



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

February 6, 2017

NOTE TO: FILE

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

The minutes of the subject meeting were certified on September 23, 2016 as the official record of the proceedings of that meeting.



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

September 23, 2016

MEMORANDUM TO: ACRS Members

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

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
THE ADVISORY COMMITTEE ON REACTOR
SAFEGUARDS 636th FULL COMMITTEE MEETING
HELD ON SEPTEMBER 8-10, 2016, IN ROCKVILLE,
MARYLAND

The minutes of the subject meeting were certified on September 23, 2016 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**

September 16, 2016

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

FROM: Dennis C. Bley */RA/*
ACRS Chairman

SUBJECT: MINUTES OF THE 636th MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS (ACRS),
SEPTEMBER 8-10, 2016

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/SUNSI Review
NAME	SMeador	SMeador
DATE	09/16/2016	09/16/2016

OFFICIAL RECORD COPY

MINUTES OF THE 636th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

ROCKVILLE, MARYLAND

The 636th 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 September 8-10, 2016. A copy of the meeting agenda is attached.

The summary report [ML16277A319] 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. Dennis Bley (Chairman), Dr. Michael Corradini (Vice-Chairman), Dr. Pete Riccardella (Member-at-Large), Dr. Ronald Bellinger, Mr. Charles Brown, Dr. Margaret Chu, Dr. Walter Kirchner, Dr. Jose March-Leuba, Dr. Dana A. Powers, Mr. Harold Ray, Dr. Joy Rempe, Mr. Gordon Skillman, Mr. John Stetkar, and Mr. Matthew Sunseri

ACRS Staff

A. Valentin
M. Banks
P. Wen
C. Antonescu
K. Howard

A list of other attendees is attached.



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

**AGENDA
636th ACRS MEETING
SEPTEMBER 8-10, 2016
11545 ROCKVILLE PIKE, ROCKVILLE, MD**

THURSDAY, SEPTEMBER 8, 2016, CONFERENCE ROOM T-2B1

1) 8:30 AM – 8:35 AM Opening Remarks by the ACRS Chairman (Open) (DCB/ADV)

- 1.1) Opening Statement
- 1.2) Items of Current Interest

2) 8:35 AM – 10:30 AM Turkey Point Combined License Application (Open) (HBR/PCW)

- 2.1) Remarks by the Subcommittee Chairman
- 2.2) Briefings by and discussions with representatives of the NRC staff and Florida Power & Light Company regarding the safety evaluation associated with the Turkey Point Combined License Application (Units 6 and 7)

10:30 AM - 10:45 AM

***** BREAK *****

3) 10:45 AM – 12:15 PM Review of Safety Evaluation Associated with Diablo Canyon Power Plant Units 1 and 2 Digital Replacement of Process Protection System (Open) (CLB/CA)

- 3.1) Remarks by the Subcommittee Chairman
- 3.2) Briefings by and discussions with representatives of the NRC staff regarding the safety evaluation associated with the above subject

12:15 PM - 1:30 PM

***** LUNCH *****

4) 1:30 PM – 3:30 PM Fermi 2 License Renewal Application (Open) (GRS/KH)

- 4.1) Remarks by the Subcommittee Chairman
- 4.2) Briefings by and discussions with representatives of the NRC staff and DTE Electric Company regarding the safety evaluation associated with the Fermi 2 license renewal application

- 5) 3:30 PM – 6:00 PM Preparation of ACRS Reports (Open)
- 5.1) Turkey Point Combined License Application (HBR/PCW)
 - 5.2) Review of Safety Evaluation Associated with Diablo Canyon Power Plant Units 1 and 2 Digital Replacement of Process Protection System (CLB/CA)
 - 5.3) Fermi 2 License Renewal Application (GRS/KH)

FRIDAY, SEPTEMBER 9, 2016, CONFERENCE ROOM T-2B1

- 6) 8:30 AM – 10:00 AM Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (DCB/ADV)
- 6.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the Full Committee during future ACRS meetings
 - 6.2) 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.]

