

**IEEE Nuclear Power Engineering Committee
Subcommittee SC-2, Qualification**

**Minutes of Meeting SC2-05-2
Held October 4-5, 2005
Fort Lauderdale, Florida**

Members Attending: See Table 3

Members Absent: See Table 3

Guests: William Sadowski, Wyle Labs
Kevin Iepson, Iepson Consulting
Ramesh Boddula
Gary Elam, EGS
Chris Abernathy

1. Introduction

The SC-2 Chairman, Satish Aggarwal, opened the meeting on Tuesday October 4, 2005 at 8:30 am and welcomed everyone in attendance. This meeting was scheduled for 1½ days; concluding Wednesday October 5. A role call was taken and it was determined that a quorum was available, with 43 of 76 SC-2 members present, or represented by proxy.

1.1 General Remarks, Review and Approval of Agenda

The Chairman proposed the next meeting (06-1) would be held in San Antonio, TX in the last week of April. There were no objections or comments noted on the location. The Chairman suggested that Dana Point be considered for the October 06 meeting. There were no objections or comments noted on that location; therefore, the Chairman will attempt to negotiate a favorable rate there and advise the committee.

The Chairman announced that Nissen Burstein would not be able to attend this meeting and that he has asked Jim Parello to act as Vice Chair in his absence. The Chair also announced that Bob Lofaro had resigned the Secretary position, Patrick Gove would act as Secretary for this meeting, and Tom Hency has agreed to act as Secretary for 2006. The Chairman indicated that SC-2 leadership would transition after 2006 and indicated that there is a high probability that his goal to have all standards updated by the completion of his term will be met.

The Chairman announced that a courtesy suite would be sponsored by the following organizations for members and their guests the evening of October 4:

Black and Veatch
Nuclear Logistics
Rotork

Spectrum
Trentec
Westinghouse

Wyle Laboratories

The meeting agenda (Attachment 1) was reviewed and no changes were requested. A motion was made by Jim Gleason to approve the meeting agenda. Jim Parello seconded the motion and the SC-2 members approved the agenda unanimously.

2.0 Review and Approval of Previous Meeting Minutes

The minutes of the previous SC-2 meeting 05-1 were opened for comment by the members. Hearing none, a motion was made to approve the minutes by Jim Gleason, seconded by Jim Parello and the minutes were approved unanimously.

2.1 Alligator Fund

The alligator fund is made up of voluntary contributions from SC-2 members to defray the cost of meeting rooms, refreshments, and other meeting expenses. The balance prior to meeting 05-2 was \$1274. The total charges billed by the Sheraton Yankee Trader for the 05-02 meeting were \$86.64.

A contribution of \$20.00 was requested from each of the members for this meeting. Of the 36 members physically present at the meeting, 32 contributed the requested \$20. In addition, 4 member's proxy contributed \$20 for the absent members, and 2 guests contributed \$20. A total of \$760 was collected bringing the total fund to \$1947. These funds are held by the Chairman, SC-2.

3.0 SC-2 Chairman's Report

3.1 SC-2 Activities

The Chairman then reviewed the goal of issuing a joint IEEE/IEC logo standard and reported a potential problem with the IEEE/IEC joint logo standards agreement. The agreement in place limits joint logo standards to those that do not presently have an IEC standard in place.

This subject was discussed at a recent IEC meeting and a delegate expressed several potential non-technical concerns, which could arise with the issue of such a standard. An IEEE representative will attend an upcoming IEC meeting in Geneva to attempt to resolve these matters. In the mean time, all IEEE 323 joint logo activities are on hold.

3.2 SC-2 Member's Biographical Data Booklet

Preparation of a booklet of biographical data on SC-2 members was discussed. Fred Roy indicated that a number that several members had responded to his email requesting bio data, but that several had yet to respond. The Chairman requested that Mr. Roy send out a final request to members and request a response by December 31, 2005. All members are requested to complete this form and submit it to the prior to the next meeting [AI-04-1-1]. A digital photo can be provided, if desired by the member.

