APPROVED

Tuesday Morning, January 26, 2015
Cocoa Beach, FL

Members Present:	John Beatty	Ed Mohtashemi
	Suresh Channarasappa	Ted Riccio
	Tom Crawford (Vice Chair)	Rebecca Steinman
	Jacob Kulangara	John Stevens
	Jim Liming	Kiang Zee
	Kirk Melson	
Members Absent:	Gopal Aravapalli (C)	Joe Napper (C)
	George Ballassi	Vish Patel
	Marie Cuvelier (C)	James Parello (C)
	John Erinc	Sheila Ray
	Edward Eustace	Craig Sellers (C)
	Hamid Heidarisafa (C)	John Taylor (C)
	Steve Hutchins (C)	Yvonne Williams (Chair)
	Sharon Honecker (C)	
Guests:	Malia Zaman (IEEE)	

1.0   Introduction

- **Opening Remarks and Meeting Agenda**

   Tom called the meeting to order at about 08:10 then reviewed the agenda. John Beatty moved to approve the agenda, Rebecca Steinman seconded, and the agenda was approved.

2.0   Secretary's Report

- **SC-3 Approval of S15-2 Meeting Minutes**

   Tom reviewed the meeting notes for the S15-2 meeting in Salt Lake City. Ted moved to approve the minutes. John Stevens seconded, and the motion passed by acclamation.

- **SC-3 Membership**

   The most-recent rolling attendance report was reviewed, and the current report is contained in Attachment 2.

   Steve Hutchins has moved to Corresponding Member status during his term with NEI. Vish Patel will be departing, due to his new job duties.

APPROVED

- **Alligator Fund**

  The status of the alligator fund was reviewed and it was noted that the fund balance is unchanged. We agreed, once again, that there would be no collection for this meeting. The Alligator Fund status is contained in Attachment 3.

- **Action Item Status**

  The status of the action items was reviewed; the action item list is provided in Attachment 4.

  SC-3 Name Change (AI-11-2-C) – the subcommittee name change to "Operations, Maintenance, Aging, Testing, & Reliability" was discussed. No update was available; Yvonne will bring up at ADCOM again.

  Strawman for gap analysis for SC3 standards (Action 12-2-B) – Development of a Template / Strawman for gap analysis for the SC3 standards remains open and is assigned to Yvonne. Yvonne will look specifically at the 336 & 338 standards, which are next up to be revised.

  Present conflict to SA for resolution, regarding meeting notice distribution in Section 6.0 of SA WG P&P Manual Template (Action 14-1-B) – Malia reported that IEEE is working on a new template. We are still waiting on a response to this item.

  Update Master Schedule to spread out standards revision workload and avoid another crush in the 2020 – 2024 time frame (Action 15-2-D) – Schedule was discussed and adjusted during this meeting. Action is CLOSED.

3.0   IEEE Patent Slides

Tom discussed the IEEE Patent Slides, which are contained in Attachment 9.

4.0   Chair's Report

- **Leadership Review / Membership**

  After some discussion, Rebecca agreed to serve as Secretary for SC-3. We need ideas for recruiting new members. Ted suggested that we each contact one person at a plant site, asking for them to consider membership.

- **Leadership Telecons**

  There were no Leadership telecons since the previous meeting.

- **NPEC Preparations**

Jim Liming suggested that we suggest that NPEC put presentations to the end of the meeting, with the business items early in the meeting, such as previews, etc.

We are previewing the presentation for IEEE 352 in preparation for NPEC. After discussion with Malia, John Stevens decided not to extend the PAR for IEEE 352 until this fall, if needed.

John Stevens presented the Preview for NPEC. Jacob Kulangara was the only person in this meeting who had not seen it so far. We added Sharon Honecker to the membership list in the presentation. Ted Riccio moved to approve presentation, and Jim Liming seconded. The NPEC Preview presentation was Approved, as updated.

5.0   Working Group Reports

- **WG-3.1**

John Beatty reported on the comment resolutions on P1819 from Monday's meeting.

All were asked to look at IEEE 336 and 338 to identify potential changes for discussion at the next meeting.

- **WG-3.2**

WG-3.2 is dormant at present. Randy Flowers is the Chair.

- **WG-3.3**

John had no additional information beyond the preview presentation.

- **WG-3.4**

WG 3.4 is also dormant. Rebecca continues as Chair. WG-3.4 had 2 people contact Rebecca requesting WG membership. The WG may consider newer approaches to the 60-80 year life extensions.

6.0   Liaison Reports

Liaison reports were provided as follows:

- NRC – No NRC Report was provided.
- ASME – Ted gave the ASME Liaison Report provided in Attachment 6.
- NRMCC – Jim Liming gave the NRMCC report, since George Ballassi is the official liaison and not here. The Joint Committee on Nuclear Risk Management (JCNRM),

above NRMCC, discussed disbanding NRMCC at its last meeting, since NRMCC is not very active. We may be asked to sit in on the JCNRM in the future, since NRMCC may disband. They were compiling PRA standards under one umbrella; RA-S-2013, which is unlikely to be endorsed by the NRC any time soon. They use RA-S-2009 like Regulatory Guide 1.200. There is activity to bring in external events and shutdown events, most of which is going on under the American Nuclear Society (ANS). Trial use standards are being developed, then, they get absorbed into the RA-S standard under ASME. They are supporting of the work we did in IEEE 338 and 1819.

7.0   Old and New Business

We need to revise the SC-3 OPM to address the NPEC WG P&P. This will be undertaken as a future Action, Tom is to prepare the initial draft *(AI-15-2-C)*. No action has occurred as of the 16-1 meeting.

There were four new Action Items from this meeting. The revised AI List is provided in Attachment 4.

The next meeting (16-2) is scheduled for Seattle or Denver. Additional details will be provided when available from NPEC.

We reviewed the SC-3 Master Schedule. The 1819 revision is on schedule (comment resolution phase). We aligned some work on standards on the master spreadsheet. Also, Jim Liming is putting together a "strawman" of guidance for routine updating and revision of standards; looking at "gap analysis," etc. Ted agreed to expand the Master Schedule spreadsheet to include specific schedule milestone dates for each standard.

Malia sent slides to Tom Crawford on the balloting process (Subsequently distributed via email after the meeting).