- 7) 10:00 AM – 10:15 AM Reconciliation of ACRS Comments and Recommendations (Open) (DCB/ADV/MLB)
- 7.1) 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 *****

- 8) 10:30 AM – 11:30 AM Research Quality Review Panels (Open) (JLR/HPN)
- 8.1) Discussion of Office of Nuclear Regulatory Research projects

11:30 AM – 12:30 PM * LUNCH *****

- 9) 12:30 PM – 1:30 PM Preparation for October Meeting with Commission (Open)
(DCB/ADV)
9.1) Discussion of the presentations for the upcoming meeting
with the Commission
- 10) 1:30 PM – 6:00 PM Preparation of ACRS Reports (Open)
10.1) Continue discussion of the proposed ACRS reports listed
under Item 5

SATURDAY, SEPTEMBER 10, 2016, CONFERENCE ROOM T-2B1

- 11) 8:30 AM – 11:30 AM Preparation of ACRS Reports (Open)
11.1) Continue discussion of the proposed ACRS reports listed
under Item 5
- 12) 11:30 AM – 12:00 PM Miscellaneous (Open) (DCB/ADV)
12.1) 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 3, 2016

The Honorable Stephen G. Burns
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

SUBJECT: SUMMARY REPORT – 636th MEETING OF THE ADVISORY COMMITTEE ON
REACTOR SAFEGUARDS, SEPTEMBER 8-10, 2016

Dear Chairman Burns:

During its 636th meeting, September 8-10, 2016, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports, letters, and memoranda:

REPORTS

Reports to Stephen G. Burns, Chairman, NRC, from Dennis C. Bley, Chairman, ACRS:

- “Report on the Safety Aspects of the Florida Power and Light Company’s Combined License Application for Turkey Point Units 6 and 7,” dated September 16, 2016
- “Report on the Safety Aspects of the License Renewal Application of the Fermi 2 Nuclear Power Plant,” dated September 16, 2016

LETTERS

Letters to Victor M. McCree, Executive Director for Operations, NRC, from Dennis C. Bley, Chairman, ACRS:

- “Pacific Gas and Electric Diablo Canyon Units 1 and 2 Digital Process Protection System Upgrade License Amendment Request,” dated September 22, 2016
- “Response to the July 5, 2016 Staff Letter Regarding Interim Staff Guidance JLD-ISG-2016-01 for Focused Evaluations and integrated Assessments of Reevaluated Flooding Hazards,” dated September 19, 2016

MEMORANDA

Memoranda to Victor M. McCree, Executive Director for Operations, NRC, from Andrea D. Veil, Executive Director, ACRS:

- “Regulatory Guides,” dated September 16, 2016
 - Draft Regulatory Guide DG-1331, “Service Level I, II, III, and In-Scope License Renewal Protective Coatings Applied to Nuclear Power Plants”
 - Draft Regulatory Guide DG-1337, “Restart of a Nuclear Power Plant Shut Down by a Seismic Event”
 - Draft Regulatory Guide DG-4026, “Preparation of Environmental Reports for Nuclear Power Stations”
 - Draft Final Regulatory Guide 1.231, “Acceptance of Commercial-Grade Design and Analysis Computer Programs Used in Safety-Related Applications for Nuclear Power Plants”
- “Withdrawal of Regulatory Guide,” dated September 15, 2016
 - Regulatory Guide 5.22, “Assessment of the Assumptions of Normality (Employing Individual Observed Values)”
- “Documentation of Receipt of Applicable Official NRC Notices to the Advisory Committee on Reactor Safeguards for September 2016,” dated September 15, 2016

HIGHLIGHTS OF KEY ISSUES

1. Turkey Point Combined License Application

The Committee met with representatives of the NRC staff and Florida Power & Light Company (FPL or applicant) to discuss the Combined License Application (COLA) for the Turkey Point Units 6 and 7. During the meeting, FPL provided an overview of the Turkey Point plant and discussed various topics including population density, sea level rise, deep well Injection system, and aviation accidents core damage frequency. The staff provided an overview of the safety evaluation review and discussed plant-specific issues such as Technical Support Center (TSC) location, TSC power supplies, evaluation time estimate, and aircraft hazards.

Committee Action

The Committee issued a letter report to the NRC Chairman on this matter, dated September 16, 2016, with the following conclusion and recommendations: 1) There is reasonable assurance that Turkey Point Units 6 and 7 can be built and operated without undue risk to the health and safety of the public. The FPL COLA for these units should be approved. 2) The following proposed site-specific departures from the AP1000 design control document should be approved.

