CORDEL Vision and Action Plan

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World Nuclear Association

Content

- **WNA CORDEL History and Vision**
- **CORDEL current activities**
- **Way forward**

World Nuclear Association

CORDEL Working Group

- **Cooperation in Reactor Design Evaluation and Licensing Working Group**
- **Founded in 2007**
- **Main aim: promoting international standardization**
- **Membership:**
  - **all major vendors**
  - **utilities interested in new build**
  - **service companies**
  - **observers from international organisations**

International Standardization

- **Each vendor's design:**
  - **Can be ordered by a utility in every country**
  - **Without obligatory adaptation to specific national regulations**
  - **Taking into account only site specific adaptations**
- **Results in a number of worldwide fleets, each of the same design**
- **Needs to be supported by**
  - **Multinational licensing (mutual acceptance or joint licensing)**
  - **Harmonisation of safety requirements**

Benefits for safety and economics

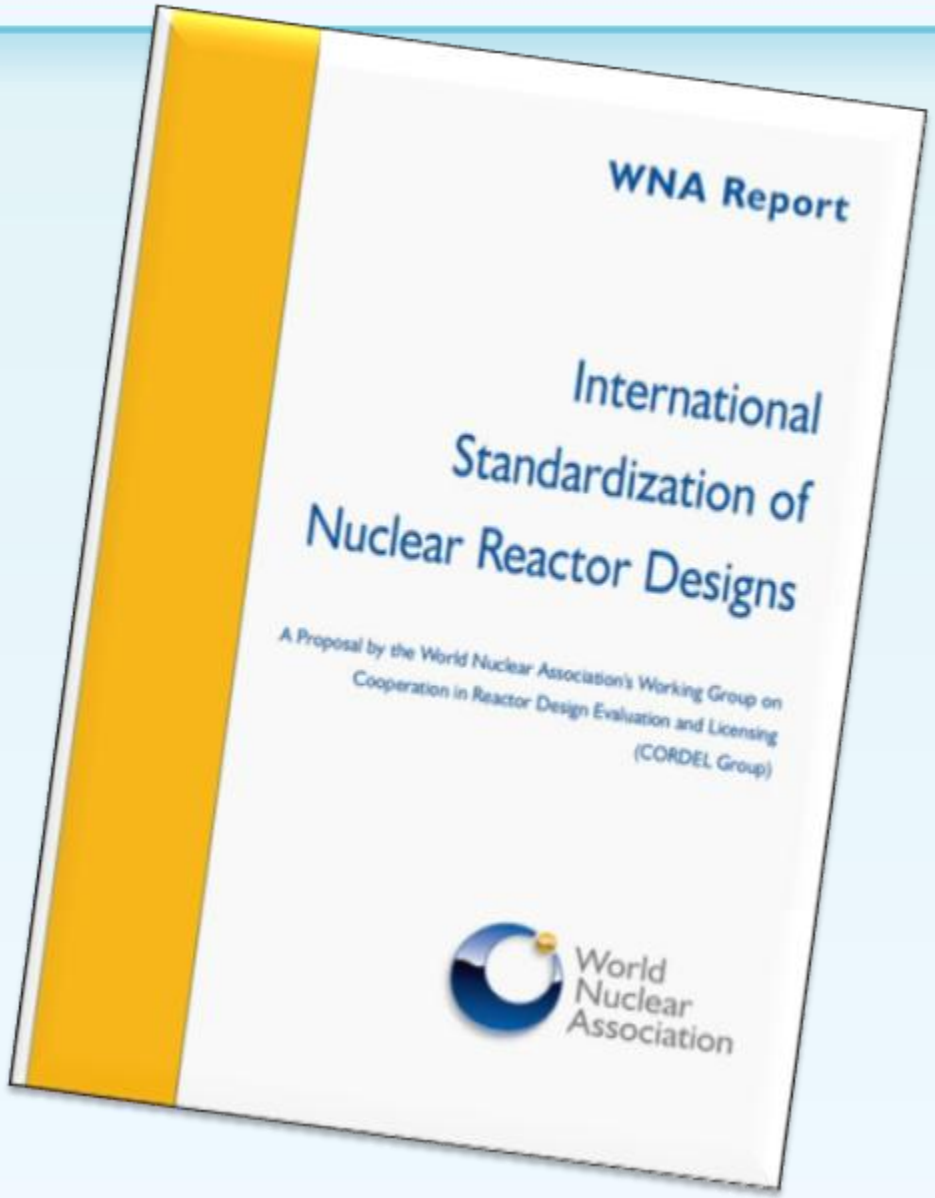
Safety benefits

- **Experience feedback:**
  - **Fleets of standardized designs offer a facilitated and broader basis for design, construction, and operation experience feedback,**
- **Design improvements:**
  - **Implemented across the fleet**

