

Monday-Tuesday, January 24 - 25, 2011
Scottsdale, AZ

Members Present:	Gopal Aravapalli	Singh Matharu
	George Ballassi	Kirk Melson
	John Beatty	Joe Napper
	Suresh Channarasappa	Jim Parello
	Tom Crawford	Ted Riccio
	Sharon Honecker	Mansoor Sanwarwalla (Chair)
	Dave Horvath	Glen Schinzel
	Jacob Kulangara	Rebecca Steinman (Tuesday)
	Bob Lane	Yvonne Williams (Secretary)
	Jim Liming (Vice Chair)	
Members Absent:	Rachel Gunnett	Owen Scott
	Hamid Heidarisaafa	John Stevens
	Peter Kang	Kiang Zee
Guests:	Tom Carrier	Phil McClure (Monday only)
	Soo Kim	

1.0 Welcome and Desired Outcomes

Chair Mansoor Sanwarwalla called the meeting to order at 1:33 pm. He identified that the desired outcomes for the meeting include preview of IEEE 338 and a presentation of the proposed revised model for maintenance of the standards. The attendees introduced themselves. The rolling attendance is provided as an attachment.

We need to start working on how the various working groups will work during the SC-3 meetings. We now have three WGs actively involved in standards work, and the membership for the WGs and the time available for them to meet need to be re-examined to avoid conflicts and loss of time. Options include:

- WGs meet Monday/Tuesday around the SC-3 meeting and Wednesday (means an added room and that NPEC members miss Wednesday WG meeting)
- Continue the WGs meeting Monday/Tuesday around the SC-3 meeting, breaking up into 2-3 groups (complicated when persons are members of multiple WGs)
- Meet on Thursday for leftover work, or for individual WGs (which Jim P. noted is what SC-2 does)

Other approaches include seeing if the SC-3 meeting can be shortened, ensuring that agendas are followed to maximize productivity, and working evenings. Another possible option could be to see if the NPEC meeting can be shifted to Thursday, leaving three days for the SC and WG meetings.

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For efficiency of the meeting time, the issues requiring face-to-face discussions should be included in the meetings, and items that can be accomplished by email or phone calls should be handled by email or phone.

2.0 Chairman's Introduction (Mansoor)

With the succession, the position of Chair has moved from Glen Schinzel to Mansoor. Having just come into the Secretary role two meetings ago, Yvonne elected to stay in that role for the remainder of the two-year cycle. Jim Liming volunteered and was nominated by Mansoor for the Vice Chair position, acclaimed by the membership.

The Chairs of the Working Groups are Ted Riccio (3.1), Dave Horvath (3.2), Jim Liming (3.3) and Rebecca Steinman (3.4). The subcommittee has several members that are members of NPEC, including past or current officers of NPEC.

The proposed agenda was reviewed. Dave H. made motion to approve the agenda as presented, George B. seconded, and the motion was passed. The agenda is included as an attachment.

3.0 Secretary's Report (Yvonne)

The draft meeting minutes from the 10-02 meeting were provided via email prior to the meeting. There was some discussion about what to include in the meeting minutes, with essentially no changes proposed. No corrections to the minutes were identified. George B. made motion to accept the minutes as presented, Dave H. seconded, and the motion was passed.

While members were given the opportunity to review the meeting minutes, Yvonne identified that Rebecca Steinman has volunteered to update the SC-3 website and the WG websites. The updates planned include:

- roster spreadsheet (in Excel file for easy use)
- email addresses in Word file for easy use
- meeting minutes and attachments, in combined pdf file
- for upcoming meetings, hotel information and agenda when available
- standards status / schedule spreadsheet
- presentations available separately, with indication of which meeting
- standards and PARs

The action items list from meeting 10-2 was reviewed. Summaries of the open items are below:

10-2-A Ali Daneshpooy, Craig Sellers and Barry Sloane have been removed from the SC-3 membership roster by Yvonne. Glen's action to advise them of this action is open. It was identified that Craig and Ali want to be corresponding members of WGs 3.1 and 3.3. Since the last meeting, Kiang Zee has identified that he is unable to continue as a member, but that Tom Carrier has agreed to provide support to the efforts. On that basis, with Tom known to several of the members, WGs 3.1 and 3.3 welcomed Tom to membership. Rachel Gunnnett has also identified that she is unable to continue as a member.

10-2-B Separating people on the roster has been accomplished, and is closed.

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10-2-C The problem of expensive screens for the meetings has essentially been solved. The Secretary will continue to investigate the possibility of a free screen with the hotel, but that will generally not be an option. George B. brought a sheet and means of hanging the sheet on the wall, and that option will work for the meetings.

10-2-D The name of SC-3 and the difficulties in changing it were discussed. It was agreed that we need to go back to the official NPEC name -- Operating, Maintenance, Aging, Testing and Reliability. Action now closed. Anyone responsible for any document or file for the SC needs to ensure that this name is used.

10-2-E The Operations Manual discussion was deferred to later in the meeting.

10-2-F The standards status / schedule spreadsheet is an ongoing action. It was noted that the spreadsheet provided for inclusion in the 10-2 minutes did not have information for the new standard, 1819. Mansoor will provide the updated spreadsheet for this meeting.

10-2-G The point of getting feedback from NRMCC via NPEC to SC-3 is to get that feedback to us. This will be an ongoing action.

10-2-H lapel pins -- no interest. Closed.

The SC-3 membership roster is the one that was passed around to indicate attendance at the meeting. The full membership of SC-3 is shown first, then the corresponding member (John Taylor), then the guests / prospective members. Because it is useful to have SC and WG information all in the same file, Yvonne volunteered to put the persons in WGs but not in the SC into the spreadsheet. She will update the file for the various changes in membership noted above, as well as WG membership only, and send out for individuals to review/update. It will then be posted on the website.

Alligator fund report -- The balance is approximately \$484. The coffee and tea order for Tuesday morning was discussed, and it was decided that it was not necessary. The remaining expense for the meeting is to reimburse George for the "screen." The collection for the meeting will be \$10 each. The alligator fund report is provided as an attachment.

4.0 IEEE Standards Association Briefing -- Proposed Model for Maintenance of IEEE Standards

Soo Kim has taken Matt Celia's place as our interface with the Standards Association. Her email address is _____, phone number _____. The presentation that she gave is available on the SC-3 website; it covered the existing rules and the proposed rules.

