



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

March 23, 2011

MEMORANDUM TO: ACRS Members

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

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
 THE ADVISORY COMMITTEE ON REACTOR
 SAFEGUARDS 569th FULL COMMITTEE MEETING
 HELD ON FEBRUARY 4, 2010 IN ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on April 8, 2010 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**

February 28, 2011

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

FROM: Cayetano Santos, Chief */RA/*
Reactor Safety Branch
Advisory Committee on Reactor Safeguards

SUBJECT: MINUTES OF THE 579th MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS (ACRS),
JANUARY 13-15, 2011

I certify that based on my review of the minutes from the 579th ACRS Full Committee meeting, and to the best of my knowledge and belief, I have observed no substantive errors or omissions in the record of this proceeding subject to the comments noted below.

OFFICE	ACRS	ACRS:RSB/Sunsi
NAME	SMeador	CSantos/sam
DATE	02/28/11	02/28/11

OFFICIAL RECORD COPY

CERTIFIED

Date Certified: 02/28/2011

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During its 579th meeting, January 13-15, 2011, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports and letters:

REPORTS

Report to Gregory B. Jaczko, Chairman, NRC, from Said Abdel-Khalik, Chairman, ACRS:

- Report on the Safety Aspects of the Aircraft Impact Assessment for the Westinghouse Electric Company AP1000 Design Certification Amendment Application, dated January 19, 2011

Report to Gregory B. Jaczko, Chairman, NRC, from J. Sam Armijo, Vice-Chairman, ACRS:

- Report on the Safety Aspects of the Southern Nuclear Operating Company Combined License Application for Vogtle Electric Generating Plant, Units 3 and 4, dated January 24, 2011

LETTERS

Letters to R. W. Borchardt, Executive Director for Operations, NRC, from Said Abdel-Khalik, Chairman, ACRS:

- Draft Final Revision 2 to Regulatory Guide 1.174 and Revision 1 to Regulatory Guide 1.177, dated January 24, 2011
- Draft Final Rule, "Enhancements to Emergency Preparedness," and Related Regulatory Guidance Documents, dated January 24, 2011
- Review of RAMONA5-FA for Use in BWR Stability Calculations, dated January 31, 2011

MINUTES OF THE 579th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

ROCKVILLE, MARYLAND

The 579th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room 2B1, Two White Flint North Building, Rockville, Maryland, on January 13-15, 2011. Notice of this meeting was published in the *Federal Register* on December 27, 2010 (72 FR 81317-81318) (Appendix I). The purpose of this meeting was to discuss and take appropriate action on the items listed in the meeting schedule and outline (Appendix II). The meeting was open to public attendance.

A transcript of selected portions of the meeting is available in the NRC's Public Document Room at One White Flint North, Room 1F-19, 11555 Rockville Pike, Rockville, Maryland. Copies of the transcript are available for purchase from Neal R. Gross and Co., Inc., 1323 Rhode Island Avenue, NW, Washington, DC 20005. Transcripts are also available at no cost to download from, or review on, the Internet at <http://www.nrc.gov/ACRS/ACNW>.

ATTENDEES

ACRS Members: Dr. Said Abdel-Khalik (Chairman), Dr. J. Sam Armijo (Vice-Chairman), Dr. Sanjoy Banerjee, Dr. Dennis Bley, Dr. Michael Corradini, Dr. Dana A. Powers, Mr. Harold Ray, Dr. Michael Ryan, Dr. William Shack, and Mr. John Sieber. Mr. John Stetkar and Mr. Charles Brown did not attend. For a list of other attendees see Appendix III.

I. Chairman's Report (Open)

[Note: Mr. Edwin Hackett was the Designated Federal Official for this portion of the meeting.]

Dr. Said Abdel-Khalik, Committee Chairman, convened the meeting at 8:30 a.m. In his opening remarks he announced that the meeting was being conducted in accordance with the provisions of the Federal Advisory Committee Act. He reviewed the agenda items for discussion and noted that no written comments or requests for time to make oral statements from members of the public had been received. Dr. Abdel-Khalik also noted that a transcript of the open portions of the meeting was being kept and speakers were requested to identify themselves and speak with clarity and volume.

II. Aircraft Impact Assessment for the Revised AP1000 Design

[Note: Mr. Weidong Wang was the Designated Federal Official for this portion of the meeting.]

The Committee met with representatives of the NRC staff and Westinghouse Electric Company (WEC) to discuss the AP1000 Aircraft Impact Assessment (AIA). The results of the AP1000 AIA is a part of the AP1000 Design Certification Amendment (DCA) application. As required by 10 CFR 50.150, applicants for new nuclear power plants must perform an assessment of the effects of the impact of a large commercial aircraft. Using realistic analyses, applicants must identify and incorporate into the facility those design features and functional capabilities needed to show that, with reduced use of operator action (1) the reactor core remains cooled or the containment remains intact and (2) spent fuel cooling or spent fuel pool integrity is maintained. WEC representatives presented the AIA results and concluded that the assessments satisfy the NRC requirements. The assessments were performed using the guidance in NEI 07-13, Revision 7, "Methodology for Performing Aircraft Impact Assessments for New Plant Designs." WEC representatives also addressed ACRS subcommittee meeting follow-up items associated with additional impact locations and the effects of the shield plate dropping on the containment vessel. The staff performed an inspection of the AIA using NRC Inspection Procedure 37804. Both WEC and the staff presented the staff's inspection findings. The inspection revealed that WEC did not use realistic analyses for certain aspects of its AIA and did not fully identify and incorporate into the design control document those design features and functional capabilities credited. The resolution of the inspection findings were presented during the meeting.

The Committee issued a letter to the NRC Chairman on this matter dated January 19, 2011, concluding that the WEC AIA for the design described in the AP1000 DCA application, as modified to resolve NRC inspection findings, complies with the requirements of 10 CFR 50.150. Analyses show that the containment remains intact following the impact of a large commercial aircraft. The reactor core remains cooled, and spent fuel pool integrity is maintained. The Committee also recommended that the staff evaluate information and analyses presented to the ACRS, but not subjected to staff review or inspection, to determine if there is a need for further revision of the design control document, or a need for further inspections.

III. Final Safety Evaluation Report Associated with the Vogtle Units 3 and 4 Combined License Application

[Note: Mr. Peter Wen was the Designated Federal Office for this portion of the meeting.]

The Committee met with representatives of the NRC staff, Southern Nuclear Operating Company (SNC), and two members of the public to discuss the Combined License Application (COLA) for the Vogtle Electric Generating Plant (VEGP), Units 3 and 4. This COLA incorporates by reference the Westinghouse Electric Company AP1000 Design Certification Amendment application and SNC VEGP Early Site Permit (ESP). SNC representatives

described highlights of the COLA including: departures from the AP1000 DCD; exemptions from the regulations; ESP combined license items; the resolution of open items identified by the NRC staff and plant-specific inspection, test, analysis and acceptance criteria (ITAAC) items. SNC representatives also addressed the following technical questions which were raised during the ACRS AP1000 subcommittee meetings: containment vessel cleanliness program, containment interior debris limitation, in-service inspection/in-service testing (ISI/IST) program requirement for Automatic Depressurization System (ADS-4) squib valves, and VEGP plant specific seismic margin analyses. The members of the public commented that the potential for corrosion or cracking in the AP1000 steel containment structure should be carefully evaluated.

The Committee issued a letter to the NRC Chairman on this matter dated January 24, 2011, concluding that there is reasonable assurance that VEGP, Units 3 and 4 can be built and operated without undue risk to the health and safety of the public. The SNC COLA for VEGP, Units 3 and 4 should be approved following its final revision. The Committee recommended that containment interior cleanliness limits on debris be included in the Technical Specifications, a requirement on the development of an ISI/IST program for squib valves be established, and a requirement to assure the accuracy of feedwater flow measurements be established. The Committee also recommended that the staff review with the ACRS the changes in design or commitments that are not yet incorporated in the COLA or referenced in the design control document, which significantly deviate from those presented during the ACRS review.

IV. Draft Final Revision 2 to Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications"

[Note: Mr. Jorge Cruz-Ayala was the Designated Federal Official for this portion of the meeting.]

The Committee met with representatives of the NRC staff to discuss the proposed changes to RG 1.174 and RG 1.177. The staff's presentation described the proposed changes to these RGs, the resolution of public comments, and items not considered as part of these revisions. The terminology in the RGs was revised to be consistent with Revision 2 of RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," and the 2009 American Nuclear Society/American Society of Mechanical Engineers probabilistic risk assessment (PRA) standard RA-Sa-2009, "Standard for Level 1/ Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications." The changes also included updating the discussion of uncertainty to incorporate NUREG-1855, "Guidance on Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision Making," and removing outdated discussion topics. A paragraph stating that changes in risk that are not captured by core damage frequency (CDF) or large early release frequency (LERF) should be addressed qualitatively as part of defense-in-depth was added to the draft RG that was issued for public comment, but was subsequently removed based on public comments and further staff consideration. The staff stated that the proposed revisions do not address risk metrics for new (advanced light-water) reactors because they are waiting for Commission

guidance regarding SECY-10-0121, "Modifying the Risk-Informed Regulatory Guidance for New Reactors." The proposed revisions do not incorporate safety/security interface guidance, which is currently under development by the Office of Nuclear Reactor Regulation.

The Committee issued a letter to the Executive Director for Operations on this matter dated January 24, 2011, recommending that RG 1.177 be issued as final. The Committee recommended that RG 1.174 be revised to reinstate guidance on the consideration of late containment failure before being issued as final. The Committee also recommended that the staff continue to investigate approaches for addressing the interfaces between measures taken for safety and measures taken for security, and to identify revisions and adaptations that might be required for new reactors.

V. Draft Final Rule and Regulatory Guidance Regarding Enhancements to Emergency Preparedness Regulations

[Note: Mr. Girija Shukla was the Designated Federal Official for this portion of the meeting.]

The Committee met with representatives of the NRC staff to discuss the draft Final Rule, "Enhancements to Emergency Preparedness," and related regulatory guidance documents. The draft Final Rule proposes to amend certain Emergency Preparedness (EP) requirements in 10 CFR Parts 50 and 52, and related guidance documents to codify the EP related security improvements previously made through NRC Orders and Bulletin, in response to the September 11, 2001, incident. The staff's presentation identified 12 high priority EP issues and discussed how each was addressed. Six of these issues are security related. The staff described the regulatory guidance documents associated with this rulemaking: Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors;" NUREG/CR-7002, "Criteria for Development of Evacuation time Estimate Studies;" and Interim Staff Guidance (ISG) NSIR/DPR-ISG-01, "Interim Staff Guidance on Emergency Planning for Nuclear Power Plants." Finally, the staff described the comment resolution process and discussed how some of the public comments were addressed.

The Committee issued a letter to the Executive Director for Operations on this matter dated January 24, 2011, recommending that the draft final EP rule and the associated RG 1.219 not be issued until the NRC staff resolves the issues associated with the location and sharing of an Emergency Operations Facility by several nuclear power plants. The Committee also recommended that in future revisions of the rule and associated guidance documents, the NRC staff should consider: (a) expanding NUREG/CR-7002 to include evacuation time estimates during conditions of external environmental duress, such as seismic events, extreme weather conditions, or terrorist activity external to the site and (b) developing an approach to risk-inform emergency classifications and emergency action recommendations using site-specific PRA and insights from other severe accident studies.

VI. Self Assessment of the RAMONA5-FA Code

[Note: Mrs. Zena Abdullahi was the Designated Federal Official for this portion of the meeting.]

The Committee met with representatives of the NRC staff, AREVA, and a member of the public to discuss Topical Report EMF-3028(P), "RAMONA5-FA, A Computer Program for BWR Transient Analysis in the Time Domain." The NRC staff presented its safety findings for the application of RAMONA5-FA for AREVA's BWR power oscillation detect and suppress calculations, using the DIVOM methodology. DIVOM is an acronym for **D**elta CPR (critical power ratio) over **I**nitial CPR **V**ersus **O**scillation **M**agnitude. It correlates the loss in CPR in the hot channel corresponding to the power oscillation amplitude measured by the oscillation power range monitor (OPRM). The DIVOM correlation is used to define the OPRM amplitude scram setpoint for the long term stability solutions. At expanded operating domains, AREVA uses an enhanced method, which also relies on the DIVOM methodology, but includes additional features to preclude instabilities. Currently, a 10 percent penalty is applied to the DIVOM correlation until the adequacy and performance of RAMONA5-FA to calculate the DIVOM correlation at expanded operating domains is reviewed. The staff described its evaluations of the RAMONA5-FA code predictions against plant data and loop test data. In addition, the staff provided evaluations of the impact of void fraction uncertainties on the DIVOM correlations. The staff's review and approval was limited to the narrow scope of using RAMONA5-FA in generating the DIVOM correlations and not for transients, special events, or accidents.

The Committee and its consultant identified numerous documentation errors in the RAMONA5-FA theory manual (Topical Report EMF-3028(P) Volume 2). A list of errors in the topical report was provided to the staff. Prior to our meeting, AREVA prepared a revised version of the RAMONA5-FA theory manual and stated that a subsequent review of the RAMONA5-FA source code indicated that the documentation errors in the theory manual had not been introduced into the code.

A member of the public commented on the Rod Bundle Heat Transfer Test Program conducted at the Pennsylvania State University and a petitioner's request to revise 10 CFR 50.46 requirements.

The Committee issued a letter to the Executive Director for Operations on this matter dated January 31, 2011, concluding that the staff's recommendation to remove the 10 percent penalty on the DIVOM correlation slope calculated using RAMONA5-FA for extended flow window operating domains is acceptable subject to the satisfactory resolution of the following recommendation: the staff should review Volume 2 of the revised RAMONA5-FA Topical Report EMF-3028(P), to ensure that all errors have been corrected and that the documentation errors do not reflect errors in the source code.

VI. Executive Session

[Note: Mr. Edwin Hackett was the Designated Federal Official for this portion of the meeting.]

A. Reconciliation of ACRS Comments and Recommendations/EDO Commitments

- The Committee considered the EDO's response of November 26, 2010, to conclusions and recommendations included in the October 26, 2010, ACRS report on the safety aspects of the license renewal application for the Duane Arnold Energy Center. The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of December 21, 2010, to conclusions and recommendations included in the November 17, 2010, ACRS letter on the draft final revisions to generic license renewal guidance documents. The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of December 10, 2010, to conclusions and recommendations included in the August 9, 2010, ACRS report on the closure of design acceptance criteria for new reactors. The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of December 17, 2010, to conclusions and recommendations included in the November 16, 2010, ACRS letter on the standard review plan for renewal of spent fuel dry cask storage system licenses and certificates of compliance (NUREG-1927). The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of November 19, 2010, to conclusions and recommendations included in the October 20, 2010, ACRS report on the draft final rule for risk-informed changes of loss-of-coolant accident technical requirements (10 CFR 50.46a). The Committee decided that it was satisfied with the EDO's response.

