

**IEEE NPEC Subcommittee SC-3**  
***Operations, Maintenance, Aging, Testing, & Reliability***  
**Meeting 20-1 Minutes**



**Tuesday Morning, 28 JAN 2020**  
**Charlotte, NC**

Members Present:	John Beatty Suresh Channarasappa Tom Crawford (Chair) Jacob Kulangara Khoi Nguyen	James Parello (C) Clint Pierce Phil Ward Yvonne Williams (PC) Kiang Zee
Members Absent:	George Ballassi (PC) Hamid Heidarisaifa (C) Jim Liming (C) Kirk Melson	Ed Mohtashemi Joe Napper (C) Ted Riccio (H) Craig Sellers (C) Rebecca Steinman (VC)
Guests:	Khadijah West	Malia Zaman

\* Although available, no one joined the meeting via the web-based Join Me interface.

## **1.0 Introduction**

- **Opening Remarks and Meeting Agenda**

Meeting was called to order at approximately 8 AM by Tom Crawford, Chair. The meeting has met the quorum requirements to conduct business with 9 of 13 members present, as shown in Attachment 2.

Tom presented the draft agenda; as we went through the agenda, we added an item to the Old Business section to discuss the potential for an NPEC presentation by Kiang. This being the only change, Jacob moved to approve the agenda as amended; Suresh seconded and the agenda was approved as amended by voice vote. The Approved Agenda is included in Attachment 1.

As there are no changes to the attendees from the meetings on 27 January, Tom dispensed with the introductions.

Tom went through the Patent Slides and the new Copyright slides; he noted that these are available in iMeet. They are also included as Attachments 9 & 10.

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## **2.0 Secretary's Report**

- **SC-3 Approval of S19-2 Meeting Minutes**

The SC3 19-2 draft meeting minutes were reviewed, and there were two minor editorial changes. Jacob moved to approve the minutes as revised; Khoi seconded the motion. The minutes were approved by voice vote as revised.

- **Action Item Status**

17-2-B – Kiang Zee suggested generating a list of training topics based on the Q&A of the 19-02 NPEC presentation on integrating IEEE 1819 into other NPEC standards. Item will remain open. Tom reminded members to be thinking about other future training topics.

19-2-A -- Sharon Honnicker and John Taylor have been dropped from Corresponding Member status. This item is CLOSED.

19-2-B -- Khoi Nguyen has volunteered to assume the Chair of WG-3.3. This item is CLOSED.

19-2-C -- Review of the P577 Bibliography is in progress as of the S20-1 meeting. Members are to review highlighted items for the 20-2 meeting and determine whether or not to keep them as references.

19-2-D – Rebecca has the action to create a mini-tutorial on iMeet for presentation when she is next in attendance at a SC meeting.

19-2-E – Rebecca has the action to work with IEEE to develop social media content to solicit new standards development volunteers.

20-1-A -- Members are to review the current IEEE 933 revision and assess the magnitude of changes needed, in preparation for generating a PAR and planning future work activities during the S20-2 meeting.

The updated action item list is provided in Attachment 4.

- **SC-3 Membership**

The membership roster has been updated by Tom and the information has been validated. Ted Riccio has retired from IEEE. A motion was proposed by Yvonne to make Ted an Honorary Member; John Beatty seconded the motion and it passed by voice vote.

Khoi indicated that Jorge will no longer be attending SC3; therefore his status has been changed to “Resigned”. He introduced Khadijah West of the NRC staff. Tom welcomed her contribution and said that he hoped that she would continue to attend these meetings.

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- **Alligator Fund**

The only expense to the Alligator Fund has been \$57.21 to mail the IEEE 1819 awards to Yvonne for mailing them to awardees. The NPEC-decreed there \$5 meeting fee, which is collected from both members and guests, is a direct pass-thru to NPEC. The Alligator Fund balance is \$680.72 and status is contained in Attachment 3.

