

DG-1290, Revision 1 – Proposed Revision 3 to Regulatory Guide 1.59 Appendix K - Consideration for Applying Guidance to Advanced Reactors and Small Modular Reactors

Presentation to Advanced Reactor Stakeholder’s Meeting

July 24, 2024

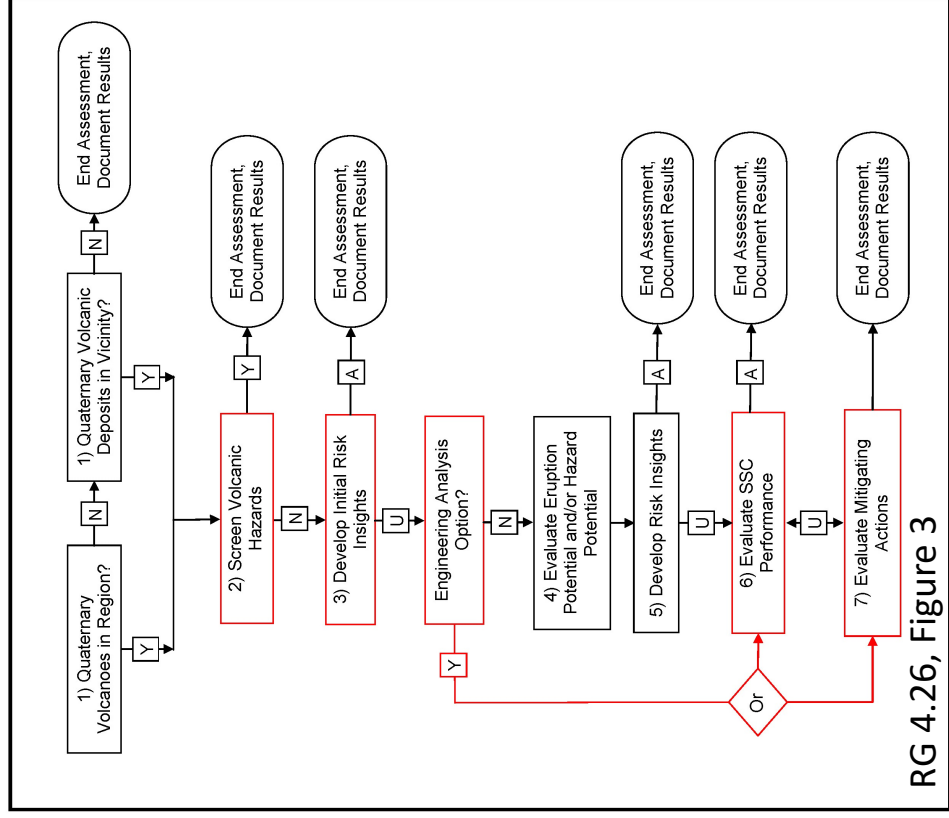
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Overview

