



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

July 21, 2010

MEMORANDUM TO: ACRS Members

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

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM
THE ADVISORY COMMITTEE ON REACTOR
SAFEGUARDS 557th FULL COMMITTEE MEETING
HELD ON NOVEMBER 6-8, 2008 IN ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on June 19, 2008 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**

June 19, 2008

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 552nd MEETING OF THE ADVISORY
COMMITTEE ON REACTOR SAFEGUARDS (ACRS),
MAY 8-10, 2008

I certify that based on my review of the minutes from the 552nd 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
NAME	SMeador	CSantos/sam
DATE	06/ 19 /08	06/ 19 /08

OFFICIAL RECORD COPY

CERTIFIED

Date Certified: June 19, 2008

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During its 557th meeting, November 6-7, 2008, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following letter and memoranda:

LETTER:

Letter to R. W. Borchardt, Executive Director for Operations, NRC, from William J. Shack, Chairman, ACRS:

- White Paper on "Historical Perspectives and Insights on Reactor Consequence Analyses," dated November 14, 2008

MEMORANDA:

Memoranda to R. W. Borchardt, Executive Director for Operations, NRC, from Edwin M. Hackett, Executive Director, ACRS:

- Supplement 1 To NUREG-1875, "Safety Evaluation Report Related to License Renewal of Oyster Creek Generating Station," dated November 14, 2008
- Draft Final Revision to Regulatory Guides 1.125 and 3.25, dated November 14, 2008
- Draft Regulatory Guide DG-1204, dated November 14, 2008
- Proposed Interim Staff Guidance (ISG) DC/COL-ISG-08, dated November 14, 2008
- Withdrawal of Regulatory Guide 3.38, "General Fire Protection Guide for Fuel Reprocessing Plants," dated November 14, 2008

MINUTES OF THE 557th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
NOVEMBER 6-8, 2008
ROCKVILLE, MARYLAND

The 557th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room 2B3, Two White Flint North Building, Rockville, Maryland, on November 6-8, 2008. Notice of this meeting was published in the *Federal Register* on October 27, 2008 (72 FR 63740-63741). The purpose of this meeting was to discuss and take appropriate action on the items listed in the meeting agenda. 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. William J. Shack (Chairman), Dr. Mario V. Bonaca (Vice-Chairman), Dr. Said Abdel-Khalik (Member-at-Large), Dr. George E. Apostolakis, Dr. Sam Armijo, Dr. Sanjoy Banerjee, Dr. Dennis Bley, Mr. Charles Brown, Dr. Michael Corradini, Mr. Otto L. Maynard, Dr. Dana A. Powers, Mr. Harold Ray, Dr. Michael Ryan, Mr. John Sieber, and Mr. John Stetkar.

I. Chairman's Report (Open)

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

Dr. William J. Shack, 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. Shack 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. Dr. Shack announced that Mr. Charles Brown, Jr. is an official member of the committee with an expertise in digital instrumentation and control.

II. Chapter 14 of the SER Associated with the Economic Simplified Boiling Water Reactor (ESBWR) Design Certification Application

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

The Committee met with representatives of the NRC staff to discuss Chapter 14, "Verification Programs" of the NRC staff's Safety Evaluation Report (SER) with Open Items associated with the ESBWR Design Certification Application. The staff discussed its review of various elements of this Chapter including the Initial Plant Test Program for Final Safety Analysis Reports and Inspections, Tests, Analyses and Acceptance Criteria (ITAAC). The staff provided an overview and historical perspective on the use of Tier 1, Tier 2, ITAAC, Design Acceptance Criteria (DAC), and their applicability for design certifications, and the overlap between ITAAC and the Initial Test Program. The staff further provided the status of the staff's review of Chapter 14 and the Tier 1 information. Although the staff issued 437 requests for additional information (RAIs) during the course of this review, 364 of these RAIs have already been resolved. The selection criteria and methodology for the various DACs were determined to be consistent with the guidance in Standard Review Plan 14.3. The staff issued 98 RAIs in the course of its review of the initial test program described in Chapter 14, of which 93 have since been resolved. The open items concern digital instrumentation and control systems, human factors engineering, electrical systems, containment systems, reactor systems, and format and consistency issues across similar ITAACs. The Committee plans to continue its discussion of Chapter 14 in combination with Chapter 7, "Instrumentation and Controls" of the SER associated with the ESBWR Design Certification Application during its December 2008 meeting.

III. Position Paper on Incorporating the International Commission on Radiological Protection (ICRP) Recommendations into 10 CFR Parts 20 and 50

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

The Committee met with representatives of the NRC staff to discuss the NRC response to the 2007 recommendations of the ICRP (Publication 103). These recommendations formally replace the ICRP's previous guidance, which was published in 1990, and update the radiation and tissue weighting factors as well as the radiation detriment, based on the latest scientific information regarding the biology and physics of radiation exposure. The NRC staff is developing an options paper that is expected to be provided to the Commission in December 2008. The proposed options include (1) no action; (2) updating 10 CFR Part 50 and Appendix I (but not 10 CFR Part 20), and (3) move toward alignment with ICRP 103.

IV. Status of License Renewal Activities

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

The Committee met with representatives of the NRC staff to discuss the current status and recent changes in the license renewal program. The staff described the status of completed, ongoing, and future license renewal applications; the challenge it is facing; the Office of Inspector General (OIG) audit report and recommendations; and the license renewal

infrastructure. The staff stated that 68 out of 104 operating units have received renewed licenses or are currently under review. Regarding the OIG audit report, the staff stated that it has addressed all recommendations made by the OIG that would enhance the license renewal program, specifically in the area of documentation of the technical review. The staff is in the process of updating the Standard Review Plan, Generic Aging Lessons-Learned (GALL) Report, and the bases document. The staff will incorporate lessons learned from the review of license renewal applications, operating experience, public comments, and approved Interim Staff Guidance. The estimated schedule for the GALL Report update is December 2010. This was an information briefing. No Committee action was necessary.

V. Subcommittee Report

US-APWR Subcommittee Report

The Chairman of the US-APWR Subcommittee provided a report summarizing the results of the October 23-24, and November 4-5, 2008, meetings with representatives of the NRC staff and Mitsubishi Heavy Industries (MHI) to discuss various US-APWR topical reports. During October 23-24, 2008, the Subcommittee was briefed on the following:

- NRC staff's SER for LOCA Mass and Energy Release Analysis Code Applicability Report
- Thermal Design Methodology
- Fuel Design Criteria and Methodology
- US-APWR Advanced Accumulator
- FINDS: Mitsubishi Fuel Assemblies Seismic Analysis Code

During November 4-5, 2008, the Subcommittee was briefed on the following four additional topical reports:

- HSI (Human System Interface) System Description and HFE (Human Factors Engineering) Process
- Safety I&C (Instrumentation & Control) System Description Design Process
- Safety System Digital Platform MELTAC (Mitsubishi Electric Total Advanced Controller)
- Defense-in-Depth and Diversity

As additional SERs become available, the Subcommittee will schedule further briefings from the staff and will consider preparing letters at that time.