### **3.0 Chair's Report**

- **Leadership Review / Membership**

The current officers are: Tom Crawford, Chair; and Rebecca Steinman, Vice Chair. A volunteer to fill the Secretary position is still needed. Tom indicated that he is approaching the time to step down as SC-3 Chair. It is uncertain whether Rebecca will be able to move up to the Chair position.

Tom reiterated that we all need to recruit new members and encourage our younger members to step up into leadership positions.

- **Leadership Telecons**

There were no Leadership telecons since the previous meeting.

- **NPEC Preparations**

A continental breakfast will be available starting at 8 am.

The NPEC meeting is scheduled to start at 9 am, in the Discovery ballroom and is scheduled to end at 5 PM. NPEC members can pay the NPEC meeting fee online, but not the SC/WG fee. ADCOM is working to update the form so that SC/WG fees can also be paid online.

### **4.0 IEEE P336 Balloting**

The ballot pool has been formed; the draft has been updated; and it is ready for upload. The deadline for getting the standard to Revcom is October 13, and depending on comment resolution / recirculation, we may need an extension. IEEE Mandatory Editorial Coordination (MEC) comments have been addressed.

### **5.0 Working Group Reports**

- **WG-3.1**

The status of P336 was presented in Item 4 above. The P336 PAR expires December 2020.

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IEEE 338 PAR expires in 2022. The WG is currently updating P338.

IEEE 1819 was published in 2016 and will need updating by 2026.

- **WG-3.2**

Tom reported that the WG Chair and Vice Chair have both retired. The last WG meeting was in Oct 2018, and a roster and working copy of P692 have been provided. It was hoped that the WG Secretary would accept the Chair position; however he declined subsequent to our January meeting. A new Chair is needed to reconstitute this WG. The PAR for P692 expires in 2022.

- **WG-3.3**

Khoi Nguyen has volunteered for the Chair of WG-3.3.

IEEE P577 is currently under revision. A working copy of IEEE 577 is on the iMeet workspace. The P577 PAR expires in 2022.

**ACTION:** WG to review bibliography. Consider breaking it into two parts – one for historical and one for current documents. [ACTION 19-2-C]

IEEE 933 expires in 2023; we need to prepare a PAR during the S20-2 meeting.

**ACTION:** Everyone should take a look at 933 and assess what changes might be needed. [Action 20-1-A]

IEEE 352 expires in 2026.

- **WG-3.4**

WG 3.4 is dormant. IEEE 1205 expires in 2024. Rebecca will reconstitute the WG next year.

## **6.0 Liaison Reports**

Liaison reports were provided as follows:

- NRC – Khoi provided highlights of his report; the full report is in Attachment 7.
- ASME – Craig Sellers provided a report to Tom Crawford and it is provided in Attachment 6.
- SCoRA – Kiang indicated that nothing specific has happened. The next meeting of SCORA is in February. Kiang will summarize the meeting in the S20-2 meeting.  
NOTE: SCoRA is the ASME/ANS Joint Committee on Nuclear Risk Management's (JCNRM) SubCommittee on Risk Application.

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## **7.0 Old Business**

- **Standards Status**

We are hoping to preview P577 during the 21-1 meeting. We need to develop a PAR for IEEE 933 during the 20-2 meeting. A copy of the updated SC-3 schedule is provided in Attachment 8. The current NPEC SC-3 Standards Schedule is provided in Attachment 5.

- **iMeet**

Action remains open for Rebecca to create a mini-tutorial on iMeet Central usage. Both her contact as well as IEEE iMeet contact information should be provided in case members need additional help. [ACTION 19-2-D].

## **8.0 New Business**

- **Potential NPEC Presentation**

NPEC has requested the SCs to make presentations to NPEC regarding SC concerns that are of general interest. Because the concepts of risk and risk-informed are new or foreign to many NPEC members, we discussed having Kiang make a presentation at the N21-1 meeting.