B. Report of the Planning and Procedures Subcommittee Meeting

Anticipated Workload for ACRS Members

The anticipated workload for ACRS members through April 2011 was discussed. The objectives are to:

- Review the reasons for the scheduling of each activity and the expected work product and to make changes, as appropriate
- Manage the members' workload for these meetings
- Plan and schedule items for ACRS discussion of topical and emerging issues

Staff's Response to the November 9, 2010, ACRS Memo on the Withdrawal of Reg Guides 1.39, 1.81, and 1.154

On November 9, 2010, the ACRS issued a memo to the EDO indicating no objection to the withdrawal of Regulatory Guide (RG) 1.81, "Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants" because it conflicted with the requirements of 10 CFR 50.55a(h). However, the Committee recommended that the staff develop guidance consistent with the regulations to replace the withdrawn Reg Guide.

A response was received from the staff indicating that RG 1.81 will be revised rather than withdrawn, making it consistent with the current regulations.

Revision of RG 1.81 will be delayed until the Institute of Electrical and Electronic Engineers, Inc. (IEEE) completes its revision of IEEE Standard 308-2001, "IEEE Standard Criteria for Class 1E Power Systems for Nuclear Power Generating Stations." This will ensure that the NRC staff incorporates the guidance from the most current revision of the IEEE standard into the revised Reg Guide.

Review of the ACRS Reappointment Policy

In SRM COMSECY-10-0016, dated November 24, 2010, the Commission solicited ACRS views on the ACRS Member reappointment policy. The current reappointment policy, described in a memorandum dated September 16, 1983, specifies a maximum of three consecutive terms for ACRS members. Performance factors for ACRS reappointments were subsequently established in the September 26, 1996, SRM COMSECY-96-024, "Procedures for Reappointment of Advisory Committee Members." These factors include the following: (1) Significant Contributions by the Member; (2) Continued Need for the Member's Expertise; (3) Professional Attitude; (4) Preparation for Meetings; (5) Commitment; (6) Effectiveness in Resolving Differences on Technical/Regulatory Issues; (7) Effectiveness in Using Resources and (8) Communication.

Given the several exceptions (Drs. William Kerr, Dr. Chester P. Seiss, Thomas S. Kress, Graham Wallis, George Apostolakis, William J. Shack, and Dana A. Powers) that have happened since the 1983 policy, the ACRS believes it is sensible to propose an updated approach to Member reappointments. The ACRS Office will prepare a SECY paper proposing that Member reappointments continue to be evaluated on their individual merits per the criteria described above and that Members be limited to a maximum of five consecutive terms on the Committee.

Process for Attaching Additional Comments to ACRS Reports

Based on recent experience, it may be worth noting the process for attaching additional comments to an ACRS report. As stated in Section 5 of the ACRS Bylaws:

- 5.1 *Committee reports will normally reflect collegial views, and unanimity will often be achieved. Nonetheless, there will be occasions in which the majority is unconvinced by a minority argument, viewed as important by those who espouse it. The minority is then free to express its view through comments added to the report, subject to the following conditions.*
- 5.1-1 *Before deciding to attach additional comments, the proponent(s) shall make a good-faith effort to persuade the Committee to adjust the main report to accommodate the minority view.*
- 5.1-2 *The author(s) of additional comments shall be named.*
- 5.1-3 *The additional comments shall be made available to the Committee as early as possible in the deliberations, both as part of the good-faith effort described above, and to provide an opportunity for others so inclined to join the original author(s).*
- 5.1-4 *There will be times in which the report is generated so late in the meeting that full discussion of the proposed additional remarks is precluded by time constraints. The author must then announce to the Committee his intent to submit additional remarks, indicate to the Committee the nature of the remarks, and must have the text to the Committee office by noon (Washington time) on the Monday following the meeting, whether through e-mail, fax, or other means.*
- 5.1-5 *Any member may ask at that time to see or hear the exact wording of the additional remarks as soon as they are available, and has until noon (Washington time) on the Tuesday following the meeting to add his name to the remarks.*

Update on the Continuing Resolution (CR)

In its final act on FY2011 Appropriations, the 111th Congress extended the Continuing Resolution (CR) until March 4, 2011. The CR essentially continues funding for most programs at the FY2010 level. As for the NRC, the OCFO is currently managing every budget request on a 2-week basis.

NRC's 23rd Annual Regulatory Information Conference (RIC)

The next RIC Conference will be held March 8-10, 2011, at the Bethesda North Marriott Hotel and Conference Center. The program will include presentations from the NRC Chairman and Commissioners, and the Executive Director for Operations. New for 2011 is an expanded technical program addressing critical domestic and international issues associated with operating reactors, new and advanced reactors, fuel cycle facilities, nuclear security, safety research, and safety culture policies. Although there is not a conference fee, all attendees must register. Online registration is now open.

Early planning not only allows hotel reservations to be made but also facilitates early budget planning, which is very important under the CR.

Status of Selection of New Members

The solicitation for new members will close on January 25, 2011. The review panel should meet in mid February.

Dr. Michael Ryan Invited to Attend Waste Management Conference

Member Michael Ryan was invited by FSME to participate in a panel during the upcoming Waste Management Conference. This conference will take place in Tucson, AZ, in early March.

C. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the Committee for the 580th ACRS Meeting, February 10-12, 2011.

A list of documents that were provided to the Committee during the 579th ACRS Meeting is listed in Appendix V.

The meeting was adjourned at 6:30 pm on January 14, 2011.

For further details with respect to the proposed action, see the licensee's letter dated August 3, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML102230442), as supplemented by letters dated October 22, 2010 (ADAMS Accession No. ML102950490) and November 15, 2010 (ADAMS Accession No. ML103200126). Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or 301-415-4737, or send an e-mail to pdr.resource@nrc.gov.

Dated at Rockville, Maryland, this 14th day of December, 2010.

For the Nuclear Regulatory Commission,
Mahesh Chawla,

Project Manager, Plant Licensing Branch III-1, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

[FR Doc. 2010-32425 Filed 12-23-10; 8:45 am]

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NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards; Notice of Meeting

In accordance with the purposes of Sections 29 and 182b of the Atomic Energy Act (42 U.S.C. 2039, 2232b), the Advisory Committee on Reactor Safeguards (ACRS) will hold a meeting on January 13-15, 2011, 11545 Rockville Pike, Rockville, Maryland. The date of this meeting was previously published in the **Federal Register** on Thursday, October 21, 2010 (74 FR 65038-65039).

Thursday, January 13, 2011, Conference Room T2-B1, Two White Flint North, Rockville, Maryland

8:30 a.m.-8:35 a.m.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make opening remarks regarding the conduct of the meeting.

8:35 a.m.-10 a.m.: Aircraft Impact Assessment for the Revised AP1000 Design (Open/Closed)—The Committee

will hear presentations by and hold discussions with representatives of the NRC staff and Westinghouse regarding the Aircraft Impact Assessment for the revised AP1000 Design.

[**Note:** A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated as proprietary by Westinghouse, pursuant to 5 U.S.C. 552b(c)(4).]

10:15 a.m.-12 p.m.: Final Safety Evaluation Report Associated With the Vogtle Units 3 and 4 Combined License Application (Open/Closed)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff, Southern Nuclear Company, and NuStar Energy regarding the Final Safety Evaluation Report associated with the Vogtle Units 3 and 4 Combined License Application.

[**Note:** A portion of this session may be closed in order to protect information designated as proprietary by Westinghouse pursuant to 5 U.S.C. 552b(c)(4).]

2 p.m.-3:30 p.m.: Draft Final Revision 2 to Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" (Open) The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding Draft Final Revision 2 to RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis"; Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications"; and the staff's reconciliation of public comments.

3:45 p.m.-7 p.m.: Preparation of ACRS Reports (Open/Closed)—The Committee will discuss proposed ACRS reports on matters discussed during this meeting.

[**Note:** A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated as proprietary by Westinghouse, pursuant to 5 U.S.C. 552b(c)(4).]

Friday, January 14, 2011, Conference Room T2-B1, Two White Flint North, Rockville, Maryland

8:30 a.m.-8:35 a.m.: Opening Remarks by the ACRS Chairman (Open)—The ACRS Chairman will make

opening remarks regarding the conduct of the meeting.

8:35 a.m.-10:30 a.m.: Draft Final Rule and Regulatory Guidance Regarding Enhancements to Emergency Preparedness Regulations (Open): The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the draft final rule, "Enhancements to Emergency Preparedness Regulations"; Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors"; Interim Staff Guidance (ISG) NSIR/DPR-ISG-01, "Emergency Planning for Nuclear Power Plants"; and NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimate Studies."

10:45 a.m.-12:15 p.m.: Staff Assessment of the RAMONA5-FA Code (Open/Closed): The Committee will hear presentations by and hold discussions with representatives of the NRC staff and AREVA regarding the staff's assessment of the RAMONA5-FA code.

[**Note:** A portion of this session may be closed in order to protect information designated as proprietary by AREVA pursuant to 5 U.S.C. 552b(c)(4).]

1:15 p.m.-2:45 p.m.: Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed)—The Committee will discuss the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the Full Committee during future ACRS meetings, and 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.]

2:45 p.m.-3 p.m.: Reconciliation of ACRS Comments and Recommendations (Open)—The Committee will discuss the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

3:15 p.m.-4:15 p.m.: Preparation of ACRS Reports (Open/Closed)—The Committee will continue its discussion of proposed ACRS reports. [**Note:** A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated

as proprietary by Westinghouse or AREVA, pursuant to 5 U.S.C 552b(c)(4).]

Saturday, January 15, 2011 Conference Room T2-B1, Two White Flint North, Rockville, Maryland

8:30 a.m.–1 p.m.: Preparation of ACRS Reports (Open/Closed)—The Committee will continue its discussion of proposed ACRS reports. [Note: A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C.

552b(c)(3), and information designated as proprietary by Westinghouse or AREVA, pursuant to 5 U.S.C 552b(c)(4).]

1 p.m.–1:30 p.m.: Miscellaneous (Open)—The Committee will continue its discussion related to the conduct of Committee activities and specific issues that were not completed during previous meetings.

Procedures for the conduct of and participation in ACRS meetings were published in the **Federal Register** on October 21, 2010, (75 FR 65038–65039). In accordance with those procedures, oral or written views may be presented by members of the public, including representatives of the nuclear industry. Persons desiring to make oral statements should notify Ms. Ilka Berrios, Cognizant ACRS Staff (Telephone: 301–415–3179, E-mail: Ilka.Berrios@nrc.gov), five days before the meeting, if possible, so that appropriate arrangements can be made to allow necessary time during the meeting for such statements. In view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should check with the Cognizant ACRS staff if such rescheduling would result in major inconvenience.

Thirty-five hard copies of each presentation or handout should be provided 30 minutes before the meeting. In addition, one electronic copy of each presentation should be e-mailed to the Cognizant ACRS Staff one day before meeting. If an electronic copy cannot be provided within this timeframe, presenters should provide the Cognizant ACRS Staff with a CD containing each presentation at least 30 minutes before the meeting.

In accordance with Subsection 10(d) Public Law 92–463, and 5 U.S.C. 552b(c), certain portions of this meeting may be closed, as specifically noted above. Use of still, motion picture, and television cameras during the meeting may be limited to selected portions of the meeting as determined by the Chairman. Electronic recordings will be permitted only during the open portions of the meeting.

ACRS meeting agenda, meeting transcripts, and letter reports are available through the NRC Public Document Room at pdr.resource@nrc.gov, or by calling the PDR at 1–800–397–4209, or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS) which is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> or <http://www.nrc.gov/reading-rm/doc-collections/ACRS/>.

Video teleconferencing service is available for observing open sessions of ACRS meetings. Those wishing to use this service for observing ACRS meetings should contact Mr. Theron Brown, ACRS Audio Visual Technician (301–415–8066), between 7:30 a.m. and 3:45 p.m. (ET), at least 10 days before the meeting to ensure the availability of this service.

Individuals or organizations requesting this service will be responsible for telephone line charges and for providing the equipment and facilities that they use to establish the video teleconferencing link. The availability of video teleconferencing services is not guaranteed.

Dated: December 20, 2010.

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. 2010–32431 Filed 12–23–10; 8:45 am]

BILLING CODE 7590–01–P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards (ACRS) Meeting of The ACRS Subcommittee on AP1000; Notice of Meeting

The ACRS Subcommittee on AP1000 will hold a meeting on January 10–11, 2011, Room T-2B1, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance with the exception of portions that may be closed to protect proprietary information pursuant to 5 U.S.C. 552b(c)(4).

The agenda for the subject meeting shall be as follows:

Monday, January 10, 2011—8:30 AM until 5:00 PM and Tuesday, January 11, 2011—8:30 a.m. until 12 p.m.

The Subcommittee will review the Final Safety Evaluation Report (FSER) associated with the Virgil C. Summer Combined License Application. The Subcommittee will hear presentations by and hold discussions with representatives of South Carolina Electric & Gas, the NRC staff, and other interested persons regarding this matter.

The Subcommittee will gather information, analyze relevant issues and facts, and formulate proposed positions and actions, as appropriate, for deliberation by the Full Committee.

Members of the public desiring to provide oral statements and/or written comments should notify the Designated Federal Official (DFO), Weidong Wang (Telephone 301–415–6279 or E-mail: Weidong.Wang@nrc.gov) five days prior to the meeting, if possible, so that appropriate arrangements can be made.

Thirty-five hard copies of each presentation or handout should be provided to the DFO thirty minutes before the meeting. In addition, one electronic copy of each presentation should be e-mailed to the DFO one day before the meeting. If an electronic copy cannot be provided within this timeframe, presenters should provide the DFO with a CD containing each presentation at least thirty minutes before the meeting. Electronic recordings will be permitted only during those portions of the meeting that are open to the public. Detailed procedures for the conduct of and participation in ACRS meetings were published in the **Federal Register** on October 21, 2010, (75 FR 65038–65039).

Detailed meeting agendas and meeting transcripts are available on the NRC Web site at <http://www.nrc.gov/reading-rm/doc-collections/acrs>. Information regarding topics to be discussed, changes to the agenda, whether the meeting has been canceled or rescheduled, and the time allotted to present oral statements can be obtained from the Web site cited above or by contacting the identified DFO. Moreover, in view of the possibility that the schedule for ACRS meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should check with these references if such rescheduling would result in a major inconvenience.

Dated: December 20, 2010.

Ilka Berrios,

Acting Chief, Reactor Safety Branch B, Advisory Committee on Reactor Safeguards.

[FR Doc. 2010–32428 Filed 12–23–10; 8:45 am]

BILLING CODE 7590–01–P

POSTAL SERVICE

Product Change—Express Mail Negotiated Service Agreement

AGENCY: Postal Service™.

ACTION: Notice.

