



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

January 26, 2016

NOTE TO: FILE

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

The minutes of the subject meeting were certified on December 28, 2015, as the official record of the proceedings of that meeting.



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

December 28, 2015

MEMORANDUM TO:           ACRS Members

FROM:                    Sherry Meador                    /RA/  
                              Technical Secretary, ACRS

SUBJECT:                 CERTIFICATION OF THE MEETING MINUTES FROM  
                              THE ADVISORY COMMITTEE ON REACTOR  
                              SAFEGUARDS 630<sup>th</sup> FULL COMMITTEE MEETING  
                              HELD ON DECEMBER 3-5, 2015, IN ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on December 28, 2015 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**

December 18, 2015

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

FROM: John W. Stetkar /RA/  
ACRS Chairman

SUBJECT: MINUTES OF THE 630<sup>th</sup> MEETING OF THE ADVISORY  
COMMITTEE ON REACTOR SAFEGUARDS (ACRS),  
DECEMBER 3-5, 2015

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.

<b>OFFICE</b>	ACRS	ACRS/SUNSI Review
<b>NAME</b>	SMeador	SMeador
<b>DATE</b>	12/18/15	12/18/15

**OFFICIAL RECORD COPY**

MINUTES OF THE 630<sup>th</sup> MEETING OF THE  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

ROCKVILLE, MARYLAND

The 630<sup>th</sup> 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 December 3-5, 2015. A copy of the meeting agenda is attached.

The summary report (ML15351A206) 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](mailto: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

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

ACRS Staff

E. Hackett  
M. Banks  
C. Brown  
P. Wen

A list of other attendees was not available at the time these minutes were finalized



- 5) 3:00 PM – 6:00 PM      Preparation of ACRS Reports (Open)  
5.1)    10 CFR 50.46c Rulemaking Activities (RB/CLB)  
5.2)    LEE COLA Review (HBR/PCW)

**FRIDAY, DECEMBER 4, 2015, CONFERENCE ROOM T-2B1**

- 6) 8:30 AM – 10:00 AM      Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (JWS/EMH)  
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  
7.1)    (Open) (JWS/EMH/MLB)  
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 – 12:00 PM      Preparation of ACRS Reports (Open)  
8.1)    Continue discussion of the proposed ACRS reports listed under Item 5

**12:00 PM – 2:00 PM**

**\*\*\* LUNCH \*\*\***

- 9) 2:00 PM – 5:30 PM      Preparation of ACRS Reports (Open)  
9.1)    Continue discussion of the proposed ACRS reports listed under Item 8

- 10) 5:30 PM – 6:00 PM      Miscellaneous (Open) (JWS/EMH)  
10.1) 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

**SATURDAY, DECEMBER 5, 2015, 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 9
- 12) 11:30 AM – 12:00 PM      Miscellaneous (Open) (JWS/EMH)  
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**

December 17, 2015

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

**SUBJECT: SUMMARY REPORT – 630<sup>th</sup> MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, DECEMBER 3-4, 2015**

Dear Chairman Burns:

During its 630<sup>th</sup> meeting, December 3-4, 2015, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following report and memoranda:

**REPORT**

Report to Stephen G. Burns, Chairman, NRC, from John W. Stetkar, Chairman, ACRS:

- “Report on the Safety Aspects of the Duke Energy Carolinas, LLC, Combined License Application for William States Lee III Nuclear Station, Units 1 and 2,” dated December 14, 2015

**MEMORANDA**

Memoranda to Victor M. McCree, Executive Director for Operations, NRC, from Edwin M. Hackett, Executive Director, ACRS:

- “Documentation of Receipt of Applicable Official NRC Notices to the Advisory Committee on Reactor Safeguards for December, 2015,” dated December 9, 2015
- “Draft Regulatory Guides,” dated December 9, 2015
  - DG-1292, "Dedication of Commercial-Grade Items for Use in Nuclear Power Plants"
  - DG-1324, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors"