3.3 SC-2 Working Groups

The currently active working groups under SC-2, along with their chairmen, are shown in the following table:

SC-2 Working Groups and Chairman

Working Group Title*	Standard	Chairman
Working Group on Equipment Qualification (SC 2.1)	IEEE-323	Jim Gleason
Working Group on Qualification of Motors (SC 2.2)	IEEE-334	Bill Newell
Working Group on Valve Operators (SC 2.3)	IEEE-382	Pat McQuillan
Working Group on Connectors and Connections (SC 2.11)	IEEE-572	Bill Hadovski
Working Group on Battery Chargers/Inverters (SC 2.13)	IEEE-650	Dennis Dellinger
Working Group on Motor Control Centers (SC 2.14)	IEEE-649	Robert Francis

* Working groups 2.4 through 2.10 and 2.12 are not active at this time.

No changes were made at this meeting.

3.3 NPEC Activities

No report was provided on NPEC activities.

4.0 Discussions of Revisions to IEEE Standard 382-Qualification of Actuators

The Assistant Chairman of WG 2.2, Bill Sadowski, presented a detailed discussion on the proposed changes to IEEE 382. A copy of his presentation is included as Attachment 2. Mr. Sadowski indicated the draft revised standard would be provided to SC-2 for comment in April 06.

The Chairman requested that a copy of the standard be transmitted to the SC-2 Secretary for member comments, the standard be presented at the 06-01 SC-2 meeting and subsequently at the July 06 NPEC meeting for permission to ballot.

5.0 Qualified Life

Jim Gleason gave a presentation titled "Qualified Life, Not a Crock, Definitely a Crack". A copy of the presentation is included as Attachment 3.

6.0 Non-Conservatisms in Aging Analyses

Thomas Hency gave a presentation titled "Non-Conservatisms in Aging Analyses using IEEE-101 Guidance". A copy of the presentation is included as Attachment 4. Jim Gleason indicated that IEEE 101 working group chair will be contacted to request a change to IEEE 101 to reflect a more accurate conversion formula for Celsius to Kelvin.

The Chairman requested that one or two SC-2 members either join the IEEE 101 working group or balloting group.

7.0 New Nuclear Power Plant Construction

The Chairman asked for suggestions from the members about what we can do to support the new plants.

John Wheeler indicated that 50.69 risk based classifications will be used on new plants and that important to safety classifications and requirements will need to be addressed.

Suresh Channarasappa suggested that IEC classifications should be included in the IEEE standards to

facilitate the use of IEEE standards for qualification of equipment outside the US.

Marco Van Uffelen indicated that joint logo standards are desired and welcomed by the IEC communities.

Ed Mohtashemi indicated that additional guidance was needed for qualifying passive equipment. A white paper was suggested by Bruce Lori.

Marek Tengler suggested that IAEA requirements should to be addressed in IEEE standards.

Jim Gleason asked for clarification on important to safety for Yucca Mountain Project and implementation of risk based requirements.

The Chairman announced that two groups will be formed. The purpose of the first group is to investigate and recommend specific guidance as to how we should address risk based regulations designs in SC-2 codes and standards. The members of this group include the following volunteers:

Jim Gleason-Chairman
Jim Parello
John Wheless
Chris Abernathy
Glen Schinzel

The purpose of the second group is to investigate the differences between safety related, important to safety, Class 1E and recommend specific guidance as to how these terms should be used in IEEE standards going forward. The members of this group include the following volunteers:

John Wheless-Chairman
Suresh Channarasappa
Marco Van Uffelen
Liviu Delcea

The Chairman requested that both groups report on their progress at the SC-2 06-1 meeting and provide final recommendations at the 06-2 meeting.

7.0 Rotork Nuclear Actuators and Environmental Qualification

Toni Wittamore gave a presentation titled “Rotork Nuclear Actuators and Environmental Qualification”. A copy of the presentation is included as Attachment 5.