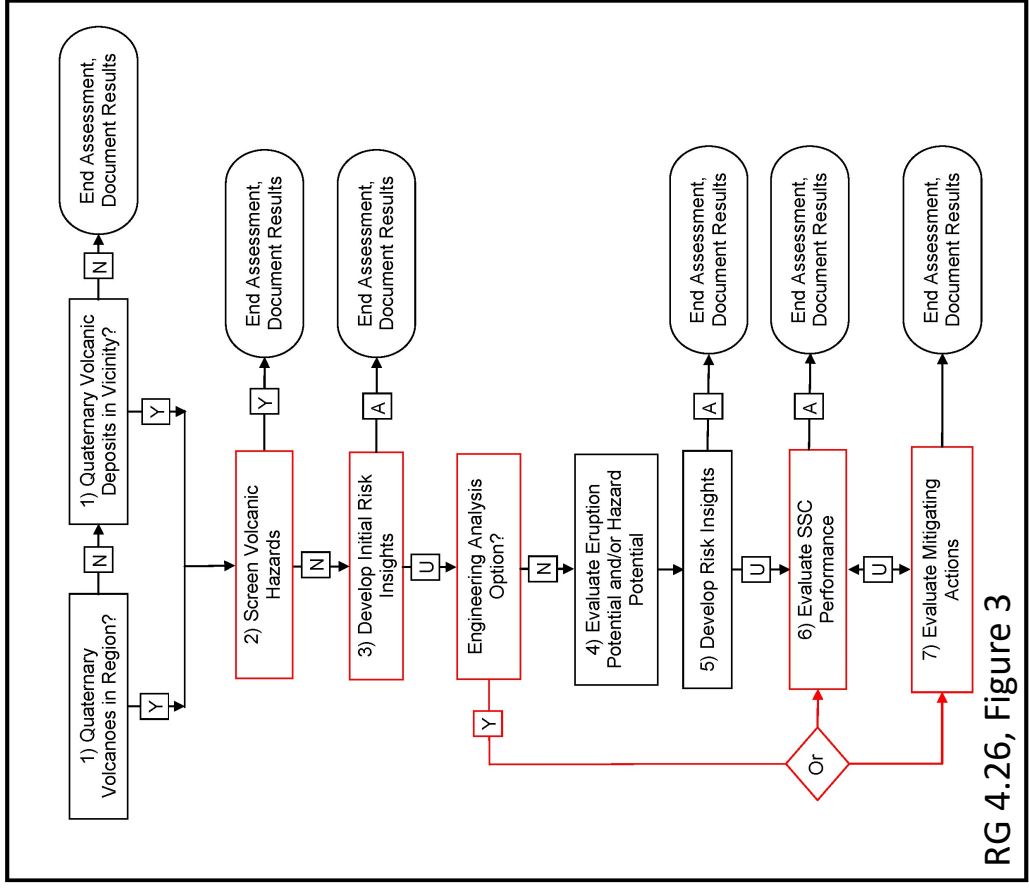
- RG 1.59, Revision 2, issued in 1977
- Revision 3 initially issued for public comment as DG-1290 in 2022, reissued for public comments July 15, 2024
- Appendix K adapts methodology from RG 4.26 to use a flexible stepwise approach to leverage PRA and site characteristics in flood evaluations for advanced reactors and SMRs

Adapting from RG 4.26

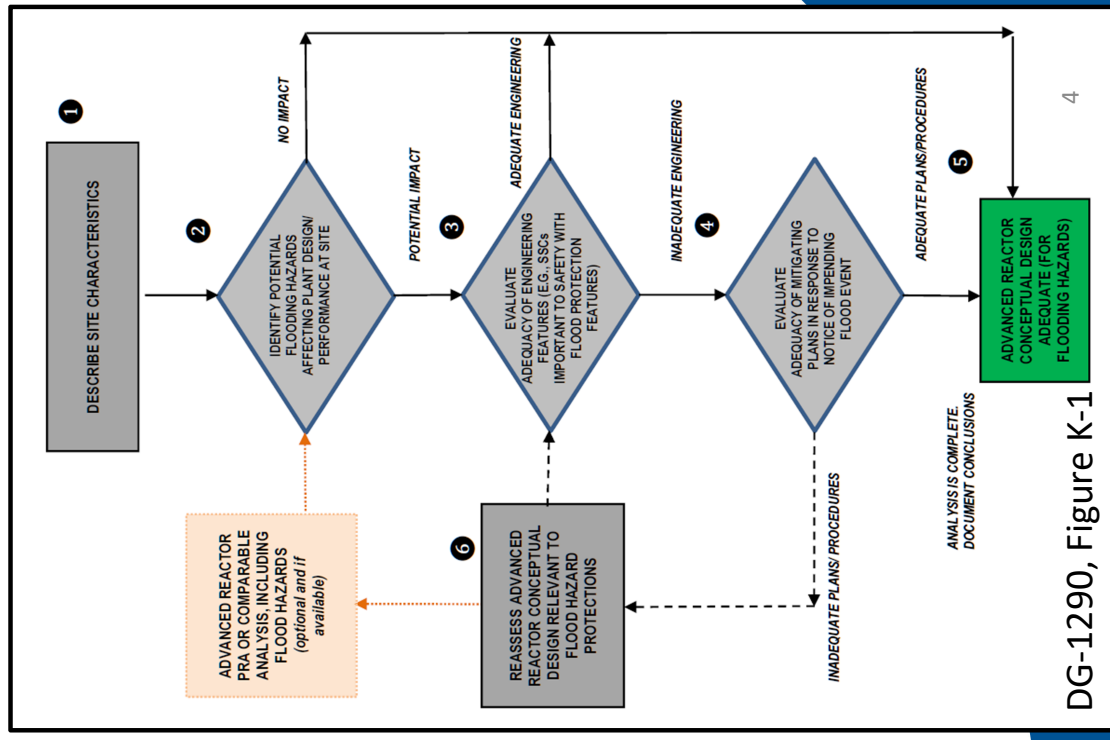


RG 4.26, Figure 3

- Leverage existing site characterization information
- Screen hazards and consider risk insights
- Allow for evaluation of SSC performance and mitigating actions in addition to or in place of detailed hazard analysis