Our standards are not eligible for stabilization, in general, because they are related to safety. Archived / withdrawn standards are those that are no longer maintained. Right now, this proposed model is a proposal. It is eliminating the reaffirmation process, so the only options are revisions or withdrawals. The ANSI process is ten years, with no extensions -- revise or withdraw. Dave H. noted that in Power, the issues do not change rapidly. Plants have standards

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in their licensing basis and there are costs and regulatory impacts to change these commitments. Updates that have technical basis are appropriate, but cycling for the sake of cycling does not make sense. Standards with high-level requirements do not need to be changed in general; revisions for the sake of revision do not make sense. We have been beat up for wanting to update references, and yet this proposal says to update references, or even to just update the revision date of the standard. Intervenors also would use updated standards as a reason to challenge the plants. Ten year revisions also would make it hard to maintain the WG interest and membership. Should we have comments or suggestions, Soo encouraged us to make those known via email to Satish and/or to the Dave Ringle (sender of the email providing the proposal).

In response to questions from the SC members:

- AudCom is going to do a random audit of the Working Group procedures. In the Standards Association, the WGs have status (not the Subcommittees). The WGs need policies and procedures; these can be part of the SC OPM. Some discussion seemed to indicate that NPEC needs to approve the OPM.
- What to do when the ballot pool is indicated as not properly balanced? The reason that a ballot pool is indicated as not properly balanced is when any one category has more than 50% of the ballot pool. The resolution can be as simple as having individuals re-examine the accuracy of their category for that standard. When the categories are changed and the category no longer has 50% of the balloters, then the flag goes away and the ballot process can continue.

5.0 Chairman's Report (Mansoor)

The leadership of SC-3 for the next two years is now established as Mansoor as Chair, Jim Liming as Vice-Chair, and Yvonne as Secretary. In general, the succession plan in the OPM is that the Secretary transitions to Vice-Chair, the Vice-Chair transitions to Chair, and a new Secretary is named. Mansoor noted that the OPM is silent on how the Secretary is chosen, and this addition is seen as needed for the OPM.

Mansoor identified that an alternate secretary may be advisable. NPEC is doing this, under the title assistant secretary. Both people take notes. After discussion, it was decided to make no changes.

Leadership telecons of the SC-3 officers and the WG chairs are held between the SC-3 meetings. These telecons are effective at keeping a pulse on the activities, tracking the action items, and ensuring that they are moving forward. The telecons also deal with projector screens and refreshments.

Regarding the status of PARs, ADCOM recently approved the PAR for 1205, and it is on its way to RevCOM. A PAR needs to be developed for IEEE 352 to get that revision process started. ADCOM is supporting timely processing, using emails for PAR submittals, distribution for review / comment, and approval. Paul Yanosy is the coordinator for that effort.

The standards status spreadsheet is with Mansoor for maintenance and update. For IEEE 692, Satish wants a PAR, and has indicated that there are some comments within NRC and potentially

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some insights from IAEA as well (so far not shared). The status of each of the standards was gone through to identify what needs to happen and when; several corrections were made.

6.0 Vice-Chair's Report (Mansoor for leftovers)

The responsibility for updating the Operations Manual (more correctly the SC-3 Organization and Procedures Manual or OPM) was assigned by Glen to Mansoor as Vice-Chair. That update was approved at the last meeting, but there are outstanding issues and comments (e.g., how the Secretary is chosen above). Additionally, the policies and procedures effective for the WGs need to be addressed. After discussion, it was agreed that the policies and procedures for the WGs would be included in the SC-3 OPM, rather than in separate documents.

As incoming Vice-Chair, Jim L. will be taking over for maintenance of the OPM. Mansoor has the SC-4 / WG draft document and will provide that draft for assistance, as well as other associated files (e.g., SC-4 draft). Jim P., Yvonne and Tom Crawford volunteered to assist in the update effort. At the next meeting, the subcommittee will review the proposed changes.

There is some disconnect as to the NPEC rules and the SA rules; this is one issue for the update. Other issues include how the SC-3 secretary is determined.

7.0 IEEE 338 (Ted)

Ted went through his preview presentation on the IEEE 338 draft. Comments were provided to Ted for incorporation into the presentation to NPEC. Dave H. made motion that the draft be approved for presentation to NPEC, George seconded, and the motion passed. The presentation is available on the SC-3 website.

8.0 Ex Officio Report (George - NPEC insights)

In NPEC, there is much interest in international collaboration with IEC, especially in the SC-2 (qualification) standards. This collaboration will be a significant effort; Satish is very interested in pursuing international cooperation.

Discussions came up again about the WG procedures with input from Jim Parello; the issue is significant because we are auditable to them. Apparently there are policies and procedures from the Standards Association, but those directions are not considered appropriate by PES and/or NPEC. The NPEC procedures are apparently approved, but no one could identify by whom. Since the WG policies and procedures must be revamped to conform to higher guidelines, it is significant to know what higher guidelines are governing. What is also not clear is where the guidelines from both SA and Tech Council / PES / NPEC can be found.

Another question was whether there is an updated standards style manual. [Based on looking at the SA website 2-21-2011, there is no change. The 2009 version is still in effect.]

9.0 Working Group Reports

WG 3.1 status was provided by Ted. The WG is currently active, with IEEE 336 revision just having been published, IEEE 338 draft revision approved by SC-3 for submittal to NPEC for approval to ballot, and P1819 draft in progress.

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WG 3.2 status was provided by Dave H. The 692 standard was published in 2010. As indicated earlier, a potential PAR is needed to address NRC comments.

WG 3.3 status was provided by Jim L. The WG is active, with a PAR for revision of IEEE 352 being prepared, and the revision of IEEE 577 being prepared for recirculation ballot. The revision of IEEE 933 has been submitted for legal and editorial comments, the ballot pool has been balanced now, and the move to ballot is going forward.

[The meeting was suspended at 5:00 pm Monday and resumed at 7:30 am Tuesday.]

WG 3.4 status was provided by Rebecca. The WG has been reassembled and is having its first face-to-face meeting later today. The PAR for the revision of IEEE 1205 is on the AdCOM agenda for approval today. The main change is identified as an expansion of scope, to electrical equipment in general rather than limiting to safety equipment. Rebecca is trying to get more utility representatives in the WG; there are four currently.

10.0 Liaison Reports

The ASME liaison report was provided by Glen, and is provided as an attachment. It was noted that ASME does not have an obligated 5 year review and revise/reaffirm process. The CNRM and NRMCC may be combined later this year into the Joint Committee on Nuclear Risk Management. George is a member of NRMCC (as Vice Chair of NPEC) but has not been to a meeting yet.

Jacob asked if there are any categorization guidelines in ASME documents. Glen indicated that CNRM is looking at doing a categorization document, but it will not touch any electrical equipment. Jim L. asked whether ASME is looking to risk-inform their standards across the board; the response was no. Yvonne asked whether the ANSI time period applied to ASME standards; Glen does not know the answer to this. However, as indicated, ASME continually reviews the standards to ensure that standards address the industry needs.

The NRC liaison report was provided by Singh, since Peter was unable to attend. The report is attached. One significant point raised as a comment by Ted is that ventilation and cooling are key points in the PRAs. The technical session schedule for the RIC meetings is also attached.