- a. Consolidation of the Technical Support Center to provide support to Turkey Point Units 6 and 7.
- b. Meteorological exceedance for the operating basis wind speed and maximum safety and maximum normal wet bulb air temperatures.
- c. Exclusion area boundary minimum distance.

3) Staff should consider if existing guidance for estimating future sea level rise and guidance for location of the TSC should be updated to reflect changing circumstances.

2. Pacific Gas and Electric Diablo Canyon Units 1 and 2 Digital Process Protection Replacement License Amendment Request

The Committee met with representatives of the NRC staff and Pacific Gas and Electric (PG&E) to discuss the Diablo Canyon Power Plant Units 1 and 2 digital process protection system (PPS) replacement license amendment request and the associated draft safety evaluation. During the meeting, PG&E provided an overview of the proposed PPS replacement and discussed the significant issues associated with the replacement. The staff presented an overview of the safety evaluation review. The staff also compared the proposed PPS replacement design to the fundamentals of reliable digital and software-based safety system instrumentation and control design: redundancy, independence, deterministic software cycle processing, diversity and defense-in-depth, and external and internal control of access.

Committee Action

The Committee issued a letter to the Executive Director for Operations on this matter, dated September 22, 2016, with the recommendation that the Diablo Canyon Units 1 and 2 digital process protection system replacement license amendment request should be approved.

3. Fermi 2 License Renewal Application

The Committee met with representatives of the NRC staff and DTE Electric Company (DTE) to discuss the Fermi 2 license renewal application and the associated final safety evaluation report. During the meeting, DTE provided an overview of the plant and described their aging management programs and license renewal commitments. The staff discussed closure of one open item identified in the draft safety evaluation report that dealt with the methods used to determine the environmental effects on cumulative usage factors derived from the fatigue analysis. The staff concluded that the applicant had adequately addressed their concerns and closed the open item. The staff also concluded that the requirements of 10 CFR 54.29(a)(1) and (a)(2) were met for renewal of Fermi 2, and the operating license should be approved.

Committee Action

The Committee issued a letter report to the NRC Chairman on this matter, dated September 16, 2016, with the following conclusion and recommendation: 1) The programs established and committed to by DTE to manage age-related degradation provide reasonable assurance that Fermi 2 can be operated in accordance with its current licensing basis for the period of extended operation without undue risk to the health and safety of the public, and 2) DTE's application for renewal of the operating license for Fermi 2 should be approved.

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the Executive Director for Operations' response of June 17, 2016, to the May 17, 2016 ACRS letter, "NRC Staff Updated Assessment of Fukushima Tier 2 Recommendations Related to Evaluation of Natural Hazards other than Seismic and Flooding." The Committee was satisfied with the Executive Director for Operations' response.
- The Committee considered the Executive Director for Operations' response of July 11, 2016, to the May 18, 2016 ACRS letter, "NuScale Power, LLC Licensing Topical Report, "Risk Significance Determination." The Committee was satisfied with the Executive Director for Operations' response.
- The Committee considered the Executive Director for Operations' response of July 5, 2016, to the May 18, 2016 ACRS letter, "Draft Interim Staff Guidance JLD-ISG-2016-01, 'Guidance for Activities Related to Near-Term Task Force Recommendation 2.1, Flooding Hazard Reevaluation; Focused Evaluation and Integrated Assessment'." The Committee issued a response to the EDO requesting briefings to better understand how the site-specific evaluations are performed in practice and the staff's considerations during their reviews.

SCHEDULED TOPICS FOR THE 637th ACRS MEETING

The following topics are scheduled for the 637th ACRS meeting, to be held on October 6-8, 2016:

- Commission Meeting
- Grand Gulf Nuclear Station License Renewal Application
- Regulatory Guide 1.26, Revision 5, "Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants"

Sincerely,

/RA/

Dennis C. Bley
Chairman

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
636th FULL COMMITTEE MEETING