Plant License Renewal Subcommittee Report

The Chairman of the Plant License Renewal Subcommittee provided a report summarizing the results of the November 5, 2008, meeting with representatives of the NRC staff and Southern Nuclear Operating Company regarding the interim review of the license renewal application for the Vogtle Electric Generating Plant and the associated NRC staff's draft SER.

The NRC issued the construction permits for Unit 1 on June 28, 1974, and for Unit 2 on June 28, 1974. The NRC issued the operating licenses for Unit 1 on March 16, 1987, and for Unit 2

on March 31, 1989. Southern Nuclear Operating Company submitted the license renewal application on June 27, 2007, and the staff's draft SER was issued on September 8, 2008, which contained no open items, no confirmatory items, three proposed license conditions, and 35 commitments. The Committee plans to discuss the final SER related to the license renewal application for the Vogtle Electric Generating Plant in a future meeting

VI. Current Issues Associated with Fire Protection and Related Issues

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

The Committee met with representatives of the NRC staff regarding the status of the staff's current fire protection activities, which include: recent Commission guidance, Government Accountability Office (GAO) recommendations and planned staff actions, fire protection closure plan, license amendment requests for pilot plants transitioning to National Fire Protection Association (NFPA) Standard 805, and associated Regulatory Guide and Standard Review Plan development. The staff described the progress made in the above areas. The staff is working with the industry stakeholders on the fire protection closure plan.

Regarding the NFPA 805-related activities, the staff stated that Progress Energy (Shearon Harris Plant) and Duke Energy (Oconee Nuclear Site) have been designated as NFPA 805 pilot plants. To date, operators of 48 nuclear power units have sent the NRC letters of intent to adopt the NFPA 805 Standard. In parallel with and learning from the pilot plant amendment reviews, the staff is finalizing its review infrastructures.

The staff proposed the following future actions on the above discussed topics:

- The staff plans to conduct a fire protection briefing on fire-induced circuit failures and resolution of electrical raceway fire barriers in early 2nd Quarter 2009.
- The staff plans to submit for ACRS review NFPA 805 guidance documents (RG 1.205, Revision 1, and SRP Section 9.5.1b) after resolution of public comments early in the 3rd Quarter of 2009.

This was an information briefing. No Committee action was necessary.

VII. Proposed Changes to the Review Process for Subsequent Combined License Applications (SCOLAs)

[Note: Ms. Yaira Sanabria-Diaz was the Designate Federal Official for this portion of the meeting.]

The Committee met with representatives of the NRC staff to discuss a pilot program for the SCOLA review process. The NRC staff described the current Design-Centered Review Approach (DCRA), which was endorsed by the Commission and consistent with the NRC Policy on Standardization. The current DCRA minimizes rework by early identification of issues during the detailed design work and during the staff review of combined license applications (COLAs). The safety review model includes six phases (6-Phase model), starting from the generation of

request for additional information (RAIs) to the development of the Final Safety Evaluation Report. The staff believes that it will be worthwhile to reduce the current review model of 6-Phases to four phases (4-Phase model). The 4-Phase model eliminates the generation of an SER with open items and the associated ACRS review. The staff plans to use the 4-Phase model on the SCOLA review of the V. C. Summer Nuclear Station site as a pilot. The purposes of this pilot are to improve the existing process, to reduce the resources required without affecting the quality, to enhance the staff's ability to accomplish work with the current budget, and to enhance the staff's ability to manage workload peaks. The staff recognized the following challenges on the 4-Phase review process: determining which SCOLA reviews will follow the 4-Phase review approach, early resolution of staff issues and the ability of the applicant to respond in a timely manner, ensuring early involvement with the ACRS, and developing measures for effectiveness and efficiency. The staff plans to have future interactions with the ACRS on the topics related to the SCOLA review process. This was an information briefing. No Committee action was necessary.

VIII. Executive Session

[Note: Mr. Frank Gillespie 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 October 27, 2008, to comments and recommendations included in the September 17, 2008, ACRS report on the license renewal application for the Wolf Creek Generating Station, Unit 1. The Committee decided that it was satisfied with the EDO's response.

B. Report of the Planning and Procedures Subcommittee Meeting

Review of the Member Assignments and Priorities for ACRS Reports and Letters for the May ACRS Meeting

Member assignments and priorities for ACRS reports and letters for the November ACRS meeting were discussed. Reports and letters that would benefit from additional consideration at a future ACRS meeting were also discussed.

Anticipated Workload for ACRS Members

The anticipated workload for ACRS members through March 2009 was discussed and the objectives were 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

Operating Plan, Self-Assessment, and Summary Matrix

Draft Versions of the ACRS Operating Plan, Self-Assessment, and Summary Matrix of the ACRS reports and letters issued in FY2008 were provided to the members for feedback during the October meeting. Comments received from the members have been incorporated and the final versions of these documents have been sent to the Commission on October 29, 2008.

ACRS Retreat

At the October meeting, the Committee decided to hold a retreat on January 27-28, 2009. This retreat will be held at the Residence Inn, Bethesda. A proposed list of topics for discussion at the retreat was sent to all members for comment on October 29, 2008. The list of topics has been revised incorporating, as appropriate, the comments received from the members. A revised list of topics is attached (pp. 11-12). Also, at the October meeting the Committee discussed the need to have a facilitator at the retreat and deferred its decision to the November meeting.

Draft Safety Culture Policy Statement

In an SRM dated February 25, 2008 (pp. 13), the Commission directed the staff to continue its broad review of issues related to safety culture and provide a recommendation on how best to update the Commission policy on safety culture. In response to the SRM, the staff is developing a SECY paper with safety culture policy statement and recommendations on how to proceed. In addition, industry is developing a new approach to assess safety culture as part of the Reactor Oversight Process (ROP). In FY2006, the NRC staff implemented an approach to enhance the ROP to more fully address safety culture. Experience from that initiative is being reviewed to determine if any changes need to be made to the ROP. The NRC staff plans to hold a public workshop on safety culture in early CY2009.

Revised Process for Issuing Regulatory Guides

The Regulatory Guide Development Branch (RGDB) in the Office of Nuclear Regulatory Research manages the agency's Regulatory Guide (RG) program through coordination with offices across the agency. The current process for issuing RGs is as follows: The technical staff responsible for the guide coordinates with technical staff from other offices affected by the guide and then transmits the guide to RGDB via memorandum signed by the appropriate Division Director. RGDB reviews the guide for format and content and then transmits the guide to the ACRS for consideration. At the same time, the RG is placed into a concurrence package to be issued. In the case of a final Regulatory Guide, if the formal concurrence resulted in more than grammatical or editorial changes, a revised version is sent back to ACRS for consideration.

In the previous process, the guide would be sent to ACRS after formal concurrence and review by appropriate offices.

Regulatory Guides and Interim Staff Guidance

a. Draft Final Regulatory Guides

Draft Final Regulatory Guide 1.125, "Revision 2, Physical Models for Design and Operation of Hydraulic Structures and Systems for Nuclear Power Plants"

Regulatory Guide 1.125, Revision 2 describes the detail and documentation of data and studies that an applicant should include in the preliminary and/or Final Safety Analysis Report to support the use of physical hydraulic model testing for predicting the performance of hydraulic structures and systems for nuclear power plants. Hydraulic structures are defined as anything that can be used to divert, restrict, stop, or otherwise manage the natural flow of water. The draft final version of this Guide reflects incorporation of public comments, as appropriate.

