



# MINUTES

## **Risk-Informed, Performance-Based Principles and Policy Committee (RP3C) Teleconference September 14, 2018**

### **Members Present:**

N. Prasad Kadambi, RP3C Chair, Individual  
Edward Wallace, Vice-Chair, GNBC Associates, Inc.  
John Fabian, (Secretary Pro Tem), American Nuclear Society  
Patricia Schroeder (Secretary), American Nuclear Society  
George Flanagan, Oak Ridge National Laboratory  
David Hillyer, Energy Solutions  
Stanley Levinson, Individual  
Mark Linn, Oak Ridge National Laboratory  
James O'Brien, U.S. Department of Energy  
William Reckley, U.S. Nuclear Regulatory Commission  
Steven Stamm (Observer), Individual  
Ruth Weiner, AECOM  
Kent Welter, NuScale  
Robert Youngblood, Idaho National Laboratory

### **1. Welcome, Roll Call & Introductions**

RP3C Chair Prasad Kadambi called the meeting to order. Those on the call were recognized.

### **2. Approval of Meeting Agenda**

Prasad Kadambi explained that the purpose of the call is to encourage more member engagement and address current issues. The agenda was approved as presented.

### **3. Note Issuance of June RP3C Meeting Minutes for Comment**

Prasad Kadambi reminded members that the minutes from the June 18, 2018, meeting were issued for review through Workspace.

### **4. Planning for RP3C Activities for RIBP Standards**

Prasad Kadambi sees the incorporation of risk-informed and/or performance-based (RIBP) methods as an evolutionary process. ANS has highlighted the development of consensus standards and in particular those for the implementation and commercialization of advanced reactors in the [new ANS Strategic Plan](#). Developing RIBP standards for advanced reactors is one way to support this mission. ANS has recently issued [position statements](#) on the use of RIBP methods and advanced reactors. The message in the new ANS Strategic Plan is that ANS wants to take the lead in the development of consensus standards for advanced reactors. Steven Stamm added that we (the Standards Committee) need to incorporate the ANS Strategic Plan in our goals and objectives to support the Society. Kadambi believes RP3C has a lot to offer to support ANS in this mission. ANS standards cover a wide range of activities and scope. We need to keep in mind the needs of light water reactors (LWRs) while considering ways to broaden the use to new reactors.

- A. Standards Committee Strategic Plan SMART Matrix and RP3C Activities in It  
Kadambi directed members to the SMART Matrix provided as [Attachment 1](#). He explained that the SMART Matrix was prepared as an action plan to the [Standards Board Strategic Plan](#). Goal 1.D of the SMART Matrix recognizes and directs RP3C to incorporate RIPB methods into ANS standards where appropriate. To achieve this goal, six specific activities have been assigned. Kadambi plans to focus on these items today.

Kadambi reported that the NRC Standards Forum was held last Tuesday (September 11, 2018). Several standards development organizations, industry groups, national labs, and regulators participated. He believes that the community is looking for ANS to take the lead in developing standards that incorporate RIPB approaches for advanced reactors.

Kadambi explained that he has been reporting to the Standards Board on development of the RP3C Operating Plan with the outcome objective being to enlist increasing participation by consensus committees and working groups for incorporating RIPB principles. The main purpose of the Operating Plan now is to develop guidance for implementing RIPB methods in ANS standards. Kadambi has been working with James O'Brien and Ed Wallace on developing this guidance. They have been looking at the work being done on specific standards. This was reported at the June RP3C meeting. It was also pointed out that different documents are currently available and the efforts should be to build on existing guidance. He expects to finish the guidance document by the end of the year. Kadambi invited others to join them.