The P1082 Standard was reviewed in this SC-3 meeting for alignment with our standards, particularly P1819. Definitions for the initiating event, PRA, and risk are different. Ted has communicated this to the P1082 chairman, Ron Boring, and he says he likes our definitions better. He is planning to incorporate those at some stage of the process. Generally, it is observed that P1082 is providing information about Human Risk Assessments (HRA) that would feed into and improve the PRA. Wording in P1082 is a bit odd, but not in conflict with P1819, except for the definitions. In section 3, we were confused about what "design basis PRA" means. Ted Riccio (and potentially others) will get in ballot pool for P1082 and make these somewhat minor comments as a part of the balloting process.

Rebecca Steinman requested WG chairs to review the information on the website for each working group and provide her with changes needed. Rebecca will then make those

updates as the new SC-3 Secretary and inform the chairs when the changes have been made, so they can be checked.

Tom noted the shortage of power strips during recent meetings and requested that other members try to bring power strips and /or extension cords in the future. There was some discussion about SC-3 purchasing those and having someone ship to each meeting, but that was felt to place an unneeded burden on whoever had the responsibility to get the equipment to each meeting. It is really only small inconvenience for our members to throw a power strip or extension cord into their bags; and that doesn't burden any one member. Tom suggested that power strips in the $20 range with approximately a 6 ft cord extension cords of approximately 25 ft would be appropriate. Tom agreed to send out a reminder before each meeting.

A motion for adjournment was made by Ted, seconded by John Stevens, and passed by acclamation.

Special thanks to Kirk Melson for taking notes for me while I lead the meeting.

Prepared by Tom Crawford, SC-3 Vice Chair.

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SC-3 Website information:

http://grouper.ieee.org/groups/npec/private/sc3/sc-3.html
Login Name: ▮▮▮▮   Password: ▮▮▮▮▮▮

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ATTACHMENTS

Attachment 1 Agenda	Attachment 2 Rolling Attendance	Attachment 3 Alligator Fund
Attachment 4 Action Items	Attachment 5 NPEC SC-3 Standards Status Spreadsheet	Attachment 6 ASME Liaison Report
Attachment 7 NRC Liaison Report (None)	Attachment 8 NRMCC Liaison Report (None)	Attachment 9 IEEE Patent Slides
Attachment 10 SC-3 Standards Schedule	Attachment 11 P352 Preview Presentation	Attachment 12 IEEE_SA - Balloting- What You Need to Know Presentation

Agenda – Meeting 16-1 – Cocoa Beach, FL

NPEC Subcommittee SC-3, *Operations, Maintenance, Aging, Testing, and Reliability*

Meeting Date/Time:	Tuesday, 01/26/2016 0800-1200	**Chairman :** **Vice Chair:** **Secretary:**	Yvonne Williams Tom Crawford vacant

Desired Outcomes:	1. Review status/activities of each SC Working Group 2. Approve NPEC preview presentation for 352 3. Update SC3 standards master schedule

WHAT	WHO	WHEN
Welcome, Review Desired Outcomes • Meeting logistics • Introductions	T. Crawford All	0800-0810
Chairman's Introduction • Opening remarks • Review/approve agenda	T. Crawford	0810-0820
Secretary's Report • Approval of SC3 15-2 Meeting Minutes • Action Item review/status • SC3 membership review • Alligator fund report	T. Crawford	0820-0845
Chairman's Report • SC3 Leadership – Secretary and succession planning • Leadership telecons • NPEC meeting preparations	T. Crawford	0845-0900
NPEC Preview Presentation -- 352	J. Stevens	0900-0945
BREAK	All	0945-1000
NPEC report	T. Crawford	1045-1050
Patent slides	T. Crawford	1050-1100
Working Group Reports • WG-3.1 (Testing) • WG-3.2 (Security) • WG-3.3 (Reliability) • WG-3.4 (Aging)	J. Beatty none J. Stevens none	1100-1110 1110-1120
Liaison Reports • NRC Report • ASME Report • NRMCC Report	S. Ray T. Riccio / C. Sellers none	1120-1135
Old Business • SC-3 / WG P&Ps • Master schedule for Std review/updates	All	1135-1145
New Business • As identified during this meeting	All	1145-1150
Review of Action Items	T. Crawford	1150-1155
Next meeting	T. Crawford	
Meeting closeout/adjournment		1200

NPEC Subcommittee 3
(SC-3)

Operating, Maintenance, Aging, Testing, and Reliability

SC-3 Attendance

Last	First	2013-2	2014-1	2014-2	2015-1	2015-2	2016-1
Aravapalli	Gopal		Correspond				
Ballassi	**George**	X	X	X		X	
Beatty	**John**	X	X		X	X	X
Channarasappa	**Suresh**	X	X		X		X
Crawford	**Tom**	X	X	X	X	X	X
Cuvelier	Marie	X	X			Correspond	
Erinc	**John**	X			X		
Eustace	**Edward**	X	X				
Heidarisafa	Hamid						
Honecker	Sharon	X	Correspond				
Hutchins	Steve	X					Correspond
Kulangara	**Jacob**	X		X		X	X
Kyle	George	X					
Liming	**Jim**	X	X	X	X	X	X
Melson	**Kirk**	X			X	X	X
Muhtashemi	**Ed**	X				X	
Napper	Joe		X	X		Correspond	
Parello	Jim	X	X	Correspond			
Patel	**Vish**	X	X	X		X	
Ray	**Sheila**	X			X		
Riccio	**Ted**	X	X	X		X	X
Steinman	**Rebecca**	X	X	X			X
Stevens	**John**	X	X	X	X		X
Taylor	John						
Williams	**Yvonne**	X	X	X		X	
Worrell	Tom						
Zee	**Kiang**		X	X	X	X	X
Members are shown in **bold** and colored yellow as of end of most recent meeting. Corresponding and Alternate members are shown in green.							
TOTAL PAYING ATTENDEES		21	15	11	9	11	10
TOTAL NON-PAYING ATTENDEES		0	0	0	0	0	0

NPEC Subcommittee-3
(SC-3)

Operating, Maintenance, Aging, Testing, and Reliability

Alligator Fund

Meeting	Beginning Balance	Meeting Contributions	Expenses	Ending Balance
S10-1	$694.66	$220.00	$380.90	$533.76
S10-2	$533.76	$425.00	$474.90	$483.86
S11-1	$483.86	$200.00	$14.00	$669.86
S11-2	$669.86	$430.00	$480.50	$619.36
S12-1	$619.36	$340.00	$203.00	$756.36
S12-2	$756.36	$150.00	$0.00	$906.36
S13-1	$906.36	$0.00	$0.00	$906.36
S13-2	$906.36	$0.00	$0.00	$906.36
S14-1	$906.36	$0.00	$0.00	$906.36
S14-2	$906.36	$0.00	$0.00	$906.36
S15-1	$906.36	$0.00	$0.00	$906.36
S15-2	$906.36	$0.00	$0.00	$906.36
S16-1	$906.36	$0.00	$0.00	$906.36

