

NPEC Subcommittee SC-3, Operations, Maintenance, Aging, and Testing**Meeting S02-2****Wednesday, August 28, 2002****Cabela's at Dundee, Michigan****Members Present**George Ballassi
Paul Colaianni
Surin DurejaDave Horvath
John Taylor
Jit Vora**Members Absent**Brij Bharteey
Wally Colvin
Preston Dougherty
Sonny KasturiHenry Leung
Mansoor Sanwarwalla
Burl Williams**Other Attendees**Hamid Heidarisaifa
Bob Lofaro
Paul ShemanskiRebecca Steinman
Mike Wylie**1.0 Introduction**

Dave Horvath welcomed everyone to the meeting and to Ann Arbor, Michigan, since this is Dave's hometown. In fact, two representatives from Advent Engineering attended the meeting. The agenda was presented for discussion: Due to schedule conflicts, the NRC Liaison report and the presentation by Bob Lofaro on the "Aging of Electrical Splices" were moved up earlier in the meeting. These changes were adopted and the agenda is included as [Attachment 1](#).

2.0 Secretary's Report**2.1 Meeting S02-1 Minutes**

The minutes from S02-1 were approved, without modification, by acclamation.

2.2 Action Item Status

All outstanding action items are closed. New action items are identified in the table and discussed in the text of these minutes.

Item No.	Description	Status
AI-02-2-1	Identify ASME Risk Member/Liaison	Open

AI-02-2-2	Arrange Meeting SC3-1 (J.Taylor/T. Riccio)	Open
AI-02-2-3	Identify SC-2 Liaison	Open
AI-02-2-4	Identify EPRI/NEI Liaison	Open

Note (repeated from prior minutes): It is expected that P323 (Equipment Qualification) will be up for a ballot within the next year. Any IEEE and SA member can request consideration for addition to the NPEC ballot group by completing the form at <http://standards.ieee.org/db/balloting/ballotform.html>. It may be advantageous to add a comment at the bottom of the form that the request is for IEEE 323 only if appropriate. One can then confirm the success of this approach (if so inclined) by contacting IEEE staff: Carol Buonfiglio [REDACTED].

2.3 Alligator Fund

The Alligator Fund is made up of voluntary contributions from SC-3 members to defray the cost of meeting rooms, refreshments, etc. The balance after S02-2 is \$51.00.

2.4 Membership Table

SC-3 and the working groups are fairly well staffed. We are still looking for a member for WG 3.1 with risk based ASME Boiler and Pressure Vessel Code Section XI experience (AI-02-2-1).

The subcommittee members who have not attended 2 or more consecutive meetings have been pulsed by John Taylor about their intentions to remain as a member. The results of this inquiry are as follows: members continuing – Brij Bharteey, Preston Dougherty, members dropped/resigning – Steve Parsons, Lamis Fleischer.

The updated membership roster will be included as an attachment to the minutes (See [Attachment 2](#)). The current SC-3 and working group rosters are also on the IEEE/NPEC website at URL: <http://grouper.ieee.org/groups/npec/private/sc3/sc-3.html>: user name: [REDACTED] password: [REDACTED].

The current breakdown of members by category is as follows:

Utility: 6
AE/Consultant: 5
Gov't/National Labs: 2
Other: 1
TOTAL: 14

3.0 SC-3 Chair's Report

3.1 NPEC Activities

Dave summarized the results of NPEC Meeting N02-1. A summary of the NPEC meeting is included as [Attachment 3](#).

3.2 Future Meeting Locations

It was decided that the next SC-3 and working group meetings would be held in Houston, Texas during the week of January 20th, 2003; a notice will be sent when the arrangements are finalized. John Taylor will arrange the meetings with the assistance of Ted Riccio and Glen Schinzel and advise the membership [AI-01-2-2]. The location of Houston was chosen to accommodate South Texas Project plant representatives who will be contributing to the revision of IEEE Std 338, along with Wally Colvin and the other WG 3.1 members.

4.0 Working Group 3.1 (Testing) Report

The WG addressed IEE Std. 336 on 8/26/02 by reviewing and commenting on the draft version prepared by Burl Williams and Surin Dureja. A very detailed effort was possible as a result of their very good draft. Several sections were assigned to be worked by the members for the next meeting. IEEE Std 336 is technically organized and requires the detail sectional work to prepare it for another WG review.