Several ideas and points to cover were brainstormed. The proposed title for the presentation was "Introduction to Risk Principles for Non-Practitioners". Kiang said that he would look at other presentations that he has made and pull together a draft presentation for discussion at the 20-2 SC-3 meeting.

Because continued emphasis is needed for these risk topics, the potential for additional presentations to NPEC and to other SCs exists.

## **9.0 Action Items**

The only identified action item is for all members to take a look at IEEE 933 and be ready to discuss what revisions are possible / recommended, for development of a PAR at 20-2 meeting. [Action 20-1-A]

\*\* Given the discussions about the potential risk presentation to NPEC, an additional action item should have been assigned to Kiang to pull together a draft presentation for discussion at SC-3 20-2 meeting..

The revised AI List is provided in Attachment 4.

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**10.0 Next Meeting**

It was announced after adjournment that the next meeting will be in Mystic CT either 13 – 15 July or 14 - 16 July 2020. Later, the Tues through Thurs schedule was selected for 14 – 16 July 2020.

**11.0 Adjournment**

John Beatty made motion for adjournment and Kiang seconded. The motion was approved by voice vote and the meeting was adjourned at 11:00 AM.

Prepared by Yvonne Williams & Tom Crawford

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iMeet Central SC-3 Workspace:

<https://iee-sa.imeetcentral.com/npecsc3/>

SC-3 Website information:

<http://sites.ieee.org/npec-sc3/>

NPEC Standards Website information:

<http://sites.ieee.org/pes-npec/npec-standards/>

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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	Attachment 8 SC-3 Standards Schedule	Attachment 9 IEEE Patent Slides
Attachment 10 IEEE Copyright Slides	Attachment 11	

## Agenda – Meeting 20-1 – Charlotte, NC

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

<b>Meeting Date/Time:</b>	Tuesday, 01/28/2020 0800-1200	<b>Chairman :</b>	Tom Crawford
		<b>Vice Chair:</b>	Rebecca Steinman
		<b>Secretary:</b>	

<b>Desired Outcomes:</b>	<ol style="list-style-type: none"> <li>1. Review status/activities of each SC Working Group</li> <li>2. Review status of membership and officers succession</li> <li>3. Update SC3 standards master schedule</li> </ol>
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WHAT	WHO	WHEN
Welcome, Review Desired Outcomes <ul style="list-style-type: none"> <li>• Meeting logistics</li> <li>• Patent Slides</li> <li>• Introductions</li> </ul>	T. Crawford All	0800 - 0815
Chairman's Introduction <ul style="list-style-type: none"> <li>• Opening remarks</li> <li>• Review/approve agenda</li> </ul>	T. Crawford	0815 - 0830
Secretary's Report <ul style="list-style-type: none"> <li>• Approval of SC3 19-2 Meeting Minutes</li> <li>• Action Item review/status</li> <li>• SC3 membership review</li> <li>• Alligator fund report</li> <li>• iMeet &amp; Website update</li> </ul>	T. Crawford	0830 - 0850
Chairman's Report <ul style="list-style-type: none"> <li>• SC3 Leadership – Officers and succession planning</li> <li>• Membership Status</li> <li>• NPEC meeting preparations &amp; agenda for tomorrow's meeting and future meetings</li> </ul>	T. Crawford	0850 - 0905
IEEE 336 Balloting Status / IEEE MEC Comments	P. Ward / Y. Williams	0905 - 0915
<b>BREAK</b>	All	0915 - 0940
Working Group Reports <ul style="list-style-type: none"> <li>• WG-3.1 (Testing) – 336 expires in 2020, 338 in 2022, 1819 in 2026</li> <li>• WG-3.2 (Security) – 692 expires in 2023</li> <li>• WG-3.3 (Reliability) – 577 expires in 2022, 933 in 2023, 352 in 2026</li> <li>• WG-3.4 (Aging) – 1205 expires in 2024</li> </ul>	P. Ward ?? ?? R. Steinman	0940 - 0950 0950 - 1000 1000 - 1010 1010 - 1020
Liaison Reports <ul style="list-style-type: none"> <li>• NRC Report</li> <li>• Other Risk-Informed Activities</li> </ul>	K. Nguyen K. Zee	1020 - 1030 1030 - 1040
Old Business <ul style="list-style-type: none"> <li>• Master schedule for Std review/updates</li> <li>• SC-3 website and iMeet Central accounts</li> </ul>	T. Crawford T. Crawford	1040- 1055 1055 - 1100
New Business/Rumor Mill/Drumbeats <ul style="list-style-type: none"> <li>• (TBD)</li> </ul>	T. Crawford	1100 - 1115
Review of Action Items	T. Crawford	1115 - 1125
Next meeting	T. Crawford	1125 - 1130
Meeting closeout/adjournment	T. Crawford	1130