SUMMARY: Postal Service notice of filing of a request with the Postal Regulatory



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

December 15, 2010

**AGENDA
579th ACRS MEETING
January 13-15, 2011**

THURSDAY, JANUARY 13, 2011, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE, ROCKVILLE, MD

- 1) 8:30 AM – 8:35 AM Opening Remarks by the ACRS Chairman (Open) (SAK/EMH)
 1.1) Opening Statement
 1.1) Items of Current Interest
- 2) 8:35 AM - ~~10:00~~ 9:45 AM Aircraft Impact Assessment for the Revised AP1000 Design
Closed 8:37 am-9:39 am (Open/Closed) (HBR/WW)
 2.1) Remarks by the Subcommittee Chairman
 2.2) Briefing by and discussions with representatives of the NRC staff and Westinghouse regarding the Aircraft Impact Assessment for the revised AP1000 design.

[NOTE: A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated as proprietary by Westinghouse, pursuant to 5 U.S.C 552b(c)(4).]

~~10:00~~ 9:45 AM - 10:15 AM ***** BREAK *****

- 3) 10:15 AM - 12:00 PM Final Safety Evaluation Report Associated with the Vogtle Units 3 and 4 Combined License Application (Open/Closed) (HBR/PW)
 3.1) Remarks by the Subcommittee Chairman
 3.2) Briefing by and discussions with representatives of the NRC staff, Southern Nuclear Company and NuStar Energy regarding the Final Safety Evaluation Report associated with the Vogtle Units 3 and 4 Combined License Application.

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

12:00 PM - 2:00 PM

***** LUNCH *****

4) ~~2:00 PM - 3:30~~ 3:07 PM

Draft Final Revision 2 to Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" (Open) (DCB/JL)

4.1) Remarks by the Subcommittee Chairman

4.2) Briefing by and discussions with representatives of the NRC staff regarding Draft Final Revision 2 to RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," and the staff's reconciliation of public comments.

3:30 PM – ~~3:45~~ 3:50 PM

***** BREAK *****

5) ~~3:45~~ 3:53 PM - 7:00 PM

Preparation of ACRS Reports

5.1) Aircraft Impact Assessment for the Revised AP1000 Design (Open/Closed) (HBR/WW)

5.2) Final Safety Evaluation Report Associated with the Vogtle Units 3 and 4 Combined License Application (Open) (HBR/PW)

5.3) Draft Final Revision 2 to RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" (Open) (DCB/JCL)

[NOTE: A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated as proprietary by Westinghouse, pursuant to 5 U.S.C 552b(c)(4).]

**FRIDAY, JANUARY 14, 2011, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE,
ROCKVILLE, MD**

- 6) 8:30 AM - 8:35 AM Opening Remarks by the ACRS Chairman (Open) (SAK/EMH)
- 7) 8:35 AM - 10:30 AM Draft Final Rule and Regulatory Guidance Regarding Enhancements to Emergency Preparedness Regulations (Open) (JDS/GSS)
- 7.1) Remarks by the Subcommittee Chairman
- 7.2) Briefing by and discussions with representatives of the NRC staff regarding the draft final rule, "Enhancements to Emergency Preparedness Regulations;" Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors;" Interim Staff Guidance (ISG) NSIR/DPR-ISG-01, "Emergency Planning for Nuclear Power Plants;" and NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimate Studies."
- 10:30 AM - 10:45 AM *** BREAK *****
- 8) 10:45 AM – 12:15 PM Staff Assessment of the RAMONA5-FA Code (Open/Closed) (SAK/ZA)
Closed 10:54 am-12:04 pm
- 8.1) Remarks by the Subcommittee Chairman
- 8.2) Briefing by and discussions with representatives of the NRC staff and AREVA regarding the staff's assessment of the RAMONA5-FA code.
- [NOTE: A portion of this session may be closed in order to discuss and protect information designated as proprietary by AREVA pursuant to 5 U.S.C 552b(c)(4).]**
- 12:15 12:10 PM – 1:15 PM *** LUNCH*****
- 9) 1:15 PM - 2:45 PM Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (SAK/EMH)
- 9.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the Full Committee during future ACRS meetings.
- 9.2) 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.]

10) 2:45 PM - 3:00 PM

Reconciliation of ACRS Comments and Recommendations
(Open) (SAK, et al./CS/AFD)

Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

3:00 PM - 3:15 PM

***** BREAK *****

11) 3:15PM - ~~7:00~~ 6:30 PM

Preparation of ACRS Reports

- 11.1) Aircraft Impact Assessment for the Revised AP1000 Design (Open/Closed) (HBR/WW)
- 11.2) Final Safety Evaluation Report Associated with the Vogtle Units 3 and 4 Combined License Application (Open/Closed) (HBR/PW)
- 11.3) Draft Final Revision 2 to RG 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications" (Open) (DCB/JCL)
- 11.4) Draft Final Rule and Regulatory Guidance Regarding Enhancements to Emergency Preparedness Regulations (Open) (JDS/GSS)
- 11.5) Staff Assessment of the RAMONA5-FA Code (Open) (SIA/ZA)

There may be a 15 minutes break at some point during this activity.

[NOTE: A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated as proprietary by Westinghouse, pursuant to 5 U.S.C 552b(c)(4).]

**SATURDAY, JANUARY 15, 2011, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE,
ROCKVILLE, MD**

12) 8:30 AM - 1:00 PM Preparation of ACRS Reports (Open/Closed)
Continue discussion of the proposed ACRS reports listed under Item 11. There may be a 15 break at some point during this activity.

[NOTE: A portion of this session may be closed in order to protect unclassified safeguards information, pursuant to 5 U.S.C. 552b(c)(3), and information designated as proprietary by Westinghouse, pursuant to 5 U.S.C 552b(c)(4).]

13) 1:00 PM - 1:30 PM Miscellaneous (Open) (SAK/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.

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

PLEASE PRINT

TODAY'S DATE: January 13, 2011

AIA

	<u>NAME</u>	<u>AFFILIATION</u>
1	Amy Aughtman	SNC
2	Peter Ivey	SNC
3	Chuck Preece	SNC
4	Jerry G. Sims	Nuc. Power Plt. Sec. Consulting, LLC
5	Jim WATERS	WESTINGHOUSE
6	Charles Herbst	SNC
7	MARK WILSON	SNC
8	Neil Haggerty	NuStart
9	Chuck Brockhoff	Westinghouse
10	RICHARD GRUMBIR	NUSTART / Excel
11	JASON REDD	SOUTHERN NUCLEAR
12	Bob Hirmanpour	NuStart
13	Amy M. Monroe	SCE & G
14	Thom Ray	Westinghouse
15	PAUL GUNTER	BEYOND NUCLEAR
16	Eddie R Grant	NuStart / EXCEL
17	ROLF ZIESING	Westinghouse
18	Gary Moffatt	SCE & G
19	Bob Prunty	Bechtel (SNC)
20	VIJAY M NILESHANI	NEI
21	<hr/>	
22	Beth Thomas	Southern Nuclear
23	Wes Spackman	SNC
24	Mike Meidan	WBE
25	Dan Patton	Bechtel - SNC
26	Mike Bronson	Bechtel - SNC
27	JOHN PREBULA	BECHTEL - SNC
28		

AIA ↑

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

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TODAY'S DATE: January 13, 2011

NAME

AFFILIATION

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

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TODAY'S DATE: January 13, 2011

AIA

NAME	NRC ORGANIZATION
1 Eileen McKenna	NRO/DNRL
2 Jose Pires	RES/DE/SSSB
3 Joe Sebrosky	NRO/DNRL/NWEI
4 Joe Douglas	NRO
5 Narette Gilles	NRO/DNRL
6 Perry Buldberg	NRO/DNRL
7 David Terab	NRO/DE/CIBI
8	
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11 Thomas Galletta	NRO/DNRL/NWEI
12 Terri Spicher	NRO/DNRL
13 Guy M.	NRE/RES
14 JASON DRESBACH	NRO/DSRA
15 DON HABB	NRO/DNRL
16 John Mc Kinyan	NRO/DSRA
17 Y. Gene Hsui	NRO/DSRA
18 GREG MAKAR	NRO/DE/CIBI
19 Denise McGovern	NRO/DNRL/NWEI
20 Margaret Cervena	NRO/DCIP
21 DON HELTON	RES/DRA
22 DON DUBE	NRO/DSRA
23 Michelle Gonzalez	RES/DRA
24 ANDERS GILBERTSON	RES/DRA
25 STEVEN A. LAUR	NRR/DRA
26 Alysia G. Bone	RES/DRA
27 Audrey Klett	Chsr Magwood Otc
28 Stephen Dinsmore	NRR/DRA/APLA
Mike Snodderly	NRC/OCM

↑ AIA

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

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TODAY'S DATE: January 13, 2011

<u>NAME</u>	<u>NRC ORGANIZATION</u>
1 <i>Mary Drouin</i>	<i>RES/DRA</i>
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

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TODAY'S DATE: January 13, 2011

	<u>NAME</u>	<u>AFFILIATION</u>
1	ED CUMMINS	WESTINGHOUSE
2	Bob Hirmanpour	NuStart
3	Charles Herbst	SNC
4	TED AMUNDSON	SNC
5	Eddie R Green	NuStart/EXCEL
6	Thom Ray	Westinghouse
7	Jason Paige	NRC
8	James Greene	Mitsubishi
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

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TODAY'S DATE: January 14, 2011

NAME

AFFILIATION

Sue Perkins-Grew

Edward J. Weinkam

MARILYN HUG

PAUL SERRA

~~JOSE MA~~

Yousef Farawila

Daniel Tinkler

Alan Meginnis

Deann Malczyn

Doug Pruitt

NET

Entergy

NEI

Union

AREVA

AREVA

AREVA

Scientech

AREVA

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
579th FULL COMMITTEE MEETING

January 13-15, 2011

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TODAY'S DATE: January 14, 2011

<u>NAME</u>	<u>NRC ORGANIZATION</u>
STIEVE LAVIE	NSIR/DPR/EP
Beth Reed	NRR/DPR/PRPB
DAN BARSS	NSIR/DPR/NALB
Tara Inverso	NRR/DPR/PRMB
Mark Thaggard	FSME/DILR
Shana Helton	NRR/DPR/PRMB
Tai Huang	NRR/DSS/RYB
ICL Sullivan	NSIR
Arthur Kevin Heller	NRR/DSS/SNPB
DON HABIB	NRR/DNRL



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

Friday, January 14, 2011

**AGENDA
580th ACRS MEETING
February 10-12, 2011**

**THURSDAY, FEBRUARY 10, 2011, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE,
ROCKVILLE, MD**

- 1) 8:30 AM - 8:35 AM Opening Remarks by the ACRS Chairman (Open) (SAK/EMH)
1.1) Opening Statement
1.1) Items of Current Interest
- 2) 8:35 AM - 10:00 AM Final Safety Evaluation Report Associated with the License
Renewal Application for the Palo Verde Nuclear Generating
Station (Open) (JDS/KLH)
2.1) Remarks by the Subcommittee Chairman
2.2) Briefing by and discussions with representatives of the
NRC staff and Arizona Public Service Company regarding
the final Safety Evaluation Report Associated with the
License Renewal Application for the Palo Verde Nuclear
Generating Station
- 10:00 AM - 10:15 AM ***** BREAK *****
- 3) 10:15 AM - 12:45 PM Final Safety Evaluation Report Associated with the Virgil C.
Summer Units 2 and 3 Combined License Application (Open)
(HBR/PW)
3.1) Remarks by the Subcommittee Chairman
3.2) Briefing by and discussions with representatives of the
NRC staff and South Carolina Electric & Gas regarding the
final Safety Evaluation Report associated with the Virgil C.
Summer Units 2 and 3 Combined License Application

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

12:45 PM - 1:30 PM ***** LUNCH *****

- 4) 1:30 PM - 3:15 PM Comparison of Integrated Safety Analyses (ISAs) for Fuel Cycle Facilities and Probabilistic Risk Assessments (PRAs) for Reactors (Open) (MTR/MLB)
4.1) Remarks by the Subcommittee Chairman
4.2) Briefing by and discussions with representatives of the NRC staff regarding a comparison of ISAs for fuel cycle facilities and PRAs for reactors including a critical evaluation of how ISAs differ from PRAs

3:15 PM - 3:30 PM *** **BREAK** ***

- 5) 3:30 PM - 6:00 PM Current State of Licensee Efforts to Transition to National Fire Protection Association (NFPA)-805 (Open) (JWS/JCL)
5.1) Remarks by the Subcommittee Chairman
5.2) Briefing by and discussions with representatives of the the Industry and the NRC staff regarding the current state of licensee efforts to transition to NFPA-805

6:00 PM - 6:15 PM *** **BREAK** ***

- 6) 6:15 PM - 7:00 PM Preparation of ACRS Reports
6.1) Final Safety Evaluation Report Associated with the License Renewal Application for the Palo Verde Nuclear Generating Station (JDS/KLH) (Open)
6.2) Final Safety Evaluation Report Associated with the Virgil C. Summer Units 2 and 3 Combined License Application (HBR/PW) (Open/Closed)
6.3) Comparison of Integrated Safety Analyses (ISAs) for Fuel Cycle Facilities and PRAs for Reactors (MTR/MLB) (Open)
6.4) Current State of Licensee Efforts to Transition to NFPA 805 (JWS/JL) (Open)

FRIDAY, FEBRUARY 11, 2011, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE, ROCKVILLE, MD

- 7) 8:30 AM - 8:35 AM Opening Remarks by the ACRS Chairman (Open) (SIA/EMH)
- 8) 8:35 AM - 10:00 AM Draft Final Regulatory Guide (RG)1.34, "Control of Electroslag Weld Properties;" RG 1.43, "Control of Stainless Steel Weld Cladding of Low-alloy Steel Components;" RG 1.44, "Control of the Processing and Use of Stainless Steel;" and RG 1.50, "Control of the Preheat Temperature for Welding of Low-Alloy Steel" (Open) (JSA/MLB)
8.1) Remarks by the Subcommittee Chairman
8.2) Briefing by and discussions with representatives of the NRC staff regarding draft final RG 1.34, "Control of Electroslag Weld Properties;" RG 1.43, "Control of

Stainless Steel Weld Cladding of Low-alloy Steel Components;" RG 1.44, "Control of the Processing and Use of Stainless Steel;" RG 1.50, "Control of the Preheat Temperature for Welding of Low-Alloy Steel;" and the staff's resolution of public comments

10:00 AM - 10:15 AM

*** **BREAK** ***

9) 10:15 AM - 11:45 AM

Commission Paper on the Use of Containment Accident Pressure in Analyzing Emergency Core Cooling System and Containment Heat Removal System Pump Performance in Postulated Accidents (Open) (WJS/ZA)

9.1) Remarks by the Subcommittee Chairman

9.2) Briefing by and discussions with representatives of the NRC staff regarding the Commission Paper on the use of containment accident pressure in analyzing emergency core cooling system and containment heat removal system pump performance in postulated accidents

11:45 AM - 12:45 PM

*** **LUNCH** ***

10) 12:45 PM - 2:15 PM

Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (SAK/EMH)

10.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the Full Committee during future ACRS meetings.

