Status of the EUR works, EUR organisation

Luc VANHOENACKER, Tractebel Engineering (GDFSUEZ)
EUR today: a mature cooperative organization of European utilities

- Working together since 1992
- Committed to keep the nuclear option open
- Sharing specification and development works for Gen 3 LWR plants
- Today involving most of the major European nuclear electricity producers or group of (19)
- Operating a very large nuclear fleet: more than 130 LWRs + others
- In competition with each other
The EUR project initial objectives (1991)

- A single technology: light water
- To reduce licensing risks
  - Quite high safety objectives: common rules valid for a long enough time and in a wide enough area
  - Seek for improved acceptance
  - Safety harmonisation: within Europe and, as far as possible, with USA
- To increase plant competitiveness
  - allowing the development of standard designs usable throughout a wide area
  - promoting cost-effective design features
  - establishing conditions for a fair competition between the vendors
- To deal with the open European electricity market
  - Harmonised design requirements
EUR: a hub to harmonise European utilities views & requirements and to make Gen 3 a reality in Europe

- **a utility network**
  - to share experience in plant specification, design evaluation, licensing ...
  - To build common specifications for the European GenIII NPPs

- **a common bridge with external stakeholders**
  - the vendors
  - the regulators: safety (WENRA), HV grid, ...
  - the EUR counterparts outside Europe: EPRI, Asian utilities, ...
  - the international organisations: IAEA, OECD, EU, WNA...
  - the education and training organizations and networks: ENEN, WNU,...
The EUR document: a generic Gen 3 LWR specification

- A specification written by investors & operators
  - Wide experience basis (6 different vendors & 19 operators in Europe)
  - Not a regulatory document

- Open
  - Design objectives and functional requirements,
  - Fits all the designs of interest to the European utilities
  - Modular structure, versatile, easy to adapt

- Neutral
  - Does not favour any specific design
  - Seldom forbids, except where there is a bad operation experience or an unacceptable industrial risk

- Benchmarked
  - Other industrial specifications (EPRI-URD), regulatory documents, international design guides
  - Real Gen 3 designs

- A possible base to call for bids
The EUR document: a short list of selected designs

- Most of the available designs on the European market candidate to evaluation by EUR
- Assessment of the designs of interest for EUR utilities
  - Real support to the product by utilities
  - Preliminary checking before starting full scope work
- In depth understanding of the rationales of the evaluated designs
- Certificate granted to the vendor to recognize the complete evaluation
- Benefits for both the potential customers and the vendors
The EUR document

Volume 1: Main policies & objectives
Revision C: 04/2001

Volume 2: Generic nuclear island requirements

Volume 3: Applications of EUR to specific projects

Volume 4: Generic conventional island requirements
Revision C: 10/2007
The EUR document

- **Volume 1** presents the main utility objectives and the summaries the main requirements.

- **Volume 2** is a set of generic nuclear island requirements. The contents cover most of what a Plant Owner has to specify for the assessment, licensing, design, supply, construction, tests and operation of a future LWR power plant.

- **Volume 3** includes evaluations of the selected LWR designs that are felt feasible for the European market. There is a subset of volume 3 per project, produced with contribution of the corresponding vendor.

- **Volume 4** is a set of generic requirements for the power generation plant organised by chapters that deal with the specific systems.
EUR volume 3:
analyses of compliance of the selected LWR projects
vs. the EUR generic requirements

- analyses at detail level
  - each of the 4000 requirements (shall, should, may) of the EUR volumes 1 & 2 is analysed by EUR utilities’ engineers from information supplied by the vendors.
  - standard scale of compliance for all the projects
  - rationales & references
  - cross-checking between the different assessments
  - several man-years for each project

- the detailed analyses are not published
- only the main deviations are highlighted in the published part as well as the main “compliance with objectives”.

## EUR volume 3

- 7 subsets of volume 3 already published

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European Utility Requirements for future LWR plants

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