The Committee considered a proposed revision of this Guide during its May 2008 meeting and did not raise any objection to the staff's proposal to issue this Guide for public comment. The Committee wanted to have an opportunity to review the draft final version of this Guide after reconciliation of public comments.

The staff requests that the ACRS decide whether it wants to review this Guide prior to issuing it final.

Draft Final Revision 2 to Regulatory Guide 3.25, "Standard Format and Content of Safety Analysis Reports for Uranium Enrichment Facilities"

Regulatory Guide 3.25 endorses the standard format and content for safety analysis reports and integrated safety analysis summaries described in NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility," as a process the NRC finds acceptable for submittal of an application to construct or modify and operate a nuclear fuel cycle facility in accordance with the requirements of 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," Subpart H, "Additional Requirements for Certain Licensees Authorized to Possess a Critical Mass of Special Nuclear Material." The current version of this Guide reflects incorporation of public comments, as appropriate.

The staff requests that the ACRS decide whether it wants to review this Guide prior to issuing it final.

Proposed Regulatory Guide

Draft Regulatory Guide (DG) 1204, "Guidance for [Inspections, Tests, Analyses, and Acceptance Criteria] ITAAC Closure Under 10 CFR Part 52"

DG-1204 endorses Nuclear Energy Institute document, (NEI) 08-01, Revision 1, "Industry Guidance for the ITAAC Closure Process under 10 CFR Part 52, Revision 0." The NEI guidance document provides a general description of the ITAAC process and suggested licensee processes for review and approval of ITAAC closure documents.

The staff plans to issue this Guide for public comment and would like to know whether the Committee wants to review this Guide prior to being issued for public comment.

Withdrawal of Regulatory Guide 3.38, "General Fire Protection Guide for Fuel Reprocessing Plants"

The NRC is withdrawing Regulatory Guide 3.38, issued for public comment in June 1976, because it is not currently used by any licensee for fuel reprocessing plants and it is not suitable for future facilities such as those proposed by the Global Nuclear Energy Partnership (GNEP).

The staff proposes to withdraw this Guide and seeks Committee's endorsement.

Proposed Interim Staff Guidance

Proposed DC/COL-ISG-08 is a new Interim Staff Guidance (ISG). The purpose of this ISG is to change the NRC staff position on the necessary content of plant-specific technical specifications when a combined license (COL) is issued. This ISG clarifies the staff guidance contained in Regulatory Guide 1.206, "Combined License Applications for Nuclear Power Plants," Section C.III.4.3, "Combined License Information Items that Cannot be Resolved Before the Issuance of a License," and replaces the related guidance in NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," Chapter 16.0, "Technical Specifications," Revision 2, regarding the content of the plant-specific technical specifications to support issuing a COL.

The staff plans to issue this proposed ISG for public comment and would like to know whether the ACRS wants to review this ISG prior to being issued for public comment.

Supplement 1 to NUREG 1875, "Safety Evaluation Report Related to License Renewal of Oyster Creek Generating Station, Docket No. 50-219"

The staff has provided a copy of Supplement 1 to the Oyster Creek Generating Station (OCGS) SER to the ACRS. This supplement was issued to document clarifications provided by the applicant to drywell shell aging management program commitments. It also documents the staff's evaluation of the applicant's response to an April 2008 request for additional information regarding the use of Green's function in calculating fatigue cumulative usage factors for certain OCGS components. The staff concluded that the applicant adequately addressed the staff's concerns regarding the use of Green's function in calculating fatigue cumulative usage factors; thus, the conclusions drawn by the staff in the final SER, regarding fatigue cumulative usage factors, remain valid.

The staff would like to know whether the ACRS wants to review Supplement 1 to the OCGs SER.

Election of Officers for CY-2009

During its December meeting, the Committee will elect Chairman and Vice- Chairman for the ACRS and Member-at-Large for the Planning and Procedures Subcommittee. Section 8.4 of the ACRS Bylaws state:

A member may withdraw his name from consideration by written notice to the Executive Director no later than two weeks before the scheduled election.

Accordingly, those members who do not wish to be considered for all or any of the Offices should notify the ACRS Executive Director in writing by November 21, 2008.

Christmas Party

The members have been sponsoring Christmas party to the ACRS Office staff in December of each year. The Committee should decide whether it wants to keep up with this tradition.

Proposed Research Projects for Quality Assessment in 2009

The Office of Nuclear Regulatory Research (RES) has provided a list of proposed research projects for Quality Assessment by the ACRS in 2009 (pp. 14). The Committee needs to select certain projects and establish Panels for assessing the quality of these projects in 2009.

In 2008, the Committee assessed the quality of two research projects and provided the results of its assessments to the RES Director in October 2008. In view of the anticipated heavy workload in 2009, the Committee should consider selecting a maximum of two projects for quality assessment in 2009.

Dr. Powers proposed the following projects and Panels:

- NUREG/CR 6964, "Crack Growth Rates and Metallographic Examinations of Alloy 600 and Alloy 82/182 from Field and Laboratory Materials Testing in PWR Environments"

Panel: Armijo (Chair), Abdel-Khalik, Ray

- NUREG/CR on Diversity and Defense n Depth for Digital Instrumentation and Control Systems

Panel: Brown (Chair), Apostalakis, Sieber

The meeting was adjourned at 12:30 p.m. on November 8, 2008.



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

November 13, 2008

**AGENDA
558th ACRS MEETING
DECEMBER 4-6, 2008**

**THURSDAY, DECEMBER 4, 2008, CONFERENCE ROOM T-2B3, TWO WHITE FLINT
NORTH, ROCKVILLE, MARYLAND**

- 1) 8:30 – 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (WJS/CS/SD)
 - 1.1) Opening statement
 - 1.2) Items of current interest

- 2) 8:35 – 10:00 A.M. Chapters 7 and 14 of the SER Associated with the Economic Simplified Boiling Water Reactor (ESBWR) Design Certification Application (Open/Closed) (MLC/HJV)
 - 2.1) Remarks by the Subcommittee Chairman
 - 2.2) Briefing by and discussions with representatives of the NRC staff and General Electric - Hitachi Nuclear Energy (GEH) regarding Chapters 7 and 14 of the NRC staff's Safety Evaluation Report (SER) With Open Items associated with the ESBWR design certification application.

[NOTE: A portion of this session may be closed to protect information that is proprietary to GEH or its contractors pursuant to 5 U.S.C. 552b (c)(4)]

Members of the public may provide their views, as appropriate.

10:00 – 10:15 A.M. * BREAK *****

- 3) 10:15 – 12:00 P.M. Early Site Permit Application and the Final SER for the Vogtle Nuclear Plant (Open) (DAP/DAW)
 - 3.1) Remarks by the Subcommittee Chairman
 - 3.2) Briefing by and discussions with representatives of the NRC staff and Southern Nuclear Operating Company (SNC) regarding the Early site permit application and the NRC staff's final SER for the Vogtle Nuclear Plant.

Members of the public may provide their views, as appropriate.