10.2) 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.]

11) 2:15 PM - 2:30 PM

Reconciliation of ACRS Comments and Recommendations (Open) (SAK/DW/CS/AFD)

Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

12) 2:30 PM - 7:00 PM

Preparation of ACRS Reports

12.1) Final Safety Evaluation Report Associated with the License Renewal Application for the Palo Verde Nuclear Generating Station (JDS/KLH) (Open)

- 12.2) Final Safety Evaluation Report Associated with the Virgil C. Summer Units 2 and 3 Combined License Application (HBR/PW) (Open/Closed)
- 12.3) Comparison of Integrated Safety Analyses (ISAs) for Fuel Cycle Facilities and PRAs for Reactors (MTR/MLB) (Open)
- 12.4) Current State of Licensee Efforts to Transition to NFPA 805 (JWS/JL) (Open)
- 12.5) Draft Final Regulatory Guides 1.34, "Control of Electroslag Weld Properties;" RG 1.43, "Control of Stainless Steel Weld Cladding of Low-alloy Steel Components;" RG 1.44, "Control of the Processing and Use of Stainless Steel;" and RG 1.50, "Control of the Preheat Temperature for Welding of Low-Alloy Steel" (JSA/MLB) (Open)

SATURDAY, FEBRUARY 12, 2011, CONFERENCE ROOM T-2B1, 11545 ROCKVILLE PIKE, ROCKVILLE, MD

- 13) 8:30 AM - 1:00 PM Preparation of ACRS Reports
Continue discussion of the proposed ACRS reports listed under Item 12. There may be a 15 break at some point during this activity.

- 14) 1:00 PM - 1:30 PM Miscellaneous (Open)(SAK/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.

LIST OF HANDOUTS
579th ACRS MEETING
JANUARY 13-15, 2011

- I. Opening Remarks by the ACRS Chairman
 1. Opening Remarks
 2. Items of Interest

- II. Aircraft Impact Assessment for the Revised AP1000 Design
 3. Table of Contents
 4. Proposed Agenda
 5. Status Report
 6. DCD Chapter 19 App19F on AIA
 7. AFSER on AIA
 8. Staff AFSER Presentation Slides to ACRS on AIA, 11/2/2010
 9. NRC Inspection Report, ML10298058311
 10. Staff AIA Inspection Presentation Slides to ACRS, 11/2/2010
 11. WEC Letter on AIA inspection ML1032104091
 12. NRC AIA Inspection Report closeout letter ML1032604471
 13. NRC presentation slides on AIA Inspection, 12/16/2010

- III. Final Safety Evaluation Report Associated with the Vogtle Units 3 and 4 Combined License Application
 14. Table of Contents
 15. Proposed Agenda
 16. Status Report
 17. Advanced Final Safety Evaluation Report (AFSER) Chapter 3 - contains discussion on the squib valve ISI/IST program.
 18. AFSER Chapter 6 - contains discussion on the containment vessel coating program and containment cleanliness program.
 19. Final Safety Analysis Report (FSAR) from Vogtle RCOL Application and AFSER for all of Chapters are included in the CD under the directory of "AP1000 RCOL FSAR and AFSER"

- IV. Draft Final Revision 2 to Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and Draft Final Revision 1 to RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications"
 20. Table of Contents
 21. Proposed Agenda
 22. Status Report
 23. RG 1.174(DG-1226) and RG1.177 (Draft DG-1227) Review Package, Nuclear Regulatory Research , March 31, 2010 (ML100900483)

LIST OF HANDOUTS
579th ACRS MEETING
JANUARY 13-15, 2011

- V. Draft Final Rule and Regulatory Guidance Regarding Enhancements to Emergency Preparedness Regulations
24. Table of Contents
 25. Proposed Agenda
 26. Status Report
 27. Draft Final Rule, "Enhancements to Emergency Preparedness Regulations"
 28. Draft Final EP Rule vs. Current EP Regulations, redline-strikeout version, dated 10-26-10.
 29. Summary of Public Comments Received on Proposed Revisions to 10 CFR Parts 50 and 52, Enhancements to Emergency Preparedness Regulations
 30. Draft Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors"
 31. Interim Staff Guidance (ISG) NSIR/DPR-ISG-01, "Emergency Planning for Nuclear Power Plants"
 32. NUREG/CR 7002, "Criteria for Development of Evacuation Time Estimate Studies"
 33. NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events"
- VI. Staff Assessment of the RAMONA5-FA Code
34. Table of Contents
 35. Proposed Agendas
 36. Status Report
 37. Subcommittee Status Report – November 17, 2010
 38. Staff Subcommittee Slides – November 17, 2010
 39. AREVA Subcommittee Slides – November 17, 2010
 40. Related ACRS December 17, 2007 Letter
 41. Staff SER
 42. Consultant Graham Wallis Consultant Report
 43. Mr. Robert Leyse's Public Comments

AP1000 Reference Combined License Application

ACRS Full Committee Presentation

January 13, 2011



Compacting Backfill for Plant Vogtle Unit 4 with Units 1 and 2 in background
November 4, 2010

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Introduction – Approach

- **Design Centered Review Approach**
 - **NRC use of “One issue, one review, one position”**
 - **Maximum benefit achieved through standardization**
 - **Site specific issues coordinated**

- **AP1000 DCWG Members**
 - **Reference (R)-COLA – Southern Nuclear, Vogtle (GA)**
 - **Subsequent (S)-COLAs**
 - **South Carolina Electric & Gas, Summer (SC)**
 - **Duke Energy, Lee Nuclear (SC)**
 - **Progress Energy, Levy County (FL)**
 - **Progress Energy, Shearon Harris (NC)**
 - **Florida Power and Light, Turkey Point (FL)**
 - **Tennessee Valley Authority, Bellefonte (AL)**

- **DCWG Coordination**
 - **With WEC, AP1000 S-COL applicants, NEI, NRC Staff**

Introduction – Application Concepts

- **Combined License Application for 2 Units**
 - **Part 52, Subpart C “Combined Licenses”**
 - **Reference to AP1000 Design Certification**
 - **Reference COL Application for standard content**

- **NRC Guidance Utilized**
 - **Regulatory Guide 1.206**
 - **Combined License Applications for NPPs**
 - **NUREG-0800 (generally updated for Part 52)**
 - **Standard Review Plans for Review of SARs**
 - **Interim Staff Guidance for COLs**

- **Incorporation by Reference (for FSAR)**
 - **Certified Design of Westinghouse AP1000 (as amended)**
 - **Nuclear Energy Institute (NEI) templates**
 - **Early Site Permit (Vogtle specific)**

VEGP 3&4 Overview

- **COL Application submitted March 28, 2008**
- **IBR of WEC AP1000 DCD Amendment Application**
- **IBR of SNC VEGP Early Site Permit Application**
 - **ESP and LWA-A issued August 26, 2009**
- **Submitted initially as Subsequent COLA following TVA BLN as the Reference COLA**
- **VEGP became Reference COLA for AP1000 plants in 2009**
- **LWA-B submitted October 6, 2009**

Reference (and S-)COL Application

- **Part 1 – General & Financial Information**
- **Part 2 – Final Safety Analysis Report**
- **Part 3 – Environmental Report (addressed in EIS)**
- **Part 4 – Technical Specifications (w/FSAR 16)**
- **Part 5 – Emergency Plan (w/FSAR 13.3)**
- **Part 6 – Limited Work Authorization**
- **Part 7 – Departures, Exemptions & Variances**
- **Part 8 – Safeguards Information (w/FSAR 13.6)**
- **Part 9 – Withheld Information**
- **Part 10 – Proposed License Conditions (incl. ITAAC)**
- **Part 11 – Other Application Documents (w/various)**

COL Application Highlights

- **DCD identified COL Information Items**
 - Identified in Table 1.8-201
 - Addressed throughout FSAR
 - Holder items – Post COL issuance
 - Proposed License Conditions in Part 10
- **Supplemental Information**
 - Provided to address RG 1.206 items
 - Provided to address NUREG-0800 (SRP) items
 - Addressed throughout FSAR

COL Application Highlights

- **Departures from AP1000 DCD**
 - **VEGP 1.1-1 – FSAR organization (administrative)**
 - **STD 8.3-1 – Voltage regulating transformer design**
 - **VEGP 9.2-1 – Potable water system filtration**
 - **VEGP 18.8-1 – Emergency facility locations**
- **Exemptions from the Regulations**
 - **FSAR organization (administrative)**
 - **SNM Material Control and Accounting Program**

COL Application Highlights

- **Early Site Permit COL Items**
 - **2.2-1 – Address hydrazine for CR habitability**
 - **2.2-2 – Address site specific chemicals for CR**
 - **2.3-1 – Address UHS cooling tower if applicable**
 - **2.4-1 – Address chelating agents in release transport evaluation**
 - **13.6-1 – Address access control for rail spur**

- **ESP Permit Conditions addressed**
 - **Removal and replacement of topsoils**
 - **Development of Emergency Action Levels**
 - **Resolution of common Technical Support Center and relocation**
 - **Site-specific dispersion factor comparison**

COL Application Highlights

- **Variations from Vogtle Early Site Permit**
 - **1.2-1 – Updated site layout information**
 - **1.6-1 – Updated DCD incorporation**
 - **1.6-2 – Updated DCD incorporation**
 - **1.6-3 – Updated DCD incorporation**
 - **2.2-1 – Updated onsite chemicals information**
 - **2.3-1 – Updated DCD incorporation**
- **NRC Review Open Items from SER**
 - **Addressed and closed in AFSER**

COL Application Highlights

- **“Plant-specific” ITAAC (+ DCD ITAAC)**
 - **Physical security design items**
 - **Feedwater flow measurement components (for calorimetric uncertainty of 1%)**
 - **Transmission switchyard and offsite power system**
 - **Backfill (from VEGP ESP)**
 - **Waterproof membrane (from VEGP ESP)**
 - **Pipe rupture hazards analysis**
 - **Piping design**
 - **Emergency planning (majority from VEGP ESP)**

COL Application Topical Highlights

Comparison of Site Characteristics to Certified Design Site Parameters

- **COL comparison confirms DCD Site Parameters are bounding for the site specific Site Characteristics OR justification is provided**
- **All Vogtle Site Characteristics within bounding DCD Site Parameters**

COL Application Topical Highlights

Program Descriptions (selected examples)

- **Radiation Protection**
- **Training for Operations and other Staff**
- **Containment Leak Rate Testing**
- **Emergency Planning**
- **Preservice / Inservice Inspection**
- **Preservice / Inservice Testing of Valves**

COL Application Topical Highlights

ACRS Topics of Interest

- **Containment Cleanliness**
- **Containment Vessel Coating Inspections**
- **AP1000 Squib Valve Inservice Testing**

COL Application Topical Highlights

Containment Cleanliness

Purpose – Meet in-containment debris limits of DCD

- **Controls to account for the quantities and types of materials introduced into the containment**
 - **Certain materials excluded**
- **Controls for loose items**
- **Housekeeping procedures**
- **Design bases provided in DCD 6.3.8.1**

COL Application Topical Highlights

Containment Cleanliness (cont'd)

- **Latent debris sampling program per NEI 04-07, as supplemented by NRC Safety Evaluation Related to Generic Letter 2004-02, and NEI Guidance Report (Proposed NEI 04-07), "Pressurized Water Reactor Sump Performance Evaluation Methodology"**
- **DCWG developing a standard program that will utilize OE and best practices from the current operating fleet**
- **Sampling conducted after containment exit cleanliness inspections to confirm latent debris design bases met**
- **Sampling frequency and scope adjusted based on results**
- **Any nonconforming results addressed by corrective action program**

COL Application Topical Highlights

Containment Vessel Coating Inspections

- CV coated with inorganic zinc and limited epoxy topcoat
- Application and inspection of quality coatings is based on Regulatory Guide 1.54 and ASTM standards
- 100% of readily accessible CV coatings receive a walk-down general visual inspection each refueling outage
- Focus of detailed inspections is on coatings which could have the greatest impact on plant safety and areas identified as repeat problem areas or with location, service condition, or geometry characteristics that make degradation more likely
- Identification of deficiencies initiates detailed documentation and an organized process of performing a condition assessment of the degradation

COL Application Topical Highlights

Containment Vessel Coating Inspections (cont'd)

- **AP1000 upper head and areas behind and below the air baffle are considered to be accessible**
- **Visual examinations may be conducted directly (unaided eye) or remotely (binoculars, telescope, cameras, and/or robotics) by methods suitable for the application and able to resolve indications of interest**
- **100% of accessible areas will be visually inspected every 3 to 4 years**
- **Acceptance criteria based on guidance of EPRI 1003102**
- **Complementary containment inspection programs e.g., ASME XI - IWE, 10 CFR Part 50 Appendix J, and 10 CFR 50.65 (Maintenance rule)**

COL Application Topical Highlights

AP1000 Squib Valve Inservice Testing

During review of inservice testing (IST) Program, NRC requested information addressing the development of surveillance activities for the squib valves.

Resulting commitment

- **Westinghouse and DCWG utilities will develop IST surveillance activities for squib valves based on final design and lessons learned from qualification process**

COL 3.9-4 – Develop Inservice Testing Program

- **FSAR 3.9.6.2.2 currently addresses this commitment**

Summary of VEGP COL Application

- **Serves as the AP1000 R-COLA**
- **Incorporates the AP1000 DCD Amendment by reference**
- **Incorporates an approved ESP by reference**
- **Provides reasonable assurance two AP1000 units can be safely constructed and operated on the VEGP site**



AP1000
DCWG



AP1000



Presentation Acronyms

- AFSER – Advanced Final Safety Evaluation Report**
- ASME – American Society of Mechanical Engineers**
- ASTM – American Society for Testing and Materials**
- BLN – Bellefonte Nuclear Plant**
- COL – Combined license**
- COLA – Combined license application**
 - R-COLA – Reference COLA**
 - S-COLA – Subsequent COLA**
- CR – Control room**
- CV – Containment vessel**
- DCD – Design Control Document**
- DCWG – Design Centered Working Group**
- EPRI – Electric Power Research Institute**
- ESP – Early Site Permit**
- FSAR – Final Safety Analysis Report**

Presentation Acronyms

- IBR** – Incorporated by reference
- ITAAC** – Inspections, Tests, Analyses, and Acceptance Criteria
- LWA** – Limited Work Authorization
- NPP** – Nuclear Power Plant
- OE** – Operational Experience
- RG** – Regulatory Guide
- SNC** – Southern Nuclear Operating Company
- SNM** – Special nuclear material
- SRP** – Standard Review Plan
- STD** – Standard
- TVA** – Tennessee Valley Authority
- UHS** – Ultimate Heat Sink
- VEGP** – Vogtle Electric Generating Plant
- WEC** – Westinghouse Electric Company

Backup Slides



Presentation to the ACRS

Vogtle Units 3 and 4 COL Application Review

January 13-15, 2011

Vogtle COL Application

Chronology of Activities:

- Received VEGP COL Application-3/28/2008
- Acceptance Review Completed-4/24/2008
- VEGP designated as RCOLA-4/28/2009
- Vogtle ESP/First LWA granted—8/26/09
- Received the Second LWA request-10/6/2009
- Safety Review Phases 1 through 4 are complete
- Phase 5—ACRS Subcommittee Review completed of Advanced SER-December 15-16
- Phase 5—ACRS Full Committee January 2011
- Phase 6—Final SER-June 2011

Vogtle COL Application

- Vogtle COL application incorporates the ESP site safety analysis report (SSAR) and incorporates by reference the Westinghouse AP1000 Design Certification (DC) and DC amendment.
- Vogtle ESP/LWA1 was granted on August 26, 2009.
- Second LWA request received 10/6/2009.