IEEE Std 338 was discussed at length on 8/27/02 with respect to the overall approach. Significant input was received by Mr. Angelo Marinos, NRC who attended in place of the permanent member from his group, especially in the way of NRC reference documents. IEEE Std 338 is still in need of input from industry "experts" to ensure that it represents the prevailing technical direction. To that end, the next meeting will be held in the Houston area to obtain such expertise from engineering members of South Texas Project. That meeting will emphasize 338 over 336 to ensure that sufficient time and focus are brought to bear on the highly specialized subject of risk assessment.

5.0 Working Group 3.2 Report

WG-3.2 continues its efforts to revise IEEE Std 692. At the present time, most of the design basis statements have been updated for improved consistency and level of detail. The WG-3.2 meeting originally scheduled for July 17-18 was postponed because of unavailability of most of the members, primarily due to security upgrades being performed in the aftermath of the September 11 terrorist attack in 2001. The meeting was rescheduled for October 2002.

[Note: Subsequent to the SC-3 meeting, the WG-3.2 meeting intended for October was delayed again because of unavailability of the working group's chair. The current plan is a three day meeting on May 27-29, 2003 at Holophane Lighting's headquarters near Columbus, OH.]

6.0 Working Group 3.4 (Aging) Report

The Working Group meeting started by introductions around the table. The Secretary's report included a discussion of membership and Member attendance at meetings. The decision was made to have a policy that when a person misses two consecutive meetings they would be put on probation. Members missing a third consecutive meeting would be dropped as a Member of the Working Group. Next was the roundtable discussion with updates on equipment aging activities from all attendees. The Chairman then led a discussion of an initiative for the WG to fully implement its scope and purposes as described on the IEEE web site. (See box below) The first step of this initiative would be to identify individuals and groups whose responsibilities and functions are dealing with electrical equipment aging issues. Following the WG meeting, Bob Lofaro gave a presentation on recent work completed at Brookhaven National Laboratories on Evaluation of Aging and Environmental Qualification of Safety-Related Cable Splices used in Nuclear Power Plants.

IEEE Working Group 3.4 Scope

Treatment of matters relating to aging effects at nuclear generating stations.

Included is the:

- preparation of standards, recommended practices, or guides, and
- preparation, presentation, and review of technical papers concerning aging of nuclear power plant electrical equipment.

Also included is the:

- preparation of guidance and requirements for license renewal programs;
- aging assessments in support of maintenance-preventable-failures;
- detecting and characterizing aging mechanisms;
- assessing, monitoring, mitigating, and managing aging effects;
- aging data collection;
- condition monitoring;
- environmental monitoring; and
- documentation of approaches and results.

WG 3.4 is responsible for maintenance of IEEE Std 1205 "*Guide for Assessing, Monitoring, and Mitigating Aging Effects on Class 1E Equipment Used in Nuclear Power Generating Stations*".

7.0 Liaison Reports

Jit Vora provided the NRC Liason Report, which is included as [Attachment 4](#).

Bob Lofaro made an excellent presentation that summarized an NRC sponsored study of the aging of electrical splices conducted by BNL. Bob's presentation is included as [Attachment 5](#).

The need for additional liaisons was discussed and the following were identified: 1) SC-2 Qualification, 2) ASME risk-based activities, 3) EPRI/NEI. These have been identified as action items AI-02-2-3, AI-02-2-1, and AI-02-2-4, respectively.

8.0 New Business

Dave Horvath announced that he has accepted the position of Secretary of NPEC and that John Taylor would be assuming the responsibilities of SC-3 Chair effective at the next meeting.

The meeting was adjourned.

Prepared by:

John Taylor

List of Attachments

1. Agenda
2. [Combined SC-3 and Working Group Roster](#)
3. [Summary for NPEC Meeting 02-1](#)
4. [NRC Liaison Report](#)
5. [Aging of Splices Presentation](#)

IEEE Subcommittee 3 Meeting S02-2

Agenda

Wednesday, August 28, 2002

Dundee, Michigan

1.0 Introduction - D. Horvath

- o Opening Remarks - D. Horvath
- o Meeting Agenda - D. Horvath

2.0 Secretary's Report – J. Taylor

- o S01-2 Minutes
- o Action Items Status
- o Alligator fund
- o SC-3 Membership

3.0 SC-3 Chair's Report – D. Horvath

- o NPEC Activities
- o Future Meeting Locations and Frequency

4.0 WG 3.1 Report – George Ballassi

- o P336 Update
- o P338 Update

5.0 WG 3.2 Report – D. Horvath

- o P692 Update

6.0 WG 3.4 Report – P. Colaianni

- o NPEC Goal 6 Update and Any Other Activities

7.0 Liaison Reports

- o NRC – J. Vora
- o Aging of Electrical Splices – Bob Lofaro

8..0 New Business (Open for Input)