8.0 Status Report on the Special Working Group on Qualification of Fiber Optic Cables

Jan Pirrong reported that an organizational meeting of the working group was held in Ft. Lauderdale, FL at on October 3, 2005.

Present were:

Name	Company	Email
Jim Gleason	BSC	Jim.gleason@glseq.com
Jan Pirrong	CableLAN Products	Jpirrong@cablelan.com
Yasutaka Eguchi	Mitsubishi Heavy Industries	Yasutaka-eguchi@mhi.co.jp
Steve Sandberg	Rockestos - Surprenant	Steve.sandberg@r-scc.com
Marco Van Uffelen	SCK.CEN	mvuffele@sckcen.be
Bill Hadovski	Westinghouse	William.l.hadovski@us.westinghouse.com

Marty Chipkin had provided Mr. Pirrong with his proxy.

This project is a joint effort between NPEC and ICC. In view of the short time since the project was approved, organizational meetings of the group have been held this week and will be held at the upcoming ICC meeting on October 31 in Scottsdale.

Mr. Pirrong reviewed the scope and purpose section of the PAR as submitted. They are:

Scope: This standard would provide requirements, directions, and methods for qualifying fiber optic cables, connections, and optical fiber splices for use in safety systems of nuclear power generating stations.

Purpose: The principal purpose of this standard is to provide specific directions for the implementation of IEEE Std 323-2003 for qualification of fiber optic cables, including hybrid cables, connections and optical fiber splices.

Reason: Fiber optic cables are currently used in nuclear power plants and the usage is expected to increase in the future. There is currently no standard which provides specific guidance for qualification of fiber optic cables and associated connections.

The PAR will be presented at the December 7, 2005 standards board meeting, with approval anticipated.

The working group discussed the format of the new document. Since the project is completely new, there is no historical document structure to follow. After discussion, it was agreed that the format of IEEE standards 323, 383 and 572 should be the structure to follow.

It was also agreed that a “reading list” of documents be prepared as quickly as possible and circulated to the working group to provide all members a common background. Mr. Van Uffelen will work with Kent Brown to develop the list.

The preliminary plan is:

November 1, 2005	Complete organizational meetings.
December 31, 2005	Mr. Pirrong to review standards 323, 383 and 572, compare the document sections of each and propose and provide suggested heading to the working group. December 31, 2005. Messrs. Van Uffelen and Brown to complete reading list and provide to working group members.
January, 2006	Teleconference to discuss document headings and assign section writing.
April 2006	Finish preparation of Draft 1.
May – October 2006	Teleconference(s) and e-mail circulation for comments on D1.
October 2006	Finish preparation of Draft 2.
April 2007	Prepare for wider circulation for subcommittee and working group

comments.

September 2007	Initial ballot.
September 2008	Submittal to REVCOM.

The working group needs additional support from fiber manufacturers and, particularly, utility representatives. Mr. Pirrong will prepare a “press release” regarding the new working group and circulate to all members. Each member is requested to solicit participation from within his company.

10.0 Harsh versus Mild Environment

Kevin Iepsen gave a presentation titled “Redefining the Harsh/Mild Environmental Threshold for EQ”. A copy of the presentation is included as Attachment 6.

11.0 Risk Informed Approaches in Qualification for New Nuclear Plants

Jim Gleason gave a presentation titled “Risk Informed Approaches in Qualification for New Nuclear Plants: Considerations, Experience & Issues”. A copy of the presentation is included as Attachment 7.

12.0 NRC Report

The SC-2 Chairman provided an NRC liaison report.

Thursday, April 21, 2005

13.0 Preview of IEEE Std 572 (Connectors)

Bill Hadovski gave a presentation titled “IEEE 572 SC 2 Final Draft Presentation”. A copy of the presentation is included as Attachment 8.

A copy of the draft standard had been provided to the SC-2 committee for review prior to the meeting. Bill Hadovski made a motion that SC-2 approve the current draft of IEEE 572 to forward to NPEC for NPEC consideration and NPEC approval to ballot. A show of hands showed all in favor with no abstentions.