RG 4.26, Figure 3



DG-1290, Figure K-1

Appendix K Flowchart

- Step 1 – leverage site characterization information
- Step 2 – determine which, if any, flood-causing mechanisms affect plant performance
- Step 3 – determine if there is adequate engineering for SSCs to withstand the hazard

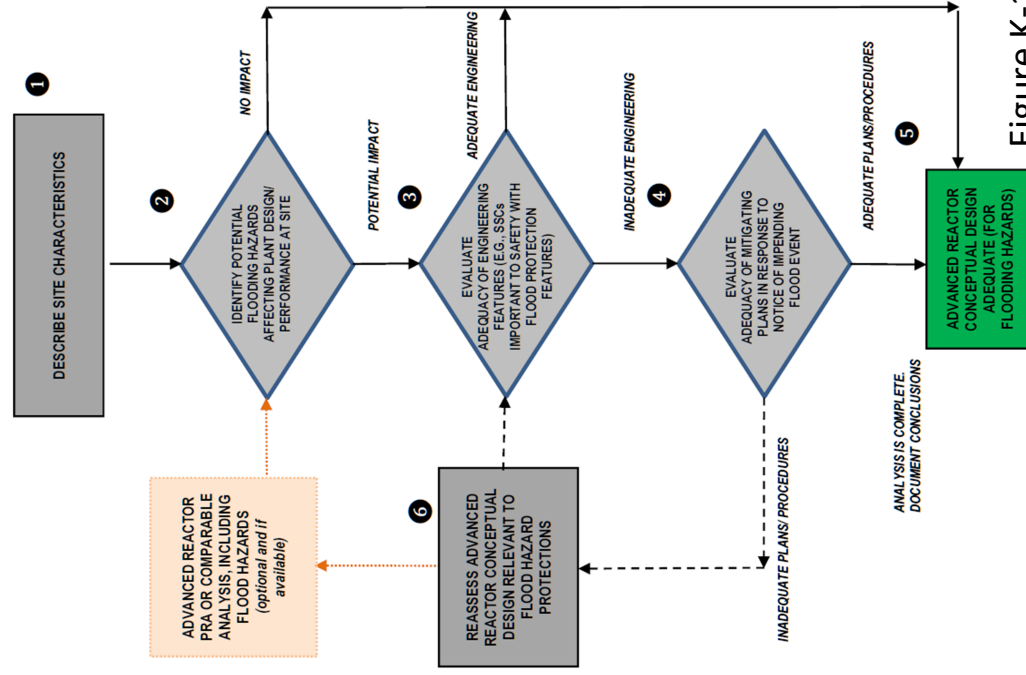
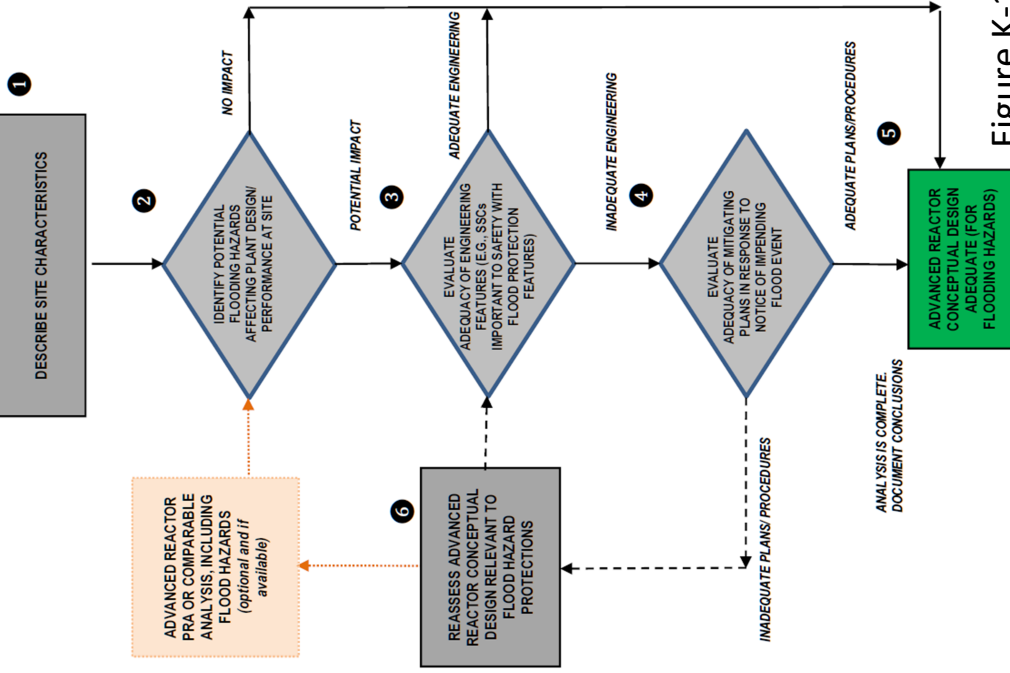


