

# NRC Liaison Report Risk-Informed Activities

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American Society of Mechanical  
Engineers/American Nuclear Society  
(ASME/ANS) Joint Committee on Nuclear  
Risk Management (JCNRM) Meeting

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# Overview

- NRC Risk-Informed Activities Update
- ASME/ANS PRA Standards
- Regulatory Guide 1.200
- Industry Guidance

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# Regulatory Guide 1.200

- RG 1.200, Revision 3
  - Published final in December 2020 (ML20238B871)
  - New endorsements include:
    - NEI 17-07, Revision 2
    - Select portions of PWROG-19027-NP, Revision 1
    - ASME/ANS RA-S Case 1
- RG 1.200, Revision 4
  - Currently expected to endorse:
    - New edition of the Level 1/LERF PRA standard
    - Level 2 PRA standard
    - Appendix to new edition of the Level 1/LERF PRA standard on advanced LWRs for design certification

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# NEI 17-07

- NRC staff provided comments to NEI on NEI 17-07 in December 2018.
- NEI has piloted peer review of newly developed methods using NEI 17-07 in spring/summer 2019
- NEI 17-07 has been updated based on lessons learned from the pilots and NRC comments (ML19241A615)
- NRC endorsed in RG 1.200, Revision 3

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# Non-LWR and LWR Activities (1 of 2)

- NRC completed the guidelines for review and endorsement of the ASME/ANS Non-LWR (NLWR) PRA standard (ML19235A285)
- NRC to release a revision to the staff's action plan for endorsement of the NLWR PRA standard (ML20104C132)
- NRC endorsement of the NLWR PRA standard is to be provided in a new trial use regulatory guide (RG) separate from RG 1.200
  - Endorsement on CC I *and* CC II
  - Development of staff position on different stages of the design process
  - Consideration of LMP
  - Consistency with anticipated related staff endorsements of LWR PRA standard requirements yet to be published
- Current schedule for the trial use RG concludes by December 2021
- NEI has developed guidance on NLWR PRA peer review, NEI 20-09, which will be endorsed in the new trial use RG

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# Non-LWR and LWR Activities (2 of 2)

- Continued progress on the Advanced LWR (ALWR) PRA standard is reliant on a stable version of new edition of the Level 1/LERF PRA standard
- Endorsement of the ALWR PRA standard is anticipated to be provided in RG 1.200, Revision 4
- NRC will need to consider input from external stakeholders on the priority of having an NRC endorsement

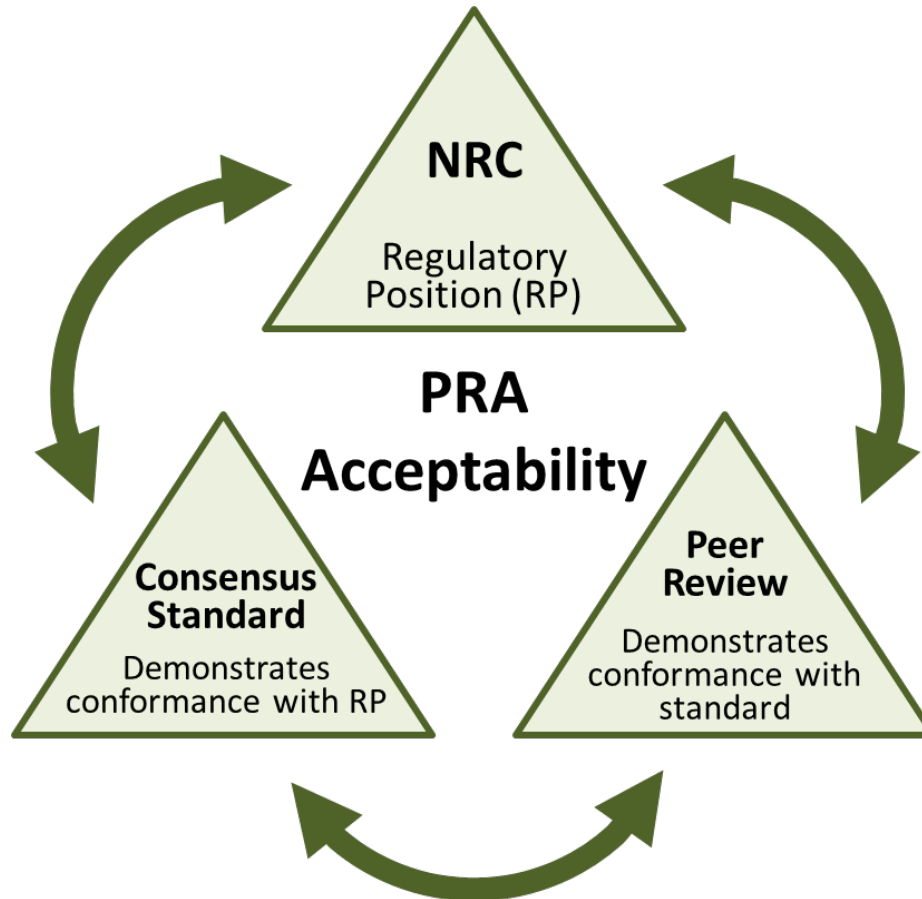
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# New Edition of the ASME/ANS Level 1/LERF LWR PRA Standard

- Following publication of the ANSI standard, NRC staff will start preparing for the review and endorsement
- Staff endorsement will include broad consideration of issues that came up during the consensus process
- Staff endorsement will also consider the relationships between the new edition and the published and endorsed ASME/ANS NLWR PRA standard

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# PRA Acceptability



All three elements must work together



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# Acronyms

ALWR	advanced light-water reactor	NDM	newly-developed method
ANS	American Nuclear Society	NEI	Nuclear Energy Institute
ASME	American Society of Mechanical Engineers	NFPA	National Fire Protection Association
CC	Capability Category	NOED	Notice of Enforcement Discretion
CCF	common-cause failure	NRC	U.S. Nuclear Regulatory Commission
CFR	<i>Code of Federal Regulations</i>	NRR	Office of Nuclear Reactor Regulation
EPRI	Electric Power Research Institute	OpE	Operating experience
FAQ	Frequency Asked Question	PRA	probabilistic risk assessment
HRA	Human Reliability Analysis	PWROG	Pressurized-Water Reactor Owners Group
JCNRM	Joint Committee on Nuclear Risk Management	RAI	Request for additional information
LAR	license amendment request	RES	Office of Nuclear Regulatory Research
LERF	large early release frequency	RG	Regulatory Guide
LPSD	low power and shutdown	RITSTF	Risk-Informed TSTF
LWR	light-water reactor	ROP	Reactor Oversight Process
MOU	memorandum of understanding	SDP	Significance Determination Process
		TS	technical specification
		TSTF	Technical Specification Task Force