12:00 – 1:00 P.M. * LUNCH *****

- 4) 1:00 – 2:30 P.M. Status of Staff Activities Associated with Potential Revision to 10 CFR 50.46 (b) (Open) (JSA/CLB)
4.1) Remarks by the Subcommittee Chairman
4.2) Briefing by and discussions with representatives of the NRC staff regarding the status of staff activities associated with potential revision to 10 CFR 50.46 (b).

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

2:30 – 2:45 P.M. * BREAK**

- 5) 2:45 – 4:15 P.M. NRC Staff's Initial White Paper on Containment Overpressure Credit Issue (Open) (MVB/ZA)
5.1) Remarks by the Subcommittee Chairman
5.2) Briefing by and discussions with representatives of the NRC staff regarding the initial White Paper on the use of Containment Accident Pressure in Determining the Available Net Positive Suction Head of Emergency Core Cooling and Containment Heat Removal Pumps, and related matters.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

- 6) 4:15 – 7:00 P.M. Preparation of ACRS Reports (Open)
Discussion of proposed ACRS reports on:
(6.1) Chapters 7 and 14 of the SER Associated with the ESBWR Design Certification Application (MLC/HJV)
(6.2) Early Site Permit Application and Final SER for the Vogtle Nuclear Plant (DAP/DAW).

FRIDAY, DECEMBER 5, 2008, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 7) 8:30 – 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (WJS/AFD/SD)
8) 8:35 – 10:00 A.M. Overview of the Human Reliability Analysis (HRA) Research Activities (Open) (GEA/HPN)
Briefing by and discussions with representatives of the NRC staff regarding HRA research activities.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

10:00 – 10:15 A.M. * BREAK *****

- 9) 10:15 – 12:00 P.M. Draft Policy Statement on Defense-in-Depth for Future Nuclear Reactors (Open) (WJS/MB)
Briefing by and discussions with representatives of the NRC staff regarding draft Policy Statement on Defense-in-Depth for Future Nuclear Reactors.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

12:00 – 1:30 P.M. * LUNCH *****

- 10) 1:30 – 2:30 P.M. Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (WJS/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) 2:30 – 2:45 P.M. Reconciliation of ACRS Comments and Recommendations (Open) (WJS/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) 2:45 – 3:00 P.M. Election of ACRS Officers for CY 2009 (Open) (EMH/SD)
Election of the Chairman and Vice-Chairman for the ACRS and Member-at-Large for the Planning and Procedures Subcommittee for CY 2009.

3:00 – 3:15 P.M. * BREAK *****

- 13) 3:15 – 7:00 P.M. Preparation of ACRS Reports (Open)
Continue discussion of the proposed ACRS reports listed under Item 6.

**SATURDAY, DECEMBER 6, 2008, CONFERENCE ROOM T-2B3, TWO WHITE FLINT
NORTH, ROCKVILLE, MARYLAND**

- 14) 8:30 – 12:30 P.M. Preparation of ACRS Reports (Open)
(10:30-10:45 A.M. BREAK) Continue discussion of the proposed ACRS reports listed under Item 6.
- 15) 12:30 – 1:00 P.M. Miscellaneous (Open) (WJS/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:

- During the days of the meeting, phone number 301-415-7360 should be used in order to access 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.



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November 13, 2008

**AGENDA
558th ACRS MEETING
DECEMBER 4-6, 2008**

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 - 1.2) Items of current interest
- 2) 8:35 – 10:00 A.M. Chapters 7 and 14 of the SER Associated with the Economic Simplified Boiling Water Reactor (ESBWR) Design Certification Application (Open/Closed) (MLC/HJV)
 - 2.1) Remarks by the Subcommittee Chairman
 - 2.2) Briefing by and discussions with representatives of the NRC staff and General Electric - Hitachi Nuclear Energy (GEH) regarding Chapters 7 and 14 of the NRC staff's Safety Evaluation Report (SER) With Open Items associated with the ESBWR design certification application.

[NOTE: A portion of this session may be closed to protect information that is proprietary to GEH or its contractors pursuant to 5 U.S.C. 552b (c)(4)]

Members of the public may provide their views, as appropriate.

10:00 – 10:15 A.M. * BREAK *****

- 3) 10:15 – 12:00 P.M. Early Site Permit Application and the Final SER for the Vogtle Nuclear Plant (Open) (DAP/DAW)
 - 3.1) Remarks by the Subcommittee Chairman
 - 3.2) Briefing by and discussions with representatives of the NRC staff and Southern Nuclear Operating Company (SNC) regarding the Early site permit application and the NRC staff's final SER for the Vogtle Nuclear Plant.

Members of the public may provide their views, as appropriate.

12:00 – 1:00 P.M. * LUNCH *****

- 4) 1:00 – 2:30 P.M. Status of Staff Activities Associated with Potential Revision to 10 CFR 50.46 (b) (Open) (JSA/CLB)
4.1) Remarks by the Subcommittee Chairman
4.2) Briefing by and discussions with representatives of the NRC staff regarding the status of staff activities associated with potential revision to 10 CFR 50.46 (b).

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

2:30 – 2:45 P.M. * BREAK**

- 5) 2:45 – 4:15 P.M. NRC Staff's Initial White Paper on Containment Overpressure Credit Issue (Open) (MVB/ZA)
5.1) Remarks by the Subcommittee Chairman
5.2) Briefing by and discussions with representatives of the NRC staff regarding the initial White Paper on the use of Containment Accident Pressure in Determining the Available Net Positive Suction Head of Emergency Core Cooling and Containment Heat Removal Pumps, and related matters.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

- 6) 4:15 – 7:00 P.M. Preparation of ACRS Reports (Open)
Discussion of proposed ACRS reports on:
6.1) Chapters 7 and 14 of the SER Associated with the ESBWR Design Certification Application (MLC/HJV)
6.2) Early Site Permit Application and Final SER for the Vogtle Nuclear Plant (DAP/DAW).

FRIDAY, DECEMBER 5, 2008, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 7) 8:30 – 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (WJS/AFD/SD)
8) 8:35 – 10:00 A.M. Overview of the Human Reliability Analysis (HRA) Research Activities (Open) (GEA/HPN)
Briefing by and discussions with representatives of the NRC staff regarding HRA research activities.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

10:00 – 10:15 A.M. * BREAK *****

- 9) 10:15 – 12:00 P.M. Draft Policy Statement on Defense-in-Depth for Future Nuclear Reactors (Open) (WJS/MB)
Briefing by and discussions with representatives of the NRC staff regarding draft Policy Statement on Defense-in-Depth for Future Nuclear Reactors.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.

12:00 – 1:30 P.M. * LUNCH *****

- 10) 1:30 – 2:30 P.M. Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open/Closed) (WJS/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) 2:30 – 2:45 P.M. Reconciliation of ACRS Comments and Recommendations (Open) (WJS/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) 2:45 – 3:00 P.M. Election of ACRS Officers for CY 2009 (Open) (EMH/SD)
Election of the Chairman and Vice-Chairman for the ACRS and Member-at-Large for the Planning and Procedures Subcommittee for CY 2009.

3:00 – 3:15 P.M. * BREAK *****

- 13) 3:15 – 7:00 P.M. Preparation of ACRS Reports (Open)
Continue discussion of the proposed ACRS reports listed under Item 6.