11.0 Old Business

The master schedule for SC-3 standards review and updates needs to be updated to reflect current dates and status. In particular, P1819 has not been included so far. Mansoor has the lead, with inputs from the WG chairs.

12.0 New Business

Rebecca has volunteered to update the websites for SC-3 (and for the WGs as well). Material to be posted to the websites should be provided to her. Comments and suggestions for the website should be discussed with her as well.

The organization and setups for the SC-3 and WG meetings were discussed. The WGs are currently very busy. Efforts need to be made to conduct WG business outside these meetings as well. The work of the WGs is complicated by SC-3 members being members of more than one

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WG, usually two and sometimes three. Members may need to limit their membership in the WGs to allow the WGs to split up and get the work done. It appears that additional members are needed to support the WG activities. After discussion, it was determined that the WG chairs would get together and develop an approach to meeting the needs of the WGs within the time constraints.

The membership roster was discussed. The spreadsheet form is seen as more useful to the members (compared to separate Word documents). The indication of membership in the different WGs is seen as valuable information. To give the most usefulness, Yvonne will add the WG members (not in SC-3) to the spreadsheet as well. She will then send the spreadsheet out to all persons listed to ensure accurate information, and that spreadsheet will then be posted to the website.

As the chair of WG 3.4, Rebecca needs to be a member of SC-3. She was acclaimed as a member of the subcommittee by the members.

An email had been sent out asking for tutorials for the PES meeting this summer; the question becomes whether tutorials are something that the SC wants to pursue at all. Concerns about tutorials include the large fee that is charged for attending the meeting and the long lead time before it is presented. Possibilities for tutorials might include P1819, reliability principles, and online monitoring for aging of components. Mansoor indicated that if someone is interested in developing a tutorial, then that would be fine. Any interest or participation in a PES meeting should be cleared through NPEC as well.

13.0 Action Items (Yvonne)

The action item list is provided as an attachment.

As Soo Kim noted, comments are due to IEEE on the proposed changes for maintenance of standards. George and Dave H. will initiate that effort and circulate around to the SC-3 members for input. The comments are due Feb 28 to the Standards Association representative (Dave Ringle). Points were identified in Dave Ringle's email and those seem to George to be the salient points. It appears that the impacts on the industry and the working groups have not been identified as yet, and those are the concerns. For example, issuance of a standard to just update the dates on the references is an identified reason for reissuance. Yvonne will send out the presentation file from Soo and the email sent from Ringle; George and Dave H. will provide other information for member review. The comments should be sent to George and Dave.

Feedback to SC-3 from NRMCC will be provided by George as NPEC Vice Chair; therefore item 10-2-G is considered ongoing.

14.0 Next Meeting Information

11-2 July 25-26, followed by NPEC July 27, in Dana Point, CA; Marriott Hotel. Meeting information was provided. People are encouraged to get reservations made.

12-1 San Antonio, TX

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12-2 July 24-26, San Diego, CA - Human Factors and Power Plants Conference in conjunction with ANS/NPIC & HMIT Conference (will be crowded in several hotels)

George indicated that in 2013 he will be Chair of NPEC and will be able to name Mystic, Connecticut as the site for 13-2 meeting.

15.0 Adjournment

The business of the SC being completed, Dave H. motioned that the meeting be adjourned, Jim L. seconded, and the motion passed. The meeting was adjourned at 9:00 am.

16.0 Re-Opening for PAR 352

During the WG 3.3 meeting Tuesday, a draft PAR was developed for submittal to AdCOM that afternoon. The WG membership approved that draft PAR. The SC-3 meeting was re-opened so that the SC-3 membership could review and approve the PAR. Mansoor made a motion to approve the PAR, George seconded. The motion passed and the PAR was approved for submittal to AdCOM.

Prepared by Yvonne Williams SC-3 Secretary.

SC-3 Website information:








<http://grouper.ieee.org/groups/npec/private/sc3/sc-3.html>

login name: npec password: nukestd09

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ATTACHMENTS

Double-click on the icons to bring up the attachment

Attachment 1 Agenda	Attachment 2 Rolling Attendance	Attachment 3 Alligator Fund
 SC3 Agenda_1101.doc	 SC3 Rolling Attendance 11-01.pdf	 11-1 alligator fund.xls
Attachment 4 Action Items	Attachment 5 ASME Liaison Report	Attachment 6 NRC Liaison Report
 11-01 action items.pdf		 IEEE NRC Liaison Report.doc
Attachment 7 RIC Meeting Schedule	Attachment 8 Roster	
 RIC technical-session-sch	 Roster spreadsheet 2011-01 post meeting	

Agenda – Meeting 11-01

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

Meeting Date/Time:	Mon, 1/24/11 1330-1700 MST Tues, 1/25/11 0730-1000 MST	Chairman :	Mansoor Sanwarwalla
		Secretary:	Yvonne Williams

Desired Outcomes:	<ol style="list-style-type: none"> 1. Review status/activities of each SC Working Group 2. Approve 338 to go to NPEC for balloting 3. Update SC3 Std master schedule 4. Understand proposed changes for revision to IEEE Standards
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WHAT (content)	WHO	WHEN (minutes)
Welcome, Review Desired Outcomes <ul style="list-style-type: none"> • Meeting logistics • Introductions 	M. Sanwarwalla All	1330-1345
Chairman's Introduction <ul style="list-style-type: none"> • Opening remarks • Review/approve agenda 	M. Sanwarwalla	1345-1400
Secretary's Report <ul style="list-style-type: none"> • Approval of SC3 10-02 Meeting Minutes • Action Item review/status • SC3 membership review • Alligator fund report 	Y. Williams	1400-1430
Chairman's Report <ul style="list-style-type: none"> • SC3 Leadership review – succession planning • Leadership telecons • PAR status • NPEC meeting preparations 	M. Sanwarwalla	1430-1445
Vice Chairman's Report <ul style="list-style-type: none"> • Operations Manual 		1445-1500
BREAK	All	1500-1510
Ex-Officio Report <ul style="list-style-type: none"> • Insights from NPEC 	G Ballassi	1510-1525
IEEE Standard Committee Briefing <ul style="list-style-type: none"> • Proposed Model for Maintenance of IEEE Standards 	Soo Kim/ G. Ballasi	1525-1600
IEEE-338 <ul style="list-style-type: none"> • Review/approve document to be forwarded to NPEC for balloting • Review the preview slide presentation 	T Riccio	1600-1630 1630-1700
BREAK FOR DAY	All	
Working Group Reports <ul style="list-style-type: none"> • WG-3.1 (Testing) • WG-3.2 (Security) • WG-3.3 (Reliability) • WG-3.4 (Aging) 	T Riccio D Horvath J Liming R. Steinman	0730-0740 0740-0750 0750-0800 0800-0810
Liaison Reports <ul style="list-style-type: none"> • NRC Report 	P Kang	0810-0815