14.0 EPRI PSE Overview & EQ Motor Rewind Project Update

Chris Abernathy gave a presentation titled “EPRI PSE Overview & EQ Motor Rewind Project Update”. A copy of the presentation is included as Attachment 9.

15.0 Condition Monitoring Qualification Opportunities in New Nuclear Plants

Jim Gleason lead the discussion on this topic and indicated that he thought this should be the beginning of an ongoing discussion on this topic. Jim recommended that condition monitoring techniques used at operating plants be implemented up front in the design of new advanced reactors and that the group consider including some of these requirements in upcoming standards revisions. Jim specifically suggested MOVATS type motor operated valve data, solenoid valve current signatures, cable indent

testing and surveillance cameras.

Pat Gove advised that care should be taken to include these as recommended best practices and not requirements. In the past there has been some confusion as to the meaning of a Reg. Guide endorsement of a recommended practice(i.e., does an regulatory endorsed recommendation become a requirement?).

16.0 Working Group Reports

16.1 Working Group 2.2 on Motors (IEEE Standard 334)

The Chairman of this working group, Bill Newell, provided the following status report:

Comments have been received from the working group on the first draft and a copy of the revised draft standard will be transmitted to the SC-2 committee by the end of October, 2005. Bill indicated there are minor questions remaining to be addressed by the working group, but are outside the scope of the PAR. These issues will be addressed in the next PAR. A copy of the standard will be provided to all members for comments. Members are requested to provide comments to Bill within 30 days of receiving the standard for comment.

A preview to NPEC of the revised standard is planned for January 2006. [AI-04-2-3]

16.2 Working Group 2.14 on Motor Control Centers (IEEE Standard 649)

The Chairman of this working group, Robert Francis, provided the following status of this standard:

A PAR has been approved to revise the standard to address changes in 323 and 344. The group is currently updating the list of reference codes and standards and will be checking the draft against the IEEE style manual.

A copy of the revised draft standard will be transmitted to the SC-2 committee by the end of October, 2005. A copy of the standard will be provided to all members for comments. Members are requested to provide comments to Robert within 30 days of receiving the standard for comment.

A preview to NPEC of the revised standard is planned for January 2006.

16.4 Working Group 2.1 on Qualification (IEEE Standard 323)

The Chairman of the working group, Jim Gleason, indicated the working group is currently discussing the next revision to standard 323.

Jim indicated that the group will discuss the inclusion of additional quality requirements (defect reporting and personal accountability) at the next working group meeting.

17.0 ASME QME Status

John Richards presented the following update on this topic:

The technical criteria in the updated QME standard has been accepted, however final approval has been delayed by administrative issues between QME Main Committee and the Board of Nuclear Codes and Standards (BNCS) primarily concerning the standard's scope (nuclear facilities vs. nuclear power plants).

In addition, the QME Main Committee has not met recently which has delayed reaching a consensus resolution. Tim Adams (QME Dynamic Analysis Subcommittee Chairman) has negotiated a resolution for this concern that should enable the standard to move forward to final approval. We hope this can be completed by the end of the year.

18.0 Action Item Status

Action items from previous SC-2 meetings were reviewed at this meeting. Table 1 provides a listing and the status of action items from past meetings, along with new action items identified at this meeting.

List of Action Items

Item No.	Description	Responsible	Status
<i>Action Items from Meeting 04-1</i>			
AI-04-1-1	Provide biographical data for SC-2 member's book.	All SC-2 members	OPEN
<i>Action Items from Meeting 04-2</i>			
AI-04-2-3	Prepare for a preview of Standard 334 to NPEC at the January 2006 meeting.	Bill Newel	OPEN
AI-04-2-4	Prepare a draft of the next revision to Standard 382 by December 2005.	Pat McQuillan	OPEN
AI-04-2-5	Prepare a draft of the next revision to Standard 572 for SC-2 review by October 2005.	Bill Hadovski	CLOSED
AI-04-2-7	Prepare a draft PAR to develop a new IEEE standard for qualifying fiber optic cables and submit it to SC-2 for review by October(revised) 2005.	Jan Pirrong	CLOSED
AI-04-2-9	Provide a list of IEC delegates from foreign countries.	Kjell Spang	OPEN
<i>Action Items from Meeting 05-1</i>			
AI-05-1-1	WG 2.1 to address the use of 10CFR50 Appendix B and alternative quality standards in the next revision	Jim Gleason	OPEN