IEEE - Nuclear Power Engineering Committee

Subcommittee SC-3 Membership List

Operations, Maintenance, Aging, and Testing

Name/Company	Address	Assignment
BALLASSI, G. (GEORGE) GENERAL DYNAMICS/ ELECTRIC BOAT CORP. [REDACTED]	[REDACTED]	SC-3 (M) WG 3.1(C) WG-3.4(M)

<p>BHARTEEY, B.M. (BRIJ)</p> <p>SPECTRUM TECHNOLOGIES USA INC.</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(M)</p> <p>WG-3.1(M)</p> <p>WG-3.4(M)</p>
<p>COLAIANNI, R.P. (PAUL)</p> <p>DUKE ENERGY</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(M)</p> <p>WG-3.4(C)</p>
<p>COLVIN, W. J. (WALLY)</p> <p>FIRST ENERGY CORP.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>Perry Nuclear Power Plant</p> <p>[REDACTED]</p>	<p>SC-3 (M)</p> <p>WG-3.1(M)</p> <p>WG-3.4 (M)</p>
<p>DOUGHERTY P. (PRESTON)</p> <p>DOMINION GENERATION</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>Innsbrook Technical Center</p> <p>[REDACTED]</p>	<p>SC-3 (M)</p> <p>WG-3.4 (M)</p>
<p>DUREJA, S.K. (SURIN)</p> <p>CONSTELLATION NUCLEAR</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>Calvert Cliffs Nuclear Power Plant</p> <p>[REDACTED]</p>	<p>SC-3 (M)</p> <p>WG-3.1 (M)</p>
<p>HEIDARISAFSA, HAMID R.</p> <p>AMERICAN ELECTRIC POWER</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3 (Proposed)</p> <p>WG-3.1 (M)</p>
<p>HORVATH, D.A. (DAVE)</p> <p>ADVENT ENGINEERING SERVICES, INC.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(C)</p> <p>WG-3.1 (M)</p> <p>WG-3.2 (C)</p> <p>WG-3.4 (PC)</p>

<p>KASTURI, S. (SONNY)</p> <p>MOS</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3 (PC)</p>
<p>LEUNG, C.W. (HENRY)</p> <p>ATOMIC ENERGY OF CANADA LIMITED</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(M)</p> <p>WG-3.4(M)</p>
<p>SANWARWALLA, M.H. (MANSOOR)</p> <p>SARGENT & LUNDY</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3 (M)</p> <p>WG-3.4 (M)</p>
<p>TAYLOR, J.H. (JOHN)</p> <p>BROOKHAVEN NATIONAL LAB</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(S)</p> <p>WG-3.1(M)</p>
<p>VORA, J.P. (JIT)</p> <p>US NUCLEAR REGULATORY COMMISSION</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>Office Of Nuclear Regulatory Research</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(M)</p> <p>WG-3.1 (M)</p>
<p>WILLIAMS, B. (BURL)</p> <p>ENTERGY OPERATIONS</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>Arkansas Nuclear One</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3 (proposed)</p> <p>WG-3.1 (M)</p> <p>WG-3.2 (M)</p>

IEEE - Nuclear Power Engineering Committee

Working Group WG-3.1 Membership List

Testing

Standards: IEEE Stds 336 and 338

Name/Company	Address	Assignment
AHMED, I (IQBAL) US NUCLEAR REGULATORY COMMISSION [REDACTED] [REDACTED]	[REDACTED] Electrical Engineering & Instrumentation Branch, Office of Nuclear Reactor Regulation [REDACTED]	WG-3.1 (Proposed)
BALLASSI, G. (GEORGE) GENERAL DYNAMICS/ ELECTRIC BOAT CORP. [REDACTED]	[REDACTED]	SC-3 (M) WG 3.1(C) WG-3.4(M)
BHARTEY, B.M. (BRIJ) SPECTRUM TECHNOLOGIES USA INC. [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED]	SC-3(M) WG-3.1(M) WG-3.4(M)
COLVIN, W. (WALLY) FIRST ENERGY CORP. [REDACTED] [REDACTED]	Perry Nuclear Power Plant [REDACTED] [REDACTED]	SC-3 (M) WG-3.1(M) WG-3.4 (M)