NPEC Subcommittee-3
(SC-3)

Operating, Maintenance, Aging, Testing, and Reliability

Action Items List

Item No.	Subcommittee 3.0 Actions	Owner	Due Date	Closure Comments
11-2-C	SC-3 name in NPEC needs to reflect reliability	Jim Liming	Next AdCom mtg.	Bring up at AdCom meeting 11-2. 12-1 mtg: more complicated - Jim to bring up at 12-1 AdCom meeting to make sure what is required and then get those actions started. 13-1 mtg: Will affect NPEC P&P and O&P. Malia confirmed that it could be handled as an editorial change. It just will take time to process. Jim to bring up to ADCOM. Preferred name is: "Operations, Maintenance, Aging, Testing, and Reliability". Request Submitted 01/22/13; see S13-1 Meeting Notes, Attachment 5. No NPEC action, as of the close of the N14-1 Meeting. S15-2 Meeting -- Yvonne will bring up at ADCOM again. S16-1 Meeting -- No Action.
12-2-B	Develop a Template / Strawman for gap analysis for SC3 standards	Yvonne	13-2 mtg.	No follow-on as of S14-1 meeting. S15-2 Meeting -- Yvonne will look at this specifically considering 336 & 338. S16-1 Meeting -- No Action.
14-1-B	Present the conflict to SA for resolution relative to meeting notice distribution in section 6.0 of the IEEE SA Working Group Policies & Procedures manual template.	Malia	14-2 mtg.	New item / Action pending. No update as of S15-2 meeting. S16-1 Meeting -- Malia reported that a Template update is in progress, which may resolve this item.
15-2-A	Review the CD of files from WG-3.2 for unresolved comments and also contact Randy Flowers concerning WG-3.2 plans.	Yvonne	16-2 mtg.	New item / Action pending.
15-2-B	Contact Craig Sellers to determine his status as ASME Liason	Ted	Sept 2015	New item / Action pending. Note: an ASME Report was subsequently received prior to the N15-2 meeting. An ASME Report was also received for the S16-1 meeting; this item is CLOSED.
15-2-C	Prepare initial Draft of SC-3 P&P's to align with the NPEC WG P&P's	Tom	16-2 mtg.	New item / Action pending.
15-2-D	Update Master Schedule to spread out standards revision workload and avoid another crush in the 2020 - 2024 time frame.	Ted	16-1 mtg.	New item / Action pending. Schedule was updated during the S16-1 ,meeting; maintaining it will be an ongoing effort. This item is CLOSED.

SC-3 "Operations, Maintenance, Aging, Testing & Reliability"
Chair: Yvonne Williams

PROJECT	Year	Standard Expiration	Re-Affirmation	PAR Expiration	TITLE	Sub-Committee	Regulatory Guide	IEEE Revision Section B Discussion	IEEE Revision Section C Guidance	Working Group	Chair	Cycle Year	N16-1	N16-2	Status/Comments
336	2010	2020			IEEE Standard Installation, Inspection, and Testing Requirements for Power, Instrumentation, and Control Equipment at Nuclear Facilities	3	1.30 - 1972	1971	1971	1	Y. Williams	6			Revision approved by the StdBd on June 17, 2010
338	2012	2022			IEEE Standard Criteria for the Periodic Surveillance Testing of Nuclear Power Generating Station Safety Systems	3	1.118 - 1995	1987	1987	1	Y. Williams	4			Std approved by SB Feb. 6, 2012
352	1987	2020	2010	Dec-2016	IEEE Guide for General Principles of Reliability Analysis of Nuclear Power Generating Stations and Other Nuclear Facilities	3				3	J. Stevens	6	Preview		PAR for this guide approved 29-Mar-2012, expiration 31-Dec-2016. NPEC preview 16-01 meeting
577	2012	2022			IEEE Standard Requirements for Reliability Analysis in the Design and Operation of Safety Systems for Nuclear Power Generating Stations	3				3	J. Stevens	4			Approved by SASB Aug. 30. 2012 Published on Oct. 19, 2012
692	2013	2023			IEEE Standard Criteria for Security Systems for Nuclear Power Generating Stations	3				2	R. Flowers	3			Block 8.1 of PAR 692 gives explanation - 692a was for an amendment, but it rapidly became clear that needed changes would require revision instead. PAR 692 states that it supersedes PAR 692a.
933	2013	2023			IEEE Guide for Definition of Reliability Program Plans for Nuclear Generating Stations and Other Nuclear Facilities	3				3	J. Stevens	3			Approved by SA BD on Dec. 11, 2013
1205	2014	2024			IEEE Guide for Assessing, Monitoring, and Mitigating Aging Effects on Class 1E Equipment used in Nuclear Power Generating Stations	3	1.218 - 2012	2000	None	4	R. Steinman	2			Approved by SB March 27, 2014
P1819				Dec. 2017	Standard for Risk-Informed Categorization and Treatment of Electrical Equipment in Nuclear Facilities	3				1	Y. Williams	0			PAR approved by SB 3/29/2012 Approved for ballot at NPEC 15-2.

NPEC Subcommittee 3
(SC-3)

Operating, Maintenance, Aging, Testing, and Reliability

ASME Liaison Report

January 2016

All comments on OM Code, Subsection ISTE, "Risk-Informed Inservice Testing" Revision 3 have been addressed and Subsection ISTE was revised. SG ISTE is performing final review of revised ISTE which is planned for first consideration ballot in January 2016.

The Need and Scope Statement for the non-mandatory appendix reflecting guidance from RG 1.175 was balloted and approved. SG ISTE will begin preparing the non-mandatory appendix soon.

Craig Sellers
Chair Subgroup ISTE

Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- **Show slides #1 through #4 of this presentation**
- **Advise the WG attendees that:**
  - The IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
  - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
  - There may be Essential Patent Claims of which the IEEE is not aware. Additionally, neither the IEEE, the WG, nor the WG chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.

- **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:**
  - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
  - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
  - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.

- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
- It is recommended that the WG chair review the guidance in *IEEE-SA Standards Board Operations Manual* 6.3.5 and in FAQs 12 and 12a on inclusion of potential Essential Patent Claims by incorporation or by reference.

  Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.