September 8-10, 2016

PLEASE PRINT

TODAY'S DATE: September 8, 2016

	<u>NAME</u>	<u>AFFILIATION</u>
1	RICHARD O'NEAL	FPL
2	PAUL RIZZO	RIZZO - FPL
3	Douglas Kemp	Bechtel - FPL
4	Mary Richmond	Bechtel - FPL
5	Stewart Taylor	Bechtel - FPL
6	RAY BURSKE	FPL
7	JOHN CONLIFFE	BECHTEL - FPL
8	BERND LASKIEWITZ	WESTINGHOUSE
9	ZACH HARPER	WESTINGHOUSE
10	ANTHONY SICARI	WESTINGHOUSE
11	Althea Wyche	Bechtel
12	PAUL JACOBS	FPL
13	Stephan Franzone	FPL
14	Bill Mayer	FPL
15	Yonas Kinfu	Bechtel
16	DAN BARNES	NRC
17	Robert Malina	WSP Parson Brinckerhoff
18	David McNabb	MHC
19	Steve Hamrick	FPL
20	Ken Erwin	NRC/NRO
21	Ilen Schrader	PG&E
22	JOHN LYBINSKI	NRC/NRRI/DE
23	ALAN COX	ENERGY
24	ERICA MULLEN	DTE ENERGY
25	Brian Frew	GE Hitachi
26	Tim Hoffman	DTE Energy
27	MIKE WILLIAMS	DTE
28	Stephen Berry	DTE
	Kendra Hullom Lawson	DTE
	Larry Peterson	DTE Energy
	Mike Yaeger	DTE Energy
	JOHN TUBAI	DTE Energy
		DTE Energy

(over)

Beth Gailatin
TERRY J. HERRMANN
Randy Brey-Mueller
Marc A. Brooks
Greg Strobel
Kevin Lynn
Michael Luke
Lynne Goodman
William C Holsten
Bernard Litkett
LOIS James
JEFF MITCHELL
Gordon Thompson
Angela Buford
Benjamin Beasley
Brian Wittick
Bart Fu
KEVIN J. BURKE
Bill Rogers
Mohammad Sadollah
Mark Yoo
Seung MZN
Keith Tolson

DTE Energy
STRUCTURAL INTEGRITY ASSOC.
DTE Energy
DTE Energy
DTE Energy
DTE Energy
DTE Energy
DTE Energy
NRR/DLR/RARB
NRR/DLR/RSAG
NRR/DLR
NRR/NRR/DLR
NRR/NRR/RSAG
NRR/DLR/KASF
NRR/DLR
NRR/DLR
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DTE ELECTRIC
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NRR/DLR
DTE

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
636th FULL COMMITTEE MEETING
September 8-10, 2016

PLEASE PRINT

TODAY'S DATE: September 9, 2016

NAME

NRC ORGANIZATION

Lisa Schleider	NRC/NRO/LB4 + DSEA/RGS
Bruce Musico	NSIR
Zachary Gran	NRO/DSEA/RPAC
Yuan Cheng	NRO/DSEA/RHMI
Cayetano Santos Jr	NRO/DNRL/LB4
Alissa Neuhausen	NRO/DEIA/SEB
Alice Stieve	NRO/DSEA/RGS
Stephen Williams	NRO/DSEA/RPAC
Mike McCann	NRO/DSEA
Zuhan Xi	NRO/DSEA/RGS
Beth Reyes	NRO/DNRL/LB4
Kean Quintan	NRO/DSEA/RHMI/RMOT
ANGELO STUBBS	NRO/DSRA/SPSB
LARRY BULCHANT	NRO/DSEA/RPAC
Brad Harvey	NRO/DSEA/RHMI/RMOT
Maribeliz Vera	NRO/DEIA/SEB
Luisette Candelario	NRO/DSEA
Malcolm Patterson	NRO/DSRA/SPRA
Autonio Dias	NRO/DSRA/SPSB
R Spattel	NRR/DE/EICB
Balwant Singal	NRR/DNRL
Reo Tammara	NRO/DSEA/RPAC
Victoria V. HUCKABAY	NRR/DRA/APHB
Mario Fernandez	NRC CSD/NSIR
JOSEPH GIACINTO	NRO
Gush Singh	NRR/DE/EICB
Samir Darbali	NRR/DE/EICB
Manny Comar	NRO/DNRL/LB4
Rossney Alvarado	NRR/DE/EICB
Robert Pascarella	NRR/DNRL/PLB4-1
Brett	
Yolria Diaz	NRR/IDR
Andrew Primaris	NRR/IDR