



European Utility Requirements for LWR nuclear power plants

The next steps

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thanks to EUR, a unified frame exists in which the European Gen 3 nuclear plants can be designed and built.

- Development of standard designs usable throughout Europe without major design change is now possible,
- A common specification allows fair competition, thus savings on development, investment and operating costs.
- The flexible structure of the document allows easy adaptation to new LWR designs, and eventually, to other new nuclear designs when they emerge.



a lot has been obtained through the EUR works

- A usable Gen 3 specification for the European LWR NPP projects
 - Development frame of EP1000, SWR1000, EPR, ESBWR
 - Call for bids (Finland 5, Belene, ...)
- Legitimacy, a well recognized organisation
 - Consultation of all the actors. Taking their comments into account.
 - A fair evaluation of the designs proposed for the European market
 - Recognition of the fact the investors are the main stakeholders
- Influence well beyond Europe
- EUR has shown that competition between utilities does not prevent fruitful co-operation



a large part of the initial mission has been accomplished but ...

- The EUR document has been operational for a few years
 - The vendors have developed designs that fit rather well the EUR document
 - Undisputably one of the keys to nuclear renaissance in Europe
- ... but the EUR document shall be kept updated and fitting its environment



the current roadmap

- **Maintain and improve the EUR document**
 - **Publication & distribution of the AES92 and AP1000 subsets of EUR volume 3 (1st half of 2007)**
 - **Put volume 4 in full consistency with volumes 1 & 2 revision C; publish and circulate the volume 4 revision C (2007)**
 - **Work out a revision B of the EPR subset of volume 3 (2009)**
- **Keep enlarging the organisation, involve the major European nuclear utilities**
 - **Entry of EA (Ukraine) and CEZ (Czech Republic)**
 - **Re-entry of Endesa and ENEL**
- **Limited resource necessary, no external funding necessary**



revision of the EPR subset of volume 3

■ Why?

- The revision A of the EPR subset has been published in 1999 from compliance studies completed in 1997-1998
- Since then the EUR document has been revised in depth (rev. C)
- The EPR project has given birth to - sometimes different - realities (Olkiluoto 3, Flamanville 3, ...)
- The published subset of volume 3 (revision A)
 - sometimes conveys a wrong and picture about the consistency between the project and the specification.
 - does not allow a fair comparison with some competitor's projects
 - currently needs a lot of precautions to be used



revision of the EPR subset of volume 3 (2)

■ When?

- Request by Areva NP in June 2006
- Discussions about the most adapted organisation till 12/2006
- Positive EUR decision during SC meeting last December
- EUR coordination group set up, organisational documents being worked out, tasks being distributed.
- Training seminar about EPR scheduled late August 2007
- 18-month work schedule



revision of the EPR subset of volume 3 (3)

■ What?

- **Assessment of compliance of a "standard EPR" vs. EUR revision C**
- **Selection of the features of the "standard EPR" by Areva NP**
 - from the projects developed for Finland and France
 - from the US EPR project
 - from other projects
- **Plant description and knowledge transmission to the EUR assessment performers by Areva**
- **Assessment works by the EUR "sponsors"**
- **Review and approval of the results by the EUR organisation**



pending actions

- A revision D of the EUR volumes 1 & 2 will, sooner or later, be necessary to take into account:
 - Licensing of the Gen 3 units being built in Europe
 - The WENRA harmonisation works on Gen 2 European fleets (and their transcription to national laws)
 - The foreseeable evolution of the IAEA *fundamentals, requirements and guides*
 - The world-level harmonisation works (MDEP, ...)



pending actions (2)

- Comparison with the revised EPRI-URD;
 - A first phase in 1994 - 1996
 - enough harmonisation between the US and the European Gen 3 specification would be a major factor to standardisation of the designs at world level
- Next steps on volume 3
 - New subsets dedicated to new Gen 3 projects
 - Revision of existing subsets



the end result is still very appealing and the European utilities do not intend to give up

- A ultimate revision of the EUR volumes 1 & 2, the revision D, will allow the utilities:
 - to make the EUR document fully consistent with what is requested by the regulators
 - to allow the users to trust EUR with a great degree of confidence and without reluctance
 - to set Gen III standards for Europe ... and beyond, valid for a long time
- The revision D of the EUR would really be a kind of European Standard Technical Specifications for Gen 3 LWR plants



the best frame to continue the works will be found

- To continue the EUR works and to preserve the documents in the longer term, an evolution of the current organization may be contemplated
 - EUR self-standing organisation?
 - Another shelter-organisation?





European Utility Requirements for future LWR plants

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