◆IEEE

(Optional to be shown)

Participants, Patents, and Duty to Inform

All participants in this meeting have certain obligations under the IEEE-SA Patent Policy.

- **Participants [Note: Quoted text excerpted from IEEE-SA Standards Board Bylaws subclause 6.2]:**
    - **"Shall inform the IEEE (or cause the IEEE to be informed)" of the identity of each "holder of any potential Essential Patent Claims of which they are personally aware" if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents**
        - **"Personal awareness" means that the participant "is personally aware that the holder may have a potential Essential Patent Claim," even if the participant is not personally aware of the specific patents or patent claims**
    - **"Should inform the IEEE (or cause the IEEE to be informed)" of the identity of "any other holders of such potential Essential Patent Claims" (that is, third parties that are not affiliated with the participant, with the participant's employer, or with anyone else that the participant is from or otherwise represents)**
- **The above does not apply if the patent claim is already the subject of an Accepted Letter of Assurance that applies to the proposed standard(s) under consideration by this group**
- **Early identification of holders of potential Essential Patent Claims is strongly encouraged**
- **No duty to perform a patent search**

25 March 2008 (updated January 2012)

◆IEEE

Patent Related Links

All participants should be familiar with their obligations under the IEEE-SA Policies & Procedures for standards development.

Patent Policy is stated in these sources:

IEEE-SA Standards Boards Bylaws

http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6

IEEE-SA Standards Board Operations Manual

http://standards.ieee.org/develop/policies/opman/sect6.html#6.3

Material about the patent policy is available at

http://standards.ieee.org/about/sasb/patcom/materials.html

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org or visit http://standards.ieee.org/about/sasb/patcom/index.html

This slide set is available at https://development.standards.ieee.org/myproject/Public/mytools/mob/slideset.ppt

IEEE

25 March 2008 (updated January 2012)

Call for Potentially Essential Patents

- If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance:

  - Either speak up now or

  - Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible or

  - Cause an LOA to be submitted

Other Guidelines for IEEE WG Meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**

  - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**

  - **Don't discuss specific license rates, terms, or conditions.**

    - Relative costs, including licensing costs of essential patent claims, of different technical approaches may be discussed in standards development meetings.

      - Technical considerations remain primary focus

  - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**

  - **Don't discuss the status or substance of ongoing or threatened litigation.**

  - **Don't be silent if inappropriate topics are discussed … do formally object.**

See *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and "Promoting Competition and Innovation: What You Need to Know about the IEEE Standards Association's Antitrust and Competition Policy" for more details.

NPEC Subcommittee 3
(SC-3)

Operating, Maintenance, Aging, Testing, and Reliability

Standards Schedule

	WG 3.1	WG 3.2	WG 3.3	WG 3.4
2014-1	1819		352	1205
2014-2	1819		352	1205
2015-1	1819		352	
2015-2	1819		352	
2016-1	1819		352	
2016-2	1819		352	
2017-1	336		577	
2017-2	336		577	
2018-1	336		577	
2018-2	336		577	
2019-1	336		577	
2019-2	338		933	
2020-1	338	692	933	
2020-2	338	692	933	
2021-1	338	692	933	1205
2021-2	338	692	933	1205
2022-1	338	692		1205
2022-2	338	692		1205
2023-1	1819	692		1205
2023-2	1819		352	
2024-1	1819		352	
2024-2	1819		352	
2025-1	1819		352	
2025-2	1819		352	
2026-1	1819		352	
2026-2				

STD	Issued	Expires
336	2010	06/17/2020
338	2012	2022
352	Working	
577	2012	12/31/2022
692	2013	12/31/2023
933	2013	12/31/2023
1205	2014	12/31/2024
1819	Working	

P352 Preview

"Guide for General Principles of Reliability Analysis of Nuclear Power Generating Stations and Other Nuclear Facilities"

January 27, 2016 (NPEC 16-01)
John A. Stevens (WG-3.3 Chair)

Preview – P352
Presentation Contents

1. PAR Summary
2. Working Group Membership
3. Table of Contents
4. Summary of Changes
5. Schedule

Preview – P352
1. PAR Summary

- ## History of IEEE Std 352
  - Originally published in 1975
  - Revised and published in 1987
  - Reaffirmed in 2010
  - NPEC chair requested revision 2011

Preview – P352
1. PAR Summary

- **PAR** was approved March 31, 2011; expires December 31, 2016.

- **Scope of Proposed Standard:** This guide contains general reliability and availability analysis methods that can be applied to structures, systems, and components (SSCs) in nuclear power generating stations and other nuclear facilities.

- **Purpose of Proposed Standard:** This guide provides the designers, operators, and regulators with a common and consistent framework for performance of reliability and availability analyses of nuclear power generating stations and other nuclear facilities.

Preview – P352
1. PAR Summary (continued)

- **Need (Purpose) for the Project:**

  IEEE Std 352 was last updated in 1987. Since that time, there have been significant advances in the ability to accurately model systems, structures, and components. Many of these advances are due to the rapid increase in computing capability during the last few decades. The purpose of this revision of IEEE Std 352 is to incorporate the following changes to make the guide more up to date with current approaches to development and implementation of a reliability program.

  •Expand the section on system-level failure data analysis to include basic reliability growth analysis;

Preview – P352
1. PAR Summary (continued)

- Expand the application section to include an explanation of discrete event simulation theory and provide an example to show how it can be used to model more complex and realistic situations than analytical methods;

- Update the list of established data programs;

- Update the bibliography;

- Review and update the equations and text of the document.

- Update of standard to new template

Preview – P352
2. Working Group Membership

John A. Stevens– Chair

George Ballassi

Marie Cuvelier

Jacob Kulangara

Joseph Napper

Ted Riccio

Kiang Zee

Yvonne Williams

John Beatty

John Erinc

James Liming

Vish Patel

Sheila Ray

Tom Crawford

Sharon Honecker

Now 15 members.

