Multinational Regulatory Approaches

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Harmonization?

- **The primary objective of harmonization** is to provide a high and comparable level of safety in all countries involved
  - Harmonization doesn't mean standardization

- **Harmonization is not only the role of safety Authorities**, but also of operators and manufacturers
  - The specific choices and practices of operators and manufacturers were taken into account in the drafting of national regulations

Drivers for harmonization (1)

❖ A Half-century of cooperation

- **AIEA**
  - ➢ Safety standards
  - ➢ Review meetings for nuclear safety convention and joint convention (radioactive waste and spent fuel)
  - ➢ IRRS (peer reviews of safety Authorities)
  - ➢ International or regional networks

- **OECD/NEA**
  - ➢ CNRA and CSNI Working Groups

Drivers for harmonization (2)

❖ More recently

• Clubs between Authorities

- INRA = International Nuclear Regulators' Association
- WENRA = Western European Nuclear Regulators' Association

• New reactors

- The "Multinational Design Evaluation Programme" Initiative (MDEP); secretariat by NEA

• European construction

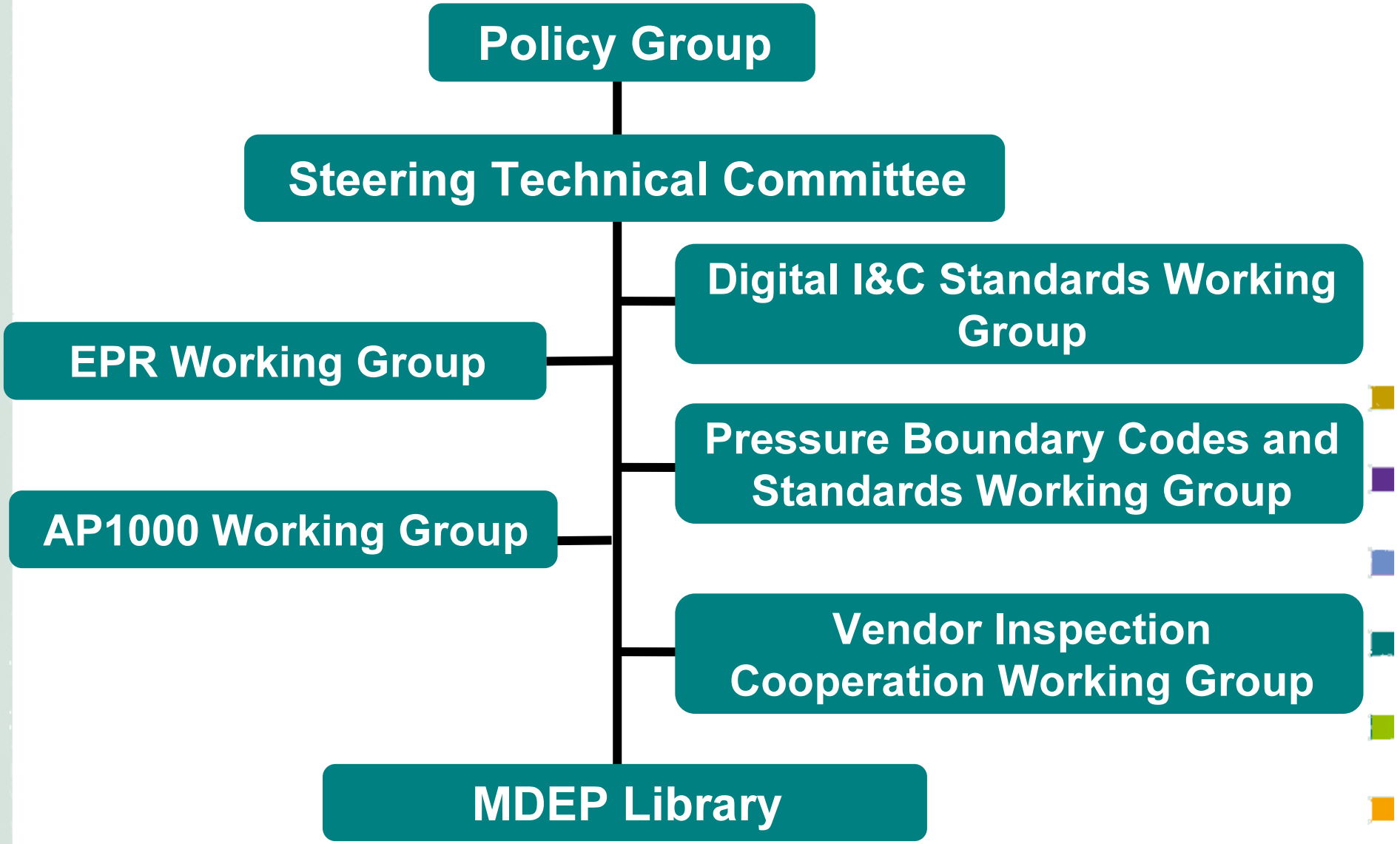
- WENRA's harmonisation work
- European Directive recently issued
- ETSON network of technical support organizations

