



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

January 31, 2013

NOTE TO: File

FROM: Sherry Meador **/RA/**
Technical Secretary, ACRS

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
THE ADVISORY COMMITTEE ON REACTOR
SAFEGUARDS 596th FULL COMMITTEE MEETING
HELD ON JULY 11-13, 2012 IN ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on July 26, 2012, as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment:
As stated



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

July 26, 2012

MEMORANDUM TO: ACRS Members

FROM: Sherry Meador /RA/
 Technical Secretary, ACRS

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
 THE ADVISORY COMMITTEE ON REACTOR
 SAFEGUARDS 596th FULL COMMITTEE MEETING
 HELD ON JULY 11-13, 2012 IN ROCKVILLE, MARYLAND

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FROM: Sherry Meador **/RA/**
Technical Secretary, ACRS

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
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SAFEGUARDS 596th FULL COMMITTEE MEETING
HELD ON JULY 11-13, 2012 IN ROCKVILLE, MARYLAND

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Attachment:
As stated

Accession No: **ML13031A149** Publicly Available **Y** Sensitive **N**
Viewing Rights: NRC Users or ACRS Only or See Restricted distribution

OFFICE	ACRS	SUNSI Review	ACRS	
NAME	SAMeador	SAMeador	CSantos	
DATE	01/31/13	01/31/13	01/31/13	

OFFICIAL RECORD COPY

MINUTES OF THE 596th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

ROCKVILLE, MARYLAND

The 596th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room T2B1, Two White Flint North Building, 11545 Rockville Pike, Rockville, Maryland, on July 11-13, 2012. A copy of the meeting agenda is attached.

The summary report from the ACRS Chairman to the NRC Chairman contains the following information for this meeting: (1) an accurate description of each matter discussed and (2) a list of all the documents issued or approved by the Committee. A copy of the summary report is attached. The documents received by the Committee are listed in the references of each committee letter associated with this meeting.

A transcript of selected portions of the meeting is available in the NRC's public document room (pdresource@nrc.gov or 1-800-397-4209), or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS), or at <http://www.nrc.gov/reading-rm/doc-collections/acrs/agenda/>. The presentation slides and handouts used during the meeting are attached to these transcripts.

ATTENDANCE:

ACRS Members

Dr. J. Sam Armijo (Chairman), Mr. John Stetkar (Vice-Chairman), Mr. Harold Ray (Member-at-Large), Dr. Sanjoy Banerjee, Mr. Charles Brown, Dr. Michael Corradini, Dr. Joy Rempe, Dr. Michael Ryan, Mr. Gordon Skillman, Dr. William Shack, and Mr. John Sieber. Dennis Bley and Stephen Schultz did not attend this meeting

ACRS Staff

E. Hackett
A. Dias
C. Santos
W. Wang
C. Brown
H. Nourbakhsh
D. Widmayer
J. Lai
P. Wen

A list of other attendees is attached.



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 – 0001**

**AGENDA
596th ACRS MEETING
July 11-13, 2012**

**WEDNESDAY, JULY 11, 2012, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE,
ROCKVILLE, MD**

- 1) 8:30 AM - 8:35 AM Opening Remarks by the ACRS Chairman (Open) (JSA/EMH)
1.1) Opening Statement
1.2) Items of Current Interest
- 2) 8:35 AM - 10:00 AM Development of Interim Staff Guidances (ISGs) Supporting the
Near-Term Task Force (NTTF) Tier 1 Orders (Open) (JSA/AFD)
2.1) Remarks by the Subcommittee Chairman
2.2) Briefing by and discussions with representatives of the
NRC staff regarding the development of ISGs supporting
the three Orders (EA-12-049, -050, and -051) issued on
March 12, 2012 addressing some of the NTTF Tier 1
recommendations.
- 10:00 AM - 10:15 AM *** BREAK *****
- 3) 10:15 AM - 11:45 AM NUREG-1934, "Nuclear Power Plant Fire Modeling Analysis
Guidelines" (Open) (JWS/JCL)
3.1) Remarks by the Subcommittee Chairman
3.2) Briefing by and discussions with representatives of the
NRC staff, their contractors, and EPRI regarding the
development of NUREG-1934, "Nuclear Power Plant Fire
Modeling Analysis Guidelines"
- 11:45 AM - 12:45 PM *** LUNCH *****

4) 12:45 PM - 2:45 PM

St. Lucie Unit 2 Extended Power Uprate Application

(Open/Closed) (JLR/WW)

- 4.1) Remarks by the Subcommittee Chairman
- 4.2) Briefing by and discussions with representatives of the NRC staff and Florida Power & Light Company regarding the St. Lucie Unit 2 Extended Power Uprate Application.