Vogtle COL Application Content

- Material incorporated by reference (IBR) from portions of the ESP, and DCD
 - Staff's safety evaluation for ESP and DC reflected in NUREG-1923, and NUREG-1793 and its supplement, respectively
 - Staff's safety evaluation of AP1000 DC amendment was completed and presented to the committee
- Standard content material (applicable to all AP1000 COL applicant)
 - Vogtle's safety evaluation for standard content references Bellefonte safety evaluation report with open items
 - Vogtle's safety evaluation provides the basis for standard content open item resolution
- Vogtle plant specific information

ACRS Interactions - RCOL

- The Advanced Safety Evaluation Report (ASER) was issued on a chapter-by-chapter basis.
- All open items on standard content and plant-specific issues were resolved prior to chapter issuance. Some confirmatory items remain.
- Four meetings (June 24-25, July 21-22, September 20-21, and December 15-16) were completed with the ACRS AP1000 subcommittee through this calendar year. All chapters were presented at those meetings.

Vogtle COL Overview

Part Number	Description	Evaluation
1	General and Administration Information	Section 1.5.1
2	Final Safety analysis Report	In appropriate SER Chapters
3	Environmental Report	Final Environmental Impact statement
4	Technical Specifications	Chapter 16
5	Emergency Plan	Chapter 13
6	Limited Work Authorization # 2	Section 3.8.5
7	Departure Reports	In appropriate SER Chapters
8	Security Plan	Section 13.6
9	Withheld Information	In appropriate SER Chapters
10	Proposed Combined License Conditions (Including ITAAC)	In appropriate SER Chapters
11	Information Incorporated by Reference (e.g., quality assurance plan, material control and accountability program)	In appropriate SER Chapters
	Other Parts (e.g., Mitigative Strategies Document, Cyber Security Plan)	In appropriate SER Chapters

ACRS Future Interactions

- Summer SCOL presented to AP1000 Subcommittee January 10 and 11, 2011
 - Currently no additional interactions with the AP1000 Subcommittee planned
 - Applicant and Staff prepared to provide Full Committee presentation in February including:
 - Overview of the application and the staff's review of the application
 - Site specific topics of interest
 - Staff's use of HABIT code for the toxic gas confirmatory analysis associated with control room habitability
 - Seismic qualification and source model



Briefing for the Advisory Committee on Reactor Safeguards on Proposed Issuance of RG 1.174 (Rev. 2) and RG 1.177 (Rev. 1)

Office of Nuclear Regulatory Research (RES)
Office of Nuclear Reactor Regulation (NRR)
Office of New Reactors (NRO)

January 13, 2011

Acronyms

ANS	American Nuclear Society	NEI	Nuclear Energy Institute
ASME	American Society of Mechanical Engineers	NFPA	National Fire Protection Association
BWROG	Boiling Water Reactor Owners Group	NRC	US Nuclear Regulatory Commission
CDF	Core damage frequency	PRA	Probabilistic risk assessment
CFR	Code of Federal Regulations	PWROG	Pressurized Water Reactor Owners Group
CRMP	Configuration risk management program	RG	Regulatory Guide
CT	Completion time	SF	Surveillance frequency
ICCDP	Incremental conditional core damage probability	SRP	Standard review plan
ICLERP	Incremental conditional large early release probability	SSCs	Structures, systems, and components
LB	Licensing basis	STS	Standard technical specifications
LERF	Large early release frequency	TS	Technical specifications

Presentation Outline

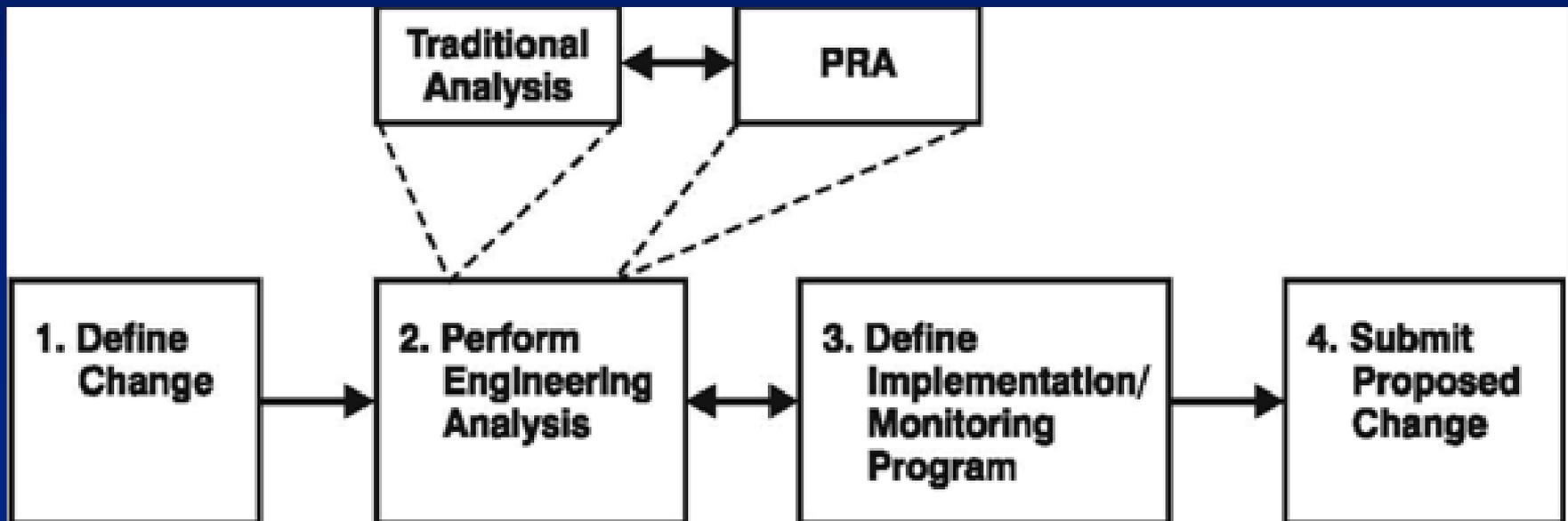
- Refresher on RG 1.174 / RG 1.177
- Relationship to other guidance documents
- Reason for updates
- Changes made prior to public comment
- Public comment disposition
- Deferred items
- Path forward

Refresher on RG 1.174, Rev. 1 (1)

- RG 1.174: “An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis,” Rev. 1, 2002
- “...describes an acceptable method for the licensee and NRC staff to use in assessing the nature and impact of LB changes when the licensee chooses to support, or is requested by the staff to support, the changes with risk information.”
- Lays out a set of 5 key principles:
 - Meets the current regulations
 - Is consistent with defense in depth
 - Maintains sufficient safety margins
 - Increases in CDF or risk are small
 - Monitored using performance measurement strategies

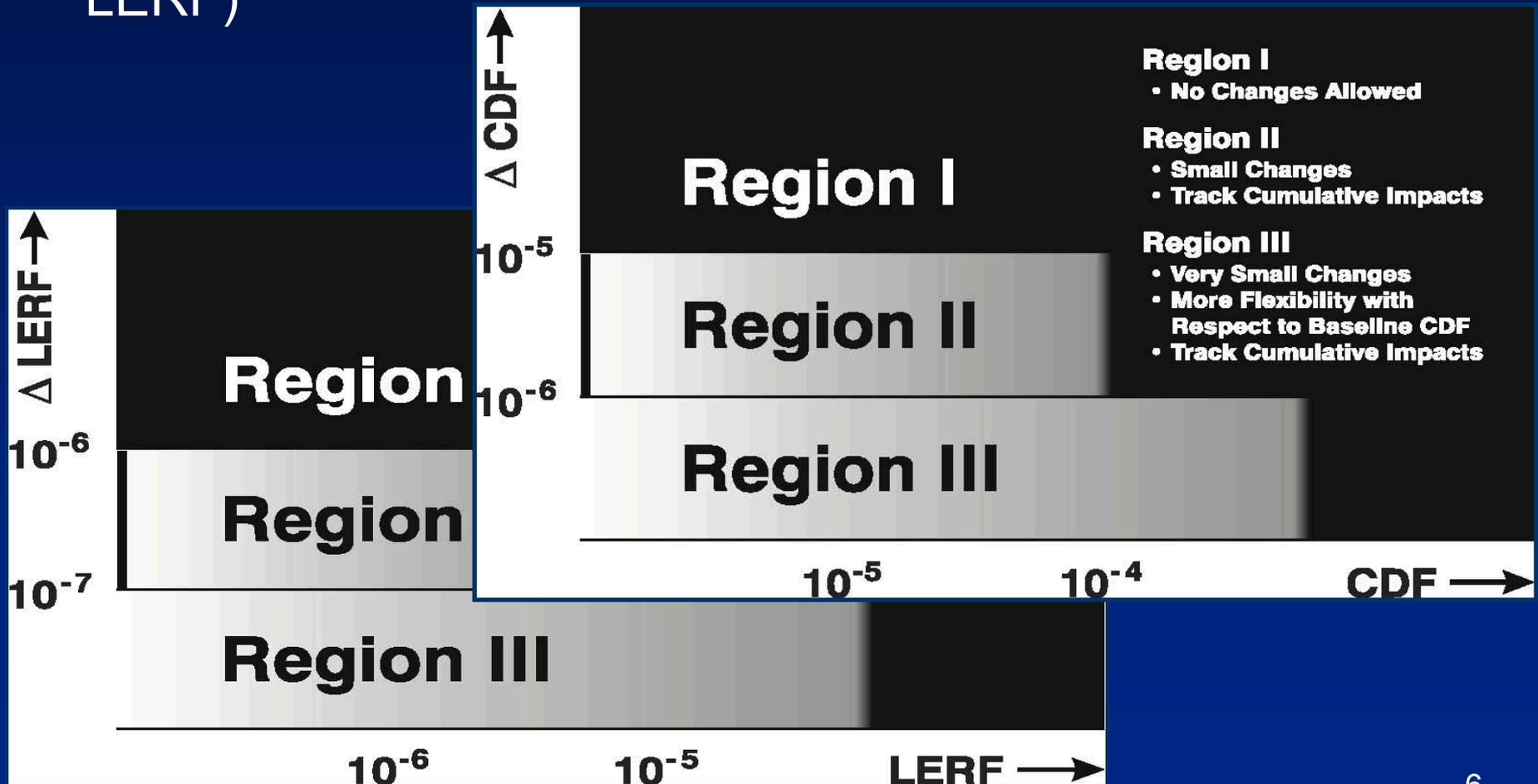
Refresher on RG 1.174 (2)

- Lays out the principal elements of risk-informed, plant-specific decisionmaking



Refresher on RG 1.174 (3)

- Establishes risk-acceptance guidelines as a function of baseline risk and change to baseline risk (for CDF and LERF)



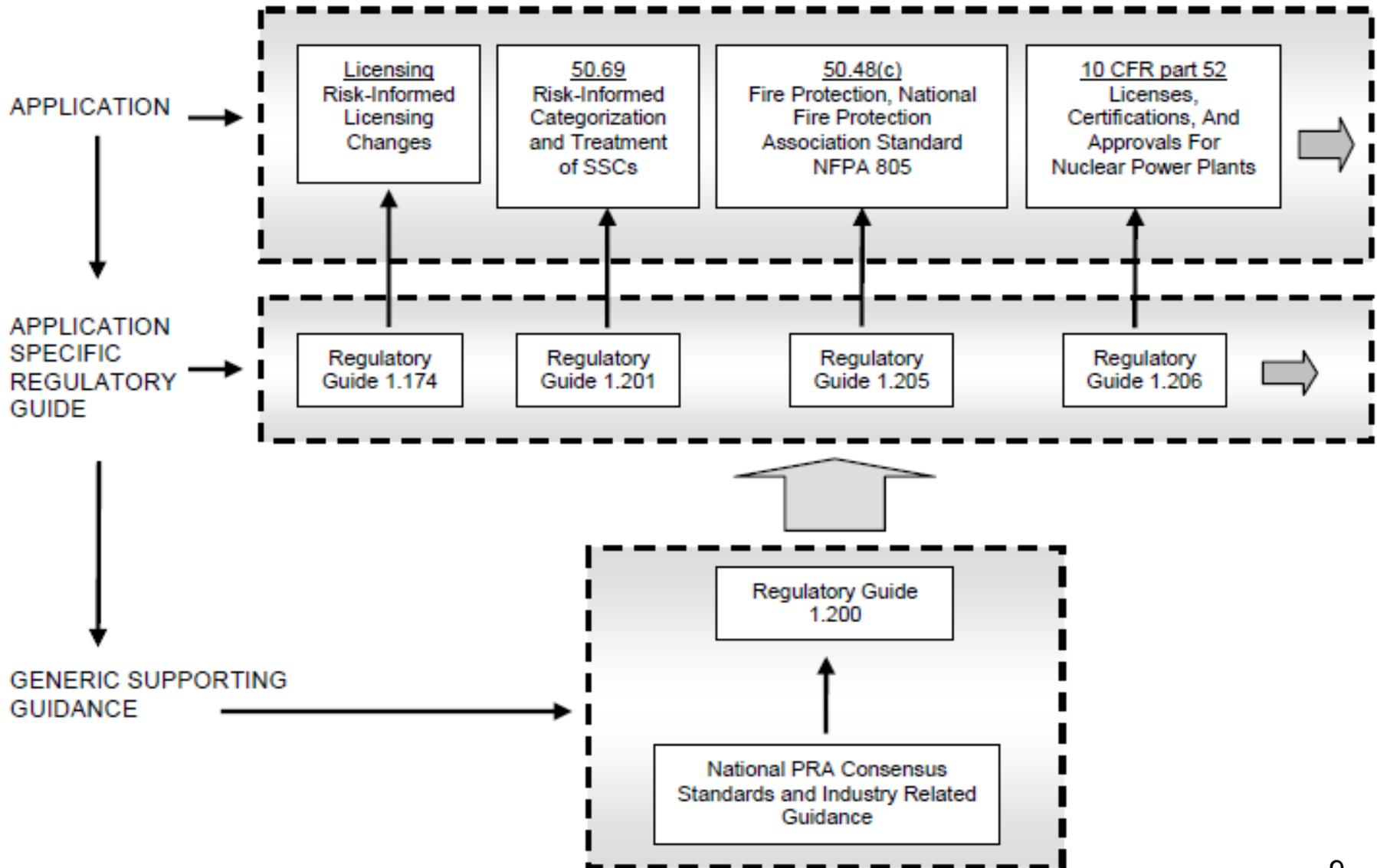
Refresher on RG 1.177 (1)