[Owner (3), Consultant (6), Regulator (1), Manufacturer (3), Other (2)]

Preview – P352

3. Table of Contents

IEEE Std 352-2010

1. Introduction and References
2. Definitions
3. Objectives and Methods
4. Qualitative Analysis Principles
5. Quantitative Analysis Principles
6. Guides for Data Acquisition and Use
7. Application of Reliability of Methods
8. Annex (informative)

P352

1. Overview (Scope, Purpose)
2. Normative references
3. Definitions
4. Objectives and Methods
5. Qualitative Analysis Principles
6. Quantitative Analysis Principles
7. Guides for Data Acquisition and Use
8. Application of Reliability of Methods

Annex A: Bibliography

Annex B: Illustration of Concepts and Methods of Reliability and Availability Analyses

Annex C: MTTR Process

Preview – P352
4. Summary of Changes

- Expands the scope from Class 1E to any electrical equipment and to facilities other than nuclear power generating stations.
  - Replace "Class 1E equipment" with "electrical equipment" or "susceptible equipment" depending on context
  - Replace "plant" with "facility"
- Removed all normative references
- Updated definitions to standardize across related NPEC standards

Preview – P352

4. Summary of Changes (cont'd)

- Updated Annex A to be Bibliography
- Moved old Annex A to new Annex B (Illustration of Concepts and Methods Reliability and Availability Analyses)
- Added Annex C MTTR Process

Preview – P352
5. Schedule

- Preview to NPEC: 1/16
- Complete ballot pool: 3/16
- Complete 1st ballot: 5/16
- Resolve ballot comments: 7/16
- Recirculation ballot: 8/16
- Submittal to RevCom: 10/16
- Publish: 2/17

Preview – P352

- Questions?

- SC-3 Chairman requests approval to ballot.

IEEE Standards Association (IEEE-SA)

IEEE-SA Balloting: What you need to know

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Program Manager
IEEE-SA

Agenda

Part One: Individual Balloter

Joining as a Balloter

How to Vote

Part Two: Working Group

From Ballot to Publication

Part One

Balloting: MyProject Invitation	Joining a Balloting Group
	How to Vote

Instructions to Logging onto myProject

Go to https://development.standards.ieee.org/my-site

Enter your IEEE Account username/email and password and click "LOGIN".

If you do not have an IEEE web account, you can create one by clicking on the "Need an IEE Account?" link.

About myProject

A *web-based tool* that facilitates the IEEE standards process

- For example: Submitting/modify PARs, initiating ballots, etc.

A *database* that holds information related to the standards process

- For example: Balloting summaries, record of ballots, etc.

A *tool used by IEEE members, staff, and other individuals* who want to participate in the standards process

- For example: participants manage their activity profiles to receive information regarding projects that they are interested in.
- Also, please note that our governance committees, AudCom, NesCom, and RevCom utilize myProject for various processes.

Accessing myProject for the First Time

You will be asked to create a profile.

Select or enter your employer/ position information

Enter your contact information

Enter a secondary email, if any (If provided, a copy of all messages will be sent here).

Click "OK" to save your information.

Joining a Ballot Group

Once the WG chair releases the Invitation, an email notification is sent to those that have indicated interest in the Manage Activity Profile area

The next step is to be added to the balloting pool;

1. You may either join by clicking on the link via the email Invitation, or

2. Join by logging onto myProject and searching all open invitations.

- You are required to be an IEEE-SA member or pay a per-ballot fee to join an IEEE-SA ballot.
- Joining a ballot allows you to vote and submit comments when the project opens for balloting.
- Balloting group members have an obligation to respond during the balloting period; failure to return a ballot may disqualify the balloter from participation in future balloting groups.
- You can easily add or remove yourself from a balloting group, but only while the balloting group is forming. Your participation is fixed after the ballot invitation closes.

Joining a Ballot group in myProject
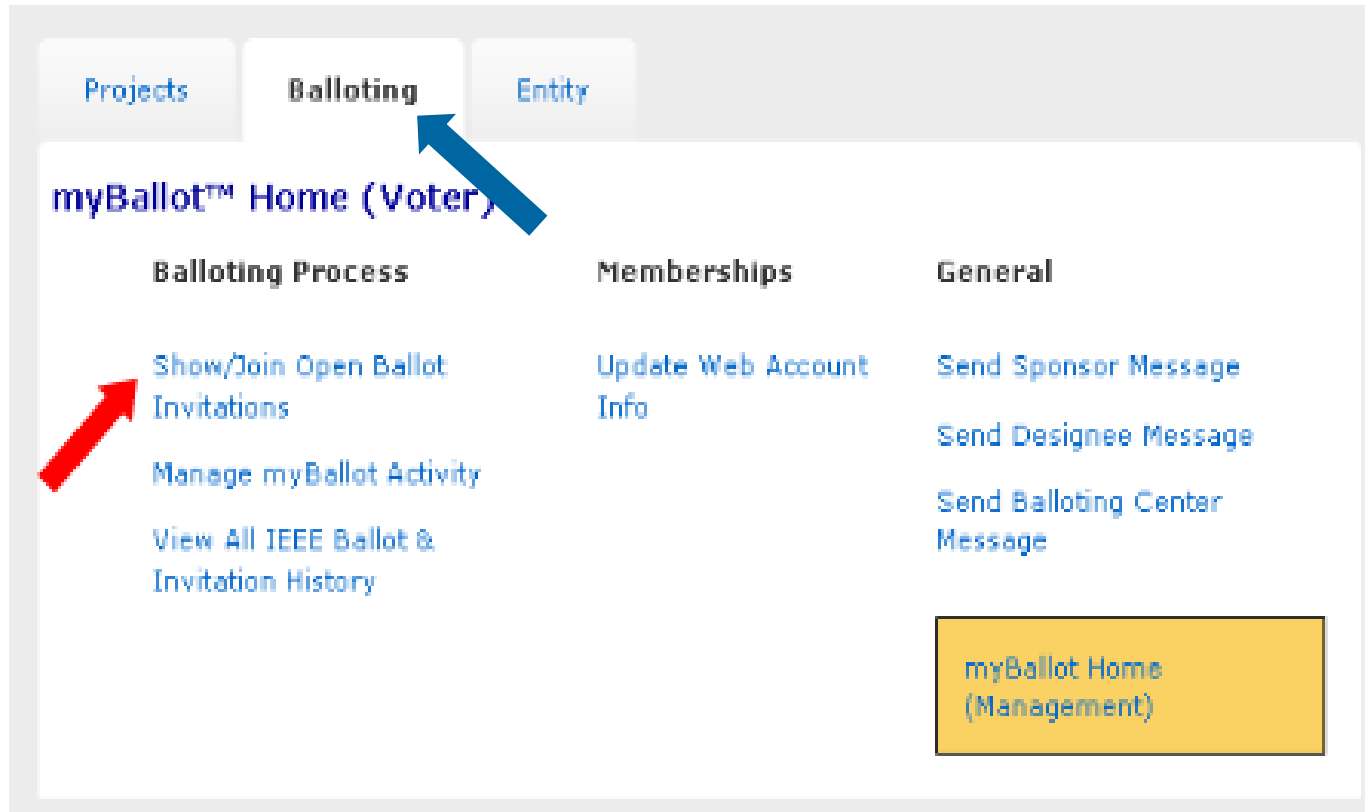
1. Select the Balloting TAB (blue arrow)

2. Click on Show/Join Open Ballot Invitations (red arrow)

Joining a Ballot Group

On this screen you will initially see open ballot invitations that are tied to your selection(s) under "**Manage Activity Profile**". Check the box next to "**Show all open ballot invitations**" to see all ballot invitations you are eligible to join.