- B. RP3C Operating Plan Status and Its Actionable Near-Term Deliverables (Member Involvement)  
Kadambi directed members to [Attachment 2](#), a spreadsheet with a preliminary list of 23 standards recommended to incorporate RIPB methods prepared by Ed Wallace, Alan Levin, and James August. The spreadsheet includes feedback from the consensus committees on the recommendations. Kadambi stated that there needs to be additional discussion between RP3C, the responsible consensus committee, and the working groups. Kadambi would like additional RP3C members to help support the working groups. Kadambi requested consensus committee and working group chairs who are ex-officio members of RP3C to step forward and help with this effort.

Mark Linn explained that he is leading a working group developing the new standard ANS-30.1, "Integrating Risk and Performance Objectives into New Reactor Nuclear Safety Designs." This is in support of new reactor standards being written that are technology specific. ANS-30.1 is intended to be a higher tier document to provide a pathway for ancillary standards such as ANS-30.2, "Categorization and Classification of Structures, Systems, and Components for New Nuclear Power Plants." The intention is to put together a package of tiered RIPB standards for new reactors. When the full timeline for new design is considered, the application of PRA and its results is being established by other process for the middle of the design process (the LMP work) and the end of the design process (the RIPB standards). However, during the beginning of design the lack of design detail and the rapidity of change does not permit a "PRA" analyses to be performed. Fortunately, the RIPB methods and processes that are used to undergird PRA analyses can be discussed separately from the PRA process and discussed in such a way that is understandable to the reactor designers. It is also necessary that any use of RIPB in early design produce results that are largely confirmed as the design is solidified and subjected to more rigorous PRA analysis process. ANS 30.1 intends both objectives to be accomplished. Linn looks to RP3C to provide input on how best to accomplish these objectives.

Wallace suggested that consensus committees create a family tree of standards supporting each other and asked if Linn could do that for those related to ANS-30.1. William Reckley thought that the system engineering approach and methodology starting at the functional level and working down to the structures, systems, and components level needs to be worked out. The current approach under the Licensing Modernization Project (LMP) and NRC activities mirrors ANSI/ANS-53.1-2011 (R2016), "Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants," which is different than the LWR work most are familiar with. It is important to make sure all is consistent, to look similar to ANSI/ANS-53.1-2011 (R2016), for early designs to support.

Kadambi recognized another new standard in development on integrated safety assessment—ANS-57.11, “Integrated Safety Assessments for Nonreactor Nuclear Facilities”—which he thought was similar to Probabilistic Risk Assessment (PRA). He believes that they plan to use a method analogous to PRA. Kadambi also believes there is plenty of guidance out there and believes that these types of discussions will help to identify areas of their interest and help us make progress.

Stamm suggested that Linn and someone from the Subcommittee on Risk Assessment (SCoRA) be added to the group developing the guidance document. Stanley Levinson stated that he recommended that Gary DeMoss from SCoRA would be the right one to participate as he is one of SCoRA’s vice chairs.

**ACTION ITEM 9/2018-01:** Prasad Kadambi to contact Gary DeMoss with an invitation to join the RP3C subgroup tasked with preparing a RIBP guidance document.  
**DUE DATE:** October 1, 2018

Kent Welter reported that he expects a draft of proposed new standard ANS-30.3, “Advanced Light-Water Reactor Risk-Informed Performance-Based Design Criteria and Method,” to be completed by the end of the year and would like to get RP3C’s feedback when ready. Welter also extended an invitation to RP3C to join his working group. Welter explained the scope of the standard accommodates both existing and new LWRs. It’s subsidiary to the effort lead by Linn on ANS-30.1. He believes the standard will fit within the regulatory framework of Part 52. LLWRCC member involvement in ANS-30.3 was confirmed.

- C. **Need Member Involvement for Completion of RIBP Characterization of Active Standards.**  
Kadambi reiterated that he’d very much like more participation from RP3C members and asked all to consider lending their support. Consensus committee chairs were encouraged to let Kadambi know if any working groups needed support incorporating RIBP methods in standards, and he’ll find someone to help.