- RG 1.177: “An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications,” 1998
- Used to review licensee-initiated risk-informed TS change requests
- Provides a method for utilizing risk information to evaluate changes to TS completion times (CTs) and surveillance frequencies (SFs) to assess the impact on the risk associated with plant operation
- Relates to:
 - 1993 Commission Policy Statement on TS Improvements
 - 10 CFR 50.36, “Technical specifications”
 - 10 CFR 50.65, “Requirements for monitoring the effectiveness of maintenance at nuclear power plants” (a.k.a., The Maintenance Rule)

Refresher on RG 1.177 (2)

- Echoes the 4-step risk-informed decisionmaking philosophy from RG 1.174
- Establishes a 3-tiered approach for evaluation of risk of a CT change
 - Tier 1: Impact expressed by Δ CDF and incremental conditional core damage probability (ICCDP) – parallels for LERF
 - Tier 2: Identification of high-risk configurations (i.e., simultaneous equipment outage and/or concurrent system/equipment testing)
 - Tier 3: Establishment of an overall configuration risk management program (CRMP)
- Establishes acceptance guidelines for risk changes (in addition to the RG 1.174 guidelines)
 - ICCDP $< 5 \cdot 10^{-7}$ and ICLERP $< 5 \cdot 10^{-8}$ (distributed in time)
 - Appropriate restrictions on dominant risk-significant configurations
 - Implementation of a risk-informed plant configuration control program

Relationship to other guidance documents



Reason for updates

- Since last issuance of RG 1.174 (in 2002) and RG 1.177 (in 1998):
 - Significant changes to the ASME/ANS PRA Standard
 - Issuance of RG 1.200 (Revs. 0, 1 and 2) “An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities”
 - Issuance of NUREG-1855 on uncertainty, “Guidance on Treatment of Uncertainties Associated with PRAs in Risk-Informed Decision Making”
 - Continued evolution of the risk-informed application process / reviews

Changes made prior to public comment

- Editing terminology for consistency with RG 1.200 and the 2009 ASME/ANS PRA standard
- Updating discussion of uncertainty to incorporate NUREG-1855
- Adding a paragraph to address changes in risk not captured by CDF and LERF
- Removing outdated discussion on steam generator tube rupture, technical specifications, inservice inspection, etc.
- Including guidance for one-time only technical specification changes, including new quantitative criteria that align with NUMARC-93-01
- Various other minor changes for clarity, etc.

Public comment disposition (1)

- Draft regulatory guides (DG-1226 and DG-1227) were issued for public comment in August 2009
- ~ 50 comments received for each RG (after consolidating comments)
- Comments received from:
 - NEI (included input from BWROG)
 - PWROG
 - Exelon

Public comment disposition (2)

- A large # of comments dealt with consistency between RG 1.174, RG 1.200, the PRA standard, and NUREG-1855
- Many comments re-visited issues that were unchanged from the current active versions
- Roughly 70% of the comments were accepted in part or in full
- RG 1.177 terminology comprehensively changed for consistency with STS (AOT → CT, STI → SF)

Key public comment dispositions (1)

- Industry concern that RG 1.174 is attempting to require more with respect to other hazards (e.g., fire), or restrict previously acceptable bounding/qualitative approaches
- NRC staff:
 - No new or additional requirements have been added beyond the framework set up in RG 1.200 / the phased approach to PRA quality plan
 - No changes are being enacted relative to specific applications (e.g., NFPA-805)
 - In several cases, minor changes were made (as suggested) to clarify particular points

Key public comment dispositions (2)

- Industry comments on:
 - Relationship between 10CFR50.65(a)(4), the CRMP, Tier 3 in RG 1.177, and RG 1.200
- NRC staff:
 - 50.65(a)(4) does not always satisfy the CRMP requirement of RG 1.177
 - On a case-by-case basis it may be acceptable (if fire / seismic risk are not significant for the application)
 - The relevance of RG 1.200 to RG 1.177 is adequately addressed

Key public comment dispositions (3)

- The draft version of RG 1.174 included a new paragraph:
 - “...the impact of the proposed change on those aspects of containment function not addressed in the evaluation of LERF should be addressed qualitatively...”
- Industry concern that the paragraph:
 - Represents a new requirement that has no supporting guidance (more regulatory uncertainty)
 - Confuses the issues of risk assessment / defense-in-depth / safety margins
- The staff agrees, and has removed the paragraph
 - The paragraph’s intent is covered by existing defense-in-depth text

Key public comment dispositions (4)

- A new sentence was added:
 - “Additional or revised guidance might be provided for new reactors (e.g., advanced light-water reactors) licensed under 10 CFR Part 52...”
- Industry concern:
 - Deliberations are ongoing outside of RG 1.174 space, and the placeholder is pre-mature
- NRC staff:
 - The placeholder has the appropriate caveat

Key public comment dispositions (5)

- Draft guides were inconsistent on whether a revision # for RG 1.200 is cited
- Industry concern that not citing a revision # leads to regulatory instability and ambiguity as to what the correct revision is
- Staff disagrees:
 - Revising RG 1.174 every time RG 1.200 is revised is impractical, and unnecessary
 - The relevant version of RG 1.200 is the one associated with the application (i.e., the current version, unless a grace period is in effect)
 - All RG 1.200 revision #s have been removed

Key public comment dispositions (6)

- Industry concern that a requirement for application-specific peer reviews is being added
 - Staff has changed wording to clarify that it means a peer review augmented by a discussion of the model's appropriateness to the application
- Industry concern over the removal of peer review alternatives (certifications or cross-comparisons) in the documentation section
 - A peer review is what is required, thus this change is appropriate

Deferred Items

- Consideration of a new risk metric to further address late containment failure / environmental impacts
- Safety/security interface (10 CFR 73.58 and RG 5.74)
- Modification to guidance for new reactors

Path Forward

- Staff recommends issuance of the new versions of RG 1.174 / 1.177
- Other risk-informed application RGs (e.g., RG 1.178) will be updated on an as-needed basis
- Staff is continuing work on the larger risk-informed guidance effort



Backup Slides

Mapping of significant comments

Item	Public comment #s	NRC disposition matrix #s
Bounding estimates, “mandated” methods, & qualitative assessments	DG-1226: NEI cover ltr. 3 rd bul., PWROG #3, NEI #12 / Exelon #7, NEI #36 DG-1227: NEI cover ltr. 5 th para. / NEI #18, PWROG #5	DG-1226: 2, 15, 21, 50 DG-1227: 26, 27
Relationship btwn. MRule, Tier 3, CRMP & RG 1.200	DG-1227: NEI #13, Exelon #4, NEI cover ltr: 7 th para.	DG-1227: 17, 18, 41
Paragraph on risk not captured by CDF/LERF	DG-1226: NEI #8, NEI #10 / Exelon #6 / PWROG #4	DG-1226: 16, 17
10CFR52 Placeholder	DG-1226: NEI cover ltr. 2 nd bul. / NEI #3 DG-1227: NEI #3	DG-1226: 6 DG-1227: 4
RG 1.200 revision #	DG-1226: NEI cover ltr. 1 st bul. / NEI #35 / Exelon #9 DG-1227: NEI cover ltr. 3 rd para., PWROG #4, NEI cover ltr. 4 th para., NIEI #32	DG-1226: 1 DG-1227: 1, 22, 24, 45
Peer review requirements	DG-1226: NEI #29, PWROG #10	DG-1226: 39, 40



EMERGENCY PREPAREDNESS FINAL RULE AND GUIDANCE

**NRC Staff Presentation
for ACRS Meeting**

January 14, 2011

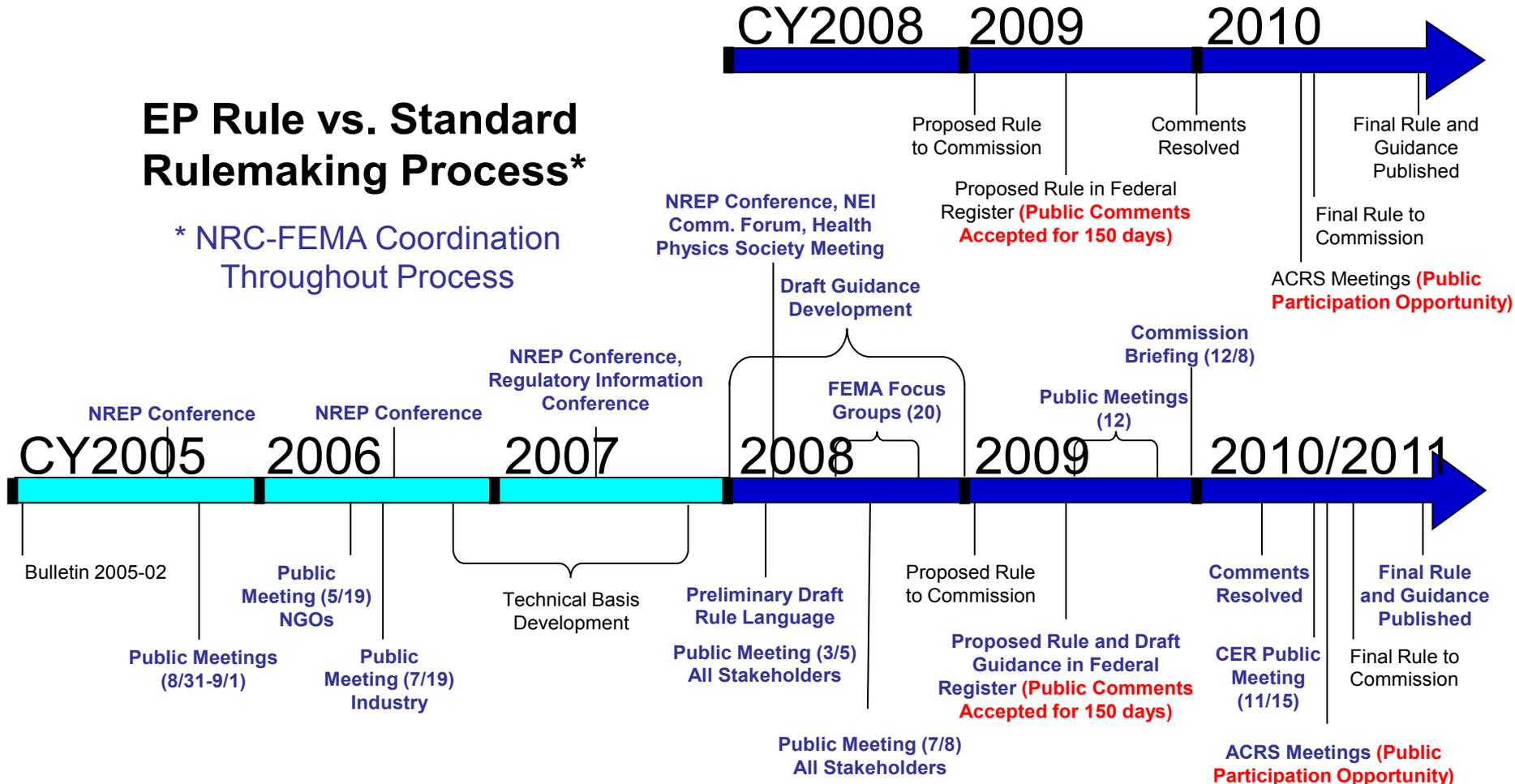
TOPICS

- Emergency Preparedness Rule Background
- Emergency Preparedness Rule Topics
- Requests for Input
- Guidance Documents
- Resolution of Public Comments

EP RULE BACKGROUND

EP Rule vs. Standard Rulemaking Process*

* NRC-FEMA Coordination Throughout Process



EP RULE SUMMARY

#	RULEMAKING TOPIC	GUIDANCE
1	On-Shift Multiple Responsibilities	NSIR/DPR-ISG-01
2	Emergency Action Levels for Hostile Action	NEI 99-01, Rev. 5
3	Emergency Response Organization Augmentation and Alternative Facilities	NSIR/DPR-ISG-01
4	Licensee Coordination with Offsite Response Organizations	NSIR/DPR-ISG-01
5	Protection for Onsite Personnel	NSIR/DPR-ISG-01
6	Challenging Drills and Exercises	NSIR/DPR-ISG-01
7	Backup Means for Alert and Notification Systems	NSIR/DPR-ISG-01
8	Emergency Declaration Timeliness	NSIR/DPR-ISG-01
9	Emergency Operations Facility – Performance-Based Approach	NSIR/DPR-ISG-01
10	Evacuation Time Estimate Updating	NUREG/CR-7002
11	Amended Emergency Plan Change Process	Reg. Guide 1.219
12	Removal of Completed One-Time Requirements	N/A

EP RULEMAKING TOPIC #1

- **On-Shift Multiple Responsibilities**
 - 10 CFR Part 50, Appendix E, Section IV.A.9 (new)
 - On-Shift Staffing Analysis
 - Adequate staffing
 - Multiple responsibilities
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #2

- **Emergency Action Levels for Hostile Action**
 - 10 CFR Part 50, Appendix E, Section IV.B
 - Incorporate Hostile Action Events
 - NRC Bulletin 2005-02
 - NEI 99-01, Revision 5

APPENDIX E, SECTION IV.B.2

Draft Final Rule:

A licensee's revision to its emergency action level scheme ~~must be submitted as specified in § 50.4 for NRC approval before implementation may not be implemented without prior approval by the NRC~~ if the licensee is changing its entire emergency action level scheme to the most current NRC-approved emergency action level scheme applicable to the design of the licensee's reactor. **A licensee desiring to make such an emergency action level scheme change shall submit an application for an amendment to its license.** Licensees shall follow the change process in § 50.54(q) for all other emergency action level changes.