Item No.	Description	Responsible	Status
	to IEEE 323		

19.0 Adjournment

In conclusion the SC 2 Chairman indicated that a call for papers will be issued soon for the next meeting and encouraged all members, particularly those from outside the US, to make presentations and seek out members from within their organizations to make presentations at the upcoming meetings. The Chairman indicated that the application of digital I&C technology in non-US plants is a topic that our overseas members may have more experience in and requested that they consider making presentations in this area. He also encouraged members to notify him of upcoming EQ meetings

At approximately 11:45 pm on Wednesday October 5, 2005 a motion was made to adjourn and meeting SC2-05-01 was adjourned.

Minutes Prepared by:
Patrick Gove
Assistant Secretary, IEEE/SC-2

List of Attachments:

1. SC-2 Meeting 05-2 Agenda
2. Discussions of Revisions to IEEE Standard 382-Qualification of Actuators
3. Qualified Life, Not a Crock, Definitely a Crack
4. Non-Conservatism in Aging Analyses using IEEE-101 Guidance
5. Rotork Nuclear Actuators and Environmental Qualification
6. Redefining the Harsh/Mild Environmental Threshold for EQ
7. Risk Informed Approaches in Qualification for New Nuclear Plants: Considerations, Experience & Issues
8. IEEE 572 SC 2 Final Draft Presentation
9. EPRI PSE Overview & EQ Motor Rewind Project Update

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL

Name/Company	Address	Dates Attended	
		10/4	10/5
Aggarwal, S. K. (Satish) – Chairman SC-2 U.S. Nuclear Regulatory Commission Tel. (301) 415-6005 Fax (301) 415-5074	Washington, DC 20555	X	X
Bartonicek, B. (Bohumil) Nuclear Research Institute Rez plc Tel. +420-266-173579 Fax +420-266-173580	250 68 Husinec Rez 130 Czech Republic	P	P
Baughman, P. D. (Paul) ABS Consulting/EQE Tel. (603) 778-1144 Fax (603) 778-7495	118 Portsmouth Avenue Suite B302 Stratham, VA 03885	P	P
Bharteey, Brij Tel. (518) 382-0056 Fax (518) 382-0283	112 Erie Blvd. Suite 3 Schnectady, NY 12305	P	P
Behera, A. K. (Anup) Kiran Consultants, Inc. Tel. (630) 515-2650, ext. 17 Fax. (630) 515-2654	1401 Branding Lane Suite 255 Downers Grove, IL 60515	P	P

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Brewington, T. (Tom) Wyle Laboratories Tel. (256) 837-4411, ext. 512 Fax (256) 837-3363 (Proxy: Robert Francis)	7800 Highway 20 West Huntsville, AL 35806	X	X
Burstein,, N. M. (Nissen) – Vice Chairman SC-2 Framatome ANP Tel. (434) 832-2501 Fax (434) 832-2683	3315 Old Forest Rd. M/C OF54 Lynchburg, VA 24506-0935		
Butcher, C. (Craig) Tennessee Valley Authority Tel. (423) 751-8250 Fax (423) 751-8247	1101 Market Street LP 4H Chattanooga, TN 37402-2801		
Casadevall, S. (Steve) ASCO Valve Inc. Tel. (973) 966-2512 Fax (973) 966-2624	50 Hanour Road Floham Park, NJ 07932		
Chapman, G. V. (Garry) Trentec, Inc. Tel. (513) 528-7900 Fax (513) 528-9292	4600 East Tech Drive Cincinnati, OH 45245	P	P
Channarasappa, S. (Suresh) Westinghouse Electric Co. Tel. (724)-733-6587 Fax	1760 Golden Mile Hwy. Monroeville, PA 15746	X	X
Chicote, Javier Alonso Tel. +34-91-659-8696 Fax +34-91-659-8677	Avda. Montes de Oca 28709 San Sebastian de los Reyes Madrid, Spain		