**SATURDAY, DECEMBER 6, 2008, CONFERENCE ROOM T-2B3, TWO WHITE FLINT
NORTH, ROCKVILLE, MARYLAND**

- 14) 8:30 – 12:30 P.M. Preparation of ACRS Reports (Open)
(10:30-10:45 A.M. BREAK) Continue discussion of the proposed ACRS reports listed under Item 6.
- 15) 12:30 – 1:00 P.M. Miscellaneous (Open) (WJS/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:

- During the days of the meeting, phone number 301-415-7360 should be used in order to access 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.

LIST OF DOCUMENTS FROM THE
557th ACRS MEETING NOVEMBER 6-8, 2008

Agenda Item 2:

Chapter 14 of the SER Associated with the Economic Simplified Boiling Water Reactor (ESBWR) Design Certification Application

1. Proposed Schedule
2. Status Report

Agenda Item 3:

Position Paper on Incorporating the International Commission on Radiological Protection (ICRP) Recommendations into 10 CFR Parts 20 and 50

3. Table of Contents
4. Proposed Schedule
5. Status Report
6. Plans for Review of Radiation Protection Regulations in Light of the New International Commission on Radiological Protection Recommendations, SECY-08-0092, June 30, 2008

Agenda Item 4:

Status of License Renewal Activities

7. Proposed Schedule
8. Status Report

Agenda Item 8:

Current Issues Associated with Fire Protection and Related Matters

9. Proposed Schedule
10. Status Report

Agenda Item 9:

Proposed Changes to the Review Process for Subsequent Combined License Applications (SCOLAs)

8. Table of Contents
9. Meeting Schedule
10. Status Report

NRO Overview

Update of

Appendix I to Part 50

ACRS Briefing
Nov. 6, 2008

Jean-Claude Dehmel
Health Physics Branch
U.S Nuclear Regulatory Commission
Office of New Reactors

Rationale for Update

- Outdated Appendix I numerical guides for design objectives
Scientifically difficult to defend a dual system of radiation protection
- Inconsistent with global approach in licensing and building new plants
- Inefficient for licensees and NRC staff (doses calculated using two systems)

Rationale for Update

- Cost-benefit analyses may not justify keeping an outdated regulatory framework
- ICRP 2 no longer taught in health physics university curriculum
- May undermine public confidence in NRC licensing process
- Potential challenges in new plant licensing

Update of Appendix I to Part 50

- Focus in Updating Appendix I Guides and Dose Criteria (1)
 - align App. I criteria with Part 20 if revised, and if not,
 - align App. I criteria with current Part 20 (ICRP 26/30)
 - reconsider criteria in Sect. II.A, II.B, and II.C
 - update definition of dose receptors in Sect. II and IV

Update of Appendix I to Part 50

- Focus in Updating Appendix I Guides and Dose Criteria (2)
 - update cost-benefit criteria in Sect. II.D
 - assess whether Sect. I and V need qualifiers, i.e., existing fleet of reactors vs new plants
 - revise Sect. I in differentiating applicability between LWR, Non-LWR, and NGNP
 - review and update supporting NRC guidance and regulatory guides

Update of Appendix I to Part 50

- Focus in Updating Appendix I Guides and Dose Criteria (3)
- Other Associated Revisions
 - redefine compliance requirements for “licensed operation” for sites with multiple licensees
 - assess whether compliance with 40 CFR Part 190 needs further elaboration in Part 20 or guidance
 - Update NRC licensing basis and guidance documents

Update of Appendix I to Part 50



- Thanks for your attention
- Any questions?



Commission Options Paper to Revise Radiation Protection Regulations

*Advisory Committee on Reactor Safeguards
November 6, 2008*

Donald A. Cool, Ph.D.

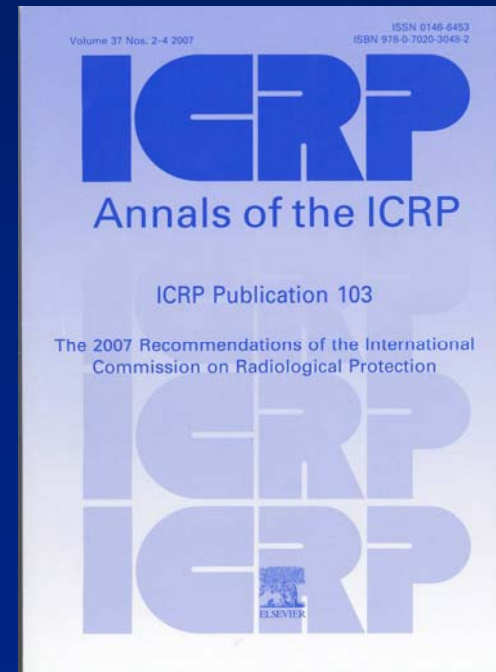
Senior Advisor

Radiation Safety and International Liaison

Office of Federal and State Materials and Environmental Management Programs

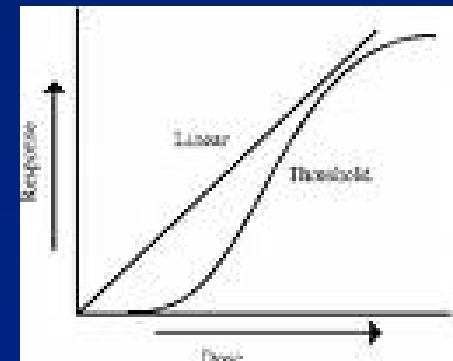
Background

- Commission direction in SRM-SECY-2001-0148 to wait for ICRP recommendations
- Commission did not approve staff working on Technical Basis materials
- ICRP Recommendations published in December, 2007 as Publication 103



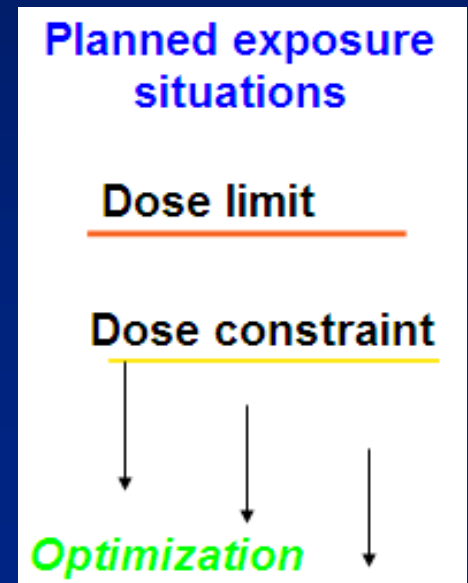
ICRP Publication 103

- Consolidated material from ICRP Publication 60 and subsequent publications
- Maintained fundamental principles of:
Justification, Optimization, and Limitation
- Radiation risk remains as $\sim 5 \times 10^{-4}$ per rem
- LNT for prospective radiation control programs



ICRP Publication 103

- Moves to a “situation” based framework
 - Planned Exposure Situations
 - Emergency Exposure Situations
 - Existing Exposure Situations
- Emphasis on Optimization using Dose Constraints
- Retained Dose Limits and values
 - Occupational Exposure: 10 rem / 5 years, max of 5 rem in any one year
 - Public Exposure: 100 mrem
 - Embryo/Fetus: 100 mrem



