



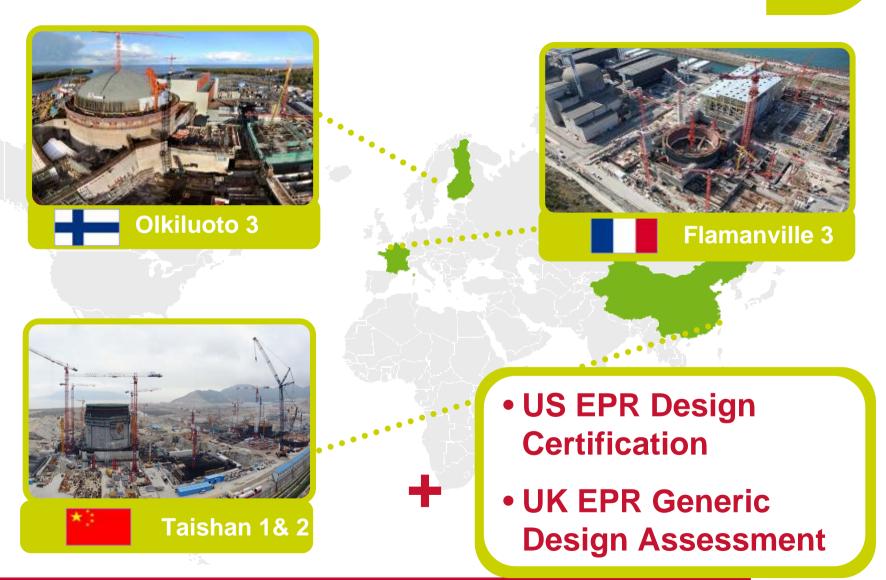
New reactor designs and evaluations panel

AREVA perspective

François Bouteille Senior Vice President Safety and Licensing



4 EPR™ Reactor Units Under Construction



Synergies and series effect between EPR projects



- Sharing best practices for construction project management
- Managing critical supplies
- Capitalizing on licensing experiences
- Preparing for commissioning and operation
- Ensuring consistency and reliability for the public information



Harmonization of International Practices

- ► MDEP initiatives for harmonization of practices aiming at
 - Harmonizing regulatory frameworks
 - Harmonizing Codes and Standards
 - Sharing of resources and experience among regulators
- ▶ But efforts are still necessary to move towards mutual recognition mechanisms between nuclear regulators and international certification process
 - Reduction of uncertainties in licensing process
 - Homogeneous safety level worldwide
 - Facilitation for standardization of reactor designs
 - Licensable and constructible in every country with limited adjustments related to site specificities
- This work should be extended to manufacturing activities
 - Implementation of common international requirements for QA systems in the nuclear field, independent certification of QA systems recognized by "all"
 - Methodology for surveillance of manufacturing to be defined in common, then performed by a third party and recognized by all – with preparation of the corresponding file



EPR™ Standardized Design

- ▶ AREVA standard EPR[™] concept combining
 - Reference design defined by technical features
 - Compliant with European Utilities Requirements
 - The unique AREVA licensing experience
 - Experience feedback from previous and current projects



- Replication of a sound basis with focus on specific adaptation studies
- Large scale effects for improved quality through stabilized industrial processes
 - AREVA manufactured primary components + subcontracted equipment
 - Reduction in lead time and construction durations
 - Possible anticipation of standard components' production
 - Strategic partnerships, qualification of local subcontractors to ensure a more dynamic response to market needs



Stabilized Industrial Process

► Experience acquired for the EPR main primary components

manufacturing over the last decade allows

- Definition of "Best Practices" for manufacturing
- Definition of reference procedures and documents
- For the whole set of components manufactured by AREVA
 - Large forged, molded and machined parts
 - Heavy components
 - Mobile components



Reactor Pressure Vessel - St-Marcel



For an optimized manufacturing process meeting high-quality requirements, in particular for forging of large ingots



Quality and Safety Processes

- Nuclear safety requires no compromise on quality
 - From Design to in-service inspection
- Quality requirements
 - Applied to our own processes
 - Extended to our partners and contractors
 - All over the supply chain
- Development of safety culture internally and externally
- AREVA Qualification process for contractors and suppliers
 - Quality management
 - Awareness of responsibility
- International recognition of competence of AREVA's inspection body



Conclusion

- ► Mutual recognition mechanisms between safety regulators would benefit to safety worldwide
- Standardized reactor design, in particular for forgings,
- ► It would facilitate the deployment of large fleets of standardized reactors
- ► With possible anticipation of standard components' manufacturing without allocation to a contract



EPR[™] reactor construction site, Olkiluoto (Finland). 2011, July

AREVA is supporting MDEP work to strengthen its organization