Enabling new build

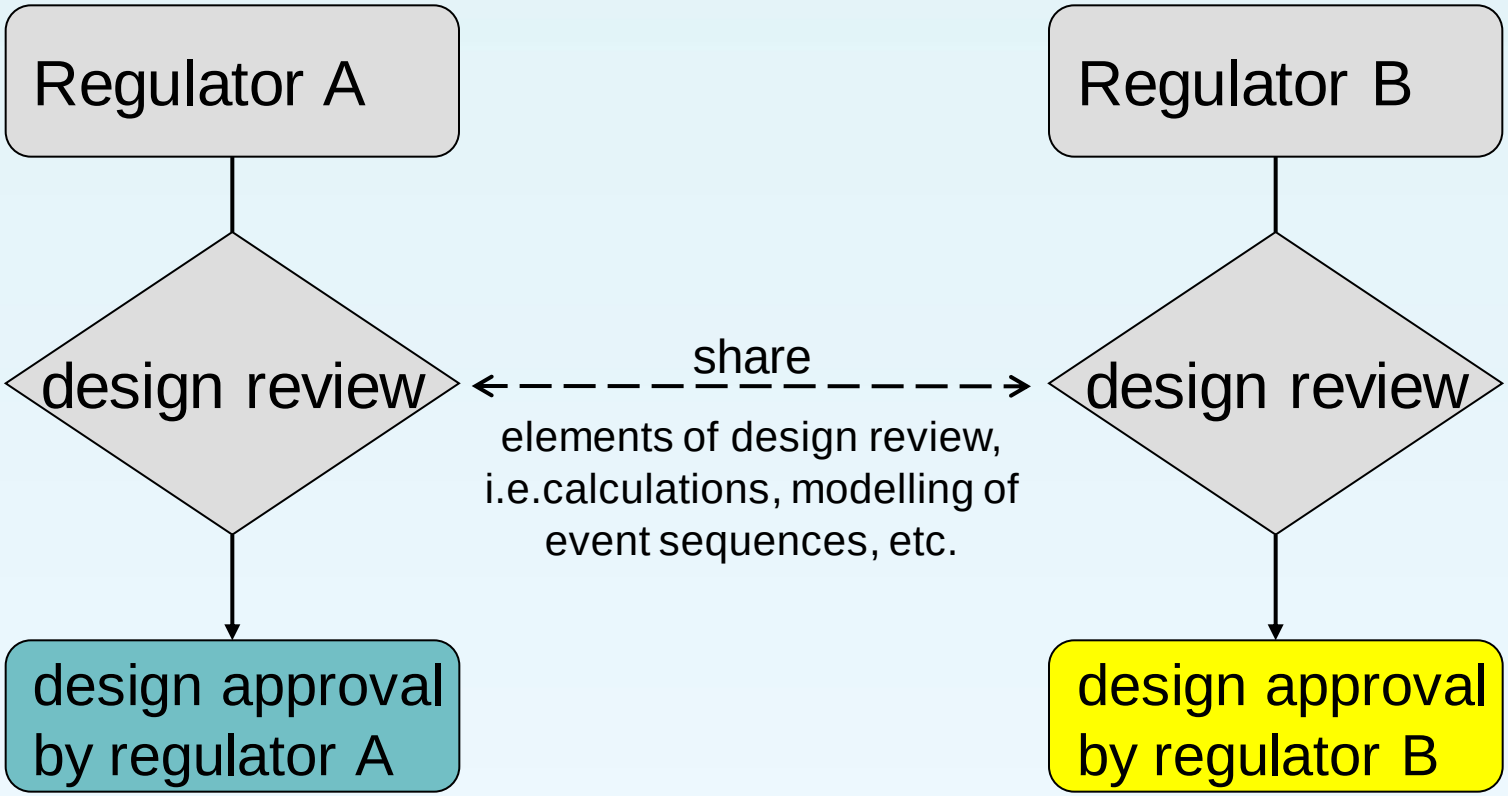
- **Licensing risk reduced**
- **Licensing processes shorter and more predictable**
- **Economies of scale**

The CORDEL "Roadmap"