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Chipkin M. (Marty) Nine Mile Point Nuclear Station Tel. (315) 349-2825 Fax (315) 349-1579	P.O. Box 63 Lycoming, NY 13093	P	P
Chivers, J. (Jeff) Rosemount Nuclear Tel. (952) 949-5377 Fax (952) 949-5147	8200 Market Blvd. Chanhassen, MN 55317		
Choi, S. Y. (Sun Yeong) Korea Atomic Energy Research Institute Tel. +82-(42) 868-8372 Fax +82-(42) 868-8256	Box 105, Yuseong Daejeon, 305-600 Korea		
Chung, Choon-Hoon KOPEC Tel. Fax		X	X
Dean, J. M. (James) Applied Energy Services, Inc. Tel. (203) 730-0587 Fax (203) 744-5192	14 Eagle Rock Hill Rd. Bethel, CT 06801		
Delcea, L. N. (Livi Nicolae) Tel. +40-241-80-1658 Fax +40-723-111-627	Medgidiei St. No. 1 C.P. 42, Cernavoda 08625 Constanta, Romania	X	X
Dellinger, D. E. (Dennis) Solidstate Controls, Inc. Tel. (614) 846-7500 Fax (614) 885-3990	875 Dearborn Drive Columbus, OH 43085		

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
<p>Di Benedetto, P. (Philip) Tel. (978) 686-3561 Cell (978) 660-7662 (Proxy: Anup Behera)</p>	123 French Farm Road North Andover, MA 01845	P	P
<p>Duong, Q. H. (Quang) DTE Energy Tel. (734) 586-1813 Fax (734) 586-4911</p>	6400 N. Dixie Hwy 125 EF2-TAC Newport, MI 48166	X	X
<p>Drumm, F. (Frank) Tyco Electronics Tel. +49-89-6089-567 Fax +49-89-6089-445</p>	Raychem GmbH Finsinger Feld 1 85 Ottobrunn, Germany		
<p>Euguchi, Yasutaka</p>		X	X
<p>Fargo, W. D. (Wells) Southern California Edison Co. Tel. (949) 368-2525 Fax (949) 368-2122</p>	3214 Legendario San Clemente, CA 92673-3811	X	X
<p>Faya, A. J. (Artur) Canadian Nuclear Safety Commission Tel. (613) 996-0023 Fax (613) 943-1292</p>	280 Slater Road Ottawa, Ontario K1C 5S9 Canada		
<p>Francis, R. L. (Robert) Wyle Laboratories Tel. (256) 837-4411 ext. 315 Fax (256) 837-3363</p>	7800 Highway 20 West Huntsville, AL 35807	X	X

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Gleason, J. (Jim) Bechtel Scientific Co. Tel. (702) 295-4561 Fax	1180 Town Center Drive Las Vegas, NV 89149	X	X
Gove, P. (Patrick) – Assistant Secretary SC-2 Black & Veatch Tel. (913) 458-7834 Fax. (913) 458-2491	11401 Lamar Overland Park, KS 66213	X	X
Hadovski, W. L. (William) Westinghouse Electric Co. Tel. (860) 731-6258 Fax (860) 731-6256	2000 Day Hill Road Windsor, CT 06095	X	X
Helander, P. (Peter) Tel. +46-18-51-1836 Fax +46-18-51-1894	Dag Hammarskjolds vag 13 752 37 Uppsala, Sweden		
Hencey III, T. (Tom) Scientech, Inc. Tel. (727) 669-3047 Fax (727) 669-3100	1393 Indian Trail N. Palm Harbor, FL 34683	X	X
Henley, J. C. (Jerrell) Tel. (256) 379-2920 Fax. (256) 379-2920	1359 Old Winchester Road New Market, AL 35761		
Hopp, Dirk C.		X	X