**NPEC Subcommittee SC-3**  
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**Attendance**

Last	First	SC-3 Member	2018-1	2018-2	2019-1	2019-2	2020-1
<b>Ballassi</b>	<b>George</b>	X	X	X	X		
<b>Beatty</b>	<b>John</b>	X	X	X	X	X	X
<b>Channarasappa</b>	<b>Suresh</b>	X	X	X	X	X	X
<b>Crawford</b>	<b>Tom</b>	X	X	X	X	X	X
Heidarisafa	Hamid	C	T				
<b>Kulangara</b>	<b>Jacob</b>	X		T	X	X	X
Liming	Jim	C	Correspond	T			
<b>Melson</b>	<b>Kirk</b>	X		X	X	X	
<b>Muhtashemi</b>	<b>Ed</b>	X					
Napper	Joe	C					
<b>Nguyen</b>	<b>Khoi</b>	X			O	Appointed	X
Parello	Jim	C					O
<b>Pierce</b>	<b>Clint</b>	X	X	X	X	X	X
Riccio	Ted	H	X	X	X		Honorary
Sellers	Craig	C					
<b>Rivera</b>	<b>Jorge A. Cintron</b>				O	Appointed	Resigned
<b>Steinman</b>	<b>Rebecca</b>	X		X		X	
<b>Ward</b>	<b>Phil</b>	X			X	X	X
West	Khadija						X
<b>Williams</b>	<b>Yvonne</b>	X		X	X	X	X
<b>Zee</b>	<b>Kiang</b>	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			9	10	12	12	10
TOTAL NON-PAYING ATTENDEES			0	0	2	0	1
TOTAL TELECON PARTICIPANTS			2	3	0	0	0
TOTAL ATTENDEES			11	13	14	12	11
TOTAL SC-3 MEMBERS		13					



**Attachment 3**

**NPEC Subcommittee SC-3**

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**Alligator Fund**

The Alligator Fund is made up of voluntary contributions from SC-3 members to defray the cost of meeting rooms, refreshments, etc.

<b>Meeting</b>	<b>Beginning Balance</b>	<b>Meeting Contributions</b>	<b>Expenses</b>	<b>Ending Balance</b>
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
S16-2	\$906.36	\$0.00	\$0.00	\$906.36
S17-1	\$906.36	\$0.00	\$65.19	\$841.17
S17-2	\$841.17	\$0.00	\$51.08	\$790.09
S18-1	\$790.09	\$0.00	\$52.16	\$737.93
S18-2	\$737.93	\$0.00	\$0.00	\$737.93
S19-1	\$737.93	\$0.00	\$0.00	\$737.93
S19-2	\$737.93	\$50.00	\$50.00	\$737.93
S20-1	\$737.93	\$50.00	\$107.21	\$680.72

