Safety Requirements and Safety Guides should be maintained, as it is held to be functioning well, has a logical hierarchy, and is sufficiently flexible to accommodate development and changes. The distinction between General and Specific Safety Requirements, and General and Specific Safety Guides, as well as the grouping into thematic areas continues to be appropriate and should also be maintained. While recognizing the need to maintain the Safety Standards relevant and up-to-date, ensuring stability in the Safety Standards is important given that Members States may incorporate aspects of the Safety Standards (in particular, Safety Fundamentals and Safety Requirements) into their national regulations. The following points should be taken into consideration when evaluating the whole set of Safety Standards in the implementation of the long-term plan:

- Ensuring that the Safety Standards cover all important safety aspects, types of nuclear facilities, radiation facilities and activities in the field of peaceful uses of ionizing radiation and nuclear energy throughout the lifetime of the facilities and activities.
- Ensuring an optimum number of Safety Standards. This can be achieved through the prevention of unnecessary expansion/ unwarranted increase of the Safety Standards, and through the consolidation of existing publications.
- Ensuring that the Safety Standards are sufficiently balanced in terms of the level of detail provided and the drive to maintain them as technology inclusive as possible in order to facilitate their implementation and to address the needs of all Member States.

Additionally, the sections below provide more specific considerations for each category within the Safety Standards.



Safety Fundamentals

While the Safety Fundamentals are expected to remain stable, their review should be initiated to assess whether they are in line with the developments and lessons identified in radiation safety and nuclear safety.

Safety Requirements

Within the Safety Requirements publications, there are usually (a) requirements covering generic aspects, such as management, policy and organization of facilities and activities which can, in general, be considered to be technology neutral, and (b) technical requirements. These technical requirements should generally be high-level and technology inclusive to the extent possible. Technology-specific and design-specific requirements can be introduced, as needed.

The overarching requirements within the Safety Requirements publications should be largely stable as these are generally at a fairly high and principle level. New overarching requirements can be added when there are significant changes in the approach followed to address a specific topic or if new elements arise that need to be taken into consideration.

The current Safety Requirements should be reviewed to assess whether they need to be revised.

Safety Guides

The Safety Guides provide recommendations, based on international experience, regarding measures that can reliably be used to ensure that the Safety Requirements are met. Alternative measures can also be applied to meet the Safety Requirements.

The evaluation and development of Safety Guides should take into consideration the following:

- The Safety Guides should be reviewed to establish optimized set of user-friendly guidance Unnecessary or duplicated content should be removed to enhance transparency and effective use and implementation.
- The recommendations provided in the Safety Guides should be clear and concise to ensure their effectiveness and that the recommendations provide added value for meeting the requirements.

- Before initiating the development of a Safety Guide on a new or emerging topic, a certain level of maturity is required to ensure a well-founded understanding of the subject. When knowledge or experience is insufficient, alternative publications (such as Safety Reports) should be considered.
- The current set of Safety Guides should be evaluated to ensure that they provide only the necessary level of detail on the topic and that the level of detail in all Safety Guides is as uniform as possible. The use of other IAEA publications (e.g., Safety Reports) should be considered to meet Member State expectations in the case of emerging technologies or to address the need for more detailed practical guidance.

THE PROCESS FOR PREPARATION AND REVIEW OF THE SAFETY STANDARDS

The IAEA Safety Standards are developed through a consensus building process that includes consultation with the Review Committees and the Member States, as well as with other organizations cosponsoring the Safety Standards. As a result of this process, the Safety Standards reflect an international consensus on what constitutes a high level of safety for protecting people and the environment. The efficiency and the agility of the Safety Standards development process must be considered within this context.

The process for preparation and review of the Safety Standards (SPESS B) should be reviewed and evaluated to identify opportunities for improving the prioritization and for investigating the potential for adaptability of the process for different types of revision of existing publications (e.g. revision by batch, graded approach in the revision, or very limited scope revision).

The efficiency of the process should also be evaluated to seek ways to optimize the process, the time needed for each step as well as the overall time needed for the development of a Safety Standard.