EP RULEMAKING TOPIC #3

- **Emergency Response Organization Augmentation and Alternative Facilities**
 - 10 CFR Part 50, Appendix E, Section IV.E.8.d (new)
 - ERO Augmentation During Hostile Action
 - Alternative Facility Characteristics
 - NSIR/DPR-ISG-01 Interim Staff Guidance

APPENDIX E, SECTION IV.E.8.d

Revised Draft Final Rule:

For nuclear power reactor licensees, an alternative facility (or facilities) **that would be accessible even if the site is under threat of or experiencing hostile action**, to function as a staging area for augmentation of emergency response staff and collectively having the following characteristics: ~~accessibility even if the site is under threat of a, or during an actual, hostile action; the capability for~~ communication ~~links~~ with the emergency operations facility, control room, and plant security; the capability to perform offsite notifications; and the capability for engineering assessment activities, including damage control team planning and preparation, for use when onsite emergency facilities cannot be safely accessed during hostile action. ~~The alternative facility (or facilities) will also be equipped with general plant drawings and procedures, telephones, and computer links to the site;~~

EP RULEMAKING TOPIC #4

- Licensee Coordination with Offsite Response Organizations
 - 10 CFR Part 50, Appendix E, Section IV.A.7
 - Resource Needs During Hostile Action
 - Identification of Offsite Resources
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #5

- **Protection for Onsite Personnel**
 - 10 CFR Part 50, Appendix E, Section IV.I (new)
 - Ability of Site Personnel to:
 - Perform reactor shutdown
 - Implement emergency plan
 - Provide Protection for Non-Responders
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #6

- **Challenging Drills and Exercises**
 - 10 CFR Part 50, Appendix E, Section IV.F.2
 - Hostile Action-Based Exercises
 - Predictability and Preconditioning
 - No Release/Minimal Release
 - Rapidly Escalating Scenarios
 - Submittal of Scenarios
 - Remedial Exercises
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #7

- **Backup Means for Alert and Notification Systems**
 - 10 CFR Part 50, Appendix E, Section IV.D.3
 - Alert and Notification Functions
 - Flexibility in Methods
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #8

- **Emergency Declaration Timeliness**
 - 10 CFR Part 50, Appendix E, Section IV.C.2 (new)
 - Capability to Declare an Emergency in 15 Minutes
 - Prompt Declaration
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #9

- **Emergency Operations Facility – Performance-Based Approach**
 - 10 CFR Part 50, Appendix E, Section IV.E.8
 - Distance from Plant Site
 - Performance Criteria
 - NSIR/DPR-ISG-01 Interim Staff Guidance

EP RULEMAKING TOPIC #10

- **Evacuation Time Estimate Updating**
 - 10 CFR 50.47(b)(10)
10 CFR Part 50, Appendix E, Section IV
 - Periodic Updates
 - Prior NRC Review and Confirmation
 - NUREG/CR-7002

EP RULEMAKING TOPIC #11

- Amended Emergency Plan Change Process
 - 10 CFR 50.54(q)
 - Method for Determining Reduction in Effectiveness
 - License Amendment Process
 - Regulatory Guide 1.219

EP RULEMAKING TOPIC #12

- Removal of Completed One-Time Requirements
 - 10 CFR 50.54(r)
 - 10 CFR 50.54(s)(1)
 - 10 CFR 50.54(s)(2)(i)
 - 10 CFR 50.54(u)

REQUESTS FOR STAKEHOLDER INPUT

#	INPUT TOPIC	DISPOSITION
1	Inclusion of National Incident Management System (NIMS)/Incident Command System (ICS)	Not Incorporated
2	Shift Staffing and Augmentation	Not Incorporated
3	Effective Date for COL/ESP Applicants	Deferred Compliance
4	Implementation Dates	Dates Modified
5-7	Non-Power Reactor Licensees <ul style="list-style-type: none"> • staffing analysis • emergency declaration timeliness • hostile action emergency action levels 	Not Incorporated

BACKGROUND AND SUMMARY OF GUIDANCE DOCUMENTS

- NUREG/CR-7002, “Criteria for Development of Evacuation Time Estimate Studies”
- Regulatory Guide 1.219, “Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors”
- NSIR/DPR-ISG-01, “Interim Staff Guidance Emergency Planning for Nuclear Power Plants”

GUIDANCE DOCUMENTS

- **NUREG/CR-7002, “Criteria for Development of Evacuation Time Estimate Studies”**
 - Development of Evacuation Time Estimate Studies
 - Evacuation Time Estimates for Staged Evacuation Protective Action
 - Evaluation Criteria for Reviewers

GUIDANCE DOCUMENTS

- Regulatory Guide 1.219, “Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors”
 - Explanation of Definitions
 - Explanation of Emergency Planning Functions
 - Examples of Changes Requiring/Not Requiring Prior NRC Approval
 - Guidance on Change Submittals, Documentation, and Record Retention

GUIDANCE DOCUMENTS

- NSIR/DPR-ISG-01, “Interim Staff Guidance Emergency Planning for Nuclear Power Plants”
 - Guidance on Remaining Topics
 - Integration of Offsite Response with Onsite EP Programs
 - Future Incorporation into NUREG-0654

COMMENT RESOLUTION OVERVIEW

- Comment Resolution Process
- Emergency Preparedness Rulemaking Working Group
- NRC-FEMA Joint Comment Resolution Team

RESOLUTION OF COMMENTS

- On-Shift Multiple Responsibilities
 - Types of Events to Be Analyzed
 - Time Period Covered by Analysis

RESOLUTION OF COMMENTS

- Emergency Action Levels for Hostile Action
 - Use of Future Emergency Action Level Schemes

RESOLUTION OF COMMENTS

- Emergency Response Organization Augmentation and Alternative Facilities
 - Reference to “Hostile Action”
 - Multiple Locations for Alternative Facilities
 - Event Classification Capability

RESOLUTION OF COMMENTS

- Licensee Coordination with Offsite Response Organizations
 - Identification of Offsite Resources
 - Letters of Agreement/Memoranda of Understanding with Offsite Agencies

RESOLUTION OF COMMENTS

- Protection for Onsite Personnel
 - Specification of Required Protective Actions
 - Use of Multiple Procedures for Hostile Action

RESOLUTION OF COMMENTS

- Challenging Drills and Exercises
 - Length of Exercise Planning Cycle
 - Use of Minimal/No Radiological Release Scenarios
 - Frequency of Certain Scenario Elements

RESOLUTION OF COMMENTS

- Backup Means for Alert and Notification Systems
 - Need for Backup ANS Design Specification
 - Use of Batteries in Lieu of Backup Means

RESOLUTION OF COMMENTS

- Emergency Declaration Timeliness
 - Clarification of When Declaration Is Made
 - Start/Stop of Timeliness “Clock”
 - Reference to “Plant Operator”

RESOLUTION OF COMMENTS

- Emergency Operations Facility (EOF) –
Performance-Based Approach
 - Exemptions for Existing EOFs
 - EOF Consolidation

RESOLUTION OF COMMENTS

- Evacuation Time Estimate (ETE)
Updating
 - ETE Update Threshold
 - Completion of ETE Updates
 - ACRS Subcommittee Comments

RESOLUTION OF COMMENTS

- Amended Emergency Plan Change Process
 - Changes to Final Rule Language
 - Definitions of “Change” & “Emergency Plan”
 - Timing of Required Reports of Changes
 - Summary of 50.54(q) Analyses
 - Use of License Amendment Process

RESOLUTION OF COMMENTS

- Amended Emergency Plan Change Process
 - Changes to Regulatory Guide 1.219
 - Alignment with Final Rule
 - Consistent Application of Term “Change”
 - Changes That Are Not Reductions in Effectiveness
 - Guidance Regarding “Margin”
 - Implementation Guidance

NEXT STEPS

- Submittal to OEDO
- Submittal to SECY
- Final Rule Publication
 - Includes Onsite/Offsite Guidance Issuance
- Implementation Workshops

BACKUP SLIDES

- [The following slides address the major changes between the proposed rule and draft final rule language, implementation dates, an overview of the regulatory analysis/backfit analysis, and several comments regarding NUREG/CR-7002. They are provided as backup slides and are not part of the handout.]

10 CFR 50.47(b)(10)

Draft Final Rule:

A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Evacuation time estimates and updates must be submitted to the NRC for review **and approval to confirm adequacy**. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

10 CFR 50.54(q)

Draft Final Rule:

(1) Definitions for the purpose of this section:

- (i) *Change* means an action that results in modification or addition to, or removal from, the licensee's emergency plan ~~or the resources, capabilities, and methods identified in the plan~~. All such changes are subject to the provisions of this section except where the applicable regulations establish specific criteria for accomplishing a particular change.
- (ii) *Emergency plan* means the document(s), prepared and maintained by the licensee, that identify and describe the licensee's methods for maintaining ~~and performing~~ **emergency planning functions preparedness and responding to emergencies**. An emergency plan includes the plans ~~s~~ as originally approved by the NRC and all subsequent changes made by the licensee with, and without, prior NRC review and approval under § 50.54(q).
- (iii) *Emergency planning function* means a capability or resource necessary to prepare for and respond to a radiological emergency, as set forth in the elements of section IV. of appendix E to this part and, for nuclear power reactor **licensees**, the planning standards of § 50.47(b).
- (iv) *Reduction in effectiveness* means a change in an emergency plan that results in reducing the licensee's capability to perform an emergency planning function in the event of a radiological emergency.

10 CFR 50.54(q) (cont.)

Draft Final Rule (continued):

- (2) A holder of a license under this part, or a combined license under part 52 of this chapter after the Commission makes the finding under § 52.103(g) of this chapter, shall follow and maintain the effectiveness of an emergency plan that meets the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).
- (3) The licensee may make changes to its emergency plan without NRC approval only if the licensee ~~can demonstrate through performs and retains an~~ analysis **demonstrating** that the changes do not reduce the effectiveness of the plan and the plan, as changed, continues to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).
- (4) The changes to a licensee's emergency plan that reduce the effectiveness of the plans as defined in § 50.54(q)(1)(iv) may not be implemented without prior approval by the NRC. A licensee desiring to make such a change shall submit an application for an amendment to its license. In addition to the filing requirements of §§ 50.90 and 50.91, the request must include all emergency plan pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

10 CFR 50.54(q) (cont.)

Draft Final Rule (continued):

- (5) The licensee shall retain a record of each change to the emergency plan made without prior NRC approval for a period of three years from the date of the change and shall submit, as specified in § 50.4, a report of each such change, including **a summary of** its analysis, within 30 days after the change is **made-put into effect**.
- (6) The nuclear power reactor licensee shall retain the emergency plan and each change for which prior NRC approval was obtained pursuant to § 50.54(q)(4) as a record until the Commission terminates the license for the nuclear power reactor.

APPENDIX E, SECTION IV

Draft Final Rule:

3. Licensees shall use NRC approved evacuation time estimates (ETEs) and ~~NRC-confirmed~~ updates to the ETEs in the formulation of protective action recommendations and shall provide the ETEs and ETE updates to State and local governmental authorities for use in developing protective action strategies.
4. Within 365 days of the later of the availability of the decennial census data from the U.S. Census Bureau or **[INSERT EFFECTIVE DATE OF FINAL RULE]**, nuclear power reactor licensees shall develop an ETE analysis using this decennial data and submit it under § 50.4 to the NRC ~~to confirm adequacy~~. **Licensees shall submit this ETE analysis to the NRC at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.**
45. During the years between decennial censuses, licensees shall estimate EPZ permanent resident population changes once a year, but no later than 365 days from the previous estimate, using the most recent U. S. Census Bureau annual resident population estimate and State/local government population data, if available. Licensees shall maintain these estimates so that they are available for NRC inspection during the period between decennial censuses and shall submit these estimates to the NRC with any updated ETE analysis.

APPENDIX E, SECTION IV (cont.)

Draft Final Rule:

56. If at any time during the decennial period, the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ, to increase by 25 percent or 30 minutes, whichever is less, from the licensee's currently approved or **confirmed-updated** ETE, the licensee shall update the ETE analysis to reflect the impact of that population increase. The licensee shall submit the updated ETE analysis to the NRC ~~for review and confirmation~~ under § 50.4 no later than 365 days after the licensee's determination that the criteria for updating the ETE have been met **and at least 180 days before using it to form protective action recommendations and providing it to State and local governmental authorities for use in developing offsite protective action strategies.**

67. After an ~~license~~ applicant **for a combined license under part 52 of this chapter** receives its license, the licensee shall conduct at least one review of any changes in the population of its EPZ at least 365 days prior to its scheduled fuel load. The licensee shall estimate EPZ permanent resident population changes using the most recent U.S. Census Bureau annual resident population estimate and State/local government population data, if available. If the EPZ permanent resident population increases such that it causes the longest ETE value for the 2-mile zone or 5-mile zone, including all affected Emergency Response Planning Areas, or for the entire 10-mile EPZ, to increase by 25 percent or 30 minutes, whichever is less, from the licensee's currently approved ETE, the licensee shall update the ETE analysis to reflect the impact of that population increase. The licensee shall submit the updated ETE analysis to the NRC for review ~~and confirmation~~ under § 50.4 no later than 365 days before the licensee's scheduled fuel load.

APPENDIX E, SECTION IV.A.7

Draft Final Rule:

Specifically, the following shall be included:

* * * * *

Identification of, and **a description of the** assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, **including hostile action at the site. For purposes of this appendix, “hostile action” is defined as an act directed toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.**

APPENDIX E, SECTION IV.A.9

Draft Final Rule:

Nuclear power ~~plant reactor~~ licensees ~~under this part and Part 52 must provide shall perform~~ a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned ~~any~~ responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.

APPENDIX E, SECTION IV.C.2

Draft Final Rule:

Nuclear power ~~plant reactor~~ licensees ~~and applicants under this part and Part 52~~ shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following ~~a determination that an emergency action level has been exceeded~~ **identification of the appropriate emergency classification level. These criteria must not be construed** Licensees ~~shall not construe these criteria~~ as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an ~~EAL~~ **emergency action level** that has been exceeded. ~~These criteria must not be construed~~ **Licensees shall not construe these criteria** as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.

APPENDIX E, SECTION IV.D.3

Draft Final Rule:

...The use of this alerting and notification capability will range from immediate alerting and notification of the public (within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is substantial time available for the appropriate governmental authorities to make a judgment whether or not to activate the public alert and notification system. ~~The licensee shall identify and demonstrate that the appropriate governmental authorities have both the alerting and notification capability shall additionally include~~ administrative and physical means for a backup method of public alerting and notification capable of being used in the event the primary method of alerting and notification is unavailable during an emergency to alert or notify all or portions of the plume exposure pathway EPZ population. The backup method shall have the capability to alert and notify the public within the plume exposure pathway EPZ, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system. When there is a decision to activate the alert and notification system, the appropriate governmental authorities will determine whether to activate the entire alert and notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public alert and notification system shall remain with the appropriate governmental authorities.