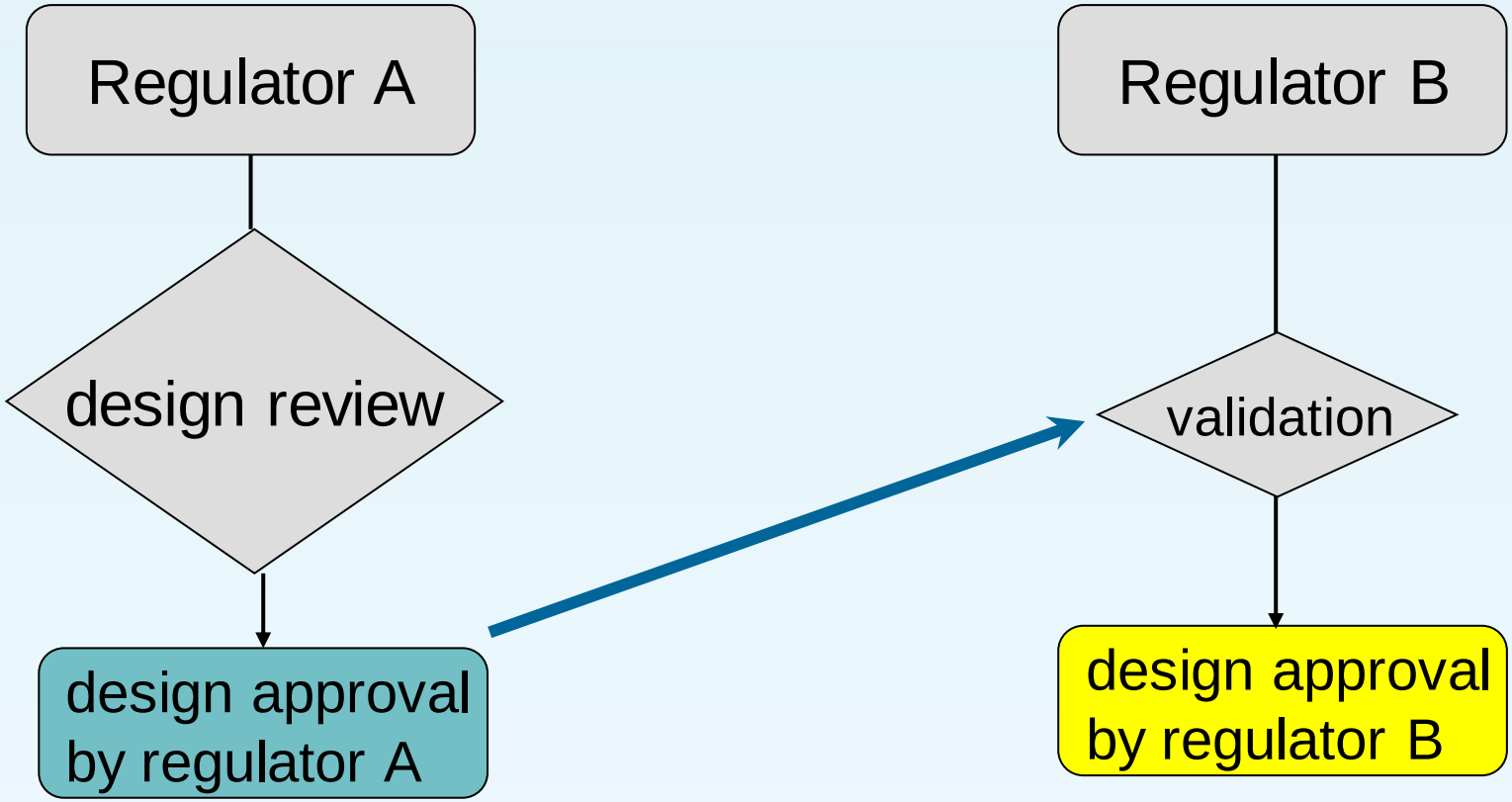


2010

Phase 1: Share design assessments/reviews



Phase 2: Validate & accept design approvals of other countries



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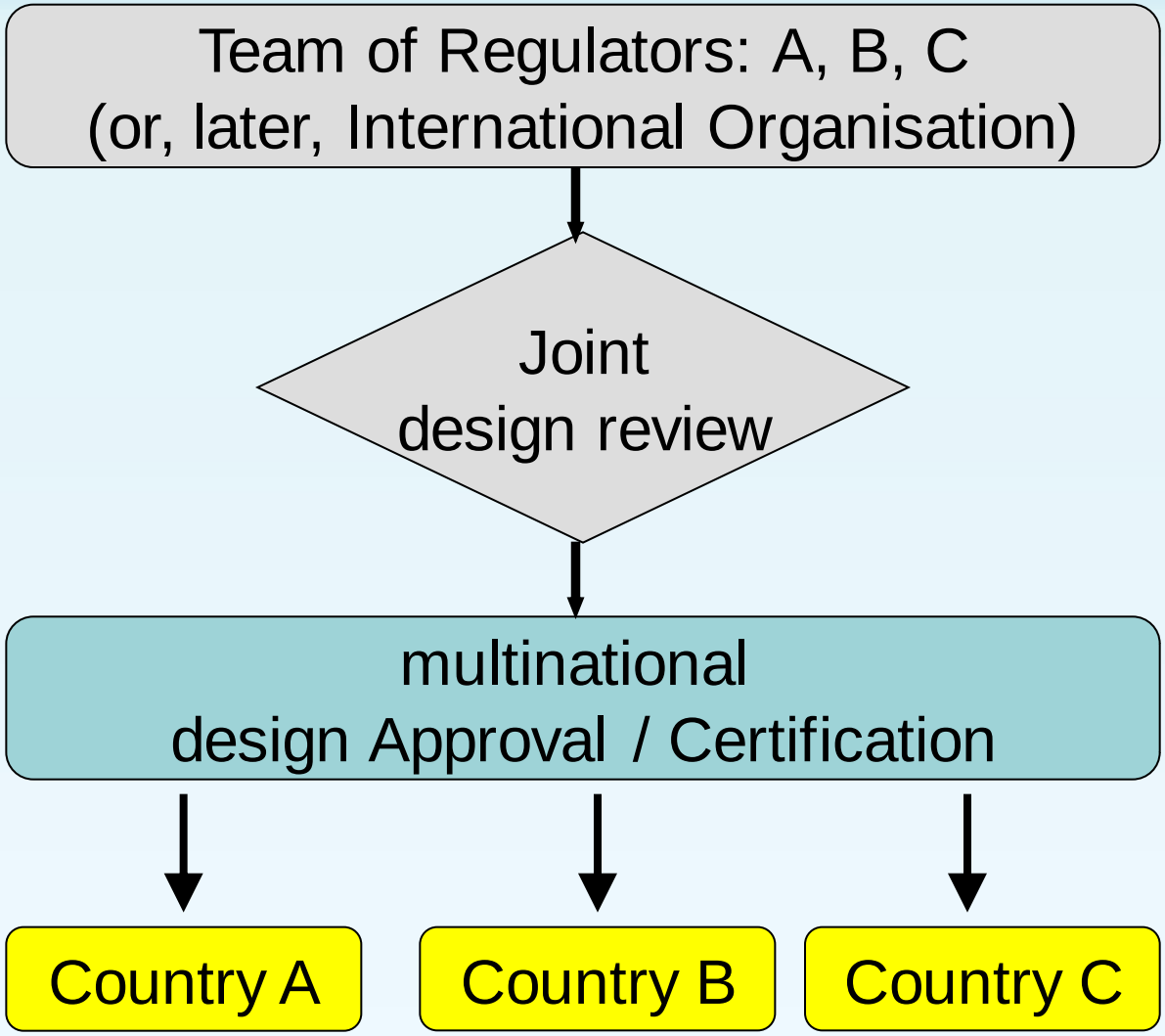
Phase 3: International Design Certification



