

The development and implementation of the WENRA Reference Levels for existing NPPs

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Olivier Gupta
– RHWG Chair –

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Purpose and scope

➤ **Definition of harmonization:**

“No substantial differences between countries from the safety point of view

- in generic, formally issued, national safety requirements,**
- and in their resulting implementation on Nuclear Power Plants.”**

➤ **Scope**

- Existing reactors only**
- Nuclear safety only**
- Focuses on requirements upon the licensees, does not regulatory practices**

➤ **The harmonization study does not cover all safety aspects, only those where differences in safety could be expected**

➤ **Balanced in terms of level of details**

Overall schedule



- **Work initiated in 1999**
- **Pilot study (1999-2002)**
 - ❑ 6 safety issues
 - ❑ 9 participating countries
 - ❑ Report published in 2003
- **Main study (2003-2005)**
 - ❑ 18 safety issues
 - ❑ 17 participating countries
 - ❑ Report published in 2006, for stakeholders' comments
- **Reference Levels revised in January 2008**
- **National action plans to harmonize**
- **Report on harmonization status (January 2011)**

Overview of the methodology (1/2)



- **Selection of 18 “safety issues”, classified into 5 “safety areas” (safety management, design, operation, safety verification, emergency preparedness)**
 - ❑ **On the basis of their relevance for harmonization purposes**

- **For each issue, development of a set of “Reference Levels” (295 in total)**
 - ❑ **Mainly on the basis of the IAEA Safety Standards**
 - ❑ **In a few cases, using existing national requirements**
 - ❑ **Reflecting best practices (“highest quartile”)**

- **The RLs do not constitute new regulatory standards, they are a tool for harmonization**

Overview of the methodology (2/2)



- **Each Reference Level assessed nationally:**
 - Legal requirement?**
 - Legally binding document (Law, ordinance, or regulation)
 - Formal, generic, public recommendation
 - Implemented on all NPPs?**

- **For each aspect, two-letter coded answer:**
 - A = Yes
 - B = No, but justified or will be 'yes' by end 2005
 - C = No, & cannot be justified

- **National results peer-reviewed (“benchmarks”)**
 - Validation by the group, to ensure consistency**

Results and follow-up



- **The results were used to develop national action plans, with the aim to achieve a harmonized situation by 2010**
 - ❑ **In all countries, most of the RLs were already implemented on NPPs**
 - ❑ **In several countries, many RLs were not yet “transposed” in the regulatory documents (legally binding or recommendations)**

- **Large projects have been undertaken to “transpose” the RLs into the national regulatory documents**

- **The national action plans have been monitored by WENRA**

Lessons learned



- **Transparent dialogue with the stakeholders at the European level**
 - ❑ **In particular with the industry (creation of ENISS)**

- **The most exhaustive joint international use of the IAEA Safety Standards**

- **This project has been possible due to:**
 - ❑ **The commitment to harmonization of each WENRA member**
 - ❑ **The framework based on voluntary cooperation**
 - ❑ **The atmosphere of openness and mutual trust**

- **Building of a strong informal network**

Conclusion : where are we now?



- **Considerable progress has been made since 2006 towards harmonization**
 - Some work still going on, each WENRA country will report publicly on completion**
 - The project has resulted in convergence of national requirements**
 - It has also resulted in safety improvements on some NPPs**

Conclusion: Outlook



- **Reference Levels will be revised when necessary**
- **Reference levels will be used to discuss reasonably practicable safety improvements in view of long-term operation of NPPs**