**Attachment 4**

**NPEC Subcommittee SC-3**  
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**Action Items List**

<b>Item No.</b>	<b>Subcommittee 3.0 Actions</b>	<b>Owner</b>	<b>Due Date</b>	<b>Closure Comments</b>
17-2-B	Submit at least one topic to the SC-3 chair that you as a SC member would like to see presented as a 1-hr SC-3 training/technical session at a future mtg.	All Members	Ongoing	S18-2: Keep this item open and reminder all members to contribute ideas. S19-2: Kiang Zee suggested generating a list of training topics based on the Q&A of the 19-02 NPEC presentation on integrating IEEE 1819 into other NPEC standards. All members encouraged to submit technical presentation topics. Hold item open.
19-2-A	Clean up corresponding membership list to remove anyone who has not directly corresponded with the SC in the last 2 years.	Crawford	20-1 mtg	Complete -- Sharon Honnicker and John Taylor have been dropped from Corresponding Member status.
19-2-B	Find a new WG-3.3 chair.	Crawford	Dec 2020	Complete -- Khoi Nguyen has volunteered to assume the Chair of WG-3.3.
19-2-C	Working Group 3.3 to review P577 bibliography. Consider breaking it into two parts – one for historical and one for current documents.	TBD	20-2 mtg	Review in progress as of 20-1 meeting. Members are to review highlighted items for the 20-2 meeting and determine whether or not to keep them as references.
19-2-D	Create a mini-tutorial/wikki on iMeet Central usage.	Steinman	Dec 2020	
19-2-E	Contact IEEE about developing social media content to solicit standards development volunteers.	Steinman	Oct 2020	Note: See IEEE PES Tech Activities presentation of 28 JAN 2020 to ADCOM by Shana Pepin of PES Resources group (Copy in SC-3 Secretary files on iMeet.
20-1-A	Members review current IEEE 933 revision and assess the magnitude of changes needed, in preparation for generating a PAR and planning future work activities.	Nguyen / all	20-2 mtg	

### SC-3 "Operations, Maintenance, Aging, Testing & Reliability"

Chair: Tom Crawford

PROJECT	Year	Standard Expiration	Re-Affirmation	PAR Expiration	TITLE	Regulatory Guide	Working Group	Chair	Cycle Year	20-01	20-02	21-01	Status/Comments
336	2010	2020		Dec-2020	IEEE Standard Installation, Inspection, and Testing Requirements for Power, Instrumentation, and Control Equipment at Nuclear Facilities	1.30 - 1972	1	P. Ward	9				PAR approved by ADCOM at 16-02 and submitted to RevCom. PAR approved by SB 9/22/16 Draft revision ready for Ballot; Ballot Pool has been formed.
338	2012	2022		Dec-2022	IEEE Standard Criteria for the Periodic Surveillance Testing of Nuclear Power Generating Station Safety Systems	1.118 - 1995	1	P. Ward	7				Published on 23 March 2012 PAR Approved 9/27/2018
352	2016	2026		N/A	IEEE Guide for General Principles of Reliability Analysis of Nuclear Power Generating Stations and Other Nuclear Facilities		3	K. Nguyen	3				Standard revision approved by SB Dec. 7, 2016 Standard revision approved by SB Sept, 2016
577	2012	2022		Dec-2022	IEEE Standard Requirements for Reliability Analysis in the Design and Operation of Safety Systems for Nuclear Power Generating Stations		3	K. Nguyen	7			Preview	Approved by SASB Aug. 30, 2012 Published on Oct. 19, 2012 PAR approved by Std Brd 3/8/2018
692	2013	2023		Dec-2022	IEEE Standard Criteria for Security Systems for Nuclear Power Generating Stations		2	Vacant	6				Issued by Sd bd Aug. 2013. Published on 30 Sept 2013 PAR approved 9/27/2018
933	2013	2023		N/A	IEEE Guide for Definition of Reliability Program Plans for Nuclear Generating Stations and Other Nuclear Facilities		3	K. Nguyen	6				Approved by SA BD on Dec. 11, 2013 Published 10 Jan 2014
1205	2014	2024		N/A	IEEE Guide for Assessing, Monitoring, and Mitigating Aging Effects on Class 1E Equipment used in Nuclear Power Generating Stations	1.218 - 2012	4	R. Steinman	5				Approved by SB March 27, 2014 Published 16 May 2014
1819	2016	2026		N/A	Standard for Risk-Informed Categorization and Treatment of Electrical Equipment in Nuclear Facilities		1	P. Ward	3				Approved by SB Sept 22, 2016