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Common characteristics

All steps

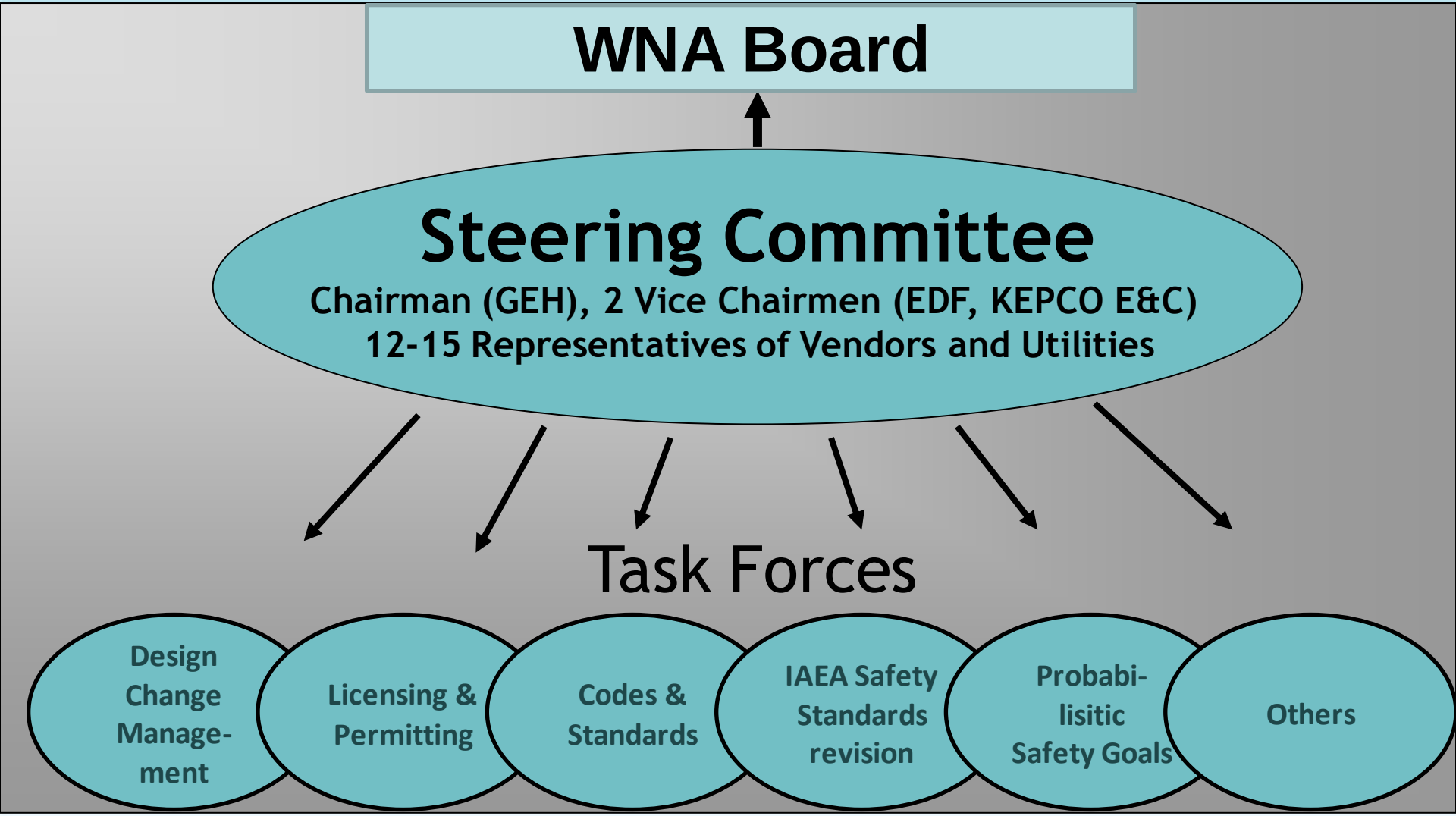
- **Assume strong collaboration between sovereign and competent regulators**
- **Assist each regulator to acquire the necessary design knowledge**
- **Recognize the fact that each NPP project requires a national, sovereign, licensing process**
- **Do not change the fact that prime responsibility for safety lies with the operator**

- WNA CORDEL History and Vision
- **CORDEL current activities**
- Way forward

CORDEL: From vision to practice

- **January 2010: Publication of Roadmap**
- **CEO letter: 12 CEOs of the world's leading operating and vendor companies endorse the Roadmap in a letter to DG Amano (IAEA) and DG Echavarri (OECD-NEA)**
- **Fruitful discussion with stakeholders, e.g. at MDEP Conference**
- **After Strategy was defined: CORDEL went to work on those topics where action was most urgent**

CORDEL structure



TF Chairs : experts from WNA member companies

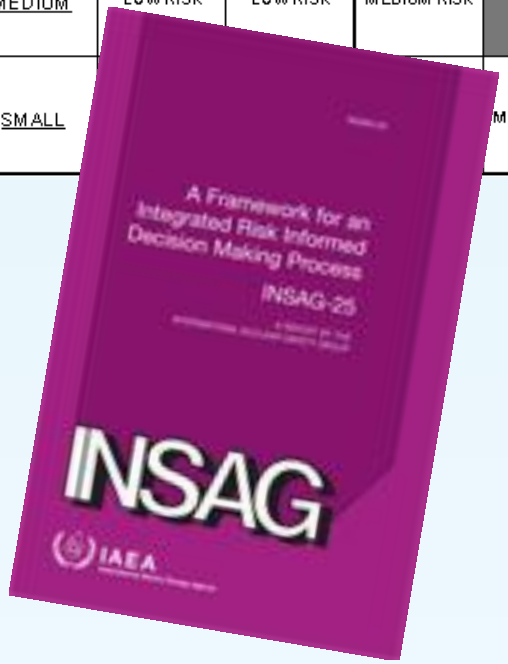
IAEA safety standards revision Task Force