<p>DUREJA, S.K. (SURIN) CONSTELLATION NUCLEAR [REDACTED] [REDACTED]</p>	<p>Calvert Cliffs Nuclear Power Plant [REDACTED]</p>	<p>SC-3 (M) WG-3.1 (M)</p>
<p>HEIDARISAF, HAMID R. AMERICAN ELECTRIC POWER [REDACTED] [REDACTED]</p>	<p>[REDACTED] [REDACTED]</p>	<p>SC-3 (Proposed) WG-3.1 (M)</p>
<p>HORVATH, D.A. (DAVE) ADVENT ENGINEERING SERVICES, INC. [REDACTED] [REDACTED]</p>	<p>[REDACTED] [REDACTED]</p>	<p>SC-3(C) WG-3.1(M) WG-3.2(C) WG-3.4(PC)</p>
<p>RICCIO, TED STP NUCLEAR OPERATING COMPANY [REDACTED]</p>	<p>South Texas Project [REDACTED]</p>	<p>WG-3.1 (M)</p>
<p>SCHINZEL, G.E. (GLENN) STP NUCLEAR OPERATING COMPANY [REDACTED] [REDACTED]</p>	<p>South Texas Project [REDACTED]</p>	<p>WG-3.1 (M)</p>
<p>TAYLOR, J.H. (JOHN) BROOKHAVEN NATIONAL LAB [REDACTED] [REDACTED]</p>	<p>[REDACTED] [REDACTED]</p>	<p>SC-3(S) WG-3.1(M)</p>

<p>VORA, J.P. (JIT) US NUCLEAR REGULATORY COMMISSION [REDACTED] [REDACTED]</p>	<p>Office Of Nuclear Regulatory Research [REDACTED] [REDACTED] [REDACTED]</p>	<p>SC-3(M) WG-3.1 (M)</p>
<p>WILLIAMS, B.E. (BURL) ENTERGY OPERATIONS [REDACTED] [REDACTED]</p>	<p>Arkansas Nuclear One [REDACTED] [REDACTED]</p>	<p>WG-3.1 (M) WG-3.2 (M)</p>

IEEE - Nuclear Power Engineering Committee

Working Group WG-3.2 Membership List

Security Systems

Standard: IEEE Std 692

Name/Company	Address	Assignment
<p>GREEN, J (JOHN) HOLOPHANE LIGHTING [REDACTED] [REDACTED]</p>	<p>[REDACTED]</p>	<p>WG-3.2 (M)</p>
<p>HORVATH, D.A. (DAVE) ADVENT ENGINEERING [REDACTED]</p>	<p>[REDACTED]</p>	<p>SC-3 (C) WG-3.1 (M) WG-3.2 (C) WG-3.4 (M)</p>
<p>KORTE, J.H. (JOSEPH) DTE ENERGY [REDACTED]</p>	<p>[REDACTED]</p>	<p>Proposed WG-3.2 (M)</p>

LINDE, B.L. (BRIAN) NMC ██████████ ██████████████████	Monticello Nuclear Plant ██████████ ██████████████████	WG-3.2 (M)
PEARSON, EINAR W. (BILL) NIAGARA MOHAWK ██████████████████████████████	Nine Mile Point Nuclear Station ██████████████████	WG-3.2 (M)
PHELPS, P.A. (PAUL) DOMINION GENERATION ██████████████████████████████ ██████████████████	Surry Power Station ██████████████████ ██████████████████	WG-3.2 (M)
SALMON, D (DAVID) OPERATIONAL SUPPORT SERVICES ██████████████████████████████	██████████████████████████████	IIES Liaison WG-3.2 (M)
SHAFFER, R.A. (ROMAN) US NUCLEAR REGULATORY COMMISSION ██████████████████	██████████████████ Office of Nuclear Regulatory Research ██████████████████ ██████████████████	WG-3.2 (M)
SIMS, J.G. (JERRY) SOUTHERN NUCLEAR OPERATING CO. ██████████████████ ██████████████████████████████	██████████████████ ██████████████████████████████	WG-3.2 (M)

WORRELL, T. M. (TOM) DOMINION GENERATION [REDACTED]	Surry Power Station [REDACTED]	WG-3.2 (S)
WILLIAMS, B.E. (BURL) ENTERGY OPERATIONS [REDACTED] [REDACTED]	Arkansas Nuclear One [REDACTED] [REDACTED]	WG-3.1 (M) WG-3.2 (M)