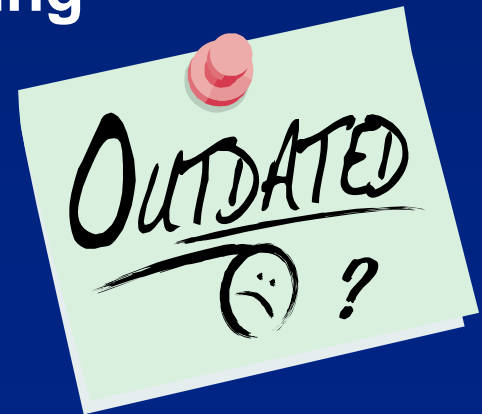
ICRP Continuing Work

- Assessment of new scientific information has resulted in new tissue and radiation weighting factors
- Efforts now underway to calculate new dose conversion factors using updated models and information
- Commonly used radionuclides to be available in 2011 ... Complete set 2014



Staff Considerations

- Commissioners and staff have been asked on numerous occasions when the U.S. would update their regulations
- Some portions of regulations and guidance date back to ICRP Publication 1 and 2
- Nuclear power industry supports updates
- Rationale for action may include adequate protection, updating scientific information, trans-boundary implications, and achieving consistency of approach



Staff Considerations

- NRC staff developing options for Commission consideration
- Senior Technical Group and Steering Committee
- Options due to Commission in December 2008



Regulatory Options

- **Status Quo**
 - Make No Changes
- **Update Part 50 and Appendix I**
 - Make No Changes to Part 20
 - Focus on Reactors
 - Defer other portions of regulations
- **Align towards ICRP Publication 103**
 - Interact with stakeholders
 - Develop Technical Basis and Regulatory Analysis Information



Staff Preferred Option

- **Option 3: Move towards alignment with ICRP 103**
- **Use next 2 – 3 years for:**
 - **Stakeholder Interactions**
 - What are the Issues?
 - What are options and impacts?
 - What are costs and benefits ... Back-fit?
 - **Technical Basis development**
- **Provide recommendation for rulemaking to Commission when Technical Basis is available**



Technical Issues for Part 20

- Total Effective Dose
- Constraints
 - Occupational Exposure
 - Public Exposure
- Dose limits
 - Occupational
 - Public
 - Embryo/fetus of Declared Pregnant Female
- Numerical values of weighting factors and Appendix B



Points to Ponder

- Changes to the radiation protection framework could be significant, impacting all types of licensees, and Agreement States
- What other issues do licensees and other stakeholders wish to have addressed?
- How do we effectively gauge benefits and impacts? Back-fit rule implications?
- Resources needed for Technical Basis, rulemaking, guidance, and code updates to support regulations



Questions? Questions?



Status of License Renewal Activities

Brian Holian, Division Director

Samson Lee, Deputy Division Director

David Pelton, Branch Chief

Division of License Renewal
Office of Nuclear Reactor Regulation

Advisory Committee on Reactor Safeguards

November 6, 2008

Agenda

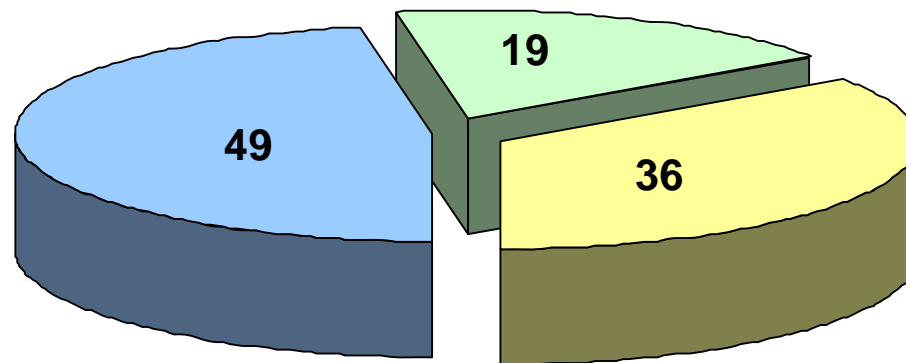
- Overview
- Status and Schedule
- Office of Inspector General Recommendations
- License Renewal Guidance
- Closing Remarks




Overview

- Mature Process
- Good Guidance Documents
- Good Regional Interactions
- Finding Issues (metal fatigue, water in manholes, etc.)
- Challenges
 - Staffing
 - Continuing Resolution
 - Process Improvements
 - Knowledge Management

License Renewal Program Status

104 UNITS CURRENTLY LICENSED



-  License Renewed
-  Under Review for Renewal
-  Remaining Licensed Units

Ongoing License Renewal Reviews

Plant	ACRS Subcommittee	ACRS Full Committee	Status
Oyster Creek	Complete	Complete	ASLB decision to Commission (1 Contention); Review currently 10 months beyond 30 month planned review schedule
Pilgrim	Complete	Complete	ASLB decision to Commission (2 contentions); Review currently 3 months beyond 30 month planned review schedule
Vermont Yankee	Complete	Complete	ASLB admitted 3 contentions; Awaiting Board decision, Review currently 3 months beyond 30 month planned review schedule
Wolf Creek	Complete	Complete	SER issued
Harris	Complete	Complete	SER issued
Vogtle 1,2	11/5/2008	4/2009	SER w/ open items issued
Beaver Valley 1,2	2/2009	7/2009	Application under review
Indian Point 2,3	3/2009	9/2009	ASLB admitted 15 contentions; Review currently on track for 35 month planned review
Three Mile Island 1	4/2009	9/2009	Application under review
Susquehanna 1,2	4/2009	10/2009	Application under review
Prairie Island 1,2	7/2009	12/2009	11 contentions submitted; Awaiting ASLB decision on which will be admitted; Review currently on track for 30 month planned review
Kewaunee	TBD	TBD	Received August 14, 2008
Cooper	TBD	TBD	Received September 30, 2008
Duane Arnold	TBD	TBD	Received October 1, 2008

Expected License Renewal Reviews



- FY 2009
 - Palo Verde 1, 2, 3
 - Crystal River 3
 - Salem 1, 2
 - Hope Creek
- FY 2010
 - STARS Plant No. 3
 - Columbia
 - Seabrook
 - Davis-Besse
- FY 2011
 - South Texas Project 1, 2
 - Waterford 3
 - Exelon Plant

Office of the Inspector General (OIG) Recommendations



- Overall the NRC has developed a comprehensive license renewal process to evaluate applications for extended periods of operation
- OIG made 8 recommendations that would enhance program operations, e.g., documentation of the technical review

Response to OIG Recommendations



1. Updated report-writing guidance to include management expectations and report-writing standards
2. Added safety evaluation report process review to verify that staff reports meet management expectations
3. Developed consistent guidance for removing applicants' documents during site audits
4. Coordinating with Regions on additional guidance for operating experience reviews

Response to OIG Recommendations

(Cont'd)



5. Issued revised Inspection Procedure (IP) 71003: Post-Approval Site Inspection for License Renewal
6. Held public meeting at 2008 Regulatory Information Conference to discuss implementation of IP 71003
7. Coordinating with OGC on a draft revised Interim Staff Guidance (ISG) process to clarify 10 CFR 54.37(b) implications
8. Commission reaffirmed that the backfit rule does not apply to license renewal applications

