Licensing and Safety Issues for SMR

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TRENDS OF LARGE SCALE NUCLEAR POWER PLANTS

1. Higher safety requirements ↔ Gen 2-GEN3-Post FKSH

2. Increase of Investment Cost ↔ higher financial risks - few utilities can afford - reluctance of financial institutions

3. Site construction: ↔ More complex - Higher risks on schedule - delays


What is the future of Large Scale nuclear power?
SMR COULD BE A RESPONSE.
S:SMALL---M:MODULAR

1. SMR nuclear Safety ↔ Mandatory Gen 3+Post FKSH

2. Robustness against internal and external hazards ↔ passive systems- grace period

3. Emergency Planning Zone: ↔ Site?

4. Safety and Quality Control: Modularization- Manufacturing and testing of « modules », transported and « Plug and Play ».

5- « Small Core »- passive system for residual heat power dissipation In Vessel Retention

6- « Small »: undergrouded reactor building
SMR LICENSING AND CERTIFICATION

- « International certification »
- Coordination by IAEA ?
- Standard design
- Mass production of modules with standard procedures and controls
- Standard operation and maintenance procedures,
- Standard operation crew

Could SMR Industry be similar to aircraft industry ?