Attachment 1	WHAT (content)	WHO	WHEN (minutes)
	<ul style="list-style-type: none"> ASME Report 	G Schinzel	0815-0820
Old Business	<ul style="list-style-type: none"> Master schedule for Std review/updates 	All	0820-0830 0830-0900
BREAK		All	0900-0910
New Business	<ul style="list-style-type: none"> As needed 	All	0910-0920
Review of Action Items		Y. Williams	0920-0930
Next meeting date/location		M. Sanwarwalla	0930-0935
Meeting closeout/adjournment		M. Sanwarwalla	0935-0940

Attendance at SC-3 Meetings

Last	First	2009-01	2009-02	2010-01	2010-02	2011-01
Aravapalli	Gopal	x	x	x	x	x
Ballassi	George	x	x	x	x	x
Beatty	John	x	x	x	x	x
Carrier	Tom					x
Channarasappa	Suresh		x	x	x	x
Crawford	Tom	x	x		x	x
Gradin	Larry		x			
Gunnett	Rachel	x	x			
Heidarisaifa	Hamid	x	x	x		
Honecker	Sharon	x	x	x	x	x
Horvath	Dave	x		x		x
Kang	Peter		x	x	x	
Koshy	Tom			x		
Kulangara	Jacob			x		x
Lane	Bob			x		x
Liming	Jim	x	x	x	x	x
Lynn	Kevin			x		
Matharu	Singh			x	x	x
Melson	Kirk		x	x	x	x
Miller	Ken	x				
Napper	Joe		x	x	x	x
Parello	Jim	x	x	x	x	x
Phan	Hanh				x	
Riccio	Ted	x	x	x	x	x
Rusaw	Richard			x		
Sanwarwalla	Mansoor	x	x	x		x
Schinzel	Glen		x	x	x	x
Scott	Owen		x			
Sloane	Barry	x				
Steinmann	Rebecca					x
Stevens	John	x	x			
Taylor	John					
Williams	Yvonne	x	x	x	x	x
Wylie	Mike				x	
Zee	Kiang		x			
members in bold as of end of 11-1 meeting						
TOTAL ATTENDEES		17	21	22	17	20

NPEC Subcommittee SC-3

Operating, Maintenance, Aging, Testing and Reliability

Alligator Fund

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

Meeting	Beginning Balance	Meeting Contributions	Expenses	Ending Balance
S05-1	\$312.14	\$207.18	\$359.82	\$159.50
S05-2	\$159.50	\$240.00	\$0.00	\$399.50
S06-1	\$399.50	\$220.00	\$178.67	\$440.83
S06-2	\$440.83	\$160.00	\$335.00	\$265.83
S07-1	\$265.83	\$200.00	\$201.70	\$264.13
S07-2	\$264.13	\$600.00	\$340.87	\$523.26
S08-1	\$523.26	\$300.00	\$347.80	\$475.46
S08-2	\$475.46	\$320.00	\$386.26	\$409.20
S09-1	\$409.20	\$180.00	\$12.00	\$577.20
S09-2	\$577.20	\$210.00	\$92.54	\$694.66
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

Attachment 4

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Action Items List

Item No.	Subcommittee 3.0 Actions	Owner	Due Date	Closure Comments
10-2-A	Email to Ali Daneshpooy, Barry Sloane and Craig Sellers regarding SC3 membership -- removed as members based on lack of attendance. If they want to be restored, need to demonstrate participation.	Yvonne / Glen	After 10-2 meeting	remove from roster - Yvonne / Closed (but will be added back in as corresponding members of WG 3.1 and 3.3) Notify people of removal - Glen
10-2-B	Segregate member / corresponding member / honorary members in rosters	Yvonne	After 10-2 meeting	closed - see roster
10-2-C	Investigate options for projection screen for meetings	Yvonne	For discussion at 11-1 meeting	Closed - Secretary will continue to ask about low-cost screen from hotel, but sheet will work as screen
10-2-D	Get SC3 name changed on NPEC subcommittees list on website (and on SC 3 site thru Rachel) NPEC website - John MacDonald? OPM/stds status - Operations, Surveillance, Aging, Reliability and Testing NPEC website - Operations, Maintenance, Aging, Testing & Reliability NPEC letterhead - Operations, Surveillance, Reliability and Testing	Yvonne, but some issues identified in 8/12 leadership telecon - see comments	discuss again at 11-1 meeting	Closed -- too complicated to get name changed -- go back to Operating, Maintenance, Aging, Testing and Reliability
10-2-E	Operations Manual A. Get current version out to SC3 membership, leaving Rev 1 changes available in document thru "track changes", for more comments and suggestions B. Update for conformance with IEEE guides and policies (e.g. WG requirements, SA Baseline Operating Procedures) C. Form subgroup to get to Rev 2 for discussion at 11-1 meeting (J. Parello + others) - see item 10 in 10-2 minutes also D. Consider adding Gopal's NPEC / SC-3 chart as an appendix	Mansoor -- changed to Jim Liming (all to review Rev 1 for more comments and suggestions when sent out)	Ongoing effort	A. Rev 1 clean and track changes pdf files sent to membership 10/26/10 by Mansoor - completed B /C /D. Action reassigned to Jim Liming as incoming Vice Chair, needs to happen before 11-2 meeting. Committee was formed to assist Jim (Tom, Yvonne, Jim Parello).
10-2-F	Standards status / schedule - update for meeting minutes and send to all SC3 members -- ensure 1819 is included in list	Mansoor	Ongoing effort	Mansoor to update spreadsheet based on discussions in 11-01 meeting and to include 1819
10-2-G	See if feedback from NRMCC via NPEC VC is useful and appropriate	Glen	Ongoing effort	Ongoing effort -- through NPEC Vice Chair -- Closed
10-2-H	lapel pins	tabled from 10-2 meeting		Closed at 11-01 meeting -- no interest
11-1-A	Discuss meeting arrangements for the WGs within the available time and come up with a plan for 11-2 meeting	WG chairs	by end of April 2011	
11-1-B	Provide comments to IEEE on proposed change to maintenance cycle for standards (as SC-3 comments), based on feedback from members	George / Dave	end of February - to Dave Ringle	
11-1-C	Investigate whether a PAR is needed to address NRC (Satish) concerns on 692	Dave H	11-02 meeting	
11-1-D	SC-3 website update -- update information, add documents from Secretary	Rebecca	Ongoing effort	

NRC LIAISON REPORT

OFFICE OF NEW REACTORS (NRO) US NUCLEAR REGULATORY COMMISSION January 24-25, 2011

US NRC Activities

Extended Power Uprate

Florida Power & Light (FPL) submitted an application for an extended power uprate for St. Lucie, Unit No. 1. After the staff performed an acceptance review and notified the licensee of the information insufficiencies, FPL supplemented their application. The staff determined that the licensee's submittal was unacceptable for review due to the absence of information to address identified safety concerns. FPL withdrew the application on August 13, 2010.