[NOTE: A portion of this session may be closed in order to discuss and protect information designated as proprietary, pursuant to 5 U.S.C 552b(c)(4)]

2:45 PM - 3:00 PM

***** BREAK *****

5) 3:00 PM - 4:30 PM

Technical Basis for Regulating Extended Storage and Transportation of Spent Nuclear Fuel (Open) (MTR/CLB)

- 5.1) Remarks by the Subcommittee Chairman
- 5.2) Briefing by and discussions with representatives of the NRC staff regarding the technical basis for regulating extended storage and transportation of spent nuclear fuel.

4:30 PM - 4:45 PM

***** BREAK *****

6) 4:45 PM - 7:00 PM

Preparation of ACRS Reports (Open/Closed)

- 6.1) Development of ISGs Supporting the NTF Tier 1 Orders (JSA/AFD)
- 6.2) NUREG-1934, "Nuclear Power Plant Fire Modeling Analysis Guidelines" (JWS/JCL)
- 6.3) St. Lucie Unit 2 Extended Power Uprate Application (JLR/WW)
- 6.4) Technical Basis for Regulating Extended Storage and Transportation of Spent Nuclear Fuel (MTR/CLB)

[NOTE: A portion of this session may be closed in order to discuss and protect information designated as proprietary, pursuant to 5 U.S.C 552b(c)(4)]

**THURSDAY, JULY 12, 2012, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE,
ROCKVILLE, MD**

- 7) 8:30 AM - 10:00 AM Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (JSA/EMH)
- 7.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the Full Committee during future ACRS meetings.
- 7.2) Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, including anticipated workload and member assignments.

[NOTE: A portion of this meeting may be closed pursuant to 5 U.S.C. 552b (c) (2) and (6) to discuss organizational and personnel matters that relate solely to internal personnel rules and practices of ACRS, and information the release of which would constitute a clearly unwarranted invasion of personal privacy.]

- 8) 10:00 AM - 10:15 AM Reconciliation of ACRS Comments and Recommendations (Open) (JSA/EMH/CS)
- Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

10:15 AM - 11:00 AM * BREAK *****

- 9) 11:00 AM - 12:00 PM Assessment of the Quality of Selected NRC Research Projects (Open) (MLC/HPN)
- 9.1) Remarks by the Subcommittee Chairman
- 9.2) Discussions with members of the ACRS panels performing the quality assessment of the following NRC research projects:
- NUREG-1953, "Confirmatory Thermal-Hydraulic Analysis to Support Specific Success Criteria in the Standardized Plant Analysis Risk Models-Surry and Peach Bottom"

- NUREG/CR-7040, "Evaluation of JNES Equipment Fragility Tests for Use in Seismic Probabilistic Risk Assessments for U.S. Nuclear Power Plants"

12:00 PM - 1:00 PM

***** LUNCH *****

10) 1:00 PM - 7:00 PM

Preparation of ACRS Reports (Open/Closed)

Continue discussion of the proposed ACRS reports listed under Item 6. There may be 15-minute breaks at some points during this activity.

[NOTE: A portion of this session may be closed in order to discuss and protect information designated as proprietary, pursuant to 5 U.S.C 552b(c)(4)]

FRIDAY, JULY 13, 2012, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE, ROCKVILLE, MD

11) 8:30 AM - 12:00 PM

Preparation of ACRS Reports (Open/Closed)

Continue discussion of the proposed ACRS reports listed under Item 6. There may be 15-minute breaks at some points during this activity.

[NOTE: A portion of this session may be closed in order to discuss and protect information designated as proprietary, pursuant to 5 U.S.C 552b(c)(4)]

12:00 PM - 1:00 PM

***** LUNCH *****

12) 1:00 PM - 4:30 PM

Preparation of ACRS Reports (Open/Closed)

Continue discussion of the proposed ACRS reports listed under Item 6. There may be 15-minute breaks at some points during this activity.