IEEE - Nuclear Power Engineering Committee

Working Group WG-3.4 Membership List

Assessing, Monitoring, and Mitigating Aging Effects on NPGS Equipment

Standard: IEEE Std 1205

Name/Company	Address	Assignment
BALLASSI, G. (GEORGE) GENERAL DYNAMICS/ELECTRIC BOAT CORP. [REDACTED]	[REDACTED]	SC-3 (M) WG 3.1(C) WG-3.4(M)
BHARTEY, B.M. (BRIJ) SPECTRUM TECHNOLOGIES USA INC. [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED]	SC-3(M) WG-3.4(M)

<p>COLAIANNI, R.P. (PAUL)</p> <p>DUKE ENERGY</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(M)</p> <p>WG-3.4(C)</p>
<p>DOUGHERTY P. (PRESTON)</p> <p>DOMINION GENERATION</p> <p>[REDACTED]</p>	<p>Innsbrook Technical Center</p> <p>[REDACTED]</p>	<p>SC-3 (M)</p> <p>WG-3.4 (M)</p>
<p>HORVATH, D.A. (DAVE)</p> <p>ADVENT ENGINEERING SERVICES, INC.</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(C)</p> <p>WG-3.1(M)</p> <p>WG-3.2(C)</p> <p>WG-3.4(PC)</p>
<p>LEUNG, C.W. (HENRY)</p> <p>ATOMIC ENERGY OF CANADA LIMITED</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3(M)</p> <p>WG-3.4(M)</p>
<p>LOFARO, R.J. (ROBERT)</p> <p>BROOKHAVEN NATIONAL LAB</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>WG-3.4(M)</p>
<p>SANWARWALLA, M.H. (MANSOOR)</p> <p>SARGENT & LUNDY</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p>SC-3 (M)</p> <p>WG-3.4 (M)</p>

SHEMANSKI, P.C. (PAUL) US NUCLEAR REGULATORY COMMISSION [REDACTED] [REDACTED]	[REDACTED] [REDACTED]	WG-3.4(S)

NPEC Summary for Meetings A02-1 and N02-1

1. NPEC AdCom met "virtually" by telephone (using Placeware software available from IEEE) on March 5, 2002 and the full committee met in Las Vegas, NV on March 14, 2002.
2. NPEC is one of 17 technical committees and six (non-technical) standing committees that report to the IEEE Power Engineering Society (PES) Technical Council. The Technical Council is presently composed of the Chairpersons of the PES Technical Committees, plus the chairs of Standing Committees and is chaired by the PES VP of Technical Activities.
3. SC-3 had six representatives (Kasturi, Horvath, Colaianni, Leung, Bharteey, and Dureja) at the NPEC full committee meeting.
4. Vince Bacanskas is now working at FitzPatrick on loan from INPO. He has resigned as chair of SC-2 (Qualification) and has been replaced by Satish Aggarwal.
5. John MacDonald has replaced Barry Skoras as Chair of SC-4 (Auxiliary Power). John has accepted a promotion on the non-nuclear side of his utility.
6. Brit Grim (past chair of NPEC) has received the PES Distinguished Service Award. The PES website for future award nominations is operational.
7. The March 2002 issue of *The Institute* has a good article on network conferencing.
8. Angelo Marinos reported that the NRC was happy with the new revision of IEEE Std 379 (Single Failure Criterion) and will be endorsing it with a Regulatory Guide.
9. Sonny Kasturi offered several suggestions: 1. All NPEC standards should be reviewed and classified as either a. frozen in time (and do interpretations only) or b. continue to improve. 2. During PAR process the originator should clearly state the intended changes and the value of the changes. 3. The current five year cycle should be reduced to three years. See Page 4 of the NPEC N02-1 minutes for additional details and discussion.
10. At future meetings, subcommittee chairs will be asked to discuss emerging issues under their cognizance in their reports.
11. Paul Colaianni provided a report to address NPEC Goal 6 (improving IEEE standards for license renewal. NPEC accepted WG-3.4 recommendations.
12. The standards coordinator report (showing current status of all NPEC standards) can be viewed as Attachment Q to the NPEC N02-1 meeting minutes.
13. The NPEC meeting N02-1 minutes can be found at: <http://grouper.ieee.org/groups/npec/private/npec-minutes-and-attachments-0201.pdf>
14. Future NPEC Meetings:

02-2 will be in Phoenix, AZ - SC5 (WG-5.2 Conference on Human Factors) (Sept. 15-19)

03-1 New Orleans – John MacDonald has lead.