Find the project you would like to join. Scroll to the right and click "**join**" under the Actions column.

Specify your affiliation and your voter classification for this ballot.

Joining a Ballot – Affiliation and Classification Info

With that action completed, you will be added to the balloting pool.

Balloting : Voting Process

1. When the invitation closes, the Sponsor Ballot will be initiated by the WG Chair.

2. An email notification will be sent from myProject notifying those who are in the myProject balloting group of it opening.
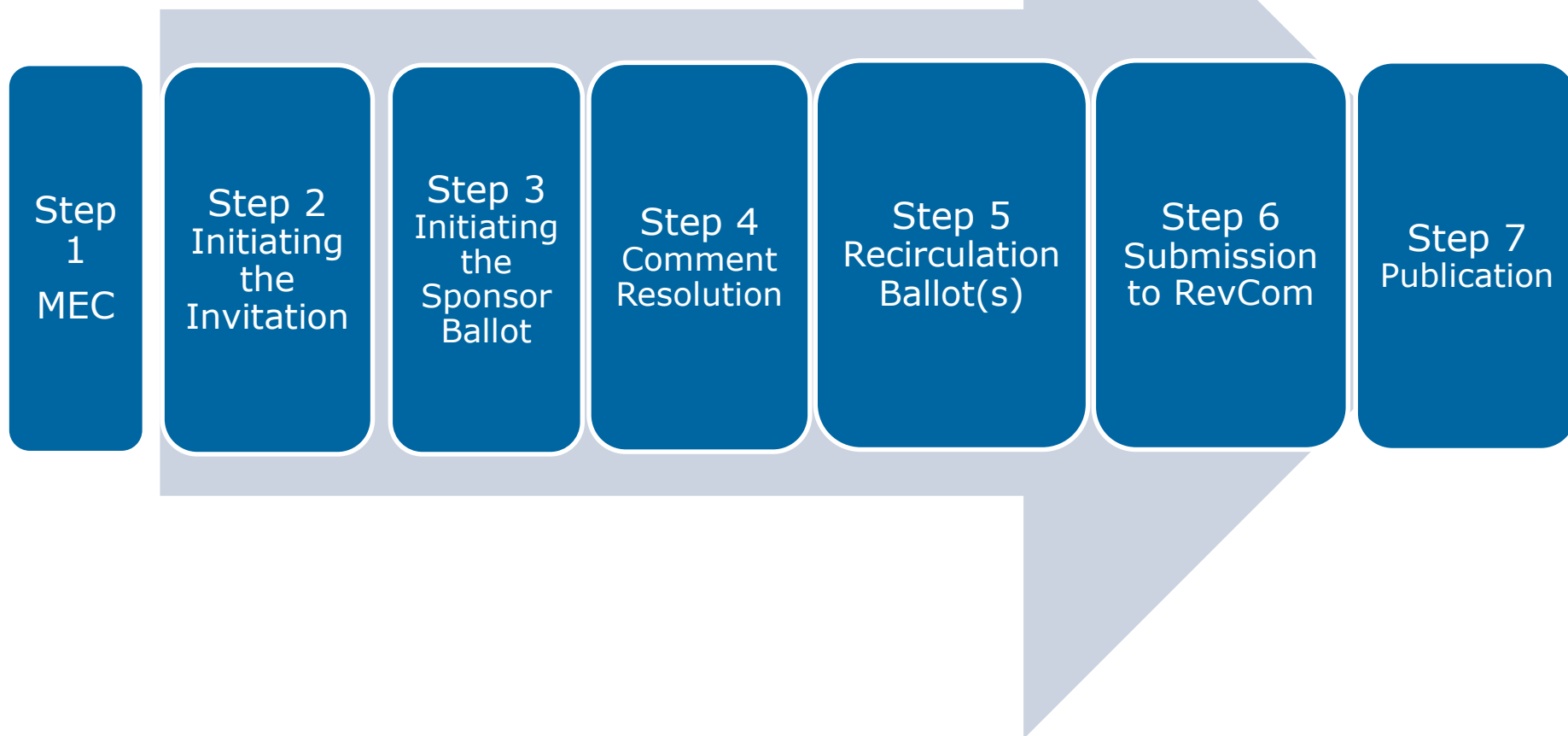
Steps to Vote:
- ❑ On the myProject™ Home Screen, click the "Balloting" tab and select. Select "**Manage myBallot Activity**
- ❑ You will be able to be able to **see a dropdown box under the "Vote" column.** Select your vote and click "OK" so save.
- ❑ You may submit Single or Multiple comments
- ❑ To submit Multiple comments:
    - ❑ Click "**Offline Comment Submittal**".
    - ❑ Add comments to the template and save it to your computer. Go back to the **Offline Comment Submittal page** and enter the file location in the input box and Click "OK to Submit comments

- During a Recirculation ballot, you will have the opportunity to review and change your vote:
- Until 75% approval is achieved, comments can be based on any part of the document.
- Once 75% approval is achieved; comments shall be based only on the changed portions and portions of the draft affected by the changes, or portions of the draft that are the subject of unresolved comments associated with *Do Not Approve* votes

Part Two:

Sponsor Balloting Process– From Ballot to Publication

Overview of Actions taken for Sponsor Ballot

Once the draft has been developed and gone through the approval process of the WG/committee, the next step is the Sponsor Ballot.