License Renewal

Duane Arnold On December 16, 2010, the operating license for Duane Arnold Energy Center was renewed authorizing operation for an additional 20 years. The new license will expire on February 21, 2034. Office Director Eric Leeds presented the commemorative certificate and the renewed operating license to the applicant during a signing ceremony held at Headquarters.

Cooper Nuclear Station The operating license for Cooper Nuclear Station was renewed authorizing operation for an additional 20 years. Office Director Eric Leeds presented the commemorative certificate and the renewed operating license to the applicant during a signing ceremony held on November 29, 2010. The new expiration date is January 18, 2034.

Susquehanna Steam Electric Station, Units 1 and 2 On November 24, 2009, the staff issued the renewed operating licenses for Susquehanna Steam Electric Station, Units 1 and 2, authorizing operation for an additional 20 years beyond the original license expiration date. The new expiration date is July 17, 2042, for Unit 1 and March 23, 2044, for Unit 2. The license renewal of Susquehanna Unit 1 and 2 brings the total to 59 completed renewals

NRC Issues Final Safety Evaluation Report For Palo Verde Station Relicensing. According to a Phoenix newspaper, "Palo Verde Nuclear Generating Station has received a completed safety check" and "clears a hurdle in its quest for an extended license." The NRC issued its "final safety evaluation report earlier this week and found no open safety items that would affect its approval." The "report, which documents the NRC's site visits and inspections, is required as part of the license-renewal process" and it will be "forwarded on to the Advisory Committee on Reactor Safeguards," which is "scheduled to decide whether to move the report forward at a meeting Feb. 10-12."

NRC May Lift Added Oversight At Oconee Station. The increased federal oversight due to past safety concerns at Oconee Nuclear Station could be lifted after Nuclear Regulatory Commission and Duke Energy officials meet next week to discuss corrective actions that have been taken." Though plant officials contend there was no "threat to public safety or workers," the NRC "found that Duke Energy's failure to ensure that the standby shutdown systems remained

operable had substantial safety significance and required added inspections and other oversight." If the NRC says Duke's corrective actions are "sufficient, oversight and inspection at Oconee will return to normal levels, according to an NRC statement released on January 20, 2011 ."

ACRS Says Westinghouse AP1000 Reactor Design Could Withstand Airliner Crash. "A new nuclear reactor from the Westinghouse Electric Co. could safely withstand getting struck by a large commercial airliner, a federal advisory panel said on January 20, 2011. The finding by the Advisory Committee on Reactor Safeguards means regulators could decide this year whether to give final approval to the company's AP1000 reactor, which utility companies have picked to power new plants in the Southeast." ACRS members decided last month to "separately evaluate whether the AP1000 meets rules requiring that reactors be able to survive an airplane strike." If "a plane hits the reactor, the plant's containment vessel -- which shields a container holding highly radioactive nuclear fuel rods -- would remain intact, ACRS chairman Said Abdel-Khalik said in a letter. The panel also determined that crash damage would not cause the nuclear reactor to overheat and result in a radioactive release, and the pools used to cool spent nuclear fuel rods would not fail."

Small Modular Reactors May Jumpstart Nuclear Renaissance. In an analysis piece for [National Review Online](#) (1/20) energy writer Carl Shockley reports on the prospects for small modular reactors to rejuvenate the future of nuclear power. The arrival of the "Tea Party in Washington," may set back expensive nuclear reactor projects, because, as "virtually everyone in the nuclear industry says," it "will be impossible to build any new reactors without loan guarantees from the federal government. 'We had all the output from our new uranium-enrichment plant in Idaho sold in advance, and we still couldn't get any investment money without a federal loan guarantee,' says Mike Rencheck, COO of Areva, the French nuclear giant." But, such a plan "constitutes the dilemma for the Tea Party," which wants "new energy sources, but they also want to cut industry's reliance on government." Shockley says American ingenuity "has once again come up with a potential solution," in the form of Small Modular Reactors.

ANS Head Talks Up Development Of Small Modular Reactors. The [Columbia \(SC\) State](#) (1/21, Wilkinson) reports, "South Carolina has a chance to lead the world in the development of mini nuclear reactors, the president-elect of the American Nuclear Society said during a swing through Columbia on Thursday." Critics still oppose "the Small Modular Reactors, or SMRs as they are called," because they "still produce nuclear waste that would have to be disposed of." But SMRs could "be buried in the ground and provide enough energy for the equivalent of 20,000 to 100,000 homes, and would be moved to another site after cooling off for several months." In an appearance at USC's school of engineering, Eric Loewen said the "state that chooses to put the first SMR (in use) will set the pace for the world."

Ameren might seek early site permit for Callaway-2 Ameren is considering applying to NRC for an early site permit for a new nuclear unit at its Callaway plant in Missouri, if it is allowed by state law to recover costs of acquiring the permit, Ameren spokesman Michael Cleary said in a January 20 interview.

NRC's review of the company's July 2008 application for a combined construction permit-operating license, or COL, for Callaway-2 was suspended in June 2009 at Ameren's request after the Missouri state legislature failed to adopt legislation allowing costs of such projects to be recovered during construction. Legislation introduced in the Missouri General Assembly this month, SB 50 and HB 124, would, according to the bills' description, allow "electric companies

to recover costs from ratepayers associated with early site development for certain electrical generation facilities."

If approved, the legislation would allow cost recovery for ESP applications but not recovery of costs during construction, Cleary said. An ESP represents NRC staff's finding that a site is suitable for nuclear power reactor construction. The permit is valid for 10 to 20 years from the date of issuance and can be renewed for an additional 10 to 20 years. No decision has been made, however, by Ameren and its partners on whether to build Callaway-2, he said.

Qualification of ESBWR & AP1000 Extended Duty Cycle Batteries

The objective of battery qualification plan is to demonstrate that the batteries and racks used in the ESBWR & AP1000 designs, as installed, will perform their required safety-related Class 1E function throughout their 20-year qualified life. Westinghouse and GEH have submitted their qualification plan requirements for qualifying 24-hour and 72-hour duty cycle batteries. The objective of this type test qualification is to demonstrate that the batteries and racks as installed will perform their required safety-related Class 1E function throughout their qualified life. The staff is currently reviewing these test plans.