03-2 Boston – Jack Carter has lead.

04-1 Augusta, GA possible tour of Savannah River Facility, TJ Voss has lead

Prepared by

David A. Horvath

Liaison Report

J. P. Vora, Office of Nuclear Regulatory Research

P. C. Shemanski, Office of Nuclear Reactor Regulation**August 2002**

The following topics and activities would be of interest to the members of the IEEE/NPEC SC-3, "Operations, Maintenance, Aging and Testing."

GSI-168, Environmental Qualification of Low-Voltage I&C Cables

The RES staff has completed the technical assessment of the Generic Safety Issue GSI-168. On June 6, 2002, the staff met with the Advisory Committee on Reactor Safeguards (ACRS) and presented the technical assessment. The technical assessment was also transmitted to NRR for appropriate action in accordance with Management Directive 6.4, "Generic Issues Program." NRR is currently developing a generic communication to notify addresses of the results of the Technical Assessment of GSI-168.

Ongoing Research Activities**A. Power Cables**

Research has been completed on aging assessment of safety-related power cables used in commercial nuclear power plants. Predominant aging characteristics have been identified and potential condition monitoring methods have been evaluated. The final report is under staff review prior to its publication.

B. Splices

Research has been completed on the evaluation of aging and environmental qualification practices for safety-related cable splices used in commercial nuclear power plants. Predominant aging characteristics have been identified and potential condition monitoring methods have been evaluated. The final report is under staff review prior to its publication.

C. Risk Significance of Cable Aging

(I) NUREG/CR-5632, "Incorporating Aging Effects into Probabilistic Risk Assessment - A Feasibility Study Utilizing Reliability Physics Models has been published. The report describes the results of a feasibility study of modeling aging by incorporating a flow accelerated corrosion model into PRA. The application of the methodology will now be evaluated for the treatment of cable aging in PRA.

(II) A new research activity has been initiated to estimate the contribution to the core damage frequency from the aging of in-containment I&C cables, as a function of plant age.

D. Study of Fuses

NUREG-1760, "Aging Assessment of Safety-Related Fuses in Low and Medium Voltage Applications in Nuclear Power Plants" has been published. The aging assessment was performed to determine if aging degradation is a concern for fuses in older nuclear power plants.

Wire System Safety**A. International Conference on Wire System Aging**

During April 23-25, 2002, the NRC/RES sponsored an International Conference on Wire System Aging in Rockville, Maryland. The conference was open to the public and over 100 persons attended. Nine foreign

countries were represented. Conference proceedings is under development and will be published in 2002.

B. OECD/NEA Cable Task Group

Under the auspices of OECD/CSNI/IAGE a Cable Task Group has been established to prepare a report describing research efforts related to the wire system aging in the member countries. This report will include conclusions and recommendations on issues that should be further pursued by the activities. The Task Group's activities and report will complement and build on the recent and ongoing efforts by other organizations. Jit Vora is the chair of the Cable Task Group. The next meeting is scheduled for September 26-27, 2002 at NEA in Paris, France.

Technical Issues Related to License Renewal

In March report we had discussed two technical issues related to license renewal.

1. Station Blackout (SBO) Based upon the issuance of the staff guidance (ISG-2) this issue is closed. The NRR staff position was issued on April 1, 2002.
2. Treatment of Non-EQ Cables. The staff has reviewed whether a choice to use either XI.E1 (visual inspection) or XI.E2 (calibration test) from the GALL report is not clear for a non-EQ cable aging management program (AMP). During May 29, 2002 meeting with NEI the staff explained that each AMP has sufficient detail and no further clarification is necessary.

Regulatory Guides

The staff issued for public comment a draft Regulatory Guide DG-1118 (Proposed Revision 1 to Regulatory Guide 1.53), "Application of the Single Failure Criterion to Safety Systems." The draft regulatory guide endorses IEEE Std. 379-2000, "Application of the Single Failure Criterion to Nuclear Power Generating Station Safety Systems" with out any exceptions. Public comments have been received and the staff is reviewing the comments and proceeding with their resolution.

NRC Regulatory Issue Summary 2002-11

On August 9, 2002, NRR issued Regulatory Issue Summary (RIS) 2002-11 on Requalification Program Test Results for Okonite-Okolon Single-Conductor Bonded-Jacket Cable (follow up to RIS 2000-25). The RIS summarizes the results of Okonite's recent qualification test program. The RIS does not transmit any new requirements or staff positions. No specific action or written response is required.