- **Globalization implies greater use of IAEA Safety Standards and more effective IAEA Safety Standards**
- **Greater input from industry required than in the past**
- **CORDEL acknowledged by IAEA as industry interface**
- **Currently major focus is on review of Safety Classification of SSC (DS 367) (Applicability tests)**
- **Other current guides include DS456 Requirements on Leadership and Management for Safety, DS441 Construction of NPPs...**
- **Will also monitor safety guides revisions following lessons learned post Fukushima-Daiichi**

Probabilistic Safety Goals Task Force

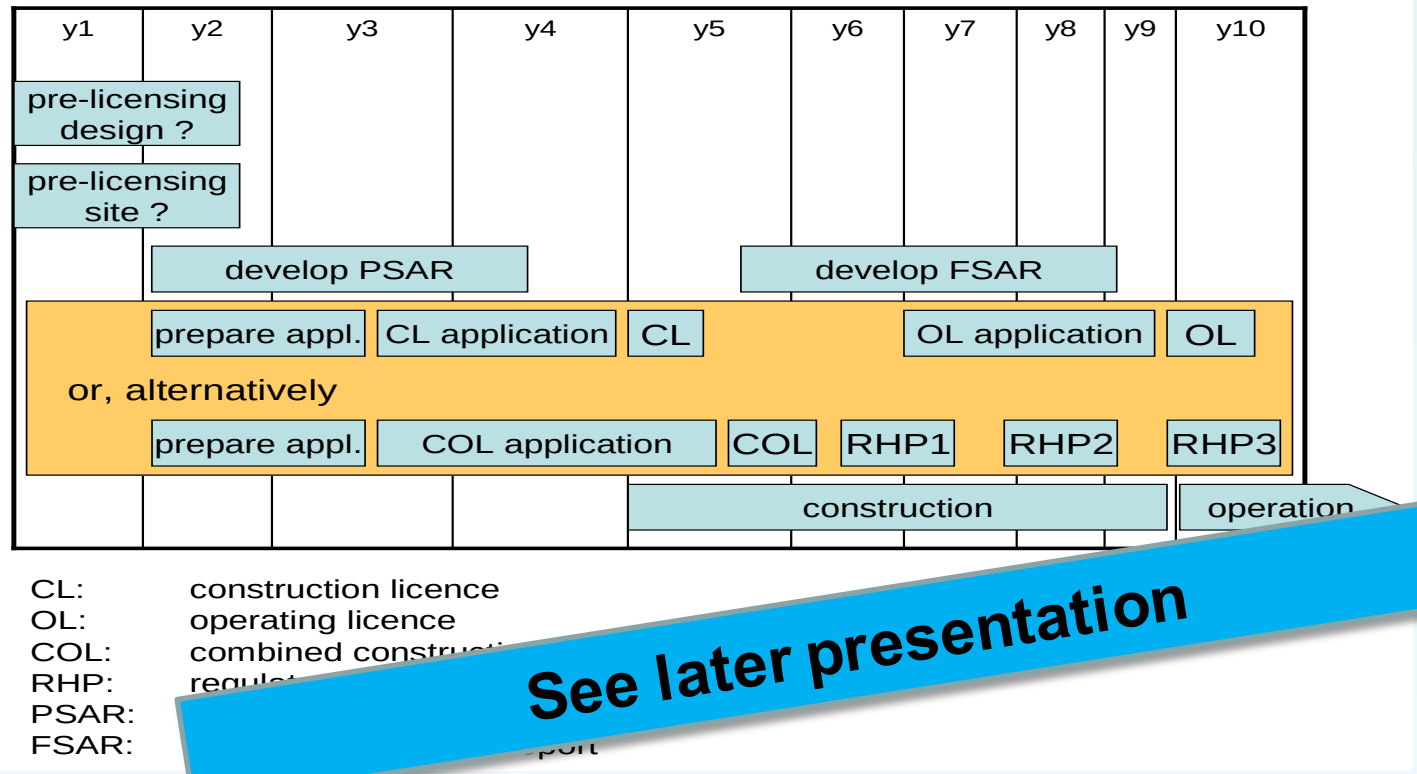
- **MDEP recognized importance of this issue**
- **Great relevance to industry**
- **Wide variety of PSA methods hinder internationalization**
- **TF will comment on and input to IAEA activities:**
  - **New TECDOC on Safety Goals**
  - **New TECDOC on Integrated Risk-Informed Decision Making**

RISK REGIONS		CONSEQUENCE CATEGORY Core Melt Potential for Limiting Break Size			
HIGH MEDIUM LOW		NONE	LOW	MEDIUM	HIGH
DEGRADATION CATEGORY Potential for Large Break/Rupture	HIGH	LOW RISK	MEDIUM RISK	HIGH RISK	HIGH RISK
	MEDIUM	LOW RISK	LOW RISK	MEDIUM RISK	HIGH RISK
	SMALL				MEDIUM RISK