## Attachment 6

ASME Liaison Report  
January 2020

The OM Subcommittee Risk-Informed Activities (SC-RIA) has resolved all comments on OM Code, Subsection ISTE, "Risk-Informed Inservice Testing" Revision 4 and Subsection ISTE was balloted and approved by BNCS. Subsection ISTE is planned to be published in the 2020 edition of the OM Code.

SC-RIA is not meeting until active work for the subcommittee is identified.

Craig Sellers  
Chair Subcommittee Risk-Informed Activities

U.S. Nuclear Regulatory Commission (NRC) Liaison Report  
IEEE NPEC Meeting – January 2020

1. Operating Reactors

- a. Open Phase Condition (OPC) – On June 6, 2019, Nuclear Energy Institute (NEI) submitted Revision 3 to the voluntary industry initiative (VII) (ADAMS Accession No. ML19163A176), and subsequently submitted the accompanying guidance document, NEI 19-02 “Guidance for Assessing Open Phase Condition Implementation Using Risk Insights,” (ADAMS Accession No. ML19172A086) on June 20, 2019. Revision 3 of VII includes an option for not enabling the Open Phase Isolation System (OPIS) automatic functions based on assessing the change in risk between operating with automatic functions versus reliance on operator manual action to isolate a power supply affected by an OPC. The staff performed audits at Ginna and Nine Mile Point power stations to gather data and insights on how these two licensees are implementing the guidance contained in NEI 19-02. The staff is currently revising Temporary Instruction (TI) 194 to incorporate insights and lessons learned from these two audits. Revision 1 of TI-194 is expected to be issued in Q1 of 2020. This revision will be used to verify the adequacy of the VII Revision 3 implementation.
- b. Environmental Qualification (EQ) - Inspections are ongoing. NRC Inspection Procedure 71111.21N was revised in February 2019 to incorporate a new attachment, Attachment 2, that provides a detailed discussion on select topics in the EQ process (e.g., Arrhenius Methodology, validation of information in EQ reports, replacement requirements, and EQ files).
- c. The NRC is continuing its review of the Peach Bottom and Surry subsequent license renewal applications. The Turkey Point renewed license for 60-80 years was issued in December 2019.
- d. In a letter dated December 26, 2019 (Agencywide Documents Access and Management System (ADAMS), Accession No. ML19352E115) the NRC responded to NPEC letter dated October 15, 2019 requesting endorsement for a number of recently revised IEEE standards.

2. New Reactors

- a. NuScale Design Certification Review is ongoing. Phase 4, Advanced Safety Evaluation Report with no open items, was completed in December 2019. Phase 5, ACRS Review of Advanced SER with no open items, is ongoing.
- b. NRC has issued an Early Site Permit for Tennessee Valley Authority’s Clinch River site near Oak Ridge, TN. The NRC staff’s technical review of TVA’s application also covered issues such as how the site’s characteristics could affect plant safety and environmental protection considerations.
- c. Draft Regulatory Guide entitled “Guidance for a Technology-Inclusive, Risk-Informed, and Performance-Based Methodology to Inform the Licensing Basis and Content of Applications for Licenses, Certifications, and Approvals for Non-Light Water Reactors,” was published in April 2019.

### 3. Advanced Reactors

- a. The NRC is evaluating technical reports from multiple advanced reactor designs (i.e., pre-application stage).

### 4. Rulemaking

- a. On January 24, 2019, the NRC approved the Mitigation of Beyond Design Basis Events rule. The new rule has been issued as 10 CFR 50.155.