Figure K-1, DG-1290, Rev. 1



Appendix K Flowchart

- Step 4 – evaluate mitigating actions for adequacy
- Step 6 – reassess design features and/or consider PRA
- Step 5 – assessment is complete and results are documented

Figure K-1, DG-1290, Rev. 1

Appendix K Summary

- Focus on flood causing mechanisms of importance to the design
- End the flood evaluation at the earliest possible point in the process.
- Consider PRA or comparable analysis
- Iterate between evaluation of SSCs performance and mitigating actions and design reassessment to achieve satisfactory result.

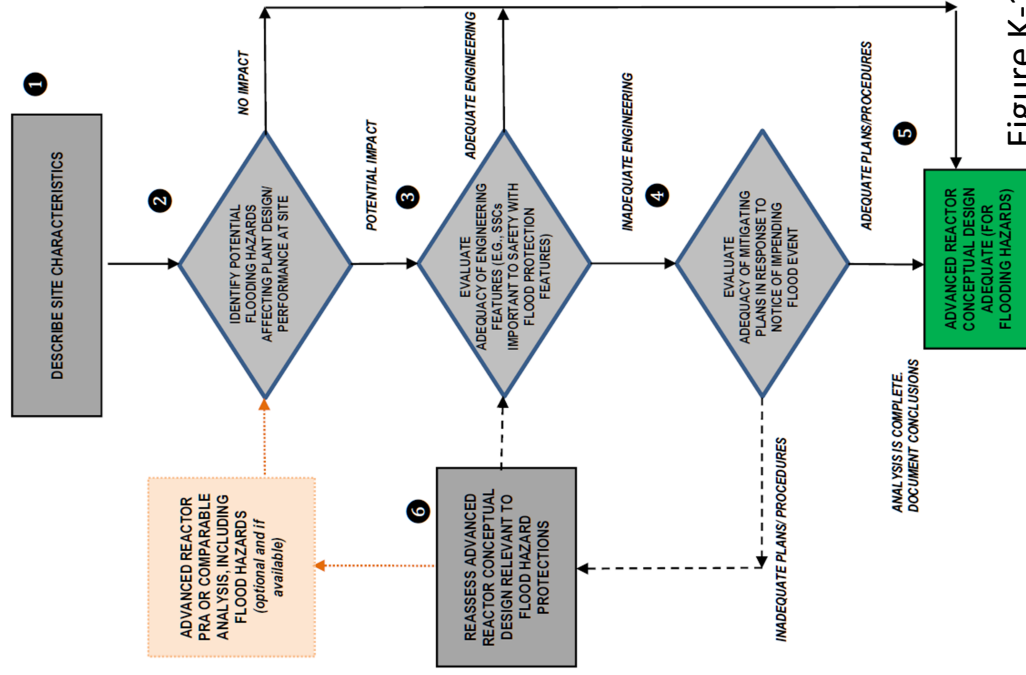


Figure K-1, DG-1290, Rev. 1

Next Steps

- DG-1290, Revision 1, [public comment period open](#).

References

- Disposition of first set of public comments – [ML23320A026](#)
- DG-1290, Revision 1 – [ML23320A025](#)