[NOTE: A portion of this session may be closed in order to discuss and protect information designated as proprietary, pursuant to 5 U.S.C 552b(c)(4)]

- 13) 4:30 PM - 5:00 PM Miscellaneous (Open) (JSA/EMH)
Discussion of matters related to the conduct of Committee activities and specific issues that were not completed during previous meetings, as time and availability of information permit.

NOTES:

- When appropriate, members of the public and representatives of the nuclear industry may provide their views during the briefings.
- During the meeting, phone number 301-415-7360 should be used in order to contact anyone in the ACRS Office.
- Presentation time should not exceed 50 percent of the total time allocated for a given item. The remaining 50 percent of the time is reserved for discussion.
- Thirty five (35) hard copies and one (1) electronic copy of the presentation materials should be provided to the ACRS in advance of the briefing.
- One (1) electronic copy of each presentation should be emailed to the Designated Federal Official 1 day before the meeting. If an electronic copy cannot be provided within this timeframe, presenters should provide the Designated Federal Official with a CD containing each presentation at least 30 minutes before the meeting.



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, DC 20555 - 0001**

August 1, 2012

The Honorable Allison M. Macfarlane
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT – 596th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, JULY 11-13, 2012

Dear Chairman Macfarlane:

During its 596th meeting, July 11-13, 2012, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports, letters, and memorandum:

REPORTS

Reports to Allison M. Macfarlane, Chairman, NRC, from J. Sam Armijo, Chairman, ACRS:

- SECY-12-0081, "Risk-Informed Regulatory Framework for New Reactors," dated July 17, 2012
- Final Safety Evaluation Report Associated with the Florida Power and Light St. Lucie, Unit 2, License Amendment Request for an Extended Power Uprate, dated July 23, 2012

LETTERS

Letters to R. W. Borchardt, Executive Director for Operations, NRC, from J. Sam Armijo, Chairman, ACRS:

- Draft Interim Staff Guidance Documents in Support of Tier 1 Orders, dated July 17, 2012
- Draft Final NUREG-1934 (EPRI 1023259), "Nuclear Power Plant Fire Modeling Analysis Guidelines (NPP FIRE MAG)," dated July 19, 2012

MEMORANDUM

Memorandum to R. W. Borchardt, Executive Director for Operations, NRC, from Edwin M. Hackett, Executive Director, ACRS:

- Proposed Regulatory Guides DG-1282, DG-3042, and DG-1269, dated July 16, 2012

HIGHLIGHTS OF KEY ISSUES

1. Draft Interim Staff Guidance Documents in Support of Near-Term Task Force (NTTF) Tier 1 Orders

The Committee met with representatives of the NRC staff to discuss the three Interim Staff Guidance (ISG) documents being developed for assisting nuclear power reactor applicants and licensees with the identification of measures needed to comply with requirements contained in the three Tier 1 Orders (EA-12-049, EA-12-050, and EA-12-051), issued on March 12, 2012. These three ISGs are: JLD-ISG-2012-01 on the requirements for mitigation strategies for beyond-design-basis external events, JLD-ISG-2012-02 on the need for reliable hardened containment vents, and JLD-ISG-2012-03 on the need for reliable spent fuel pool instrumentation. A member of the public addressed the ACRS on related matters.

Committee Action

The Committee issued a letter to the EDO on this matter dated July 17, 2012, providing specific recommendations for each of these ISGs:

JLD-ISG-2012-01: Compliance with Order EA-12-049, Requirements for Mitigation Strategies for Beyond-Design-Basis External Events

- The special allowance that permits only a single backup for FLEX equipment serving multiple units should be reconsidered.
- The staff should provide guidance to address the use, or development if necessary, of appropriate standards for FLEX quality requirements.
- Hazard evaluations should also account for correlated damage that is caused by extreme natural events that may adversely affect FLEX equipment availability or mitigation strategies.