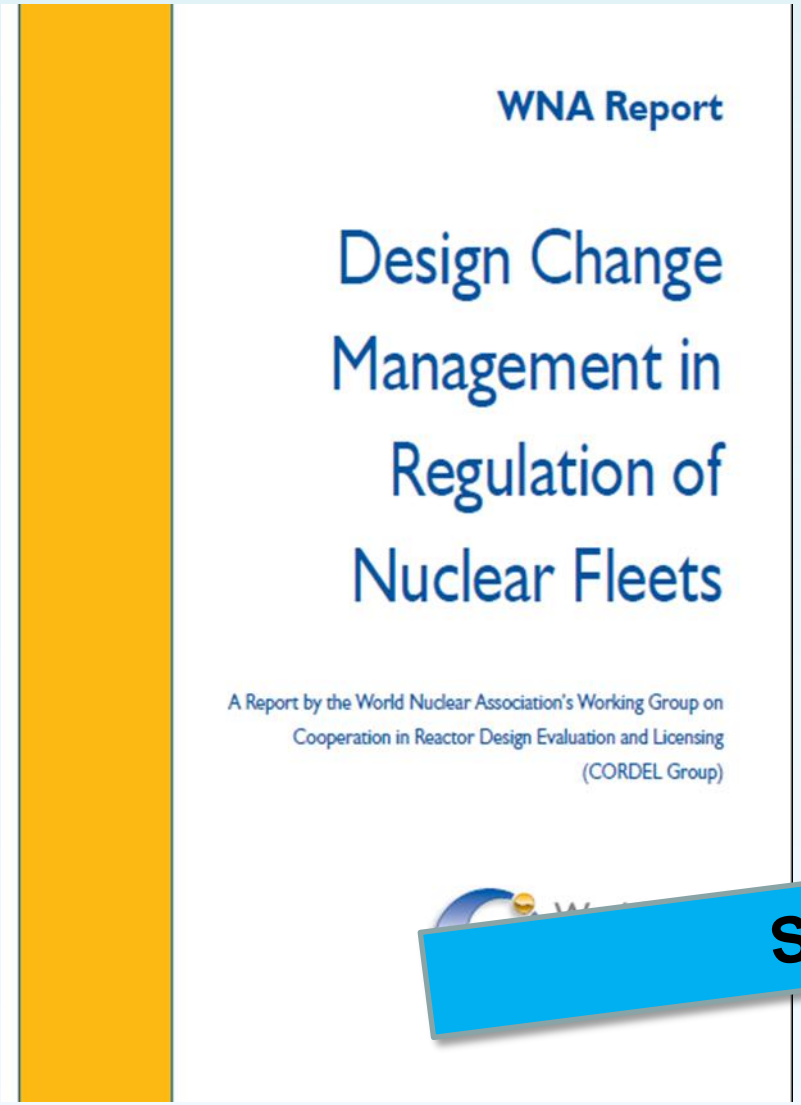
Licensing & Permitting Task Force

- **Interface of licensing with commercial decisions: contracting, scheduling, procurement, financing....**
- **Report, based on a survey among WNA members, to be published soon**



See later presentation

Design Change Management Task Force



- **Standardization needs to be maintained throughout life**
- **How to maintain the Design Authority**
- **More responsibilities for vendors**
- **Enhanced role of Owners Groups: "best practices" identified**

See later presentation

DCM Task Force: Aviation

- **Lessons learned from aviation regulation**

  A dedicated task force has produced a comparison with aviation

  Benchmarks identified

  Report to be published soon

See later presentation

CORDEL Codes & Standards Task Force

- **Work towards international convergence of national nuclear codes**
- **Actively promote collaboration between SDOs, regulators and the nuclear industry (MDEP requested CORDEL to investigate code convergence)**
- **Limit future divergence of nuclear codes**
- **Further topics to be defined via Prioritization Survey**

See later presentation

CORDEL Annual Report 2011-2012

- WNA CORDEL History and Vision
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Revision of CORDEL Roadmap

What happened since January 2010?

- **Fukushima**
- **Ongoing financial crisis**
- **Investment environment for NPPs more and more difficult**

