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**ISR** 

Institut für  
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# **Comments on the Licensing Framework for Small Modular Reactors**

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- **Framework for Safety Analysis**
  - From conservative (Appendix K type) to best estimate
  - From few limit cases to spectrum of postulated initiating events
  - Uncertainty analysis
  
- **Standard Format and Content of Safety Analysis Report**
  
- **Concept of Safety Barriers**
  
- **Concept of Defense in Depth**
  
- **Deterministic Safety Analysis**
  
- **Probabilistic Safety Analysis**

- **Severe Accidents**
  - Three Mile Island
  - Chernobyl
  - Fukushima Daiichi
  
- **Extensive research followed**
  - Larger spectrum of initiating events
  - Consideration for plant states beyond the design basis, accident management
  - Design extension conditions considering core damage
  
- **Development of computer codes**
  - Based on knowledge of accident spectrum
  - Experiments
  - Identification of physical phenomena

- Licensing framework developed together with the technology
- High level principles apply also to very different reactor designs
- Derived technological acceptance criteria and analysis framework is strongly tied to light water reactor
- SMR based on light water reactor technology might meet the close time targets
- For very new design concepts of SMR the path to a licensing framework, as we have it for LWR, will take time