Step 1 MEC	Step 2 Initiating the Invitation	Step 3 Initiating the Sponsor Ballot	Step 4 Comment Resolution	Step 5 Recirculation Ballot(s)	Step 6 Submission to RevCom	Step 7 Publication

Overview of Steps for Sponsor Balloting Process

1. Submit the Draft for Mandatory Editorial Coordination (MEC) once the WG/Committee has approved the draft **–** Via the link below, Time taken 20-30 days

- http://standards.ieee.org/develop/mecform.html

2. Ballot Invitation - Opened for 30 days in myProject.

- Must be IEEE-SA Individual Member to join Individual ballots , or pay per-ballot fee.
- Must be IEEE-SA Corporate Member to join Entity ballots.
- Invitation may be extended to increase/balance the ballot group

3. Ballot Opens - WG Chair, Sponsor Chair, or a designee submits draft for balloting in myProject**.** Ballot opens when Staff Liaison approves the request**.**

- Balloters notified that ballot opens via email from myProject*
- Ballot opened for at least 30 days

4. Balloters Vote - Approve, Do Not Approve, or Abstain and submit comments and suggested changes.

5. Comment Resolution – Consideration of comments

- Responses should show that the WG seriously considered the comment and make a reasonable attempt to resolve all *Do Not Approve* votes that are accompanied by comments.
- Editorial comments addressing grammar, punctuation, and style, whether attached to an *Approve* or a *Do Not Approve* vote, may be referred to the publications editor for consideration during preparation for publication

Overview of Steps for Sponsor Balloting Process

6. Recirculation Ballot(s) – Required if substantive changes were made to the draft

- Until 75% approval is achieved, comments can be based on any part of the document.
- Once 75% approval is achieved; comments shall be based only on the changed portions and portions of the draft affected by the changes, or portions of the draft that are the subject of unresolved comments associated with *Do Not Approve* votes.
- Recirculation ballots are opened for at least 10 days.
- Balloters can change their votes during a recirculation ballot.
- Balloters who did not vote previously can vote on this ballot.

7. Balloting Completes – The IEEE consensus requirement is met when the following is achieved:

- At least 75% of the ballot group voted (Response rate)
- The number of *Approve* votes is 75% or more of the total *Approve* and *Do Not Approve (with Comments)* votes. (Approval Rate)
- Fewer than 30% of the ballot group voted *Abstain*

Sponsor Balloting - Invitation

The first step in sponsor balloting is forming the ballot group. A ballot invitation must be initiated. All users who have expressed interest in the project through myProject™ will be notified of the ballot group formation.

In Order to include WG members in the balloting group, you may add additional email addresses during the Invitation initiation.

During the invitation period, typically 30 days, individuals (or entity representatives) can join the balloting group, change their voter classification, or withdraw from the ballot.

Applicable Users Include: Sponsor Chair, Standard Representative, Working Group Chair/Co-Chair/Vice Chair, Sponsor Ballot Designee

Notes:
- Check that the MEC has been submitted
- The Sponsor Chair/Standards Representative will be notified of the invitation
- Sponsor balloting must begin within six months of the invitation or the ballot group becomes stale and must be reformed.
- Remember that the invitation will not open until your staff liaison reviews and sends the invitation.
- After the Staff liaison receives the Invitation request, it is reviewed to make sure there is enough ballot classifications in order to achieve balance in the Balloting group.

Balloting Group Requirements for Invitation

If all these requirements are met, then the sponsor ballot can be initiated.

- Balloters shall classify their relationship relative to the scope of the draft standard (e.g. producer, user, academic, government).
- The ballot group shall be balanced.
- No group (classification) shall constitute one-third or more of the balloting group membership. Sponsors may define additional classifications.
- Ballot groups shall have at least 10 members for Individual ballots and 5 members for Entity ballots.
- Balloting shall begin within 6 months of when the ballot invitation closed.

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Sponsor Ballot Initiation

Once the ballot invitation is closed, and the ballot group has been balanced, it is time to prepare the final draft and initiate the ballot.

Applicable Users Include: Sponsor Chair, Standard Representative, WG Chair/Co-Chair/Vice Chair, Sponsor Ballot Designee who can initiate the ballot

- ❑ On the myProject™ Home Screen click the "Balloting" tab followed by the "Initiate Sponsor Ballot" Link.
- ❑ Select the PAR from the drop down list and enter the open and close dates (Ballot is open for a minimum of 30 Days)
- ❑ Enter the "Draft #" (must match the draft number in the draft) followed by selection he draft. *Remember the file must be in PDF format.
- ❑ Click "Initiate Ballot"
- ❑ This action will send the notification to the Staff Liaison to review the request

The Program Manager checks the draft for to initiate ballot;
- ❑   Copyright statements and Permissions,
- ❑   MEC comments were addressed,
- ❑   Figures/Tables display correctly, etc.
- ❑   *If everything checks out, then the ballot is started*.

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Comment Resolution - Tips

After a ballot has completed, notification of the Ballot closure is sent to all the balloters. The next step for the Working Group is Comment Resolution phase.

- This can often be a daunting task for ballots that have a large number of comments. Know the process, what to avoid, what to prepare, etc.

IEEE-SA Operations Manual : 5.4.3.3 Addresses Comments in the ballot

- *The Sponsor shall consider **all comments that are received by the close of the ballot**. Comments received after the close of balloting will be provided to the Sponsor. The Sponsor shall acknowledge the receipt of these late comments to the initiator and take such action as the Sponsor deems appropriate.*
- *The Sponsor **shall make a reasonable attempt to resolve all Do Not Approve votes** that are accompanied by comments. Comments that advocate changes in the proposed standard, whether technical or editorial, may be accepted, revised, or rejected.*
- *Sponsors shall **provide evidence of the consideration** of each comment via approved IEEE Standards Association balloting tools.*

Resolution Statuses – What they mean

Accepted – The committee agrees with the comment and implements change exactly as suggested.

Revised – The ballot resolution committee accepts the suggested remedy in principle.

- This means that the ballot resolution committee **will make a change to the draft based on a revision of the suggested remedy**.
- The Resolution Detail field **shall provide sufficient detail for ballot group members to understand the revision** of the suggested remedy provided by the commenter.

Rejected – The ballot resolution committee *does not accept the suggested remedy*.

- The Resolution Detail field shall provide sufficient detail for ballot group members to understand the **rationale for this rejection.**

How to Access the Comments

1. Download the .zip file containing a CSV file of the comments and any files that may be attached to the comments.

2. Edit the CSV file using any spreadsheet editor and save the file in either .csv or .xls format.

Projects	**Balloting**	Entity

myBallot Home (Management)

Balloting Process

Initiate Invitation Request

Mandatory Editorial Coordination

Initiate Sponsor Ballot

Initiate Recirculation

Balloting Tools

Manage Misc. Coordination Users

View Invitation Summary

Replace Draft for Balloting

Manage Sponsor Ballot Activity

→ Download/Upload Comment Response

Submit Rogue Comment

Prepare RevCom Submission

General

Send Liaison Message

Send Balloting Center Message

Send Notification to Balloting Group(s)

Default System Parameter View

myBallot™ Home (Voter)

Download Comments Resolution File (Con'td)

myBallot Home (Management) >> Manage Sponsor Ballot Activity >> Voter Response Detail >> Download/Upload Comment Response

P802.15.7 Physical (PHY) and Medium Access Control (MAC) Layer Standard for Short-Range Wireless Optical Communication Using Visible Light

To prepare your ballot's comment resolution offline, first download the comment resolution package below which contains a CSV file of the comments and includes any files which were attached to the comments.