JLD-ISG-2012-02: Compliance with Order EA-12-050, Reliable Hardened Containment Vents

- The staff should review the requirement that the venting system be able to accommodate decay heat levels up to 1% of licensed/rated thermal power to assure that it addresses an appropriate range of scenarios.
- The staff should provide a clearer definition of "seismically rugged design."

JLD-ISG-2012-03: Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation

- The ISG should be modified to specify that the resolution of spent fuel pool (SFP) water level measurements be adequate to detect pool draining quickly and accurately.
- The ISG should be modified to specify direct measurement of temperature in the SFP.
- The ISG should be modified to specify the capability to display pool levels and temperatures as a function of time.

2. Draft Final NUREG-1934 (EPRI 1023259), "Nuclear Power Plant Fire Modeling Analysis Guidelines (NPP FIRE MAG)"

The Committee met with representatives of the NRC staff and their contractor, the Electric Power Research Institute (EPRI), and the National Institute of Standards and Technology (NIST) to discuss the draft report NUREG-1934 (EPRI 1023259), "Nuclear Power Plant Fire Modeling Analysis Guidelines (NPP FIRE MAG)."

The staff and EPRI stated that the purposes of the report are to provide updated fire model information, to show verification and validation (V&V) study enhancements, to give model validity ranges, to discuss uncertainty analysis, and to provide more realistic examples. The staff also stated that this report serves as the text book for NRC/EPRI fire probabilistic risk analysis (PRA) advanced modeling course.

The NRC contractor and NIST summarized the results of V&V study, the model validation ranges, and improved model uncertainty metrics. They also discussed how to address fire scenarios if the parameters are out of the model validation range.

Committee Action

The Committee issued a letter to the EDO on this matter dated July 19, 2012, concluding that NUREG-1934 provides valuable guidance on the use of fire modeling techniques to support nuclear power plant fire analysis applications. The Committee recommended publication of this report after the following recommendations are addressed: (1) Section 1.6.2 should be revised to clarify the guidance and objectives for modeling fire-induced circuit failures for deterministic licensing applications and for risk-informed, performance-based applications and (2) the uncertainty analysis examples should be expanded to better describe how the uncertainty results could affect the fire modeling conclusions and applications. The Committee also recommended that after NUREG-1934 is issued, the staff develop a separate case study to demonstrate how uncertainties are assessed and quantified in an integrated analysis of a typical nuclear power plant fire hazard and its consequential fire damage scenarios.

3. Final Safety Evaluation Report Associated with the Florida Power and Light St. Lucie, Unit 2, License Amendment Request for an Extended Power Uprate

The Committee met with representatives of the NRC staff and Florida Power and Light Company (FPL) regarding the St. Lucie, Unit 2, (St. Lucie 2) extended power uprate (EPU) application and the staff's associated draft safety evaluation. FPL applied for a power uprate of approximately 12 % above the currently licensed power of 2700 megawatts thermal (MWt) to 3020 MWt. FPL provided an overview of the EPU application, discussed the acceptability of a single control room simulator for both St. Lucie units, and described the change in peak cladding temperatures for large and small break loss of coolant accidents as a result of the EPU. The primary focus of the remaining discussion was on steam generator (SG) tube performance. The two SGs were replaced in 2007, and after two cycles of operation at the currently licensed thermal power level, inspections revealed a number of tube-to-anti-vibration bar wear indications. FPL presented their root cause evaluation, the effects of EPU conditions on SG tube degradation, and their review of SG tube degradation at San Onofre. FPL also described their SG program and concluded that tube integrity will continue to be maintained under EPU conditions. The staff presented their evaluation of thermal conductivity degradation (TCD) for the fuel rod performance model used by FPL. With the addition of a license condition, the staff concluded that St. Lucie 2 fuel rod designs satisfy design requirements under EPU conditions.

Committee Action

The Committee issued a report to the NRC Chairman on this matter, dated July 23, 2012, recommending that the EPU license amendment request for St. Lucie 2 be approved subject to the conditions imposed in the staff's draft safety evaluation. The Committee also concluded that the fuel TCD phenomena at St. Lucie 2 are addressed by a license condition and that FPL's action plan addresses concerns related to further wear of the tubes in the replacement SGs.

4. Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel

The Committee met with representatives of the NRC staff, EPRI, NEI, and the Department of Energy (DOE) regarding technical information needs affecting potential regulation of extended storage and transportation (EST) of spent nuclear fuel (SNF). The EST Program is focused on identifying and addressing the technical and regulatory considerations for ensuring effective regulation of SNF storage and subsequent transportation over extended periods. The staff discussed a draft report entitled, "Identification and Prioritization of Technical Information Needs Affecting Potential Regulation of Extended Storage and Transportation of Spent Nuclear Fuel." This report addresses staff's evaluation of the degradation phenomena that may affect dry cask storage systems and how these phenomena may affect the ability of the systems to fulfill their regulatory functions. EPRI, NEI, and DOE representatives discussed their perspectives and efforts on extended storage and transportation of spent nuclear fuel.

Committee Action

The Committee will continue its discussion of the technical information needs affecting potential regulation of extended storage and transportation of spent nuclear fuel noted above during its September 6-8, 2012, meeting.

5. Assessment of the Quality of Selected NRC Research Projects

The Committee discussed the status of the ACRS Panels' review of the quality assessment of NRC research projects on NUREG-1953, "Confirmatory Thermal-Hydraulic Analysis to Support Specific Success Criteria in the Standardized Plant Analysis Risk Models – Surry and Peach Bottom," and NUREG/CR-7040, "Evaluation of JNES Equipment Fragility Tests for Use in Seismic Probabilistic Risk Assessments for U.S. Nuclear Power Plants."

Committee Action

The Committee will continue its discussion of the quality assessment of the research projects noted above during its September 6-8, 2012, meeting.

6. Proposed Regulatory Guides DG-1282, DG-3042, and DG-1269

The Committee considered the following proposed draft regulatory guides and decided not to review them. The Committee has no objection to the staff's proposal to issue these Guides for public comment but would like an opportunity to review the draft final versions of these Guides following the public comment period.

- Proposed Revision 2 to Regulatory Guide 1.137 (DG-1282), "Fuel Oil Systems for Emergency Power Supplies"
- Proposed Revision 2 to Regulatory Guide 3.50 (DG-3042), "Standard Format and Content for a License Application for an Independent Spent Fuel Storage Installation or a Monitored Retrievable Storage Facility"
- Proposed Revision 3 to Regulatory Guide 1.129 (DG-1269), "Maintenance, Testing, and Replacement of Vented Lead-Acid Storage Batteries for Nuclear Power Plants"

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the EDO's response of May 30, 2012, to comments and recommendations included in the April 23, 2012, ACRS letter on the Extremely Low Probability of Rupture Project. The Committee was satisfied with the EDO's response.

- The Committee considered the EDO's response of May 29, 2012, to comments identified in the April 25, 2012, ACRS letter regarding the Progress Energy Florida Combined License Application for Levy Nuclear Plant, Units 1 and 2. The Committee was satisfied with the EDO's response. At the Committee's request, the staff committed to brief the ACRS on guidance for probabilistic tsunami hazard assessment and external hazards screening per Regulatory Guide 1.200.
- The Committee considered the EDO's response of May 30, 2012, to comments and recommendations included in the April 26, 2012, ACRS letter on the draft Commission paper titled "Risk-Informed Regulatory Framework for New Reactors." The Committee was not satisfied with the EDO's response. The Committee issued a response to the NRC Chairman on this matter dated July 17, 2012, recommending that the Commission consider an option that would employ relative measures of the change in risk as a metric for significance, rather than the absolute measures that were stated in SECY-12-0081.
- The Committee considered the EDO's response of May 31, 2012, to comments and recommendations included in the April 25, 2012, ACRS letter on Chapters 6, 7, 15, and 18 of the Safety Evaluation Report associated with the Calvert Cliffs Nuclear Plant, Unit 3, Combined License Application. The Committee was satisfied with the EDO's response.
- The Committee considered the NRC Chairman's response of June 18, 2012, to comments and recommendations included in the April 3, 2012, ACRS report on the Review and Evaluation of the NRC Safety Research Program. The Committee appreciated and agreed with the Chairman's response.