Generic Aging Lessons Learned (GALL) Report



- GALL is a catalog of generic aging management evaluations
 - Builds on previous aging studies
 - Reviews aging effects
 - Identifies relevant aging programs
 - Evaluates program attributes to manage aging effects
- GALL documents evaluations and conclusions
 - Program is adequate and no further evaluation is needed, or
 - Program should be augmented or new program considered
- GALL is a technical basis for the Standard Review Plan for License Renewal

Aging Management Program Elements

1. Scope of program
2. Preventative actions
3. Parameters monitored or inspected
4. Detection of aging effects
5. Monitoring and trending
6. Acceptance criteria
7. Corrective actions
8. Confirmation process
9. Administrative controls
10. Operating experience

Example Page of GALL Report

September 2005

V

A

ENGINEERED SAFETY FEATURES
Containment Spray System (PWR)

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
V.A-8 (E-20)	V.A.6-a	Heat exchanger components	Stainless steel	Raw water	Loss of material/ pitting, crevice, and microbiologically influenced corrosion, and fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"	No
V.A-9 (E-17)	V.A.6-c	Heat exchanger components	Steel	Closed cycle cooling water	Loss of material/ general, pitting, crevice, and galvanic corrosion	Chapter XI.M21, "Closed-Cycle Cooling Water System"	No
V.A-10 (E-18)	V.A.6-a	Heat exchanger components	Steel	Raw water	Loss of material/ general, pitting, crevice, galvanic, and microbiologically influenced corrosion, and fouling	Chapter XI.M20, "Open-Cycle Cooling Water System"	No
V.A-11 (EP-39)	V.A.	Heat exchanger tubes	Copper alloy	Closed cycle cooling water	Reduction of heat transfer/ fouling	Chapter XI.M21, "Closed-Cycle Cooling Water System"	No
V.A-12 (EP-47)	V.A.	Heat exchanger tubes	Copper alloy	Lubricating oil	Reduction of heat transfer/ fouling	Chapter XI.M39, "Lubricating Oil Analysis" The AMP is to be augmented by verifying the effectiveness of the lubricating oil analysis program. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	Yes, detection of aging effects is to be evaluated

V-A-3

NUREG-1801, R

License Renewal Audits and Inspections



- Audits
 - Onsite scoping and screening methodology audit
 - Onsite Generic Aging Lessons Learned (GALL) consistency audit

- Inspections
 - IP 71002: License Renewal Inspection
 - IP 71003: Post-Approval Site Inspection for License Renewal

License Renewal Guidance



- Interim Staff Guidance (ISG) Status
 - Update of license renewal ISG process document
 - Staff is preparing draft for public comment
 - Revision of non-EQ electrical cable connections aging management
 - Staff is finalizing ISG for issuance
 - Station blackout (SBO) scoping for license renewal
 - Staff is reviewing and evaluating public comments

Non-EQ Inaccessible/Underground Cables

- LERs and IP 71002 license renewal inspections have identified submerged cables in manholes
- NRR/DE issued GL 2007-01 requesting licensees to provide failure information on inaccessible or underground electrical cables
- DE is currently evaluating GL responses and proposing:
 - Issue a Regulatory Guide that identifies the essential elements of an electrical cable monitoring program
 - Revise applicable ROP inspection procedures
 - Take regulatory actions for licensees who have not demonstrated cable qualification for the current licensed period
- License renewal guidance will consider operating experience and be revised as necessary

License Renewal Guidance



- GALL Report was issued in 2001 and updated in 2005
- Staff planning next update to GALL Report
 - Start in January 2009
 - Complete by December 2010
- Associated documents:
 - GALL Report, Vol. 1 and 2 (NUREG-1801)
 - Standard Review Plan (NUREG-1800)
 - Technical Bases
 - Analysis of Public Comments
- Incorporate lessons learned from the review of license renewal applications, operating experience, public comments, and approved Interim Staff Guidance

Closing Remarks

- License renewal is a successful program
- Increasing public interest as shown in ASLB hearings and petitions to the Commission
- Staff is improving license renewal process and documentation
- Staff plans to update GALL Report



Presentation to the 557th ACRS Meeting

Summary of Staff Review of ESBWR DCD Chapter 14 and Tier 1
and
Overview of Tier 1, Tier 2, Tier 2*, ITAAC and DAC as used in
Design Certifications

Presented by Eric Oesterle
Lead Project Manager (NRO/DNRL/NGE1)
November 6, 2008

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Purpose

- Provide a brief status of staff's review of ESBWR DCD Tier 2, Chapter 14, Initial Test Program and ITAAC, and Tier 1
- Provide an overview and historical perspective on the use of Tier 1, Tier 2, Tier 2*, ITAAC and DAC for design certifications
- Discuss overlap between ITAAC and Initial Test Program

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

- 10 CFR Part 52 first promulgated in 1989: Part 52 is a “process rule”; Part 50 contains technical requirements
- Part 52 implementation - guidance contained in SECY papers
 - SECY 90-377 (level of detail)
 - SECY 91-178 (ITAAC)
 - SECY 92-053 (design acceptance criteria = DAC)
 - SECY 92-214 (ITAAC for ABWR and System 80+)
- Level of detail - graded approach - tiered approach (2 tiers)
 - Tier 1 is certified - enforces/promotes standardization
 - Tier 2 is approved - contains FSAR level information
- Part 52 - Predictability, scope, timing - what will be inspected, when will it be inspected, what is the acceptance criteria for the inspection (ITAAC)
- ITAAC for DC; ITAAC for COL - those inspections, tests, and analyses, whose successful completion demonstrates that the facility has been constructed and will operate in conformance with the (certified design) license

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Regulations:

- 10 CFR 52, Subpart B - Standard Design Certifications
- Design certifications codified by rulemaking (DCRs) - included as Appendices to 10 CFR Part 52
- 10 CFR 52, Subpart C - Combined Licenses
- Design certification applications - 10 CFR 52.47(b)(1): for DC only

“The application must also contain the proposed inspections, tests, analyses, and acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, a facility that incorporates the design certification has been constructed and will be operated in conformity with the design certification, the provisions of the Act, and the Commission’s rules and regulations...”
- Combined License applications - 10 CFR 52.80(a): for entire facility

“The application must contain the proposed inspections, tests, analyses, including those applicable to emergency planning, that the licensee shall perform, and the acceptance criteria that are necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria met, the facility has been constructed and will be operated in conformity with the combined license, the provisions of the Act, and the Commission’s rules and regulations.”

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Regulatory guidance:

- Standard Review Plan 14.3, Inspections, Tests, Analyses and Acceptance Criteria (ITAAC)
 - Draft Rev. 0, April 1996
 - March 2007
- Regulatory Guide 1.206, Combined License (COL) Applications for Nuclear Power Plants
 - Section C.II.1, ITAAC
 - Section C.III.5, Design Acceptance Criteria
 - Section C.III.7, ITAAC for COL Applications referencing a Certified Design and/or Early Site Permit

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Tier 1, Tier 2, Tier 2* - defined in Section II of design certification rule(s)

Tier 2: “means the portion of the design-related information contained in the generic DCD that is approved but not certified by this appendix (Tier 2 information)...”

