

# Position Paper

## WENRA Input to IAEA Safety Strategy

# 01 Introduction

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WENRA highly appreciates the work of the IAEA and is grateful for its important contributions to enhance nuclear safety worldwide. Recognizing the IAEA's vital importance in continuing to strengthen nuclear safety worldwide, WENRA wishes to highlight some issues for the IAEA safety strategy, which are reflected in this paper. WENRA considers it to be of vital importance that the Agency continues to build upon the IAEA Action Plan on Nuclear Safety and the experience of its implementation by Member States, the IAEA Report on the Fukushima Daiichi nuclear power plant accident, and the principles enshrined in the Vienna Declaration on Nuclear Safety as well as other relevant international work achieved by regulatory organizations such as WENRA. The future IAEA Safety Strategy should include priorities and milestones for the Agency's work in the field of nuclear safety for the next years.

With this document, WENRA would like to provide the IAEA with inputs for the elaboration of its Safety Strategy.

## 02

# Topics for the IAEA's Safety Strategy

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## **WENRA suggests the following topics to be included in the IAEA's Safety Strategy**

### **Implementation of the Vienna Declaration on Nuclear Safety**

The IAEA should take the necessary steps to ensure that Member States implement the goals and principles of the Vienna Declaration on Nuclear Safety, in particular for existing reactors, and define reasonably practicable safety improvements and implement them in a timely manner.

### **Safe disposal of radioactive waste and spent fuel**

The IAEA should take the necessary steps to ensure that Member States progress in the safe disposal of radioactive waste including spent fuel and decommissioning activities.

### **Emergency Preparedness and Response**

The IAEA should take the necessary steps to ensure that Member States harmonize their emergency preparedness and response in particular between neighboring countries.

### **Safety Culture**

The IAEA should take the necessary steps to support the effective sharing and utilization of operating and regulatory experience by the Member States, fostering safety culture and knowledge management. This includes supporting capacity building and maintaining adequate capabilities in countries with nuclear programs.

## 03 Conclusion

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The work of the IAEA is an essential international contribution to enhance safety of nuclear facilities worldwide. Accordingly, WENRA is willing to exchange on its own work and related initiatives with the IAEA. The principle of continuous improvement is key for strengthening nuclear safety worldwide - using the new reactor standards as reference for back fitting measures. This is where the IAEA could make another important contribution in its future activities.

The Annex gives more detailed information on the identified topics in Chapter 2.

# Annex

## Implementation of the Vienna Declaration on Nuclear Safety

### a. Continuous Improvement

The IAEA should

1. further develop the principle of continuous improvement reflected in IAEA safety standards and promote a culture of continuous improvement in IAEA member states. Continuous improvement in this regards does not only mean improvements in the framework of Periodic Safety Reviews PSRs – it shall be understood as a permanent review of the current status and as an identification of possible safety improvements in due time on the basis of the state of the art of science and technology;
2. support Member States in defining and implementing reasonable practicable safety improvements. Highest standards of reactor safety shall be used as a benchmark for comparison with current national safety standards for existing reactors especially regarding long term operation;

### b. Implementation of the Vienna Declaration for existing reactors

The IAEA should consider in its future work

1. the Vienna Declaration on Nuclear Safety, which requires clearly that for existing reactors safety improvements shall be identified to meet the objective of avoiding early or large releases;
2. giving guidance on a more systematic and structured method taking into account different approaches like risk informed approaches, probabilistic analysis and deterministic methods considered worthwhile to be developed as well as assisting Member States in revising their safety demonstration in accordance with cutting edge practices;

### c. Enhancement of defense-in-depth concept

The IAEA should review and update the current defense-in-depth concept based on INSAG-10 published 20 years ago. During the last two decades, this concept has been refined due to the emerging generation III nuclear power plants. Harmonization of the approaches and development of an improved defense-in-depth concept is vital for nuclear safety.

### d. Assessment of practical elimination

The IAEA should progress on

1. providing a clearer guidance for an operating organization to demonstrate practical elimination;
2. provide an approach for regulators to review and assess the achievement of practical elimination;

**e. Safety approach of reactors with passive safety features**

The IAEA should consider that

1. some new reactor designs apply more and more passive safety features;
2. the current safety approach relies primarily on active safety systems. Achieving the same reliability as for active safety systems may challenge the existing safety strategy as for example defined in SSR 2/1;
3. the safety demonstration as well as review and assessment of new reactor designs relying on passive safety features need to be developed to ensure safe operation of those designs in the future;

**Safe disposal of radioactive waste and spent fuel**

**f. Waste Management**

The IAEA should take the necessary steps to ensure member states progress in safe disposal of radioactive waste including spent fuel;

**g. Decommissioning**

The IAEA should address challenges regarding decommissioning activities. Having the necessary funds available when needed is generally recognized and steps are being taken to ensure this. Another issue is the proper management of the large amounts of decommissioning waste and availability of adequate disposal capacity. Establishing clearance levels for the release of decommissioning waste from nuclear regulatory control is one of the measures being pursued. The IAEA should also support Member States in conducting R&D to explore effective and safe decommissioning technologies;

**Safety Culture/Capacity Building**

**h. Safety Culture**

The IAEA should promote and support Member States to enhance an effective nuclear safety culture. This includes:

1. management systems;
2. arrangements to register, evaluate and document internal and external safety significant operating experience;
3. the obligation to report events with a potential impact on nuclear safety to the competent regulatory authority;

**i. Knowledge Management**

The IAEA should ensure that specific guidelines are developed to cover aspects of knowledge management for countries phasing in or phasing out of nuclear energy;

**j. Operating Experience**

The IAEA should facilitate and promote effective sharing and utilization of operating and regulatory experience by the member states;

**k. International Peer Reviews**

The IAEA should

1. further increase the efficiency of its Peer Review Missions to allow Member States to fully profit from these missions. The IAEA should also further enhance the transparency of such peer review missions;
2. assist Member States, for example through follow-up missions, in the timely and comprehensive implementation of recommendations from its international peer review services;

## Emergency Preparedness and Response

### I. HERCA-WENRA Approach for a better cross-border coordination of protective actions during the early phase of a nuclear accident

The IAEA should emphasise that effective transboundary coordination in emergencies should be built on trust and mutual understanding. In cases where NPPs are located within 100 km or less from national borders, the IAEA should assist Member States in engaging in regional harmonisation approaches, taking into account the HERCA-WENRA approach and other regional harmonisation approaches.

## 04

# WENRA Members and Observers

### Members –Regulatory Authority of:

- Belgium
- Bulgaria
- Czech Republic
- Finland
- France
- Germany
- Hungary
- Italy
- Lithuania
- Romania
- Slovak Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- The Netherlands
- Ukraine
- United Kingdom

### Observers –Regularity Authority of:

- Armenia
- Austria
- Belarus
- Canada
- Denmark
- Ireland
- Japan
- Luxembourg
- Norway
- Poland
- Russian Federation
- Serbia