## **5. Status of RP3C Guidance Document**

- A. **Recently Developed Relevant Guidance (NRC’s DG-1353, LMP Guidance, SECY’s, etc.)**  
Prasad Kadambi stated that there is a lot of guidance currently available on RIBP methods. One such document is proposed Draft Guide (DG)-1353. William Reckley explained that the current activity for NRC is to issue the DG by the end of the year. The DG will build on and endorse a guidance document being prepared under the LMP effort. He expects the draft guide to be sent to NRC’s Advisory Committee on Reactor Safeguards in October. Recent NRC meetings have discussed eliminating the single failure criterion (SFC) within the design basis approach. This change will need to be brought before the Commission to make sure they are comfortable with removing SFC for design basis.

Pat Schroeder stated that there was a request at this week’s NRC Standards Forum for ANSI/ANS-53.1-2011 (R2016) to be endorsed by the NRC. She asked if there was an opportunity for NRC to endorse or reference ANSI/ANS-53.1-2011 (R2016) in the new DG. Reckley believes that the standard would need a few tweaks before NRC could endorse. Flanagan agreed that we would want to revise the standard before seeking endorsement. Wallace stated that a revision of ASME/ANS RA-S-1.4-2013, “Probabilistic Risk Assessment Standard for Advanced Non-LWR Nuclear Power Plants,” is expected to be issued for ballot in early 2019 with many good updates. He believes the update of the ASME/ANS RA-S-1.4-2013 presents a timing opportunity to initiate a revision of ANSI/ANS-53.1-2011 (R2016) to best support users.

**ACTION ITEM 9/2018-02:** RARCC Chair George Flanagan to discuss revision of ANSI/ANS-53.1-2011 (R2016) at RARCC’s meeting scheduled for November 12, 2018.  
**DUE DATE:** November 12, 2018

**B. Task team establishment**

Kadambi asked RP3C members to consider where they can help and come forward.

**6. Other Business**

ED Wallace asked participants if they felt the call was a good use of their time and if more teleconferences should be scheduled to which there was no comment.

Kent Welter suggested that RP3C could help in coordination between the ANS-30.X series of standards and asked that someone from RP3C take the lead in this effort. He explained that Donald Spellman suggested a joint meeting at the upcoming ANS Winter Meeting in Orlando, but many that need to participate are not able to attend. Welter suggested that standing monthly teleconferences be held. George Flanagan added that all of the projects under the Advanced Initiatives Subcommittee would benefit from this type of coordination. Wallace offered to be the conduit to setup a call and will work with Pat Schroeder.

**ACTION ITEM 9/2018-03:** Ed Wallace and Pat Schroeder to help establish routine teleconferences for working groups under the Advanced Initiatives Subcommittee.  
**DUE DATE:** October 15, 2018

Steven Stamm informed members that the version of the SMART Matrix provided as an attachment to the agenda is not the latest version. James O'Brien has given Stamm additions with major changes designating the responsible individual within RP3C. The RP3C Operating Plan could be used as a working document within RP3C. Kadambi explained that he needs to review the proposed changes to the SMART Matrix with Ed Wallace and James O'Brien before distributing to RP3C. With the proposal just issued, he hasn't had time to review. Stamm asked to be included in the review group.

**ACTION ITEM 9/2018-04:** Prasad Kadambi, James O'Brien, Steven Stamm, and Ed Wallace to review the proposed changes to the SMART Matrix.  
**DUE DATE:** October 15, 2018

**7. Next Meeting**

The RP3C plans to meet at its set time on Monday from 2:30 p.m. to 6:00 p.m. during the ANS Winter Meeting to be held November 11-15, 2018, Orlando, FL, as well as during the ANS Annual Meeting, June 9-13, 2019, Minneapolis, MN.

Pat Schroeder was asked to facilitate a webinar for the next RP3C meeting.

**ACTION ITEM 9/2018-05:** Pat Schroeder to facilitate a webinar for the next RP3C meeting.  
**DUE DATE:** September 30, 2018

**8. Adjournment**

The meeting was adjourned.

