PRA Technical Acceptability Expectations

To support risk-informed regulatory activities, the expectations for PRA technical acceptability need to be provided. These expectations are provided in Regulatory Guide (RG 1.200) which provides the staff position regarding what constitutes a technically acceptable PRA and how by the PRA standards and peer review guidance are used to demonstrate conformance with the staff position. In this regard, RG 1.200 provides a staff position (i.e., endorsement) of the published ASME/ANS PRA standards and the NEI peer review guidance documents. The status of the efforts is provided below.

Standard/Industry Guidance			NRC Endorsement	
Document	**Scope [Note 1 and 6]**	**Date Published**	**Document (RG 1.200)**	**Date Published**
PRA Standards				
ASME RA-S-2002	For operating reactors • At-power • Internal events • Internal flood • CDF and LERF	April 2002	DG 1122	Nov 2002
ASME RA-Sa-2003, Addendum A	Same	Dec 2003	RG 1.200, Rev 0	Feb 2004
ASME RA-Sb-2005, Addendum B	Same	Dec 2005	DG-1161 RG 1.200 Rev 1	Sep 2006 Jan 2007
ASME RA-Sc-2007, Addendum C	Same	July 2007	---	---

Standard/Industry Guidance			NRC Endorsement	
Document	**Scope [Note 1 and 6]**	**Date Published**	**Document (RG 1.200)**	**Date Published**
ANS 58.21	External hazards (for operating reactors)	2004	DG-1138	Aug 2004
ANS 58.21 Revision 1 [Note 2]	Same	March 2007	---	----
ANS 58.22 [Note 8]	Low Power and shutdown (for operating reactors)	[Note 8]	[Note 8]	[Note 8]
ANS 58.23 [Note 9]	Internal Fire (for operating reactors)	[Note 9]	[Note 9]	[Note 9]
ASME/ANS RA-S-2008 [Note 3]	For operating reactors • Internal hazards • External hazards • CDF and LERF • At-power	April 2008	DG-1200	June 2008
Addendum A (ASME/ANS RA-Sa-2009)	Same	Feb 2009	RG 1.200, Rev 2	March 2009
Addendum B (ASME/ANS RA-Sb-20xx)	Same	CY 2013	See Note 7	See Note 7
Edition 1 [Note 4] (ASME/ANS RA-Sx-20xx)	Same plus: • For operating reactors – Addressing primarily technical issues –	Sept 2016	• DG-xxxx (Rev 1) • RG 1.200 (Rev 3)	• Sept 2017 • Sept 2021
Other Standards [Note 4]	• Low power and shutdown (does not address internal fires)	• Trial Use: March 2015 • Final: March 2020	• DG-xxxx, Rev 0 • RG 1.200 Rev 3	• July 2016 • Sept 2021

Standard/Industry Guidance			NRC Endorsement	
Document	**Scope [Note 1 and 6]**	**Date Published**	**Document (RG 1.200)**	**Date Published**
	• Level 2 (full scope, pre and post operational)	• Trial Use: January 2015 • Final: January 2020	• DG-xxxx, Rev 0 • RG 1.200 Rev 3	• July 2016 • Sept 2021
	• Level 3 (full scope, pre and post operational)	• Trial Use: May 2015	See Note 5	See Note 5
	• Advanced Non-LWRs	• Trial Use: June 2013	See Note 5	See Note 5
	• Advanced LWR (new reactors)	• Trial Use: November 2015 • Final: November 2020	• DG-xxxx, Rev 0 • RG 1.200 Rev 3	• March 2017 • Sept 2021
Peer Review Guidance Documents				
NEI 00-02	For operating reactors • At-power • Internal events • Internal flood • CDF and LERF	March 2000	RG 1.200, Rev 0	Feb 2004
NEI 00-02, Revision 1, Self Assessment	Same	Nov 2006	RG 1.200, Rev 1	Jan 2007
NEI 05-04	For operating reactors, PRA Update for PRA standard scope of: • At-power • Internal events • Internal flood • CDF and LERF	Aug 2006	RG 1.200, Rev 1	Jan 2007
NEI 05-04, Revision 2	Same	Nov 2008	DG-1200 RG 1.200, Rev 2	June 2008 March 2009

Standard/Industry Guidance			NRC Endorsement	
Document	**Scope [Note 1 and 6]**	**Date Published**	**Document (RG 1.200)**	**Date Published**
NEI 07-12	For operating reactors, Internal Fire	Dec 2007	DG-1200	June 2008
NEI 07-12, Draft H	same	Nov 2011	• DG-xxxx, Rev 0 • RG 1.200 Rev 3	• July 2016 • Sept 2021
NEI-12-13	External hazards	August 2012	• DG-xxxx, Rev 0 • RG 1.200 Rev 3	• July 2016 • Sept 2021

Notes:

[1] In addenda, revisions or editions to the standard, the changes are not always scope changes. In many cases, the changes are a result of NRC or public comments or issues raised as standard is implemented on the existing requirements.

[2] Revision 1 to ANS 53.21 (External Hazards) became part of the joint ASME/ANS standard, specifically Parts 5-10 of the ASME/ANS RA-S standard (see Note [3]) which was endorsed in RG 1.200; consequently, as a separate, redundant standard, the staff did not endorse ANS 53.21.

[3] ASME and ANS combined the PRA standards for the various hazards (i.e., ASME RA-S-S and ANS 58.21 and 58.23) into a single joint standard – ASME/ANS RA-S.

[4] These standards are either under development or in the consensus process; the date for Rev 3 of RG 1.200 is dependent on the publication date of the Edition. They are to be initially published for trial use (which the staff will review in DG) with a tentative schedule to be published within 5 years as a final ANSI standard for use (which the staff will endorse in a formal revision to RG 1.200).

[5] With regard to PRA standards for Level 3 and for advanced non-LWR, the staff has indicated that at this time it has no plans to review and endorse.

[6] Internal hazards are defined as internal events, internal floods, and internal fires. External hazards are seismic events, high winds, external floods, and other external hazards.

[7] This Addendum does not address/resolve the technical concerns raised by the staff in regards to ASME/ANS RA-Sa-2009, as such, the staff has elected not to review and endorse. The staff plans to wait for the Edition to be published which will address the technical issues, and for other standards and industry guidance.

[8] ANS 53.22 will be issued as a joint ASME and ANS standard. The staff plans to review and endorse this joint standard, the staff does not plan to review and endorse a separate, redundant standard ANS 53.21.

[9] ANS 53.23 (Internal Fire) became part of the joint ASME/ANS standard, specifically Part 4 of the ASME/ANS RA-S standard (see Note [3]) which was endorsed in RG 1.200; consequently, as a separate, redundant standard, the staff did not endorse ANS 53.23.