

Report Preliminary Status of the Implementa- tion of the 2020 Safety Reference Levels in National Regulatory Frameworks as of 1 January 2024 -

Annual Quantitative Reporting by RHWG

1st January 2024

Background

—

WENRA has been developing Safety Reference Levels (RLs) for existing reactors for more than a decade. WENRA members also made a formal commitment to implement these RLs into their national regulatory framework so that, *in fine*, these RLs are actually implemented at the nuclear power plants.

WENRA is committed to continuous improvement of nuclear safety. To this end WENRA is committed to regularly revising the RLs when new knowledge and experience are available. The last revision, in 2014, was after the TEPCO Fukushima Dai-ichi nuclear accident to take into account the lessons learned, including the insight from the EU stress tests.

The 2020 version of the RLs, considers issues not revised in the 2014 version. The 2020 RLs review identified the need to introduce the notion of leadership into Issue C (Leadership and Management for Safety) and obsolescence into Issue I (Ageing Management), which also addresses the outcome of the recent ENSREG Topical Peer Review on the topic. There was also a need to complete the hazards to be addressed in the safety demonstration. To achieve this Issue S (Protection against Internal Fires) has been extended to cover all internal hazards (Issue SV), and Issue T (Natural Hazards) has been extended to address all external hazards (Issue TU). All other issues remain unchanged from the previous version.

Since 2011, RHWG has been annually reporting to WENRA on progress made towards harmonization in WENRA countries, specifically on implementation of RLs into each national regulatory framework. In 2016, WENRA decided that the annual report on the members implementation of RLs into each national regulatory framework RHWG should be publicly available.

This report presents the preliminary status of the implementation of the 2020 Safety Reference Levels in National Regulatory Frameworks as of 1 January 2024. The implementation of the 2020 Safety Reference Levels in National Regulatory Frameworks is preliminary as the benchmarking has not yet been completed. RHWG will benchmark the implementation in due course.

Quantitative Reporting

For the quantitative reporting, the following rules were applied:

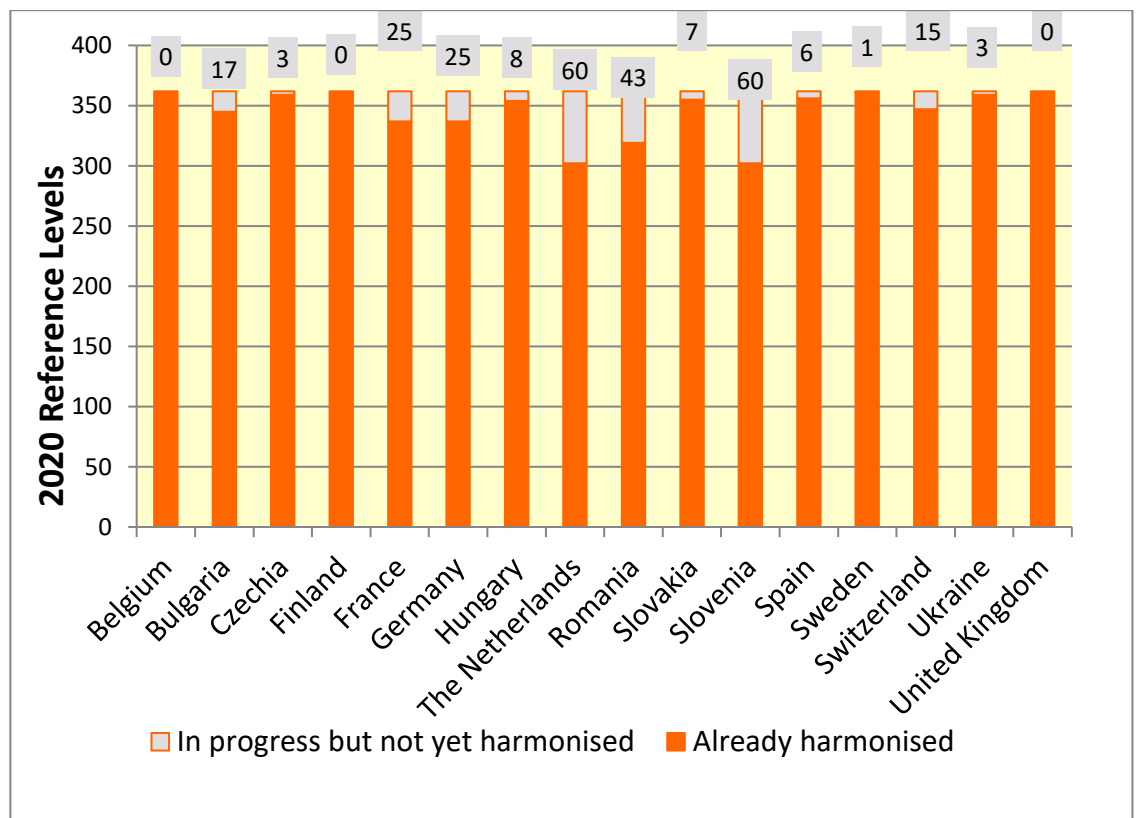
- (1) it is limited to the regulatory side;
- (2) status is reported by each WENRA country, based on its self-assessment;
- (3) only RLs transposed into a published national requirement (as defined by WENRA, i.e. national regulation or publicly issued recommendation) are credited as "harmonized".

RHWG underlines that rule (3) is quite restrictive and resulting figures will not reflect efforts and progress already accomplished, but not finalised, as it implies for example that:

- a RL transposed into a draft national requirement, even if stakeholder consultation is ongoing or was performed, is not credited;
- a RL transposed into a national requirement not yet published (for example waiting for endorsement by Parliament or the Government) is not credited.

However, even if an already published national requirement transposing a RL includes a transitory period before it comes into force, the harmonization for this RL is credited on the regulatory side.

As of 1 January 2024, the preliminary status (regulatory side) reported by the WENRA countries is the following:



Number of RLs (2020 version) per issue

A review against changes in knowledge, international standards and other factors have identified the need to introduce the notion of leadership into Issue C (Leadership and Management for Safety) and obsolescence into Issue I (Ageing Management), which also addresses the outcome of the recent ENSREG Topical Peer Review on the topic. There was also a need to complete the hazards to be addressed in the safety demonstration. To achieve this Issue S (Protection against Internal Fires) has been extended to cover all internal hazards (Issue SV), and Issue T (Natural Hazards) has been extended to address all external hazards (Issue TU). All other issues remain unchanged from the previous version.

The 2020 version of the RLs consists of 19 issues with 362 RLs in total. The number of RLs per issue is given in the following table.

Safety area	Issue	Number of RLs
Safety Management	A – Safety Policy	9
	B – Operating organisation	15
	C – Management system	33
	D – Training and authorization of NPP staff	15
Design	E - Design basis envelope for existing reactors	46
	F – Design extension of existing reactors	25
	G – Safety classification of structures, systems and components	7
Operation	H – Operational limits and conditions	19
	I – Ageing management	11
	J – System for investigation of events and operational experience feedback	16
	K – Maintenance, in-service inspection and functional tests	20
	LM – Emergency operating procedures and severe accident management guidelines	20
Safety verification	N – Contents and updating of safety analysis report	17
	O – Probabilistic safety analysis	16
	P – Periodic safety review	9
	Q – Plant modifications	15
Emergency preparedness	R – On-site emergency preparedness	20
Design	SV – Internal Hazards	31
	TU – External Hazards	18