Certified Designs (CDs) and CDs under Review:

CDs

ABWR B Advanced Boiling Water Reactor by General Electric
 AP1000 - AP1000 Reactor by Westinghouse Electric Company

CDs under Review

ESBWR - Economic Simplified Boiling Water Reactor by General Electric
 USEPR - U.S. Evolutionary Power Reactor by AREVA Nuclear Power
 USAPWR - U.S. Advanced Pressurized Water Reactor by Mitsubishi Heavy Industries, Ltd.

List of COLs Currently under Review (based on the above DCs):

ABWR- South Texas Project (2 units)
AP1000-Bellefonte (2 units), Vogtle (2 units), Summer (2 units), Lee Nuclear Station (2 units), Harris (2 units), Turkey Point (2 units), Levy County (2 units)
USEPR-Calvert Cliffs (1 unit), Bell Bend (1 unit)
USAPWR-Comanche Peak (2 units), North Anna (1 unit)
ESBWR-Fermi (1 unit)

Advanced Reactors

The NRC has received several letters of intent for applications for design certifications and design approvals.

Design	Applicant
International Reactor Innovative and Secure (IRIS)	Westinghouse Electric Company
NuScale	NuScale Power, Inc.
Pebble Bed Modular Reactor (PBMR)	PBMR (Pty.), Ltd.
Super-Safe, Small and Simple (4S)	Toshiba Corporation
Hyperion	Hyperion Power Generation, Inc.
Power Reactor Innovative Small Module (PRISM)	GE Hitachi Nuclear Energy

License Renewal

Completed Applications:

(includes Application, Review Schedule, Supplemental Environmental Impact Statement, and Safety Evaluation Report)

- [Calvert Cliffs, Units 1 and 2](#)
- [Oconee Nuclear Station, Units 1, 2 and 3](#)
- [Arkansas Nuclear One, Unit 1](#)
- [Edwin I. Hatch Nuclear Plant, Units 1 and 2](#)
- [Turkey Point Nuclear Plant, Units 3 and 4](#)
- [North Anna, Units 1 and 2, and Surry, Units 1 and 2](#)
- [Peach Bottom, Units 2 and 3](#)
- [St. Lucie, Units 1 and 2](#)
- [Fort Calhoun Station, Unit 1](#)
- [McGuire, Units 1 and 2, and Catawba, Units 1 and 2](#)
- [H.B. Robinson Nuclear Plant, Unit 2](#)
- [R.E. Ginna Nuclear Power Plant, Unit 1](#)
- [V.C. Summer Nuclear Station, Unit 1](#)
- [Dresden, Units 2 and 3, and Quad Cities, Units 1 and 2](#)
- [Farley, Units 1 and 2](#)
- [Arkansas Nuclear One, Unit 2](#)
- [D.C. Cook, Units 1 and 2](#)
- [Millstone, Units 2 and 3](#)
- [Point Beach, Units 1 and 2](#)
- [Browns Ferry, Units 1, 2, and 3](#)
- [Brunswick, Units 1 and 2](#)
- [Nine Mile Point, Units 1 and 2](#)
- [Monticello](#)
- [Palisades](#)
- [James A. FitzPatrick](#)
- [Wolf Creek, Unit 1](#)
- [Harris, Unit 1](#)
- [Oyster Creek](#)
- [Vogtle, Units 1 and 2](#)
- [Three Mile Island, Unit 1](#)
- [Beaver Valley, Units 1 and 2](#)
- [Susquehanna, Units 1 and 2](#)
- [Cooper Nuclear Station](#)
- [Duane Arnold Energy Center](#)

Applications Currently Under Review for License Renewal:

- [Pilgrim 1, Unit 1](#) - Application received January 27, 2006
- [Vermont Yankee](#) - Application received January 27, 2006
- [Indian Point, Units 2 and 3](#) - Application received April 30, 2007
- [Prairie Island, Units 1 and 2](#) - Application received April 15, 2008

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- [Kewaunee Power Station](#) - Application received August 14, 2008
- [Palo Verde, Units 1, 2, and 3](#) - Application received December 15, 2008
- [Crystal River, Unit 3](#) - Application received December 18, 2008
- [Hope Creek](#) - Application received August 18, 2009
- [Salem, Units 1 and 2](#) - Application received August 18, 2009
- [Diablo Canyon, Units 1 and 2](#) - Application received November 24, 2009
- [Columbia Generating Station](#) - Application received January 20, 2010
- [Seabrook Station, Unit 1](#) - Application received June 1, 2010
- [Davis-Besse Nuclear Power Station, Unit 1](#) - Application received August 30, 2010
- [South Texas Project, Units 1 and 2](#) - Application received October 28, 2010

Future Submittals of Applications:

Fiscal Year	No.	Renewal Application	Applicant	Submission Date
2011	1	Grand Gulf Nuclear Station, Unit 1	Entergy Nuclear, Inc.	July 2011
	2	Limerick Generating Station, Unit 1 and Unit 2	Exelon Generation Company, LLC	Sept. 2011
2012	1	Callaway Plant, Unit 1	AmerenUE	Oct. to Dec. 2011
2013	1	Strategic Teaming and Resource Sharing (STARS) No. 7	Un-named	Oct. to Dec. 2012
	2	Waterford Steam Electric Station, Unit 3	Entergy Nuclear, Inc.	Jan. 2013
	3	Sequoyah Nuclear Plant, Unit 1 and Unit 2	Tennessee Valley Authority	Apr. to June 2013
	4	Strategic Teaming and Resource Sharing (STARS) No. 6	Un-named	July to Sept. 2013
	5	Un-named	Exelon Generation Company, LLC	July 2013
2014	1	Perry Nuclear Power Plant, Unit 1	FirstEnergy Nuclear Operating Company	Dec. 2014
2015	1	River Bend Station, Unit 1	Entergy Nuclear, Inc.	Jan. 2015
	2	Un-named	Exelon Generation Company, LLC	July 2015
2017	1	Un-named	Exelon Generation Company, LLC	Apr. 2017

Proposed New Reactor(s)	Design	Applicant
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Attachment 6

Bell Bend Nuclear Power Plant	U.S. EPR	PPL Bell Bend, LLC
Bellefonte Nuclear Station, Units 3 and 4	AP1000	Tennessee Valley Authority (TVA)
Callaway Plant, Unit 2	U.S. EPR	AmerenUE
Calvert Cliffs, Unit 3	U.S. EPR	Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC
Comanche Peak, Units 3 and 4	US-APWR	Luminant Generation Company, LLC (Luminant)
Fermi, Unit 3	ESBWR	Detroit Edison Company
Grand Gulf, Unit 3	ESBWR	Entergy Operations, Inc. (EOI)
Levy County, Units 1 and 2	AP1000	Progress Energy Florida, Inc. (PEF)
Nine Mile Point, Unit 3	U.S. EPR	Nine Mile Point 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC (UniStar)
North Anna, Unit 3	US-APWR	Dominion Virginia Power (Dominion)
River Bend Station, Unit 3	ESBWR	Entergy Operations, Inc. (EOI)
Shearon Harris, Units 2 and 3	AP1000	Progress Energy Carolinas, Inc. (PEC)
South Texas Project, Units 3 and 4	ABWR	South Texas Project Nuclear Operating Company (STPNOC)
Turkey Point, Units 6 and 7	AP1000	Florida Power and Light Company (FPL)
Victoria County Station, Units 1 and 2	ESBWR	Exelon Nuclear Texas Holdings, LLC (Exelon)
Virgil C. Summer, Units 2 and 3	AP1000	South Carolina Electric & Gas (SCE&G)
Vogtle, Units 3 and 4	AP1000	Southern Nuclear Operating Company (SNC)
William States Lee III, Units 1 and 2	AP1000	Duke Energy