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Horvath, D. (Dave) Advent Engineering Tel. (734) 930-7500 Fax (734) 327-7501	P.O. Box 555 24 Frank Lloyd Wright Blvd. Lobby C Ann Arbor, MI 48106		
Hsu, Yoa-Tung			
Hwang, In-Koo			
Irish, C. S. (Craig) Nuclear Logistics, Inc. Tel. (978) 250-1684 Fax (978) 250-0245	27 Linwood Street Chelmsford, MA 01824	P	P
Jagtiani-Krause, S. A. (Serena) Trentec Inc. Tel. (513) 528-7900 ext. 121 Fax (513) 528-9292 (Proxy: Garry Chapman)	4600 East Tech Dr. Cincinnati, OH 45245	X	X
Kapur, S. (Sushant) Bechtel Power Corp. Tel. (301) 228-6057 Fax (301) 631-0841	5275 Westview Drive Frederick, MD 21703-8306		
Khan, M. R. (Mohsin) ARES Corp. Tel. (510) 645-5960 Fax (510) 656-5961	2101 Webster St. Suite 1650 Oakland, CA 94612	X	X

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Leung, H. (Henry) Tel. (905) 567-3332 Fax	4556 Credit Pointe Dr. Mississauga, Ontario Canada L5M 3L9		
Lofaro, R. J. (Bob) – Secretary SC-2 Brookhaven National Laboratory Tel. (631) 344-7191 Fax (631) 344-5569	P.O. Box 5000 Building 130 Upton, NY 11973-5000		
Lory, B. M. (Bruce) Engineering & Management Specialists, Inc. Tel. (312) 327-0920, ext. 119 Fax (312) 327-0925	123 West Madison Street, Suite 1300 Chicago, IL 60602	X	X
Martin, D. R. (Darin) Southern Testing Services, Inc. Tel. (865) 966-5330 Fax.(865) 675-5399	10627 Lexington Drive Knoxville, TN 37932	P	P
McQuillan, P. (Pat) Limitorque Tel. (434) 845-9714 Fax (434) 845-9736	5114 Woodall Road Lynchburg, VA 24502		
Mikow, D (Daniel) Framatome, ANP Tel. (724) 779-9800 ext. 1314 Fax (724) 779-9844 (Proxy: Nissen Burstein)	200 West Kensinger Drive Suite 600 Cranberry Township, PA 16066		
Mitton, T. (Todd) RCM Technologies Tel. (905) 821-1616 Fax (905) 821-1613	6620 Kitimat Road, Unit 4 Mississauga, Ontario L5N 2B8 Canada	X	X

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Mohiuddikn, A. (Asif) Sargent & Lundy Tel. (312) 269-2752 Fax (312) 269-7041	%%E. Monroe 23C41 Chicago, IL 60603	X	X
Mohtashemi, E. (Edward) GE Nuclear Energy Tel. (408) 925-1844 Fax (408) 925-6261	175 Curter Avenue M/C 788 San Jose, CA 95125	X	X
Monchy-Leroy, C. (Carole) EDF Research and Development Tel. +33-1-60-73-6773 Fax +33-1-60-73-7407 (Proxy: Marc Kuntz)	Electrical Equipment Lab Les Renadieres 77818 Moret sur Loing Cedex-France	P	P
Newell, W. (Bill) Schulz Electric Company Tel. (203) 562-5811 Fax (203) 562-1082	30 Gando Drive New Haven, CT 06513	X	X
Parello, J. (James) Westinghouse Electric Co., LLC Tel. (724) 722-5545 Fax (724) 722-5497	1000 Westinghouse Drive New Stanton, PA 15672-9606	X	X
Pavsek, J. (Janez) Milan Vidmar Electroinstitute Tel. +386-31-809-322 Fax +386-1-252-1359 (Proxy: Marek Tengler)	SI-1000 Ljubljana Hajdrihova 2, Slovenia	P	P
Pirrong, Jan S. Cablelan		X	X