## HIGHLIGHTS OF KEY ISSUES

### 1. William States Lee III Nuclear Station, Units 1 and 2, Combined License Application

The Committee met with representatives of the NRC staff and Duke Energy Carolinas, LLC to discuss the Combined License Application for the William States Lee III Nuclear Station (Lee), Units 1 and 2, which will use the AP1000 certified design. The applicant presented the Lee site characteristics, meteorology, flooding, and seismic evaluations. The Lee site Ground Motion Response Spectrum exceeds the AP1000 Certified Seismic Design Response Spectra and the Hard Rock High Frequency Response Spectra at higher frequencies. The applicant performed detailed analyses in compliance with requirements included in the AP1000 Design Certification Document to demonstrate that the high frequency exceedances are non-damaging. The staff discussed its review of the applicant's analyses and their independent evaluation of this issue. The staff also discussed various Lee plant-specific issues such as geology, seismology, hydrology, meteorology, industrial hazards, and locations of the Technical Support Center and Emergency Operations Facility.

#### Committee Action

The Committee issued a letter report to the NRC Chairman on this matter, dated December 14, 2015, with the following conclusions and recommendations: 1) There is reasonable assurance that Lee, Units 1 and 2, can be built and operated without undue risk to the health and safety of the public, 2) Site seismic inputs requiring a departure from the AP1000 certified design have been adequately addressed by the applicant and the staff, and this departure should be approved, 3) The departure providing for a consolidated Technical Support Center for the two units should be approved, 4) The location exception for a consolidated Emergency Operations Facility should be approved, and 5) The Duke Energy COLA for Lee should be approved following approval of generic changes which are pending submittal and which affect standard content material for the AP1000.

### 2. 10 CFR 50.46c Rulemaking Activities

The Committee met with representatives of the NRC staff, industry, and the Nuclear Energy Institute to discuss 10 CFR 50.46c, "Emergency Core Cooling System Performance during Loss-of-Coolant Accidents" rulemaking activities. The staff discussed the performance-based requirements for reactor fuel cladding to prevent cladding embrittlement during a loss-of-coolant accident. The staff discussed draft Regulatory Guides (RGs) 1.222, 1.223, and 1.224 that provide guidance on measuring breakaway oxidation behavior, determining post-quench ductility, and establishing analytical limits for fuel cladding, respectively. The staff also discussed the provision for a risk-informed alternative to address the effects of debris on long-term cooling and the associated draft RG 1.229. The Committee found a need for additional discussion on some of the rule requirements and the draft RG 1.229 guidance.

### Committee Action

The Committee plans to further discuss this topic during the February 2016 ACRS Full Committee meeting. It is currently planned to discuss draft RG 1.229 during a March 2016 Reactor Fuels and Metallurgy Subcommittee meeting, with subsequent review by the Full Committee at a later date.

### RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS

- The Committee considered the Executive Director for Operations' response of October 29, 2015, to the comments and recommendation included in the September 22, 2015 ACRS letter on "Draft Regulatory Basis for Containment Protection and Release Reduction for Mark I and Mark II Boiling Water Reactors." The Committee was satisfied with the Executive Director for Operations' response.
- The Committee considered the Executive Director for Operations' response of October 23, 2015, to the comments and recommendation included in the September 21, 2015 ACRS letter on "Report on the Safety Aspects of the License Renewal Application for Byron Station Units 1 and 2 and Braidwood Station Units 1 and 2." The Committee was satisfied with the Executive Director for Operations' response.

### SCHEDULED TOPICS FOR THE 631<sup>st</sup> ACRS MEETING

The following topics are scheduled for the 631<sup>st</sup> ACRS meeting, to be held on February 4-6, 2016:

- 10 CFR 50.46c Rulemaking Activities
- Biennial Review and Evaluation of the NRC Safety Research Program
- Review of Draft final RG 1.127, "Design and Inspection Criteria for Water-Control Structures Associated with Nuclear Power Plants"
- Peach Bottom MELLLA+ License Amendment Request
- Preparation for the March Meeting with the Commission

Sincerely,

*/RA/*

John W. Stetkar  
Chairman