## RP3C Action Items

(Those assigned on 9/14/18 call and those remaining open from previous meetings.)

Action Item	Description	Responsibility	Status/Action
9/2018-01	Prasad Kadambi to contact Gary DeMoss with an invitation to join the RP3C subgroup tasked with preparing a RIPB guidance document. <b>DUE DATE: October 1, 2018</b>	Prasad Kadambi	OPEN
9/2018-02	RARCC Chair George Flanagan to discuss revision of ANSI/ANS-53.1-2011 (R2016) at RARCC's meeting scheduled for November 12, 2018. <b>DUE DATE: November 12, 2018</b>	George Flanagan	OPEN
9/2018-03	Ed Wallace and Pat Schroeder to help establish routine teleconferences for working groups under the Advanced Initiatives Subcommittee. <b>DUE DATE: October 15, 2018</b>	Ed Wallace Pat Schroeder	OPEN
9/2018-04	Prasad Kadambi, James O'Brien, Steven Stamm, and Ed Wallace to review the proposed changes to the SMART Matrix. <b>DUE DATE: October 15, 2018</b>	Prasad Kadambi James O'Brien Steven Stamm Ed Wallace	OPEN
9/2018-05	Pat Schroeder to facilitate a webinar for the next RP3C meeting. <b>DUE DATE: September 30, 2018</b>	Pat Schroeder	OPEN
6/2018-01	ACTION ITEM 6/2018-01: Pat Schroeder to provided Prasad Kadambi and Ed Wallace call in details for the next FWDCC teleconference. <b>DUE DATE: June 30, 2018</b>	Pat Schroeder	OPEN
6/2018-02	Prasad Kadambi to review the RP3C Bylaws and update the title of the operating plan or recommend updating the RP3C Bylaws accordingly. <b>DUE DATE: July 15, 2018</b>	Prasad Kadambi	OPEN
11/2016-11	RP3C to prepare a brief, five-slide presentation with a simple perspective explaining RIPB for use at consensus committee meetings.	Prasad Kadambi	OPEN

## SMART Matrix for ANS SC Strategic Plan – Updated 8/27/2018

ATTACHMENT 1

A SMART strategic plan consists of goals that are **Strategic, Measurable, Attainable, Realistic and Time-related**. This matrix takes each of the Initiatives in the ANS SB Strategic Plan and defines the specific activities that need to be done for each Goal and Objective along with its proposed schedule and responsibility. This is a living document. Updates and comments from Standards Board Members will be solicited and the plan adjusted.

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
Completed <span style="display: inline-block; width: 15px; height: 10px; background-color: gray; border: 1px solid black;"></span> Near Term <span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen; border: 1px solid black;"></span> Overdue <span style="display: inline-block; width: 15px; height: 10px; background-color: red; border: 1px solid black;"></span>					
<b>Goal #1 Align Standards Development Pories with Current and Emerging Needs</b>					
A. Evaluate the results of the initial industry priority survey	Standards Mgr	Executive summary issued.		1/2016	1/2016
B. Assign responsibilities to the appropriate consensus committees to address the top ten survey identified high priority standards	Standards Mgr	Issue list of high priority standards with assigned responsibilities. List discussed during 2/12/2016 conference call and published in minutes.		2/29/2016	2/29/2016
C. Develop and implement an approach to collect industry priority needs on an ongoing basis and integrate them into standards committee priorities.	Chair External Communications TG	ANS SC Policy drafted to specify this approach and approved by SB.	1/25/17: With no External TG Chair, there has been no action	2/1/2017	
D. Incorporate risk-informed and performance-based methods in ANS standards, where appropriate, by:					
1. Develop the Risk-Informed Performance-Based Principles and Policy Committee Operating Plan	RP3C Chair	Provide draft of Risk-Informed Performance-Based Principles and Policy Committee Operating Plan for SB approval.	Draft plan provided for info 11/2017. Distributed for SB Ballot on 6/19/2018	9/30/2017	6/19/2018
	RP3C Chair	Manage the resolution of comments and send resulting plan to Standards Manager for issuance. Coordinate with commenters to reach resolutions.		<del>12/1/2017</del> 9/15/2018	
	RP3C Chair	Provide draft of Risk-Informed Performance-Based Principles and Policy Committee Guidance Document SB approval		<del>9/30/2017</del> 10/31/2018	
	RP3C Chair	Manage the resolution of comments and send resulting Guidance Document to Standards Manager for issuance. Coordinate with commenters to reach resolutions.		<del>12/1/2017</del> 12/31/2018	
2. Develop a Risk-Informed Performance-Based Principles training package for training of ANS Standards Committee members.	RP3C Chair	Develop Risk-Informed and Performance-Based Training Package for SC members and provide to SB for review.	To be developed in parallel with plan finalization	<del>12/1/2017</del> 1/31/2019	
3. Conduct training of consensus committees and working groups.	CC Chairs	Schedule training for CC/WGs as needed, supported by RP3C training resources. CCs and RP3C to coordinate.		11/1./2018	
	RP3C Chair	Conduct Training for all applicable CCs.		3/1/2019	

