



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

January 23, 2014

NOTE TO: FILE

FROM: Sherry Meador, Technical Secretary */RA/*
Advisory Committee on Reactor Safeguards

The minutes of the subject meeting were certified on October 18, 2014 as the official record of the proceedings of that meeting.



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

October 21, 2013

MEMORANDUM TO: ACRS Members

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

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
THE ADVISORY COMMITTEE ON REACTOR
SAFEGUARDS 608th FULL COMMITTEE MEETING
HELD ON OCTOBER 2-5, 2013, IN ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on October 18, 2013 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**

October 18, 2013

MEMORANDUM TO: Sherry Meador, Technical Secretary
Advisory Committee on Reactor Safeguards

FROM: J. Sam Armijo */RA/*
ACRS Chairman

SUBJECT: MINUTES OF THE 608th MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS (ACRS),
OCTOBER 2-5, 2013

I hereby certify, to the best of my knowledge and belief, that the minutes of the subject meeting are an accurate record of the proceedings for that meeting.

OFFICE	ACRS	ACRS:RSB/Sunsi
NAME	SMeador	CSantos/sam
DATE	10/18/13	10/18/13

OFFICIAL RECORD COPY

MINUTES OF THE 608th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

ROCKVILLE, MARYLAND

The 608th 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 October 2-5, 2013. A copy of the meeting agenda is attached.

The summary report ML13295A482 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 (pdr.resource@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.

ATTENDEES

ACRS Members

Dr. J. Sam Armijo (Chairman), Mr. John Stetkar (Vice-Chairman), Mr. Harold Ray (Member-at-Large), Dr. Sanjoy Banerjee, Dr. Ronald Bellinger, Dr. Dennis Bley, Mr. Charles Brown, Dr. Michael Corradini, Dr. Pete Ricardella, Dr. Dana A. Powers, Dr. Joy Rempe, Dr. Michael Ryan, Dr. Stephen Schultz, and Mr. Gordon Skillman.

ACRS Staff

E. Hackett
C. Santos
C. Brown
W. Wong
H. Nourbakhsh

A list of other attendees is attached.



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

**AGENDA
608th ACRS MEETING
OCTOBER 2-5, 2013**

**WEDNESDAY, OCTOBER 2, 2013, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE,
ROCKVILLE, MD**

- | | |
|--------------------------|---|
| 1) 1:30 PM - 1:35 PM | <u>Opening Remarks by the ACRS Chairman</u> (Open) (JSA/EMH)
1.1) Opening Statement
1.2) Items of Current Interest |
| 2) 1:35 PM - 3:30 PM | <u>Spent Fuel Pool Study and Expedited Transfer of Spent Fuel to Dry Cask Storage</u> (Open) (JSA/CLB)
2.1) Remarks by the Subcommittee Chairman
2.2) Briefing by and discussions with representatives of the NRC staff regarding the spent fuel pool study and expedited transfer of spent fuel to dry cask storage |
| 3:30 PM - 3:45 PM | *** BREAK *** |
| 3) 3:45 PM - 5:45 PM | <u>Development of Guidance in Support of Order EA-13-109 on Reliable Hardened Containment Vents</u> (Open) (SPS/WW)
3.1) Remarks by the Subcommittee Chairman
3.2) Briefing by and discussions with representatives of the NRC staff regarding the development of guidance in support of Order EA-13-109 on reliable hardened containment vents |
| 5:45 PM - 6:00 PM | *** BREAK *** |
| 4) 6:00 PM – 7:00 PM | <u>Preparation of ACRS Reports</u>
4.1) Spent Fuel Pool Study and Expedited Transfer of Spent Fuel to Dry Cask Storage (JSA/CLB)
4.2) Development of Guidance in Support of Order EA-13-109 on Reliable Hardened Containment Vents (SPS/WW)
4.3) Draft Final Regulatory Guides 1.79 and 1.79.1 (GRS/ZA) |

THURSDAY, OCTOBER 3, 2013, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE, ROCKVILLE, MD

- 5) 5:15 PM – 7:00 PM Preparation of ACRS Reports
Continue discussion of the proposed ACRS reports listed under Item 4

FRIDAY, OCTOBER 4, 2013, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE, ROCKVILLE, MD

- 6) 8:30 AM - 8:35 AM Opening Remarks by the ACRS Chairman (Open) (JSA/EMH)
6.1) Opening Statement
- 7) 8:35 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 the 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 - 10:30 AM