### 5. Research

- a. NRC's Office of Research is in the process of developing a Draft Regulatory Guide (RG) to endorse IEEE 741 (Appendix A related to Degraded Voltage and Loss-of-Voltage Relays). The staff expects to issue the draft RG for public comments during the third quarter of CY2020.
- b. RG 1.89 – ongoing periodic review was published December 2018. According to the periodic review, a revised Draft Guide (DG) was supposed to be issued for internal review by the end of the second quarter of FY2019 (April 2019). However, there has been an internal delay due to unexpected circumstances involving Office of Research staff. NRR has taken over ownership for this revision. A proposed DG was distributed to internal technical stakeholders for comment on September 30, 2019. The current plan is to release a DG for public comment by Spring of 2020.
- c. A proposed revision to RG 1.9, Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants, is under staff review. The NRC staff is considering endorsement of IEEE 387 in this revision. The staff is currently evaluating the feasibility of expanding the scope of RG 1.9 and expects to finalize the path forward during the first quarter of CY2020.
- d. DG 1328 was published in February 2019 (Proposed Revision 4 of RG 1.100, 'Seismic Qualification of Electrical Active Mechanical Equipment and Functional Qualification of Active Mechanical Equipment for Nuclear Power Plants'). The final RG 1.100, Revision 4 is expected to be published during the second quarter of CY2020.
- e. DG-1333 was published in April of 2018 (Proposed Revision 2 of RG 1.180, 'Evaluating Electromagnetic and Radio-Frequency Interference in Safety-Related Instrumentation and Control Systems'). This DG is currently in the concurrence process and nearing issuance.
- f. Regarding IEEE Std 1819-2016 "Standard for Risk-Informed Categorization and Treatment of Electrical Equipment in Nuclear Facilities," the staff is considering meeting internally during the first quarter of CY2020 to assess the feasibility for endorsing this standard.

### 6. Part 21 Reports

- a. The following Part 21 Reports were issued in the past 6 months (more information available on the NRC website under the Part 21 Reports webpage):

- i. 2020-01-00 - Inadequate Thread Modification on Selenium Surge Suppressors (EMD P/N 8403049)
- ii. 2019-37-00 - Interim Notification under 10 CFR Part 21 for Rosemount Model 1153 and 1154 Pressure Transmitters
- iii. 2019-36-00 - Interim 10 CFR 21 Report for Masoneilan Model 8005N Transducer
- iv. 2019-34-00 - Interim Report of a Deviation or Failure to Comply (GEH terminal board clip block, part number 228B2374P003)
- v. 2019-32-00 - Report No. 10 CFR21-0127, Rev. 0, EMD Fuel Injectors - Seized Plunger and Bushing
- vi. 2019-31-00 - Incorrectly Wired Socket Side Quick Disconnect Connectors
- vii. 2019-30-01 - GE Hitachi Primary Contact Finger Surface Defect
- viii. 2019-29-00 - Initial 10 CFR Part 21 Notification - F10 Series MCC Cubicle Stab Alignment - Ref: P21-10042019-1
- ix. 2019-28-00 - ITE/Gould J20M Coil Block Relay
- x. 2019-26-00 - Contactors Failing to Release/Open When De-energized
- xi. 2019-21-00 - Spectrum Technologies Control Power Transformers (Micron Model B150-2957-1) Written
- xii. 2019-21-00 - Spectrum Technologies Control Power Transformers (Micron Model B150-2957-1)
- xiii. 2019-19-01 - Signal Converter Transmitter Defects Update
- xiv. 2019-19-00 - Signal Converter Transmitter Defects
- xv. 2019-18-00 - Foxboro Weed N-E11 & N-E13 Series Transmitters Update
- xvi. 2019-18-00 - Foxboro Weed N-E11 & N-E13 Series Transmitters
- xvii. 2019-17-02 - GS2 Terry Turbine Introl Positioners - CW SAS Update
- xviii. 2019-17-01 - GS2 Terry Turbine Introl Positioners - CW SAS Initial Report
- xix. 2019-17-00 - GS2 Terry Turbine Introl Positioners
- xx. 2019-16-00 - Notification of Potential Defect Applicable to Hytork XL 1126 Pneumatic Actuator

