



**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

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

Accession No: **ML15351A206**

Publicly Available **Y**

Sensitive **N**

Viewing Rights:  NRC Users or  ACRS Only or  See Restricted distribution

<b>OFFICE</b>	ACRS	SUNSI Review	ACRS	ACRS	ACRS
<b>NAME</b>	WWang	WWang	MBanks	EMHackett	EMH for JWS
<b>DATE</b>	12/17/15	12/17/15	12/17/15	12/17/15	12/17/15

**OFFICIAL RECORD COPY**