## SMART Matrix for ANS SC Strategic Plan – Updated 8/27/2018

Initiative	Assigned Responsibility (Functional Title)	Specific Action Items Needed to Accomplish the Initiative	Status/ Comments	Scheduled Completion Date	Actual Completion Date
4. The RP3C will work with each consensus committee to develop a prioritized list and schedule for incorporating risk-informed and performance-based principles into its standards. Collaboratively, they will identify and define any new standards that are related to risk-informed and performance-based principles. Some of such work may already have been assigned to other standards working groups, and so it is important to work with the SB and CCs to identify an appropriate WG lead (and CC) for the standards development with the objective of avoiding duplication.	RP3C Chair	Manage the development of initial priority list of standards and schedule for incorporation of RP3C principles and provide to CCs for review.. Manage any required interfaces with CCs and WGs. WGs and CC Management are to give this effort priority.	Initial draft list of potential risk informed and performance based standards provided in 11/2017 for CC review/approval.	9/30/2017	7/12/2018
	RP3C	<i>Narrow list to 23 potential RP3C standards and send to applicable CCs for review/approval</i>		<del>9/30/2018</del> <del>7/26/2018</del>	10/31/2017
	CC Chairs	<i>Requested CCs review and confirmation of actions on Phase 1 list of potential RIPB standards and RP3C feedback on insights</i>	<u>CC Response status:</u> ESCC – 3/22/18 FWDCC – OPEN; review pending LLWRCC – partial information provided 1/22/18; full details remain pending NCSCC – responded N/A 1/30/18 as no NCSCC standards are on the short list. NRNFCC – N/A standards part of RP3C pilot program RARCC – 7/9/18 SRACC – confirmed N/A 1/30/18 as no SRACC standards are on the short list.	9/30/2018	
	RP3C Chair	RP3C Finalize list and schedule		10/30/2018	
5. Publishing a Nuclear News Article to inform other members of the Society of the benefits of this risk-informed and performance-based effort	RP3C Chair	<i>Nuclear News (NN) article drafted, approved by SB Chair, and forwarded to NN editor. Via Standards Manager</i>		<del>11/1/2017</del> 12/31/2018	
6. Developing presentation materials that can be used to inform other industry groups as to the benefits and use of the ANS Standards Committee risk-informed and performance based standards activities	RP3C Chair	Develop presentation package for use with other industry groups and submit to SB for approval.	To be developed in parallel with plan finalization	3/1/2019	
	RP3C Chair	Contact appropriate organizations to make presentations at NRC RIC, ANS UWC, and owners' groups.		<del>7/1/2018</del> 4/30/2019	
	RP3C Chair	Make presentations at a minimum of 2 groups.		5/31/2019	