The NRC staff has issued the following ESPs:

Site	Applicant
Clinton ESP Site	Exelon Generation Company, LLC
Grand Gulf ESP Site	System Energy Resources Inc.
North Anna ESP Site	Dominion Nuclear North Anna, LLC
Vogtle ESP Site	Southern Nuclear Operating Company

Early Site Permit Applications Currently Under Review

The staff is currently reviewing the following ESP applications:

Site	Applicant
Victoria County Station	Exelon Nuclear Texas Holdings, LLC (Exelon)
PSEG Site	PSEG Power, LLC, and PSEG Nuclear, LLC (PSEG)

Issued Design Certifications

The NRC staff has issued the following design certifications:

Design	Applicant
Advanced Boiling Water Reactor (ABWR)	General Electric (GE) Nuclear Energy
System 80+	Westinghouse Electric Company
Advanced Passive 600 (AP600)	Westinghouse Electric Company
Advanced Passive 1000 (AP1000)	Westinghouse Electric Company

Design Certification Applications Currently Under Review

The staff is currently reviewing the following design certification applications:

Design	Applicant
AP1000 Amendment	Westinghouse Electric Company
ABWR Design Certification Rule (DCR) Amendment	South Texas Project Nuclear Operating Company
Economic Simplified Boiling-Water Reactor (ESBWR)	GE-Hitachi Nuclear Energy
U.S. EPR	AREVA Nuclear Power
U.S. Advanced Pressurized-Water Reactor (US-APWR)	Mitsubishi Heavy Industries, Ltd.
ABWR Design Certification Renewal	Toshiba Corporation Power Systems Company
ABWR Design Certification Renewal	GE-Hitachi Nuclear Energy

Information Notices (INs) Pertinent to Electrical and I&C system

December 2, 2010 NRC INFORMATION NOTICE 2010-26: SUBMERGED ELECTRICAL CABLES

November 17, 2010 NRC INFORMATION NOTICE 2010-25: INADEQUATE ELECTRICAL CONNECTIONS

November 1, 2010 NRC INFORMATION NOTICE 2010-23: MALFUNCTIONS OF EMERGENCY DIESEL GENERATOR SPEED SWITCH CIRCUITS

July 22, 2010 NRC INFORMATION NOTICE 2010-13: FAILURE TO ENSURE THAT POST-FIRE SHUTDOWN PROCEDURES CAN BE PERFORMED

RIC 2011 TECHNICAL SESSION SCHEDULE – FINAL as of 1/5/2011, 1:00pm
Tuesday, March 8 - 10, 2011

NRR, RES, NRO, NSIR, NMSS, FSME, RGNS, ASLBP, OE, OIP, OCFO

	Tuesday 1:30 p.m. – 3:00 p.m.	Tuesday 3:30 p.m. – 5:00 p.m.	Wednesday 1:30 p.m. – 3:00 p.m.	Wednesday 3:30 p.m. – 5:00 p.m.	Thursday 8:30 a.m. – 10:00 a.m.	Thursday 10:30 a.m. – 12:00 p.m.
Locations	NRR T1 10 CFR Part 21 and Commercial-Grade Dedication	ASLBP T8 Adjudicatory Hearings – Public Access, Procedural Transparency, and Barriers to Entry?	NRR W15 Adequacy of Station Electric Distribution System Voltages – Degraded Voltage Protection	OIP W22 Import/Export Considerations for NRC Licensees and International Counterparts	RES TH29 Analysis of Cancer Risk In Populations Living Near Nuclear Facilities	NRR TH36 Containment Accident Pressure and Adequate Net Positive Suction Head
Of	NRO T2 Current Activities and Future Plans for Small- and Medium-Sized Reactors	RES T9 Current Topics in Probabilistic Risk Analysis	NRO W16 Construction Inspection Program	NSIR W23 Cyber Security – Licensing and Implementation at Nuclear Power Plants	RES TH30 Containment Degradation Research and Implications	OCFO TH37 NRC Budgeting and Fees Management Improvements
Technical	RES T3 Digital Instrumentation and Control Research: Strengthening Regulatory Decisions	RES T10 Emergent Topics In Consensus Standards	NSIR W17 Current Issues in Emergency Preparedness	NRR/RES W24 Reactor License Renewal: Research Supporting Long-Term Operation, Part 2 of 2	NRR TH31 Groundwater Protection	RES TH38 International Panel Discussion on Radionuclide Sources and Migration in the Subsurface
Sessions	OE T4 NRC Enforcement Policy – Where We Have Been and Where We Are Going	FSME T11 Low-Level Waste Management - Aligning Regulations with Current Reality	RES W18 Developments In International Nuclear Safety Research	NRR W25 Regulatory and Industry Perspectives on the Resolution of Fire Protection Issues	NRO TH32 International Cooperation on New Reactors	NRO TH39 New Reactors Licensed under 10 CFR Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants”: Changes during Construction (CdC) and Post-Combined License (COL) Licensing Basis Maintenance
To	RES T5 Radiation Protection	RGNS T12 Regional Session – Operating Nuclear Power Plant Issues of Current Interest	NRR/RES W19 Reactor License Renewal: Regulation, Part 1 of 2	NRO W26 Regulatory Challenges in New Reactor Technical Reviews	NSIR TH33 NRC and Federal Incident Response during Real World Events and Exercises	RES TH40 NRC Compliance with the Backfit Rule when Issuing Interpretive Guidance
Be	NRR T6 Regulatory Impacts of International Operating Experience	NRR T13 Seismic Analysis Activities for Operating Reactors	NRR W20 Risk-Informed Technical Specification Initiatives	NRR W27 Status and Path Forward on the Management of Gas Accumulation in Safety-System Piping	NRR TH34 Reactor Oversight Process Reliability	NSIR TH41 Security – Kinetic Change
Determined	NRR T7 Status and Path Forward on Generic Safety Issue-191, “Assessment of Debris Accumulation on Pressurized-Water Reactor (PWR) Sump Performance,” and Implications for Boiling Water Reactors (BWRs)	NMSS T14 Strategic Considerations for Managing the Back End of the Fuel Cycle	OE W21 Safety Culture – Implementation of the Policy Statement, Perspectives on Recent Events, and Activities in Japan	RES W28 Thermal-Hydraulic and Severe Accident Research	RES TH35 Status of Research Activities in Preparation for Licensing of Advanced Reactors	RES TH42 State-of-the-Art Reactor Consequence Analyses
At						
A						
Later						
Date						