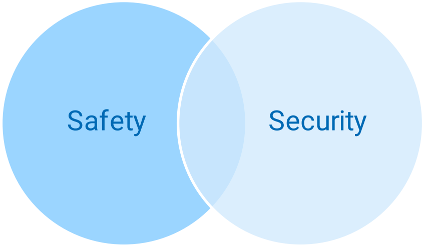
The evaluation should take into consideration the following:

- The development process should be flexible and agile enough to adapt, in a timely manner, to new scientific findings, technological advancements, and changing needs while maintaining the core objective of the Safety Standards, which is developing and maintaining a safety framework.
- The implementation of the development process could follow a prioritized and graded approach. The overall time needed for a new publication or for the revision of a new publication should be proportional to the novelty, complexity and safety significance of the topic.
- Regular reviews of the Safety Standards and updates when necessary are important to maintain their accuracy, relevance and effectiveness in addressing current and future challenges.

The decision to revise an existing Safety Standard should be based on the review of the Safety Standard (including through gap and feedback analysis), taking into account the safety significance of the proposed changes or the pace of significant developments in the area, rather than the time that has elapsed since it was issued. The results of the review should be presented to the Review Committees. If it is decided that a revision is needed, then a document preparation profile (DPP) should be developed. If it is decided that a revision is not needed, then the result of the review should be recorded.

THE SAFETY–SECURITY INTERFACE

The safety–security interface is becoming increasingly important in the current environment. The CSS should cooperate with the Safety Standards Review Committees and the NSGC to identify topical areas in the safety–security interface where further guidance is needed and should discuss how this can be best addressed in the NS publications. Further, areas for joint publications should be identified in the action plan (roadmap).



COOPERATION WITH OTHER ORGANIZATIONS

The IAEA should continue its cooperation with other international organizations in the development of Safety Standards and pursue opportunities for jointly sponsoring publications, when considered to increase Safety Standards effectiveness. Cooperation is especially important for new and emerging topics where other organizations also play an important role (e.g. in transport).

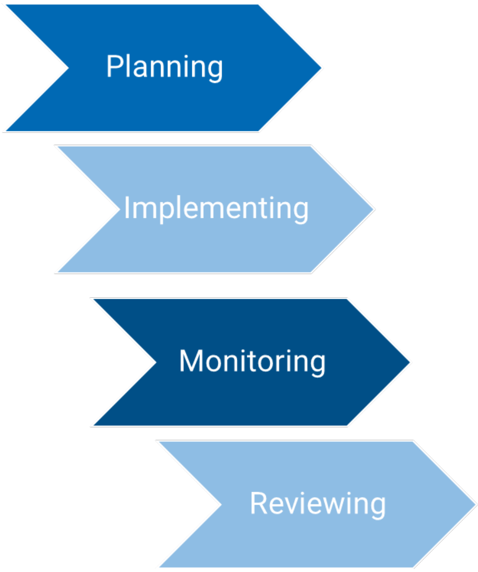
The IAEA should also continue its cooperation with international standardization organizations in the topical areas where effective implementation of the IAEA safety standards can be achieved through industrial standards.

ENHANCEMENT OF CURRENT PRACTICES

In addition to the above addressed enhancements to the Safety Standards' structure, scope, and development process, the CSS proposes the following items:

- To improve Safety Standards user-friendliness and usability, they should be easily accessible and searchable. Modern digital technology, including AI, can enhance quick and accurate access and assimilation of relevant information.
- The IAEA should continue and further develop Member State feedback collection. Themes arising from advisory services and peer review missions (e.g. IRRS, ARTEMIS, EPREV) should be systematically collected and used as an input into the review and development of publications.
- Feedback will also be continuously collected using NSS-OUI.
- The IAEA should continue work in harmonizing Safety Standards terminology to enhance clarity and easy translation through the maintenance of the Glossary.
- The IAEA will continue implementing knowledge management and knowledge preservation.

INTEGRATED ACTION PLAN (ROADMAP)



The IAEA, in cooperation with the CSS and the Review Committees, should develop one integrated action plan (roadmap) outlining how it intends to implement the above-mentioned objectives. The integrated action plan should include the concrete measures for the development of Safety Standards and proposals for revising and updating SPESS A and SPESS B.

The implementation of the long-term action plan should be monitored by the CSS and IAEA in collaboration with the Safety Standards Review Committees. In particular, the CSS in its review of DPPs should check the alignment of each proposal with the roadmap, should assess the justification for the development of a new Safety Standard or the revision of an existing Safety Standard and should ensure that sufficient details are provided in the DPP.