



Application of an Enhanced Safety-Focused Review

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- Continuous improvement
- Safety-Focused Review for Light-Water Small Modular Reactors
- Application of Safety-Focused Review
 - Reduced Effort Review Example
 - Review Emphasis Example
- Safety-Focused Review for Non-Light-Water Reactors

Continuous Improvement

- To be effective and efficient in our reviews, we need to ...
 - Incorporate lessons learned from previous reviews
 - Consider new strategies for future reviews

Safety-Focused Review: Light-Water Small Modular Reactors

- Enhanced safety-focused review
 - Align the review focus and resources to risk-significant structures, systems, and components and other aspects of the design that contribute most to safety
 - Standard Review Plan, NUREG-0800, Introduction – Part 2, Light-Water Small Module Reactors (issued January 2014)
 - Design Specific Review Standards (DSRSs)



Safety-Focused Review: Light-Water Small Modular Reactors

- DSRS incorporates current SRP sections or includes new review sections based on:
 - Technology differences
 - Risk information
 - Lessons learned from previous reviews
 - Interim staff guidance
- DSRS sections issued August 2016

Enhanced Safety-Focused Review: Graded Approach

- **Safety-significance** of a structure, system or component (SSC) is determined by safety-related classification **and** risk-significance
- Safety-significance, along with other key considerations, guide the scope and depth of the review

Key Considerations

Enhanced Safety Focused Review: Key Considerations



Enhanced Safety-Focused Review

Key Review Considerations					
Safety-significance	Regulatory compliance	Novel design	Shared structures, systems, and components		Licensing approach
Safety margin	Defense-in-depth	Operational programs	Impact on safety functions	Additional risk insights	Other considerations

Review Tool

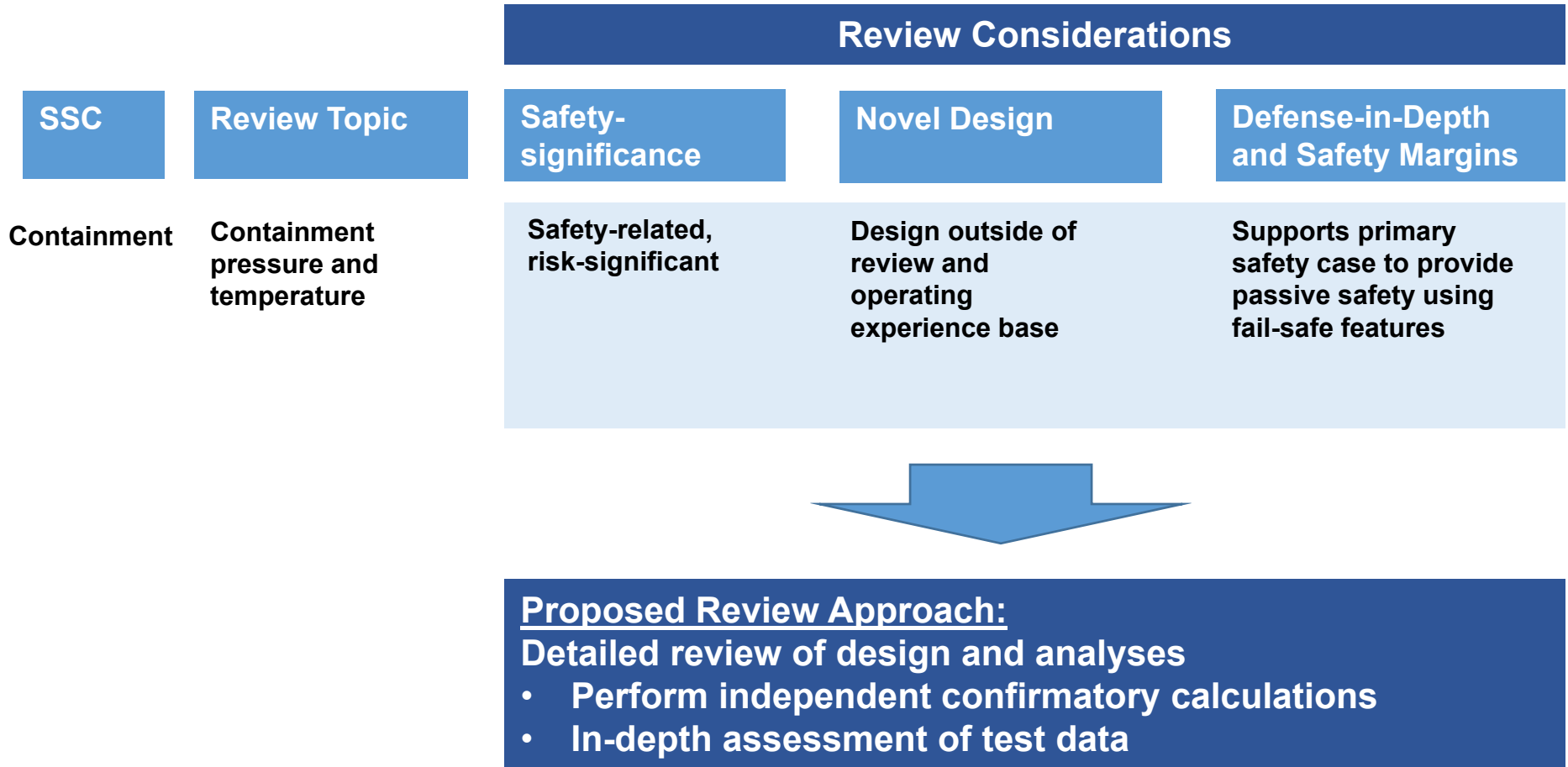



Output:

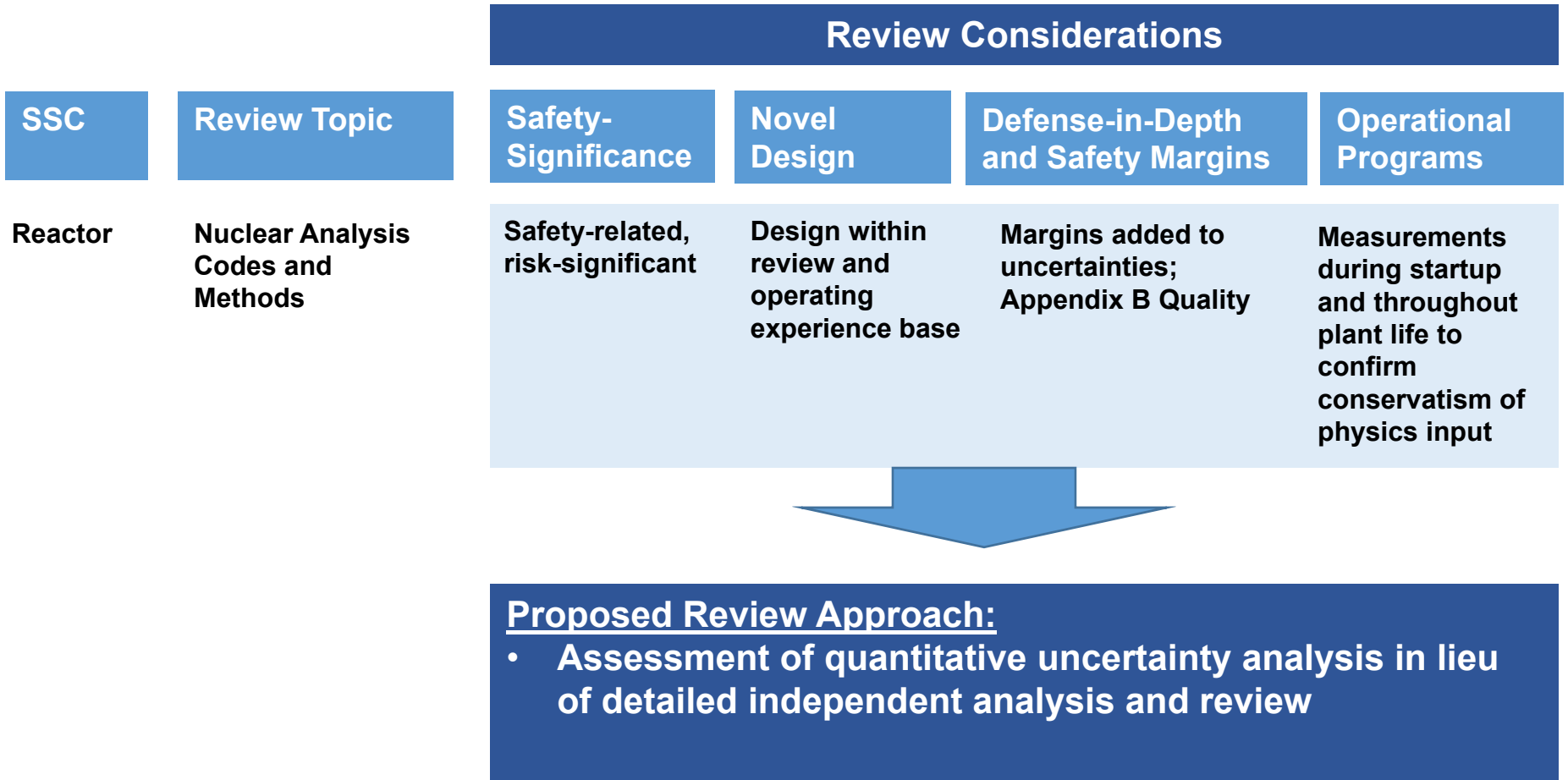
Scope and Depth of Review

- Provide supplemental approaches for implementation of NUREG-0800, Introduction - Part 2 and Design Specific Review Standard reviews
- Systematic thought process applicable to non-structure, system, or component and programmatic reviews

Application of Safety Focused Review (Review Emphasis Example)



Application of Safety Focused Review (Reduced Effort Review Example)



Safety-Focused Review: Non-Light-Water Reactors

- Build from light-water small modular reactor review preparation
 - Use review tools to help focus pre-application activities
 - Consider how the safety-focused process could inform the scope and level of detail in the application

Summary

- NRC staff is implementing strategies to achieve more effective and efficient regulatory reviews
- NRC is committed to focus resources on safety-significant aspects of the non-light-water reactor reviews