  Standardization and joint licensing more necessary than ever to

  - **Improve safety**
  - **Regain public trust**
  - **Reduce costs**

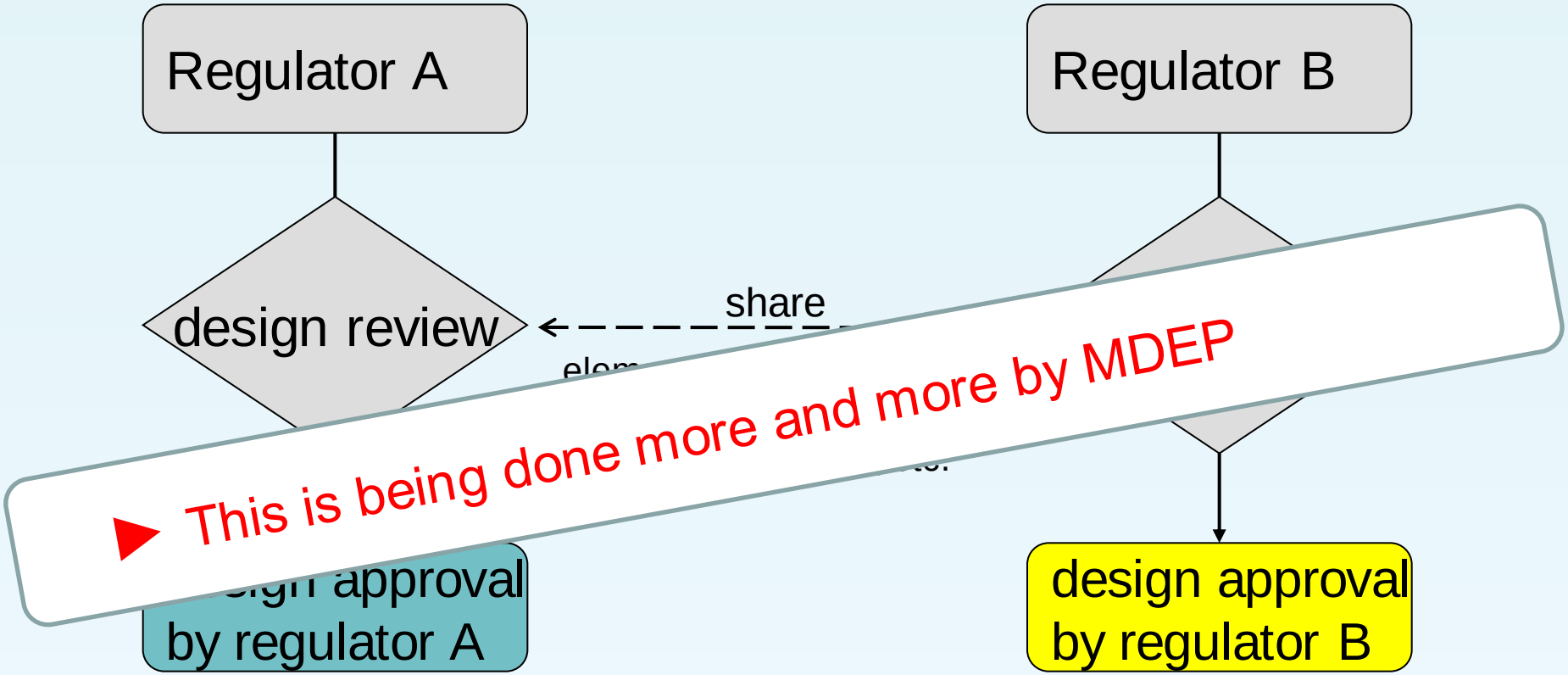
- **Discussion on SMRs became more intense**

  New opportunities for CORDEL concept?

Developments in licensing worldwide

- **MDEP is constantly improving cooperation, but not yet making a „quantum leap“ forward**
- **For newcomer countries, „import“ of technology and regulation based on IGAs (inter-governmental agreements) is more and more common**
- **The EU has picked up on the issue; the ERDA (European Reactor Design Acceptance) Report was finalised in August 2012**

Checking progress: Phase 1



▶ This is being done more and more by MDEP

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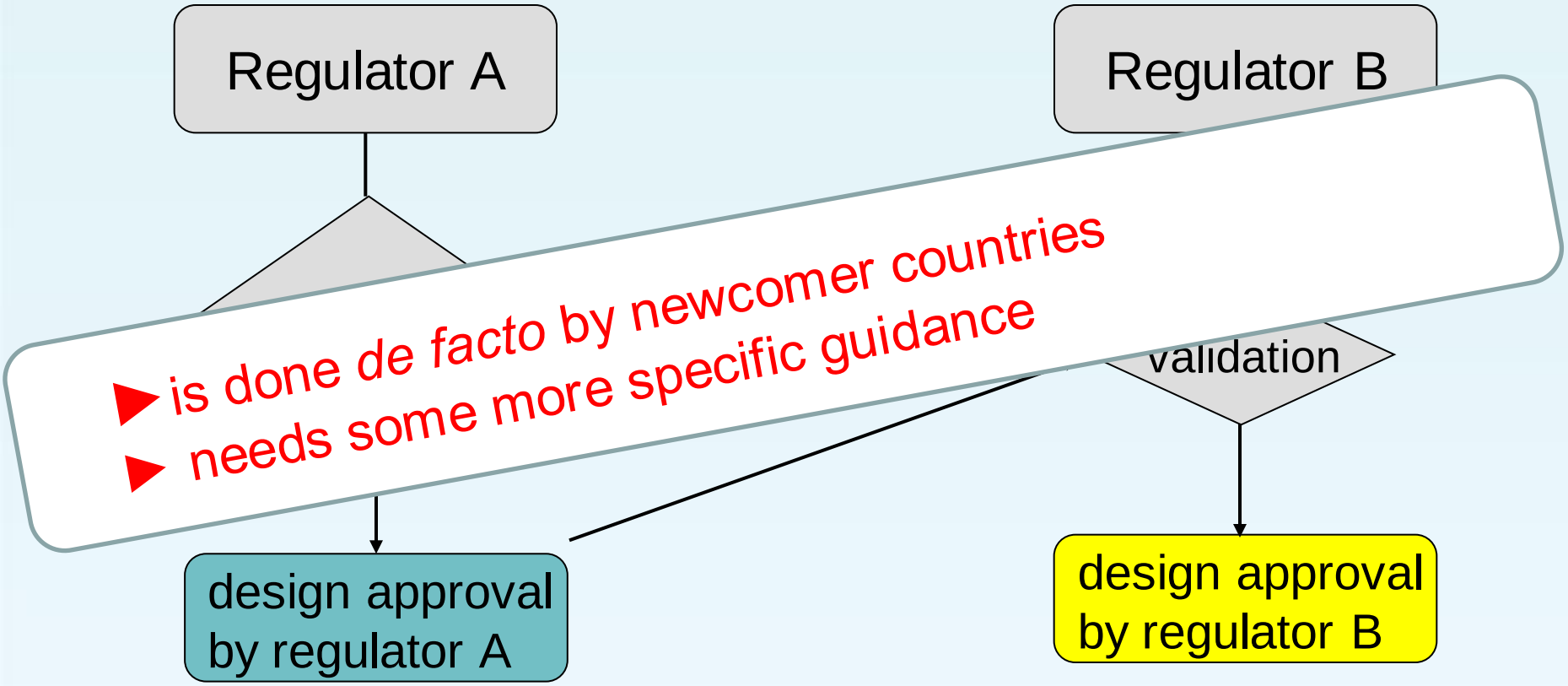
Checking progress: Phase 2