The MDEP Initiative

- **An initiative undertaken by safety Authorities to share their assessment work on new reactors**

  - Optimizing and sharing the workload
  - Ensuring more robust assessments, hence improving safety
  - Reinforcing consistency between regulatory requirements

The MDEP Initiative



MDEP: Transverse groups

- **Manufacturing inspection**
  - Joint inspections: drafting of a guide and carrying out of such inspections
- **Control codes and standards**
  - Identification of differences and of suitable means for such codes and standards to converge
- **Convergence of codes and standards on pressurized equipments**
  - Work with code organizations

MDEP: Specific groups

- **EPR**
  - Finland, France, United States, United Kingdom, China, Canada

- **AP1000**
  - United States, China, United Kingdom, Canada (observer)

- **Exchange of information and cooperation for assessing reports on various technical topics**

MDEP: Prospects

- **Concrete results in the forthcoming years**
  - Inspection of large components
  - Convergence of codes
  - Examination of reactor types

WENRA

- **WENRA**
  - Initially 10, and then 17 Heads of safety Authorities in EU nuclearized countries + Switzerland; from 2009 non-nuclear countries as observers
- **2000:** Report on the safety state of candidate countries to the EU
- **Two working groups on harmonization**
  - Reactors (RHWG)
  - Decommissioning and waste (WGWD)

WENRA's harmonization work

Harmonization according to WENRA

Absence of substantial difference from safety point of view

- in regulatory or para-regulatory requirements
- in the resulting application to facilities

- **Example of the study on existing reactors**

WENRA: Methodology for existing reactors

- **Development of 300 "reference levels"**
  - Based mainly on AIEA's standards…
  - … but also of national regulations
- **Each country examines its own situation…**
  - regulations and generic recommendations
  - application on reactors

  and deduces from this review which items to be "harmonized"

The result of each country is validated in common

WENRA: Scope of the study on existing reactors

- **Safety management**
  - safety policy, operator's organization,
  - quality management, training and certification
- **Design**
  - design check and improvement, safety classification, design envelope of light-water reactors
- **Operation**
  - operating limits and conditions, ageing management
  - experience feedback, maintenance, accident procedures, accidents beyond the design basis
- **Safety verification**
  - contents of the safety report, PSA, re-examinations, changes
- **Emergency situations**
  - On-site emergency preparedness, internal fires

WENRA : Results of the study on reactors (1)

- **Set of 300 consensual reference levels throughout Europe**

- **Two-dimensional rating for each country and reference level**
  - ➢ Regulations
  - ➢ Implementation

  A = harmonized in substance

  B = a difference exists, but is justified

  C = non-harmonized

WENRA: Results of the study on reactors (2)

- **Most "reference levels" are already enforced**
  - ➢ a rather homogeneous situation between countries

- **However many reference levels are not formally required**
  - ➢ a rather contrasted situation between countries

WENRA: Consequences of the study on reactors

- **Report issued in early 2006 for comments**
  - Large interest of stakeholders
  - Comprehensive discussions with ENISS
- **Heads of safety Authorities exchanged their national action plans**
  - Implementation under way: target ⇒ 2010
- **Launching of a study on new reactors**
  - Common point of view on the safety objectives for new reactors

European Directive on nuclear safety

- **Creation of a high-level group ENSREG (European Nuclear Safety REGulators)**
  - Working on nuclear safety and waste management
- **European Directive on nuclear safety issued in June 2009**
  - A legal framework to WENRA's technical approach
  - Innovative requirements (education and training to maintain a highly qualified and skilled staff, actions for public information, reception of peer reviews)

A whole set of initiatives to build nuclear safety in Europe

- **WENRA**
- **ETSON**
- **ENSREG**
- **Directive**

A common objective to promote a high level of safety in Europe

Conclusion and prospects (1)

- **Harmonization: a reality in Europe**
  - Consensus reached through balanced exchanges
  - strong will, continuous efforts and sturdy commitment from each participant
- **Another challenge: MDEP**
  - Great expectations from all stakeholders
- **Benefit from expert involvement in international activities**
  - Creation of regulator staff network where each participant knows and trusts each other
- **Staff exchanges need to be promoted**
- **Success of harmonization relies on regulators' openness to other countries' practices**

Conclusion and prospects (2)

For Radiation Protection area as well :

- **Another European Club : HERCA**

  Heads of European Radiation Control Authorities

  - working on the practical implementation of European Radiation Protection Directives