SCHEDULED TOPICS FOR THE 597th ACRS MEETING

The following topics are scheduled for the 597th ACRS meeting, to be held on September 6-8, 2012:

- Interim Staff Guidance 8, Revision 3, "Burnup Credit in the Criticality Safety Analyses of PWR Spent Fuel in Transport and Storage Casks"
- Draft Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants"
- Assessment of the Quality of Selected NRC Research Projects- FY 2012
- Selected Chapters of the Safety Evaluation Reports Associated with the US-APWR Design Certification and the Comanche Peak Combined License Application

Sincerely,

/RA/

J. Sam Armijo
Chairman

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

596TH Full Committee Meeting

JULY 11th, 2012
Date

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	<u>NAME</u>	<u>AFFILIATION</u>
1	Ken Wilson	FPC/CR3
2	Kevin McGrattan	NIST
3	Roxy Gil	FPL
4	Jeff Fleck	AREVA
5	STEVE HALE	FPL
6	Michel Bioulat	AREVA
7	Francisco Jegen	HAAD / KGRS
8	Chris Wasik	New/Eic Energy
9	Jack Hoffman	FPL
10	Jay Kabad	FPL
11	Dave Brown	FPL
12	Todd Horton	APL
13	Joe Jensen	FPL
14	Steve Hamrick	FPL
15	Doug Atkins	WEC
16	Terry Jones	FPL
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

596th Full Committee Meeting

July 11, 2011

Date

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NAME	NRC ORGANIZATION
1 Lisa Renner	NRR/JLD
2 Eric Bowman	NRR/OPR
3 Eileen McKenna	NRO/DSRA
4 Milt Murray	NRC/NSIR
5 Ryan Nolan	NRO/DSRA
6 Jana Bergman	Sciencetech
7 Ken Witsen	
8 David Rath	NRO/NRR/DE/EICB
9 Robert Taylor	NRR/JLD
10 Terry Jackson	NRO/DE/ICE
11 Jack Zhao	NRO/DE/ICE
12 Raul Hernandez	NRO/DSRA/SPBP
13 Steve Jones	NRR/DSS/SBPR
14 Tim Collins	NRR/DSS
15 Bill Kuland	NRR/DSS
16 Jerome Bettle	NRR/DSS
17 Sheiba Tafazzoli	NRR/EICB
18 RICHARD CORREIA	RES/DRA
19 ROBERT FRENZ	NRR/JLD/PMB
20 Naeem TOBAL	NRR/DRA/AFPB
21 Ray Gallucci	NRR/DRA/APLA
22 Gabriel Taylor	ROS/DRA/FRB
23 Brian Metzger	NRR/DRA/AFPB
24 Daniel Frumkin	NRR/DRA/AFPB
25 Torico Sweet	NRO/DSRA/BPTS
26 David Stroup	RES/DRA/FRB
27 DENNIS ANDRUKET	NRR/DRA/AFPB
28 Greg Makar	NRO/DE/CIB
29 Summer Sun	NRR/DSS/ISRXIS

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

596th Full Committee Meeting

July 11, 2011

Date

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<u>NAME</u>	<u>NRC ORGANIZATION</u>
1 Louise Lund	NRR/DORL
2 Andrew Proffitt	NRR/DSS/SNFB
3 Paul Clifford	NRR/DSS
4 Tim Mossman	NRR/EICB
5 Michele Evans	NRR/DORL
6 Jen Gal	NRR/DSS/SNFB
7 Gush Singh	NRR/EICB
8 Pong Chung	NRR/EICB
9 Paul Klein	NRR/ESGB
10 KATH COMPTON	NMSS/SFAS
11 Chelsea Collins	NEI
12 Steven Bygott	OCM/GA
13 Greg Oberson	RESIDE
14 Mary Nichol	NEI
15 Banad Jagannath	NRC/NMSS/STB
16 Bret Heslie	NMSS
17 Bruce Lin	RES/DE
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
596th FULL COMMITTEE MEETING

July 11-13th, 2012

PLEASE PRINT

TODAY'S DATE: July 12th, 2012

	<u>NAME</u>	<u>AFFILIATION</u>
1	Jack Hoffman	FPL
2	STEVE HALE	FPL
3	Jay Kabad	FPL
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
596th FULL COMMITTEE MEETING
July 6-8th, 2012

PLEASE PRINT

TODAY'S DATE: July 12th, 2012

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1	Trace of	NRR/DORL
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