#### 7. Generic Communications

- a. Information Notice (IN)-19-01- Inadequate Evaluation of Temporary Alterations
- b. IN-19-02 - Emergency Diesel Generator Excitation System Diode Failures

**Attachment 8**

**NPEC Subcommittee SC-3**

*Operations, Maintenance, Aging, Testing, and Reliability*

**SC-3 Standards Schedule**

	WG 3.1	WG 3.2	WG 3.3	WG 3.4
2017-1	336		352	
2017-2	336		577	
2018-1	336		577	
2018-2	336		577	
2019-1	336		577	
2019-2	338		577	
2020-1	338	692	577	
2020-2	338	692	577	
2021-1	338	692	933	1205
2021-2	338	692	933	1205
2022-1	338	692	933	1205
2022-2	338	692	933	1205
2023-1	1819	692	933	1205
2023-2	1819		352	
2024-1	1819		352	
2024-2	1819		352	
2025-1	1819		352	
2025-2	1819		352	
2026-1	336		352	
2026-2	336		352	
2027-1	336			
2027-2	336			
2028-1	336			
2028-2	336		577	
2028-1	338		577	
2028-2	338		577	
2028-1	338		577	
2028-2	338		577	
2029-1	338		577	
2029-2	338		577	

STD	Standard		Age as of: 07/31/2019	Time left (yrs)	PAR Expires
	Approved	Expires			
336	06/17/2010	06/17/2020	9.1	0.9	12/2020
338	02/06/2012	02/06/2022	7.5	2.5	12/2022
352	12/07/2016	12/07/2026	2.7	7.4	-
577	08/30/2012	08/30/2022	6.9	3.1	12/2022
692	08/23/2013	08/23/2023	5.9	4.1	12/2022
933	12/11/2013	12/11/2023	5.6	4.4	-
1205	03/27/2014	03/27/2024	5.3	4.7	-
1819	09/22/2016	09/22/2026	2.9	7.1	-

Balloting  
and  
Approval

Includes:

- 1 Preview, ballot pool, ballot, receive comments
- 2 Resolve comments, recirc
- 3 Submit to/ revcom approval/publish



# 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.



# 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**

# 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](mailto: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>



# 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.**

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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.

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## IEEE SA COPYRIGHT POLICY



NOVEMBER 2019



## INSTRUCTIONS FOR CHAIRS OF STANDARDS DEVELOPMENT ACTIVITIES

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At the beginning of each standards development meeting the chair or a designee is to:

- Show the following slides (or provide them beforehand)
- Advise the standards development group participants that:
  - IEEE SA's copyright policy is described in Clause 7 of the IEEE SA Standards Board Bylaws and Clause 6.1 of the IEEE SA Standards Board Operations Manual;
  - Any material submitted during standards development, whether verbal, recorded, or in written form, is a Contribution and shall comply with the IEEE SA Copyright Policy;
  - Instruct the Secretary to record in the minutes of the relevant meeting:
    - That the foregoing information was provided and that the copyright slides were shown (or provided beforehand).

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## IEEE SA COPYRIGHT POLICY

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- The IEEE SA Copyright Policy is described in the IEEE SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual
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    - Clause 7 of the IEEE SA Standards Board Bylaws  
<https://standards.ieee.org/about/policies/bylaws/sect6-7.html#7>
    - Clause 6.1 of the IEEE SA Standards Board Operations Manual  
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  - <http://standards.ieee.org/faqs/copyrights.html/>
- IEEE SA Best Practices for IEEE Standards Development
  - [http://standards.ieee.org/develop/policies/best\\_practices\\_for\\_ieee\\_standards\\_development\\_051215.pdf](http://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf)
- Distribution of Draft Standards (see 6.1.3 of the SASB Operations Manual)
  - <https://standards.ieee.org/about/policies/opman/sect6.html>