***** BREAK *****

- 9) 10:30 AM – 11:30 AM Assessment of the Quality of Selected NRC Research Programs – FY 2013 (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/CR-7026: Application of Model Abstraction Techniques to Simulate Transport in Soils
 – NUREG-2121: Fuel Fragmentation, Relocation, and Dispersal During the Loss-of-Coolant Accident
- 10) 11:30 AM – 12:30 PM Draft Report on the Biennial ACRS Review of the NRC Safety Research Program (Open) (MLC/HPN)
Discussion of the draft report on the biennial ACRS review of the NRC Safety Research Program

12:30 PM - 1:30 PM

***** LUNCH *****

- 11) 1:30 PM - 7:00 PM Preparation of ACRS Reports
Continue discussion of the proposed ACRS reports listed under Item 4

SATURDAY OCTOBER 5, 2013, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE, ROCKVILLE, MD

- 12) 8:35 AM - 11:30 AM Preparation of ACRS Reports (Open)
Continue discussion of the proposed ACRS reports listed under Item 4
- 13) 11:30 AM - 12:00 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, 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**

October 31, 2013

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

**SUBJECT: SUMMARY REPORT - 608th MEETING OF THE ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS, OCTOBER 2-5, 2013**

Dear Chairman Macfarlane:

During its 608th meeting, October 2-5, 2013, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following letters and memoranda:

LETTERS

Letters to Mark A. Satorius, Executive Director for Operations, NRC, from J. Sam Armijo, Chairman, ACRS:

- Regulatory Guide 1.79, "Preoperational Testing of Emergency Core Cooling Systems for Pressurized-Water Reactors," Revision 2, and Regulatory Guide 1.79.1, "Initial Test Program of Emergency Core Cooling Systems for New Boiling-Water Reactors," Revision 0, dated October 8, 2013
- Interim Staff Guidance JLD-ISG-2013-02, "Compliance with Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions," dated October 18, 2013

MEMORANDA

Memoranda to Mark A. Satorius, Executive Director for Operations, NRC, from Edwin M. Hackett, Executive Director, ACRS:

- WCAP-17577, dated October 7, 2013
- Draft Revision to Standard Review Plan Section, dated October 7, 2013
- Draft Final Regulatory Guide 1.73, dated October 7, 2013

HIGHLIGHTS OF KEY ISSUES

1. Expedited Transfer of Spent Fuel to Dry Cask Storage

The Committee met with representatives of the NRC staff to discuss draft Commission memorandum on the evaluation and preliminary recommendation for the Japan lessons learned Tier 3 item on expedited transfer of spent fuel to dry cask storage. The staff discussed the expedited fuel transfer analysis process, key inputs and assumptions, sensitivity analyses, and results for U.S. spent fuel pools except for those in Western states. The staff's recommendation is to not pursue expedited transfer of spent fuel to dry cask storage and close the Tier 3 Japan lessons learned activity. Remarks were made by a staff member in the Office of Nuclear Regulatory Research (RES) on expedited fuel movement. Members of the public made comments on expedited fuel movement and the spent fuel pool study.

Committee Action

The Committee will continue its discussion of the staff's evaluation and recommendations concerning expedited transfer of spent fuel to dry cask storage during its December 4-7, 2013 meeting.

2. Development of Guidance in Support of Order EA-13-109 on Reliable Hardened Containment Vents

The Committee met with representatives of the NRC staff and industry to discuss the draft Interim Staff Guidance JLD-ISG-2013-02, dated September 2013, "Compliance with Order EA-13-109, Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable of Operation Under Severe Accident Conditions." During the discussion, the industry representative presented the development of its guidance document, NEI 13-02, "Industry Guidance for Compliance with Order EA-13-109," dated August 2013. The staff presented JLD-ISG-2013-02, in which the staff endorsed the industry guidance with clarifications and exceptions. Key topics included instrument qualification, accident management, design values, anticipatory venting, containment accident pressure, and options for providing additional protection during severe accident conditions. In particular, the industry proposed a design temperature of 545°F for the drywell vent. The staff stated that this value is reasonable for Phase 1 decisions concerning the common wetwell and drywell vent portions. However, postulated severe accident conditions could exceed the proposed design conditions as depicted in NEI 13-02 and supported by previous severe accident analysis.

Committee Action

The Committee issued a letter to the EDO on this matter dated October 18, 2013, recommending that JLD-ISG-2013-02 be issued. The Committee also made the following recommendations: 1) the staff should better define accident scenarios during which drywell venting would be necessary or preferred over wetwell venting, 2) additional combustible gas control measures should be given higher priority, and 3) venting procedures must be developed that do not compromise long term core cooling which depends on containment accident pressure. The ACRS also commented that the margin for protecting the drywell head seal gasket against leakage needs to be confirmed by analysis.