Tracking of RP3C Recommendation to Incorporate RIPB Methods

ESCC (3) = Yellow FWDC (3) = Purple				LLWRCC (12) = Green NRNFCC (2) = Blue		RARCC (3) = Orange				
CC Owner (WGC)	DESIGNATION			TITLE		STATUS	Status of Consensus Committee Actions (from Pat Schroeder pulled from committee minutes, Workspace, or miscellaneous emails/documents)	Consensus Committee Chair Input	Subcommittee Chair Input	Working Group Chair Input
ESCC (WGC: Y. Gao)	ANS-	2	8		Determining Design Basis Flooding at Power Reactor Sites	withdrawn standard: active project	Historical revision in development using RIPB. Significant comments received on the first ballot currently being resolved. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.			
ESCC (WGCs: Q. Hossain & D. Clark)	ANS-	2	26		Categorization of Nuclear Facility Structures, Systems, and Components For Seismic Design	current standard approved 2004 (R2017)	The objective of ANS-2.26-2004 and its sister standards (ANS-2.27 & ANS-2.29) is to achieve a risk-informed design that protects the public, the environment, and workers from potential consequences of earthquakes. A revision is being initiated. Additional RIPB methods will be incorporated where possible.		Info in column Q confirmed by Quazi Hossain, the subcommittee & working group chair.	
ESCC (WGC: K. Hanson)	ANS-	2	27		Criteria for Investigations of Nuclear Facility Sites for Seismic Hazard Assessments	current standard approved 2008 (R2016)	The objective of ANS-2.27-2008 and its sister standards (ANS-2.26 & ANS-2.29) is to achieve a risk-informed design that protects the public, the environment, and workers from potential consequences of earthquakes. A revision is currently in development. Additional RIPB methods will be incorporated where possible. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.		Info in column Q confirmed by Quazi Hossain, the subcommittee chair.	
LLWRCC (WGC: J. Sickle)	ANS-	3	1		Selection, Qualification, and Training of Personnel for Nuclear Power Plants	current standard approved 2014	The LLWRCC discussed RP3C's recommendation. The LLWRCC believes that the use of RIPB methods in this standard would not be beneficial.			
LLWRCC (WGC: M. Smith)	ANS-	3	2		Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants	current standard approved 2012	The LLWRCC discussed RP3C's recommendation. The LLWRCC believes that the use of RIPB methods in this standard would not be beneficial.			In contrast to the CC's discussion, ANS-3.2 WGC M. Smith agrees with RP3C. The application should be considered during the design phase in design and purchase specifications.
LLWRCC (WGC: J. August)	ANS-	3	13		Nuclear Facility Reliability Assurance Program (RAP) Development	active project	The proposed standard in development will be incorporating RIPB methods. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.			
NRNFCC (WGCs: T. Anselmi & C. McMullin)	ANS-	3	14		Process for Aging Management and Life Extension for Nonreactor Nuclear Facilities	active project	This project is being used as a pilot by the RP3C.			This project is being used as a pilot by the RP3C.  The risk considerations in the standard are typical operational and business risks (deterministic) but are candidate examples for RP3C application.
LLWRCC (WGC: K. Geelhood)	ANS-	18	1		Radioactive Source Term for Normal Operation of Light Water Reactors	revision approved 2016	A revision of this standard was initiated prior to formation of the RP3C. It was approved and published in 2016. Consideration will be given to incorporate RIPB methods when the next revision is initiated.			
LLWRCC (WGC: E. Johnson-Turnipseed)	ANS-	51	10		Auxiliary Feedwater System for Pressurized Water Reactors	current standard approved in 1991 (R2018): revision in development	A revision of this standard was initiated quite some time ago, prior to the formation of RP3C. The draft was issued for consensus committee ballot and is resolving comments. The working group recognizes the benefit from adding RIPB methods but feels this would require nearly a complete rewrite. The next revision will incorporate RIPB methods.			
RARCC (WGC: J. August)	ANS-	53	1		Nuclear Safety Design Process for Modular Helium-Cooled Reactor Plants	current standard approved 2011 (R2016)	The 2011 standard incorporates RIPB methods. When initiated, the revision will look to inclusion of additional RIPB methods.	This standard is already RIPB and further changes can be considered when revised.		
RARCC (WGC: G. Flanagan)	ANS-	54	1		Nuclear Safety Criteria and Design Process for Liquid-Sodium-Cooled-Reactors NPPs	active project: historical revision	A historical revision of this standard has been in development for some time. Ballot comments are currently being resolved. It is the purpose of this standard to define requirements for the acceptable use of probabilistic risk information in support of the design process (i.e., risk-informed design criteria).	This standard already has a risk informed section. Further RIPB changes can be considered when revised.		See response from CC chair who is also the WGC.
RARCC (WGC: OPEN)	ANS-	54	6		LMFBR Safety Classification and Related Requirements	inactive project: draft issued for trial use only		There are no plans to revise this standard. SFR safety classification would likely follow the proposed NRC regulatory guide now being proposed by NRC.		
LLWRCC (WGC: J. Glover)	ANS-	56	1		Containment Hydrogen Control	active project	An action item has been assigned to check with the working group chair for feedback on RP3C's recommendation.			The project was initiated in the 1980s with draft #11 completed in 1985. The draft was reviewed by J. Gilmer (WGC). He believe that the scope is no longer relevant and recommends this proposed standard be dropped from LLWRCC's program of work; therefore, incorporating RIPB is not applicable. LLWRCC will discuss on 8/20/18 teleconference.
LLWRCC (WGC: J. Glover)	ANS-	56	8		Containment System Leakage Testing Requirements	current standard approved 2002 (R2016): RV in development	A revision of this standard has been in development for some time--prior to the formation of the RP3C. The working group chair did not feel that this standard would benefit from RIPB methods.			