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Pomerening, D. J. (Daniel) Southwest Research Institute Tel. (210) 522-2318 Fax (210) 522-4506	6220 Culebra Road San Antonio, TX 78238-5166	X	X
Robert Queenan Scientech Tel. (208) 524-9311 Fax (208) 524-9238	220 South Woodruff Ave. Idaho Falls, ID 83401	P	P
Richards, J. M. (John) Duke Energy Co. Tel. (704) 382-3916 Fax (704) 382-3993	Mail Stop EC09H P.O. Box 1006 Charlotte, NC 28201-1006	X	X
Roy, F. (Fred) Scientech Tel. (256) 722-8500 Fax (256)722-8533	125 West Part Loop Huntsville, AL	X	X
Sandberg, S. (Steve) Rockbestos-Surprenant W&C Tel. (860) 653-8360 Fax (860) 653-8412	20 Bradley Park Road East Granby, CT 06026	X	X
Schinzel, G. E. (Glen) South Texas Project Tel. (361) 972-7854 Fax (361)972-7073	P.O. Box289 Wadsworth TX 77483		
Simms, R. (Roderick) Tel. (269) 465-5901 ext. 3583 Fax (269) 466-3454	One Cook Place Bridgman, MI 49106		

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
Spang, K. (Kjell) Tel. +46-31-298573 Fax +46-31-694594	KS Miltek Strandskarsvagen 9 SE-42658 Vastra Frolunda, Sweden		
Starck, R. (Richard) MPR Associates Tel. (703) 519-0511 Fax (703) 519-0224	320 King Street Alexandria, VA 22314		
Tengler, M. (Marek) Tel.+42-0377-386961 Fax +42-0377-386961	Labhova 8/34 Pilsen 31806	X	X
Van Uffelen, M. (Marco) Tel. +32 14-33-2638 Fax +32-14-31-1993	Boertang 200 Dept. Instrumentation Building BR3 B-2400, Mol, Belgium	X	X
Varga, L. (Laszlo) VEIKI-VNL, Ltd. Tel. +36-1-417-3157 Fax +36-1-417-3163	Vaszgolyo u. 2-4. H-1158 Budapest, Hungary		
Weber, C. E. (Carl) Pacific Gas & Electric Co. Tel. (805) 545-4084 Fax (805) 545-6928	Diablo Canyon Power Plant P.O. Box 56 Avila Beach, CA 93424	X	X
Wheless, J. (John) Southern Company Tel. (205) 992-6898 Fax (205) 992-0391	40 Inverness Center Pkwy. Bin BO57 Birmingham, AL 35242	X	X

Table 3 Attendees of SC-2 Meeting 05-2 October 4-5 in Fort Lauderdale, FL (continued)

Name/Company	Address	Dates Attended	
		10/4	10/5
White, J. (John) TXU CPSES Tel. (254) 897-6674 Fax (254) 897-0530	P.O. Box 1002 Glen Rose, TX 76043	P	P
Toni Wittamore Rotork Controls, Inc Tel. (585)-328-1550, ext. 252 Fax (585) 328-5848	575 Mile Crossing Blvd. Rocchester, NY 14624	X	X
Wood, R. T. (Richard) Oak Ridge National Laboratory Tel. (865) 574-5578 Fax (865) 576-8380	Bethel Valley Road P.O. Box 2008 Bldg. 3500, MS 6010 Oak Ridge, TN 37831-6010	X	X
Yamamoto, T. (Toshio) JAPEIC Tel. +81-47-380-8554 Fax +81-47-380-8556	Business Court Shin- Urayasu Bldg. 9-2 Mihama 1-Chome Urayasu-shi, Chiba 279-0011 Japan	X	X

X = Attended
 P = Attended by Proxy