

PUBLIC MEETING NON-LWR DESIGN CRITERIA GENERAL PUBLIC COMMENTS PRESENTATION

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Outline

- Intended Use of the Regulatory Guide for Non-LWR Design Criteria
- Definition of Important to Safety and Safety-Related
- Risk Informing the Non-LWR Design Criteria
- Update on Security Design Considerations
- Schedule and Next Steps
- Conclusion

Intended Use of the Regulatory Guide for Non-LWR Design Criteria

- The general design criteria (GDC) in 10 CFR Part 50 Appendix A, establish the applicability of the GDC to both LWR and non-LWR designs:

These General Design Criteria establish minimum requirements for the principal design criteria for water-cooled nuclear power plants similar in design and location to plants for which construction permits have been issued by the Commission. **The General Design Criteria are also considered to be generally applicable to other types of nuclear power units and are intended to provide guidance in establishing the principal design criteria for such other units.**

Intended Use of the Regulatory Guide for Non-LWR Design Criteria (cont.)

- 10 CFR Part 50, Appendix A indicates that the GDC are guidance for non-LWRs. As such, non-LWR applicants **would not need to request an exemption** from the GDC when proposing principal design criteria (PDC), which are derived from the GDC.
- The RG that NRC is developing will provide additional guidance for reactor designers and applicants of non-LWR designs for developing PDC.

Intended Use of the Regulatory Guide for Non-LWR Design Criteria (cont.)

- Applicants may use the RG to develop all or part of the PDC-and can choose amongst the ARDC, SFR-DC, or mHTGR-DC to develop each PDC.
- Not considered to be final or binding regarding what may eventually be required from a non-LWR applicant.

Intended Use of the Regulatory Guide for Non-LWR Design Criteria (cont.)

- Similar to the current GDCs applicable to LWRs, the ARDC, SFR-DC, and mHTGR-DC also utilize the words “shall” and “must” for consistency.
- Use of “shall” or “must” is not binding; it would only apply to designers or applicants choosing to follow the guidance in developing PDCs

Definition of Important to Safety and Safety-Related

- 10 CFR 50 Appendix A Introduction – Important to Safety

“...important to safety; that is, structures, systems, and components that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.”

- 10 CFR 50.2, “Definitions” – Safety-Related
 - Safety-Related SSCs mean those SSCs that are relied upon to remain functional during and following design basis events to assure:
 - 1) The integrity of the reactor coolant pressure boundary
 - 2) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
 - 3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in § 50.34(a)(1) or § 100.11 of this chapter, as applicable.

Definition of Important to Safety and Safety-Related (cont.)

- 10 CFR 50 Appendix A refers to SSCs “important to safety” throughout the GDC.
- NRC has determined that safety-related is a subset of important to safety. GL-84-01
 - NRC staff has performed recent LLWR reviews accordingly. AP1000, ESBWR, USAPWR, APR-1400, etc.
 - NRC staff has also applied this when developing the non-LWR design criteria.

Risk Informing the Non-LWR Design Criteria

- Public comment introduction mentioned “risk-informing the advanced non-LWR design criteria.”
- Dependent on the design information and data available which is unavailable at this time.
- NRC staff has considered and in some areas agreed with DOE’s recommendations for performance based criteria. (SAFFDLs vs. SARDLs, functional containment for mHTGRs).
- A risk-informed performance based regulatory framework has been included in the, “NRC Vision and Strategy: Safely Achieving Effective and Efficient Non-Light Water Reactor Mission Readiness.”

Update on Security Design Considerations

- In parallel with advanced non-LWR design criteria, the advanced reactor guidance team developed design considerations to address physical and cyber security.
- During their development, we decided that instead of design “criteria,” security matters would be better addressed as “considerations”
 - Design “criteria” are considered requirements (e.g., Part 50 App. A).
 - Design “considerations” would instead establish guidance for designers to identify opportunities for resolving security issues through the facility design
- As drafted, there are 10 considerations – 7 physical security and 3 cyber security.
- Working on getting final internal approvals to post for public comment.
 - Similar to how we posted ARDC for public comment.
- Comment period will be for 45 days.

Schedule and Next Steps

- Draft RG to be released for 60 day formal public comment in early April 2017.
- Security Design Considerations to be posted for public comment.
- Public meeting to be held early in the public comment period.
- Final RG published 3rd quarter 2017.

Conclusion

- Presentation has covered several areas where we received a number of public comments.
- Provides a foundation for the presentations that follow.
- Look forward to further interactions once the Draft RG is published.