APPENDIX E, SECTION IV.F.2.b & d

Draft Final Rule:

b. Each licensee at each site shall conduct a subsequent exercise of its onsite emergency plan every 2 years. Nuclear power **plant-reactor** licensees shall submit exercise scenarios under § 50.4 for prior NRC review and **approval-verification**. The exercise may be included in the full participation biennial exercise required by paragraph 2.c. of this section. In addition, the licensee shall take actions necessary to ensure that adequate emergency response capabilities are maintained during the interval between biennial exercises by conducting drills, including at least one drill involving a combination of some of the principal functional areas of the licensee's onsite emergency response capabilities. The principal functional areas of emergency response include activities such as management and coordination of emergency response, accident assessment, event classification, notification of offsite authorities, assessment of the onsite and offsite impact of radiological releases, protective action recommendation development, protective action decision making, plant system repair and **corrective-mitigative actions implementation...**

d. A State should fully participate in the ingestion pathway portion of exercises at least once every **6 years-exercise planning cycle**. In States with more than one site, the State should rotate this participation from site to site.

APPENDIX E, SECTION IV.F.2.j

Draft Final Rule:

The exercises conducted under paragraph 2 of this section by nuclear power **plant-reactor** licensees ~~under this part and Part 52~~ must provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to implement the principal functional areas of emergency response identified in paragraph 2.b of this section. Each exercise must provide the opportunity for the ERO to demonstrate key skills specific to emergency response duties in the control room, TSC, OSC, EOF, and joint information center. Additionally, in each ~~six-eight~~ calendar year exercise planning cycle, nuclear power **plant-reactor** licensees ~~under this part and Part 52~~ shall vary the content of scenarios during exercises conducted under paragraph 2 of this section to provide the opportunity for the ERO to demonstrate proficiency in the key skills necessary to respond to the following scenario elements: hostile action directed at the plant site (~~at an exercise frequency of at least once every 8 years~~), no radiological release or an unplanned minimal radiological release that does not require public protective actions, an initial classification of or rapid escalation to a Site Area Emergency or General Emergency, implementation of strategies, procedures, and guidance developed under § 50.54(hh), and integration of offsite resources with onsite response. The licensee shall maintain a record of exercises conducted during each ~~six-eight~~-year exercise planning cycle that documents the contents of scenarios used to comply with the requirements of this paragraph.



United States Nuclear Regulatory Commission

Protecting People and the Environment

APPENDIX E, SECTION IV.F.2.j (cont.)

A licensee shall begin its first eight year exercise planning cycle no later than the date of its first biennial exercise conducted after [INSERT DATE 395 DAYS AFTER THE DATE OF PUBLICATION IN THE FEDERAL REGISTER], and that first biennial exercise must include a hostile action scenario.

IMPLEMENTATION PERIODS

- Amended Emergency Plan Change Process
 - Effective date of final rule (30 days after final rule publication in *Federal Register*)
- Evacuation Time Estimate Update
 - 365 days from later of availability of decennial census data or effective date of final rule
- Licensee Coordination with OROs
 - 24 months from effective date of final rule
- On-Shift Staffing Analysis
 - 365 days from effective date of final rule

IMPLEMENTATION PERIODS (cont.)

- Emergency Action Levels for Hostile Action
 - 180 days from effective date of final rule
- Emergency Declaration Timeliness
 - 180 days from effective date of final rule
- Alert and Notification System Backup Means
 - 180 days from effective date of final rule (with existing FEMA-approved ANS backup means)
 - 365 days from effective date of final rule to submit ANS backup means for FEMA review, then 365 days from date of FEMA approval to implement ANS backup means

IMPLEMENTATION PERIODS (cont.)

- **Emergency Operations Facility – Performance-Based Approach**
 - 180 days from effective date of final rule
- **ERO Augmentation at Alternative Facility**
 - 180 days from effective date of final rule for staging area and communications capability
 - 36 months from effective date of final rule for remaining capabilities
- **New Drill and Exercise Requirements**
 - Starting with biennial exercise conducted in 2014 or 2015
- **Protective Actions for Onsite Personnel**
 - 180 days from effective date of final rule

REGULATORY ANALYSIS

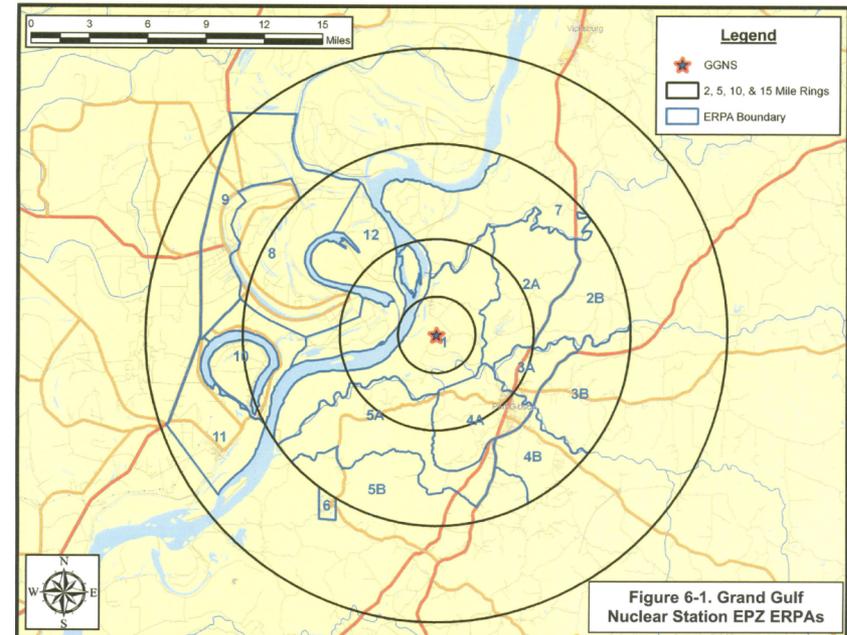
- Costs/Benefits Evaluated Relative to Current Regulations, Orders, and Voluntary Actions
- Costs Are Site-Based Rather Than Reactor-Based
- Average Power Reactor Site Cost
 - One-Time = \$485,000
 - Annual = \$40,000
- Average Non-Power Reactor Site Cost
 - One-Time = \$14,000
 - Annual = \$0

BACKFIT ANALYSIS

- Final Rule Requirements Qualify as Backfits
- Two Exceptions
 - Amended Emergency Plan Change Process
 - Performance-Based Emergency Operations Facility
- Backfits Substantially Increase Level of Emergency Preparedness
- Backfits Substantially Enhance Protection of Public

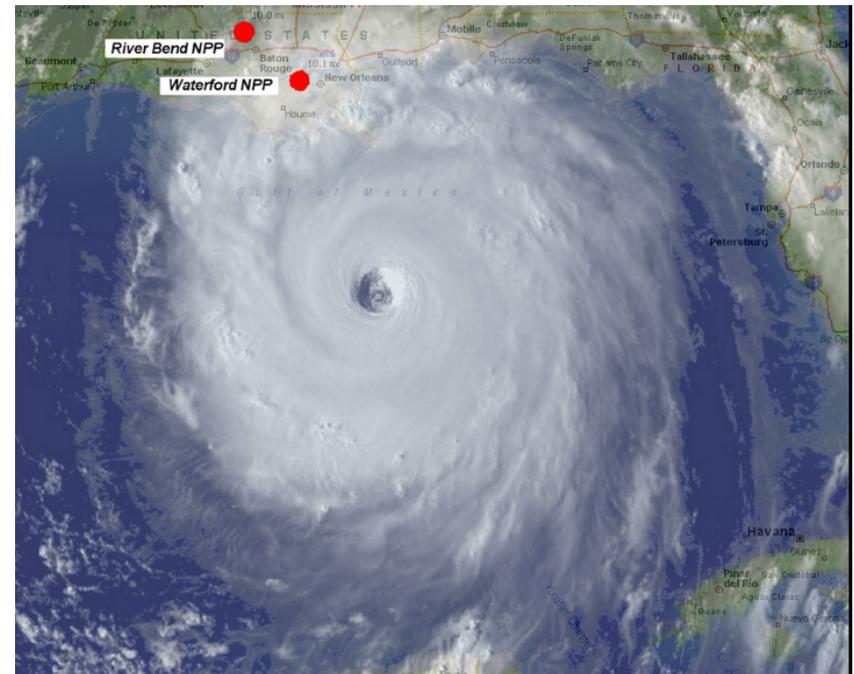
TRANSIENT POPULATIONS BEYOND EPZ

- EPZ Often Extended to Accommodate Population Centers
- For Events Beyond EPZ:
 - Localized, high density areas
 - Higher vehicle occupancy
 - Shorter mobilization times
 - Events often evening or weekend



SEVERE NATURAL HAZARDS

- Nuclear Power Plant Area Relatively Small, Affects Thousands
- Hurricane Evacuation Starts Days in Advance, Typically Affects Millions
- Seismic Consequences Site-Specific, Do Not Always Increase ETE



Hurricane Katrina was approximately 400 miles across compared to the 10 mile EPZs shown

NUMBER OF ETE SCENARIOS

- Scenarios Multiplied by Number of ERPAs
 - Hundreds of ETEs generated with each study
 - Typically little variation among scenarios
 - Additional scenarios would result in same ETE values
- Evening Adverse Weather ETEs Bounded by Daytime Adverse Weather and Evening Normal Weather ETEs

ETE UNCERTAINTIES

- High Confidence in:
 - Demographic data (US Census)
 - Roadway network data (visually surveyed)
 - Roadway network analysis (Highway Capacity Manual)
 - Evacuation models - calibrated, validated
- Mobilization Time Has Inherent Uncertainty; Requires Assumptions
 - Primary contributor to evacuation tail

Bob Leyse slides for Full ACRS, December 14, 2011

On December 2, 2010 I taught Full ACRS that 2200 is too high.

Today's focus is on two items:

RBHT at Penn State

User Need Request, Leeds to Sheron, April 26, 2010, ML100770117
USER NEED REQUEST FOR TECHNICAL ANALYSIS OF
PETITION FOR RULEMAKING ON 10 CFR 50.46

NRC (outrageously) has always promoted RBHT at Penn State as highly applicable to TRACE and licensing. However, the documents are not available to anyone unless NRC apparently provides selected access.

Apparently ACRS Consultant Wallis has had such access because at
Advisory Committee on Reactor Safeguards
Thermal Hydraulic Phenomena Subcommittee
Monday, October 18, 2010
Page 86

CONSULTANT WALLIS: Are we going to hear
16 about this later? Are we going to hear about this
17 later? **Because the only thing I have seen from the**
18 Penn State work was some very sort of crude results,
19 but they measured all kinds of stuff.

Moving to the User Need Request, Leeds to Sheron:

In the User Need Request, Leeds to Sheron, April 26, 2010, ML 100770117, Leeds refers to the Technical Safety Analysis of PRM-50-76, April 29, 2004, ML 041210109, as an "... outstanding technical analysis" However, the facts reveal that ML041210109 is most certainly not an outstanding technical analysis. (Unless that means outstandingly deficient).

Referring to work at PSU and elsewhere, ML041210109, reports on April 29, 2004, "Current programs at Pennsylvania State University ... are far more cost effective."

So, in 2004, NRC staff was praising RBHT, but more than 6 years later, Expert Consultant Wallis reported, "...**Penn State work was some very sort of crude results.**"

The next slide details the Penn State reporting.

From ACRS SUBC. ON THERMAL HYDRAULIC PHENOMENA, OCTOBER 18, 2010

RBHT was discussed by Seungjin Kim, Assistant Professor, Pennsylvania State University. His slides list six reports that were submitted to NRC during 2008. Kim's list is in blue. A corresponding list in black type is from Penn State University Reports as reported by NRC, McGinty to Leyse, April 16, 2010, (ML100950085). McGinty discloses that only one of the six reports is available to the public and it was not placed in ADAMS until 07/31/2010 (ML102290227). Three of Kim's six reports have **no publishing date set**. Another **is now predecisional but is expected to be published by December 2011**. Finally, **NRC expects to publish NUREG/CR 6975 as a public document by December 2010; however, it is not yet in ADAMS**.

- Reports Submitted to NRC

Penn State University Reports as reported by NRC, McGinty to Leyse, (ML100950085)

- Rod Bundle Heat Transfer Facility Test Plan and Design, *NUREG/CR-6975, September 2008*

L. E. Hochreiter, F. B. Cheung, T. F. Lin, C. Frepoli, A. Sridharan, D. R. Todd, E. R. Rosal, **NUREG/CR 6975**, "Rod Bundle Heat Transfer Facility Test Plan and Design," submitted to U.S. Nuclear Regulatory Commission (NRC) October 2008 (218 pages).
Status: Actually 567 pages. The NRC's Office of Nuclear Reactor Regulation (NRR) and the Office of New Reactors (NRO) is reviewing NUREG/CR-6975 (ADAMS Accession No. ML082831698). The NRC expects to publish this as a public document by December 2010

- Rod Bundle Heat Transfer Test Facility Description, *NUREG/CR-6976, September 2008*

NUREG/CR-6976 was not placed in ADAMS until 07/31/2010 (ML102290227)

- RBHT Reflood Heat Transfer Experiments Data and Analysis Report, *NUREG/CR-6980, November 2008*

L. E. Hochreiter, F. B. Cheung, T. F. Lin, S. Ergun, A. Sridharan, A. Ireland, E. R. Rosal, **NUREG/CR-6980**, "RBHT Reflood Heat Transfer Experiments Data and Analysis Report," submitted to the NRC October 2008 (338 pages).
Status: Actually 539 pages, the NRC's Office of Nuclear Regulatory Research (RES) has reviewed and provided comments on NUREG/CR-6980 (ADAMS Accession No. ML082830388). Penn State is revising this NUREG. It is now predecisional but is expected to be published by December 2011.

- RBHT Two Phase Mixture Level Swell and Uncovery Experiments Data Report, *PSU/MNE Draft Report, December 2008*

L. E. Hochreiter, F. B. Cheung, , T. F. Lin, D. J. Miller, B. R. Lowery, **NUREG/CR-XXXX**, "RBHT Two Phase Mixture Level Swell and Uncovery Experiments Data Report," submitted to the NRC December 2008 (198 pages).
Status: Actually 1111 pages, not currently in NUREG format, needs staff review, no publishing date set.

- Rod Bundle Heat Transfer Facility – Steady State Steam Cooling Experiments,, *PSU/MNE Draft Report, December 2008*

L. E. Hochreiter, F. B. Cheung, , T. F. Lin, D. M. McLaughlin, J. P. Spring, P. M. Kutzler, and S. Ergun, **NUREG/CR-XXXX**, "Rod Bundle Heat Transfer Facility Steady State Steam Cooling Experiments," submitted to the NRC December 2008 (206 pages).
Status: Actually 474 pages, text has been reviewed, data and plots will be reviewed, no publishing date set.

– Rod Bundle Heat Transfer Facility – Steam Cooling with Droplet
Injection Experiments Data Report, *PSU/MNE Draft Report*,
December 2008

L. E. Hochreiter, F. B. Cheung, T. F. Lin, D. J. Miller, B. R. Lowery, **NUREG/CR-XXXX**, "Rod Bundle Heat Transfer Facility Steam Cooling with Droplet Injection Experiments Data Report," submitted to the NRC December 2008 (427 pages) ***no publishing date set.***