- is done de facto by newcomer countries
- needs some more specific guidance

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Checking progress: Phase 3

Team of Regulators: A, B, C
(or, later, International Organisation)

► In practice, some elements could be done immediately: joint design review, commitment to issue identical licences
► In the long-term, a treaty system could be installed recognising joint design certification

multinational
design Approval / Certification

Country A | Country B | Country C

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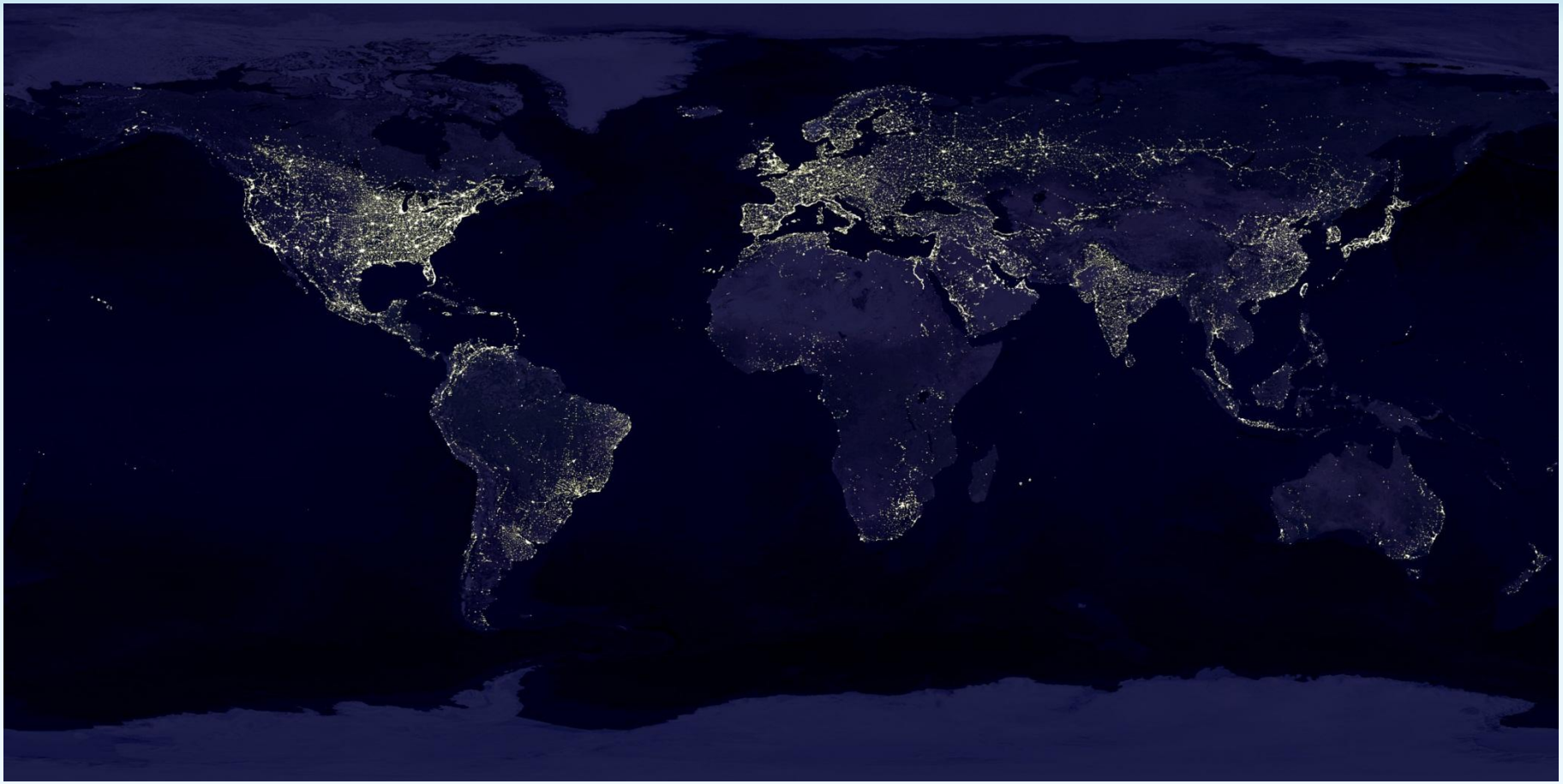
New Development in the EU: ERDA

- **2011: creation of a Core Group "European Reactor Design Acceptance" (ERDA)**
- **Initiative of European Commission, based on CORDEL ideas**
- **"Roadmap to ERDA", August 2012**
  - **Nuclear licensing: A stand-alone design acceptance**
  - **Harmonization of safety requirements**
  - **"Validation" process**
  - **Joint design acceptance by several regulators**
  - **Joint design assessment by TSOs**
- **Next step: interaction with regulators via ENSREG**

Conclusion

- **Vision of Standardization remains valid**
- **„CORDEL Roadmap update 2012/2013“ planned to adapt the CORDEL vision to the current situation**
- **Growing number of topical task forces and reports**
- **EU picking up on CORDEL ideas**
- **CORDEL is encouraged by MDEP‘s work**
- **CORDEL encorages regulators to explore further ways to proceed on the path to harmonization and standardization...**
- **... in order to reap safety benefits as well as to facilitiate nuclear new build**

Thanks for your attention



Questions?

www.world-nuclear.org