Download Comment Resolution Zip File

Then use a spreadsheet application to edit the CSV file, adding values to the columns for "Resolution Status" and "Resolution Detail".

The "Resolution Status" column must contain one of the following values:

- Accepted
- Revised
- Rejected

Note: You will receive an upload error message if the "Resolution Status" column contains text other than that specified above.

The "Resolution Detail" may be any text describing the resolution.

After you have updated the spreadsheet and the ballot is in the comment resolution stage, you can upload the file in CSV or Excel (XLS) format from this page.

UPLOAD COMMENT RESOLUTION FILE: [   ] Browse...

OK   CANCEL

Recirculation Ballot(s) is needed when...

Substantive changes were made since the last balloted draft.

- Whether triggered by comments accompanied with YES or NO votes or if there are any unresolved *Do Not Approve with Comments* votes (not editorial comments).
- Comments are received from IEEE-SA editors marked "must be satisfied" (MBS).
- A recirculation resulted in negative votes with new comments within the scope of the recirculation.

On a Recirculation ballot, a vote shall be based only on the;

- Changed portions of the balloted document,
- Clauses affected by the changes, or
- Portions of the balloted document that are the subject of the unresolved negative votes
- This includes any changes made by the WG on the draft outside of the comments from ballots.

Applicable Users: Sponsor Chair, Standard Rep., WG Chair/Co-Chair/Vice Chair, Sponsor Ballot Designee

When Initiation the Recirculation ballot: You will need;

- a Recirculation Cover letter,
- a Marked up version of the draft showing changes in PDF and,
- a Clean draft for easy viewing in PDF.

Best Practices – Comment Resolution

The WG Chair can form a "Ballot Resolution Committee" (BRC) to resolve the comments

Document in meeting minutes what the scope of the BRC actions (voting requirement, if needed to bring back to WG for decision)

Resolve the comments using the terms in myProject (accepted, rejected, revised)

Can split work and assign roles to expedite process

Do not add additional comments to the myProject downloaded comment resolution(xls, csv) file. As this causes error messages during upload/recirc.

If you sort the comment resolution file, before the upload to MyProject please revert back to the original format.

Please contact your staff Liaison for any process questions.

Submit Draft to RevCom

The draft standard is ready to submit to the IEEE-SA Standards Board for approval when the following is met:

- Consensus voting requirements met,
- All comments are responded to,
- All comments accompanying *Do Not Approve* votes have been circulated to the ballot group.

WG chair, Sponsor Chair, or a designee submits the draft with other documentation to RevCom in myProject.

***Final approval of a standard is achieved by submitting the document and supporting material to RevCom (Review Committee)*

RevCom issues a recommendation to the IEEE-SA Standards Board (SASB) who then approves it.

The WG chair, Sponsor Chair, or a designee submits the draft with other documentation to RevCom in myProject.

RevCom members review the draft and balloting documentation and submit comments against the checklist below.

RevCom checklist:
https://development.standards.ieee.org/myproject/Public/mytools/approve/subchklst.pdf

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Publish the Standard

After the IEEE-SASB approves the standard, an *IEEE editor edits the document to ensure that the standard is grammatically and syntactically correct*

The editor cannot make any changes that affect the technical meaning of the standard.

- The editor can make *rewordings, editorial changes, and formatting changes to assist in publication of the standard* and ensures that the document meets the rules in the IEEE Standards Style Manual.

The IEEE editor works with a primary contact for the WG (usually the WG Chair or technical editor).

- The IEEE editor will discuss any questions or potentially problematic changes with this contact. The contact will also receive the final standard to review and approve prior to publication.

The primary contact is responsible for reviewing the edited and formatted pages to ensure that no errors have crept into the document during the editorial and publishing process. After review and inclusion of any changes, the document can be published and disseminated as an IEEE standard!

WG members receive complimentary copies of the standard

The WG Chair will identify candidates for the IEEE-SA Working Group Chair Award. The IEEE-SA Working Group Chair Award is presented to WG Chairs, Co-Chairs, Editors and/or others in recognition of their contribution.
http://standards.ieee.org/develop/awards/wgchair/index.html

Questions?

Contact your IEEE-SA Staff Liaison:

Malia Zaman
M.Zaman@ieee.org
+1.732.562.3838
+1.732.850.6608 (Cell)

Visit the IEEE-SA web site:
http://standards.ieee.org

Additional Slides on Comment Resolution available in next slides

Thank you ☺

Additional Information:

Do's and Don'ts - Comment Resolution

Comment Resolution Do's and Don'ts

❑ Don't **make, or promise to make, any post-ballot changes** to the draft. If you do RevCom would require a recirculation.

❑ RevCom will review the last balloted draft

❑ Do **reject** an editorial comment and defer it to IEEE-Editorial for **review (not for change)**

❑ You cannot make the promise that IEEE-Editorial will indeed make the change, just defer for review for change

Example:
Comment: Resize Figure 1 to fit the page better
Don't: Accepted. Resized the figure (When you have not taken the actions)
Do: Rejected. Defer this change to IEEE-Editorial staff for review and change during final publication

Comment Resolution Do's and Don'ts

- **Don't have any empty disposition status or detail columns for disapprove comments**
  - All comments need shown consideration
  - If WG "accepted" a comment, only then can the comment detail column be left blank.

- **Don't have an outstanding negative ballot with comment(s) and submit to RevCom** without addressing the comment(s)

- Do have **sufficient detail explaining** the reason for **rejection** or the revised comment
  - Best to include a technical reason for the rejection

- **Do email the balloter with rationale for rejecting** the comment and advise he/she that you are submitting to RevCom.

- Do include this email to in your submission to RevCom

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Do's and Don'ts

- **Don't cross reference**
  - Example: "Rejected – see resolution from comment i-22"

- **Don't reference an external document**
  - Example: "Rejected – see 11-09/9876r1"
  - Not an appropriate response

- **Do cut and paste the comment resolution from the cited comment** and then add "same comment resolution as comment i-22"

- **Do copy information from document 11-09/9876r1 and paste it in the resolution**