**Tracking of RP3C Recommendation to Incorporate RIPB Methods**

ESCC (3) = Yellow FWDCC (3) = Purple				LLWRCC (12) = Green NRNFCC (2) = Blue		RARCC (3) = Orange				
CC Owner (WGC)	DESIGNATION			TITLE	STATUS	Status of Consensus Committee Actions (from Pat Schroeder pulled from committee minutes, Workspace, or miscellaneous emails/documents)	Consensus Committee Chair Input	Subcommittee Chair Input	Working Group Chair Input	
FWDCC (WGC: OPEN)	ANS-	57	1	Design Requirements for Light Water Reactor Fuel Handling Systems	current standard approved 1992 (R2015)	See review comments in the cells directly to the right.	Review performed by FWDCC member Jodine Jansen Vehec with concurrence of Mitch Sanders, the subcommittee chair.  The feedback from the review of the standard is that it cannot be risk-informed, but it can be risk-influenced. This could be done in the following manner:  When developing the R21e design, use existing Operating Experience to reduce the major contributors to system/component unavailability and reduced system reliability. *For example, certain types of cranes are more reliable than others – so when selecting the auxiliary fuel handling crane – review the industry OE and don't select a crane that has had reliability issues at other plants.  Ensure that components that rely on support systems for operation (e.g. air, power, etc.) fail in the "safe" failure position. *This is somewhat addressed by section 6.3.1.5, but additional information/instruction could be added into Section 6.3.4.  Ensure the design allows for ease of operation and maintenance since this directly impacts system unavailability. *Although the standard says the equipment shall be designed to permit removal and replacement or repair of all functional components, (Section 6.3.3.7), and Section 6.4 ensures that testing and maintenance can be performed, this does not ensure that the testing/maintenance/replacement will necessarily be easy to perform. Should consider ease of access to the equipment, ability to perform PMs on the equipment to ensure reliability, etc.  Consider ensuring that the system/fuel being handled can be put in a safe condition following a Station Blackout Event and a Fire event as well as the Safe Shutdown Earthquake (SSE). Currently, only the SSE appears to be considered.  Consider using any available site-specific fire or seismic PRA or their insights when developing the design.			
FWDCC (WGC: R. Browder)	ANS-	57	3	Design Requirements for New Fuel Storage Facilities at LWR Plants	withdrawn standard: revision in development	A revision of this standard was initiated prior to formation of the RP3C. It was approved and published in early 2018. See review comments in the cells directly to the right.	Review performed by FWDCC member Jodine Jansen Vehec with concurrence of Mitch Sanders, the subcommittee chair.  The feedback from the review of the standard is that it cannot be risk-informed, but it can be risk-influenced. Since most of the design associated with this standard is passive, not much risk-informing is really available. However, the following considerations could be included:  Section 6.4.9 could include the use of Operating Experience when selecting the crane to be used.  