3. WCAP-17577

The Committee considered the Safety Evaluation of draft Revision 2 of WCAP-17577, "Topical Report on ASME Section III Piping and Component Fatigue Analysis Utilizing the WESTEMS," and decided not to review it. The Committee has no objection to the staff's proposal to issue the Safety Evaluation.

4. Draft Revisions to Standard Review Plan Section

The Committee considered the draft revisions to Standard Review Plan Section 9.1.4, "Light Load Handling System and Operations," and decided not to review it.

5. Draft Final Regulatory Guide 1.173

The Committee considered the draft final Revision 1 of Regulatory Guide 1.73, "Qualification Tests for Safety-Related Actuators in Nuclear Power Plants," and decided not to review it. The Committee has no objection to the staff's proposal to issue this Guide.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the EDO's response of August 29, 2013, to comments and recommendations included in the July 22, 2013 ACRS letter on Revisions to Low-Level Radioactive Waste Disposal Requirements (10 CFR Part 61). The Committee decided that it was not satisfied with the EDO's response, but chooses not to respond.

The ACRS Radiation Protection and Nuclear Materials Subcommittee has two future meetings scheduled to discuss the proposed revisions with the U.S. Department of Energy and with other stakeholders, and expects to write another letter report to the Commission on this matter.

SCHEDULED TOPICS FOR THE 609th ACRS MEETING

The following topics are scheduled for the 609th ACRS meeting, to be held on November 7-8, 2013:

- Assessment of the Quality of Selected NRC Research Programs - FY 2013
- Draft Report on the Biennial ACRS Review of the NRC Safety Research Program
- Watts Bar Unit 2 Operating License
- NTTF Recommendation 1: Enhanced Regulatory Framework

Sincerely,

/RA/

J. Sam Armijo
Chairman

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
608th FULL COMMITTEE MEETING

October 2-5, 2013

PLEASE PRINT

TODAY'S DATE: October 2, 2013

	<u>NAME</u>	<u>AFFILIATION</u>
1	Tom Parken	Xcel Energy
2	Phil Anliway	CENG
3	GREG KREMER	EXCELIN
4	Harley Bunt	SOL
5	Terri V. Farthing	GEH / BWROG
6	DIANE D'ARRIGO	NIRS
7	STEVEN KRAFT	NEI
8	Michihito Watanabe	WPA
9	Tom Stevens	NEI
10	Tom	
11	Masaaki Konte	WPA
12	Tim Jackson	NIRS
13	John CLARE	REG
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
608th FULL COMMITTEE MEETING
October 2-5, 2013

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TODAY'S DATE: October 2, 2013

	<u>NAME</u>	<u>NRC ORGANIZATION</u>
1	Don Marksberg	RES/DRA
2	Steve Jones	NRR/DSS
3	Fred Schofer	NRR/DPR
4	Hossein Esmaili	RES/PSA
5	Tim McGinty	NRR/DSS
6	Ian Jung	OEDO
7	Kevin Witt	NRR/SLO
8	Kenichi Watanabe	JNEN
9	Motomu Suzuki	JNES
10	Rebecca Tadesse	OCM/NRC
11	Amy Hardin	OIG/AIGA
12	AS Nzek	RES/DSA
13	Kathy Halvey Gibson	RES/DSA
14	Richard Correia	RES/DRA
15	Alycia Bone	NRR/DPR
16	Dan Brown	NMSS/WCD
17	Steen Byg	OCM/OCM
18	Keith Compton	RES
19	John Dolicoeur	OCM/AMM
20	Dave McIntyre	OPA
21	Michael Johnson	OEDO
22	James Robinson	NMSS
23	PATRICK CASTLEMAN	OCM/KLS
24	Ed Fuller	RES/DE/PSA
25	R. Petrus	NRR/DE/EMCB
26	Nageswara Karipidevi	NRR/DSS/SCVB
27	Jerome Bettle	NRR/DSS/SCVB
28	JOHN PARILLO	NRR/DRA

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
608th FULL COMMITTEE MEETING
October 2-5, 2013

PLEASE PRINT

TODAY'S DATE: October 2, 2013

	<u>NAME</u>	<u>NRC ORGANIZATION</u>
1	R. Peters	NRR / DE / EMCB
2	Nick DiFrancesco	NRR / DORL / LPL3-2
3	Karl Stuebecker	NRR / DE / FICB
4	Francis X. Talbot	NRO / DCIP / QVIB
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