NPEC Subcommittee SC-3
Operating, Maintenance, Aging, Testing and Reliability
Subcommittee / Working Group Membership Lists

Name	Category*	Company	Address	Phone/Fax	email	SC-3	WG-3.1	WG-3.2	WG-3.3	WG-3.4	NPEC	Other
ARAVAPALLI, GOPAL	User	Engineering Projects Fermi Power Plant				M	M		M			
BALLASSI, GEORGE A.	Govt / Military	GENERAL DYNAMICS / ELECTRIC BOAT CORP.				PC	M		M	M	VC	
BEATTY, JOHN	Producer	WESTINGHOUSE ELECTRIC CO., LLC				M	M		M			
CHANNARASAPPA, SURESH	Producer	WESTINGHOUSE				M	M			VC	M	SC-2 WG-2.1 WG 2.5 WG-2.6 (C) WG-2.10 (VC) WG-2.13
CRAWFORD, TOM	Producer	HURST TECHNOLOGIES CORP.				M	M		M			
HEIDARISAFI, HAMID R.	User	AMERICAN ELECTRIC POWER				M	M		M	M		
HONECKER, SHARON	General Interest	RELIASOFT CORPORATION				M	S		S			
HORVATH, DAVID A.	Producer	ADVENT, a TETRA TECH Company				PC	M	C	M	PC	M	SC-2 WG-2.10 (C)
KANG, PETER J.	Govt / Military	US NUCLEAR REGULATORY COMMISSION				M	M		M			
KULANGARA, JACOB	Producer	BECHTEL				M	M		M			
LANE, ROBERT	Producer	ATC NUCLEAR				M	M		M	M		
LIMING, JAMES K.	Producer	ABSG CONSULTING INC. (ABS CONSULTING)				VC	M		C	M	M	
MATHARU, G. SINGH	Govt / Military	US NUCLEAR REGULATORY COMMISSION				M	M		M	M		
MELSON, KIRKLYN	Producer	EXCEL SERVICES CORP.				M	M		M	M		
NAPPER, JOSEPH	User	URS WASHINGTON DIVISION				M	M		M			

NPEC Subcommittee SC-3
Operating, Maintenance, Aging, Testing and Reliability
Subcommittee / Working Group Membership Lists

Name	Category*	Company	Address	Phone/Fax	email	SC-3	WG-3.1	WG-3.2	WG-3.3	WG-3.4	NPEC	Other
PARELLO, JAMES	Producer	WESTINGHOUSE ELECTRIC CO., LLC				M	M		M		S	SC-2 (PC) WG-2.1 WG-2.5 (C) WG-2.10 WG-2.13
RICCIO, TED	Producer	HURST TECHNOLOGIES (consultant) SOUTH TEXAS PROJECT (retired)				M	C		M		M	
SANWARWALLA, MANSOOR H.	Producer	SARGENT & LUNDY				C	M		VC		M	
SCHINZEL, GLEN E.	User	STARS (Strategic Teaming And Resource Sharing)				PC	M		M		M	SC-2 WG-2.1 WG-2.10
SCOTT, OWEN	User	SOUTHERN NUCLEAR CO.				M - has to resign for work						
STEINMAN, REBECCA L.	Producer	ADVENT, a TETRA TECH Company				M				C		SC-2 WG-2.1 WG-2.10 (S)
STEVENS, JOHN A.	Producer	EMERSON POWER & WATER SOLUTIONS				M	M		corresp	M		
WILLIAMS, YVONNE	Producer	BECHTEL NATIONAL				S	VC		M			

HONORARY MEMBERS

none

CORRESPONDING MEMBERS - SC-3

TAYLOR, JOHN H.	General Interest	BROOKHAVEN NATIONAL LAB (retired)				PC	M - corresp		M - corresp			
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MEMBERS - WGs not Subcommittee

BODDULA, RAMESH	User	SOUTHERN CALIFORNIA EDISON SONGS								M		
BURSTEIN, NISSEN	User	AREVA NP, Inc								M	M	SC-2 (PC) WG-2.3 WG-2.10 WG-2.1
CARRIER, THOMAS	Producer	ERIN ENGINEERING AND RESEARCH, INC.					M		M			
HILLS, CHARLES	Producer	GENERAL CABLE								M		

NPEC Subcommittee SC-3
Operating, Maintenance, Aging, Testing and Reliability
Subcommittee / Working Group Membership Lists

Name	Category*	Company	Address	Phone/Fax	email	SC-3	WG-3.1	WG-3.2	WG-3.3	WG-3.4	NPEC	Other
HUTCHINS, STEVEN										M		
KONNIK, ROBERT	Producer	MARMON INNOVATION & TECHNOLOGY								M		
KYLE, GEORGE										S		
PATEL, VISH	User	SOUTHERN NUCLEAR CO.					M		M			

NPEC Subcommittee SC-3
 Operating, Maintenance, Aging, Testing and Reliability
 Subcommittee / Working Group Membership Lists

Name	Category*	Company	Address	Phone/Fax	email	SC-3	WG-3.1	WG-3.2	WG-3.3	WG-3.4	NPEC	Other
CORRESPONDING MEMBERS - WGs												
DANESHPOOY, ALI	Producer	POWERTECH LABS					corresp		corresp			
SELLERS, CRAIG	Producer	ALION SCIENCE AND TECHNOLOGY					corresp		corresp			

GUESTS / Potential New Members												
KIM, SOO		IEEE										
PHAN, HANH	Govt / Military	US NUCLEAR REGULATORY COMMISSION										
McCLURE, PHIL	Producer	WESCHLER INSTRUMENTS										

* Categories	SC-3 Count	Definitions per IEEE
Academic	0	An educational institution or a person or entity affiliated with such institution, providing academic review of the standard being developed.
General Interest	1	A participant in standards activities that may benefit directly or indirectly, and may be affected by the standard being developed without being primarily a member of any of the other interest categories defined for this ballot.
Govt / Military	3	A governmental entity or a person affiliated with such entity with direct interest in the standard being developed.
Producer	14	A person or entity that directly creates or that will create a conformant product, component, or service, for sale or distribution.
User	5	A person or entity that relies or will rely on the standard to define conformance of the product or service, and to create a common understanding of the operation of the product or service.

TOTAL MEMBERS = 23 Note - only the full SC-3 members are included in count.