Certain types of Cranes are more reliable than others – so when selecting the auxiliary fuel handling crane – review the industry OE and don't select a crane that has had reliability issues at other plants.  Section 4.2.2 Subsystem Components mentions fire protection, but I do not see any specific requirements for fire protection. When designing fire protection systems for the facility – this could be risk-influenced – design to consider/prevent potential inadvertent actuation of the system, drains of sufficient size to prevent accumulation of fire water, and potential need for fire water collection system to prevent release of fire water that may be contaminated if used on an actual fire that involved MOX.			
FWDCC (WGC: R. Eble)	ANS-	57	11	Integrated Safety Assessments for Fuel Cycle Facilities	active project	This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.				
LLWRCC (WGC: H. Liao)	ANS-	58	8	Time Response Design Criteria for Safety-Related Operator Actions	current standard approved 1994 (R2008). RV in development	A revision of this standard is in development and close to completing a draft. This project is tracked by RP3C via the Schedule of Standards in Development using RIPB Methods.				
LLWRCC (WGC: OPEN)	ANS-	58	9	Single Failure Criteria for Light Water Reactor Safety-Related Fluid Systems	current standard approved 1992 (R2015) NOTE: ANSI/ANS-58.9-1981-R1987 and ANSI/ANS-58.9-2002 are one in the same: because paperwork for the 2002 reaffirmation was not filed with ANSI in time, the 1981 standard was reappraised as a new standard and was assigned a new designation	NOTE: The following was provided prior to the WGC resignation on 8/14/18. A revision is just being initiated and the working group is planning to use RIPB. They are looking for guidance. A PINS form is in development.				
LLWRCC (WGC: M. Linn)	ANS-	58	14	Safety and Pressure Integrity Classification Criteria for Light Water Reactors	current standard approved 2011 (R2017)				(2) pressure classification, and (3) basic design requirements.  Safety Classification - The 2011 reinvigoration of the standard included wording	
NRNFCC (WGC: P. Rogerson)	ANS-	58	16	Safety Categorization and Design Criteria for Nonreactor Nuclear Facilities	current standard approved 2014		ANS- 58.16 does use RIPB approaches, but this could be looked at more closely and probably improved. The standard is currently being reviewed to determine whether to reaffirm, archive, or revise.		I agree that RIPB principles are incorporated into the standard currently. I wouldn't think we would revise the standard solely for the purposes of including RIPB throughout.	
LLWRCC (WGC: M. Dooley)	ANS-	59	51	Fuel Oil Systems for Safety-Related Emergency Diesel Generators	current standard approved 1997 (R2015)				Revisions of both ANS-59.51 and ANS-59.52 are being initiated and the working group is being formed. The initial feeling is that a risk-based approach to EDGs is "risky" but a performance-based approach would take into account the true "wellness" of the machines. The working group will continue to pursue RP3C's recommendation as work begins on the revisions.	
LLWRCC (WGC: M. Dooley)	ANS-	59	52	Lubricating Oil Systems for Safety-Related Emergency Diesel Generators	current standard approved 1998 (R2015)					