*Changes to or departures from Tier 2 information are governed by the processes in Section VIII.B of the DCR and may require prior NRC approval (“50.59-like process”)

Tier 1: “means the portion of the design-related information contained in the generic DCD that is **approved and certified** by this appendix (hereinafter Tier 1 information). The design descriptions, interface requirements, and site parameters are *derived from Tier 2 information*.”

*Changes to and Departures from Tier 1 information require NRC approval and are governed by the processes in Section VIII.A of the DCR

Tier 2*: “means the portion of the Tier 2 information, designated as such in the generic DCD, which is subject to the change process in Section VIII.B.6 of this appendix. This designation expires for some Tier 2* information under Section VIII.B.6”

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Q: What is ITAAC? Ans: ITAAC is a Verification Program

- Design certification applications - 10 CFR 52.47(b)(1): for DC only
- Combined License applications - 10 CFR 52.80(a): for entire facility
- ITAAC must be successfully completed prior to fuel load
- Initial test program (pre-op, start-up, power ascension)
- ITAAC has overlap with the Initial Test Program although the purposes of these two programs are different (i.e., there may be one test that is part of the pre-operational test program that satisfies both an ITAAC and an ITP requirement; however, when that one test is completed, two separate and independent boxes must be checked)

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Inspections, Tests, Analyses, and Acceptance Criteria

- ITAAC contains limited design completion aspects - DAC
- Graded approach commensurate with the safety significance of the structures, systems, and components
- Verification of as-built/as-installed condition
- No new design information can be in Tier 1, it must all be in Tier 2
- Tier 2 can provide supplementation information on how ITA are to be performed to satisfy AC

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Inspections, Tests, Analyses, and Acceptance Criteria

- Format and content
 - Design commitment
 - Inspections, Tests, Analyses
 - Acceptance criteria - objective and verifiable
- Primarily written on structure, system, component basis
- COLs have the responsibility to successfully complete all the ITAAC prior to fuel load, notify NRC of successful ITAAC completion, and provide adequate documentation for NRC verification
- NRC inspection and/or audit
- NRC has the responsibility to provide notice in the Federal Register of their verification of successful ITAAC completion

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
The functional arrangement of the NBS is as described in the Design Description of this Subsection 2.1.2, Tables 2.1.2-1 and 2.1.2-2, and Figures 2.1.2-1, 2.1.2-2, and 2.1.2-3.	Inspection of the as-built system will be performed.	Report(s) document that the as-built NBS conforms to the functional arrangement described in the Design Description of this Subsection 2.1.2, Tables 2.1.2-1 and 2.1.2-2, and Figures 2.1.2-1, 2.1.2-2, and 2.1.2-3. For components and piping identified in Table 2.1.2-1 as ASME Code Section III, this report is an ASME Code report.
The piping identified in Table 2.1.2-1 as ASME Code Section III retains its pressure boundary integrity at its design pressure.	A hydrostatic test will be conducted on the code piping of the NBS required to be hydrostatically tested by the ASME Code.	An ASME Code Report exists and concludes that the results of the hydrostatic test of the ASME Code piping of the NBS comply with the requirements of the ASME Code Section III.
The throat diameter of each MSL flow restrictor is sized for design choke flow requirements.	Inspections of each as-built MSL flow restrictor throat diameter will be performed.	Report(s) document that the throat diameter of each MSL flow restrictor is less than or equal to 355 mm (14 in.).

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Design Acceptance Criteria (DAC):

- DC applicants were not providing design and engineering information at a level of detail customarily reviewed by the staff in reaching a safety decision
- Pipe stress analyses, radiation shielding, instrumentation and control systems, control room design details
 - rapidly changing technologies
 - no as-built information
 - no as-procured information
- DAC are a set of prescribed limits, parameters, procedures, and attributes upon which the NRC relies, in a limited number of technical areas, in making a final safety determination to support design certification
- DAC must be verified as part of the ITAAC performed to demonstrate that the as-built facility conforms to the certified design
- DAC may be closed out prior to or following COL issuance and shall be closed out prior to fuel load as part of ITAAC

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Summary of Staff Review of Section 14.2, Initial Test Program:

- Regulations - 10 CFR 50.34(b)(6)(iii) and 10 CFR 52.79(a)(28)
- Review guidance
 - RG 1.68, RG 1.20, RG 1.70, RG 1.206
 - SRP 14.2
- NRO staff issued 98 RAIs
- GEH resolved 93 of 98
- Unresolved RAIs associated with:
 - expansion, vibration and dynamic effects testing
 - testing of digital instrumentation and control system functions
 - safety system logic and control pre-operational testing
 - lead detection and isolation system pre-operational testing
 - reactor internals vibration testing
 - AC power distribution system pre-operational testing

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Summary of Staff Review of Section 14.3 and Tier 1:

- Regulations - 10 CFR 52.47(b)(1)
- Review guidance; Standard Review Plan 14.3, ITAAC
 - SRP 14.3.2, Structural and Systems Engineering
 - SRP 14.3.3, Piping Systems and Components
 - SRP 14.3.4, Reactor Systems
 - SRP 14.3.5, Instrumentation and Controls
 - SRP 14.3.6, Electrical Systems
 - SRP 14.3.7, Plant Systems
 - SRP 14.3.8, Radiation Protection
 - SRP 14.3.9, Human Factors Engineering
 - SRP 14.3.10, Emergency Planning
 - SRP 14.3.11, Containment Systems
 - SRP 14.3.12, Physical Security Hardware

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Summary of Staff Review of Section 14.3 and Tier 1:

- RAI status - 437 RAIs issued/364 resolved
- Selection criteria and methodology determined to be consistent with guidance in SRP 14.3 - **RAI 14.3-405** issued to provide cross-reference tables of key aspects, analyses, and features of the design for inclusion in ITAAC
- COL Action Item on DAC closure schedule
- Interface materials - PSWS and offsite power - **RAI 14.3-394**
- No review performed for SRP 14.3.10, Emergency Planning: EP-ITAAC not provided in DC application as this is COLA specific
- Review for SRP 14.3.12, Physical Security Hardware, is on-going

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Review of Tier 1:

Examples of lessons learned from previous DC reviews:

- review by former Senior Resident Inspectors involved in development of the NRC's ITAAC inspection program and documentation requirements for ITAAC closeout (NEI working group)
- format and consistency (e.g., ASME Code)
- “basic configuration” ITAAC (ABWR design) uncoupled to result in individual ITAAC entries for verifications of functional arrangement, welding, seismic qualification, environmental qualification, MOV functions
- identification of individual ITAAC entries that constitute design acceptance criteria {{DAC}}

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Review of Tier 1:

Areas of ESBWR DCD review which include remaining open items:

- digital instrumentation and control systems
- human factors engineering
- electrical systems
- containment systems
- reactor systems
- format and consistency issues across similar ITAAC

Staff Review of ESBWR Chapter 14 and Tier 1 Overview of Design Certification

Discussion/Committee Questions



ACRS Brief – Subsequent Combined License (SCOL) Review Process

Thomas Bergman, Deputy Director for Licensing Operations, NRO/DNRL
Ravi Joshi, Project Manager, NRO/DNRL/NWE1

November 7, 2008

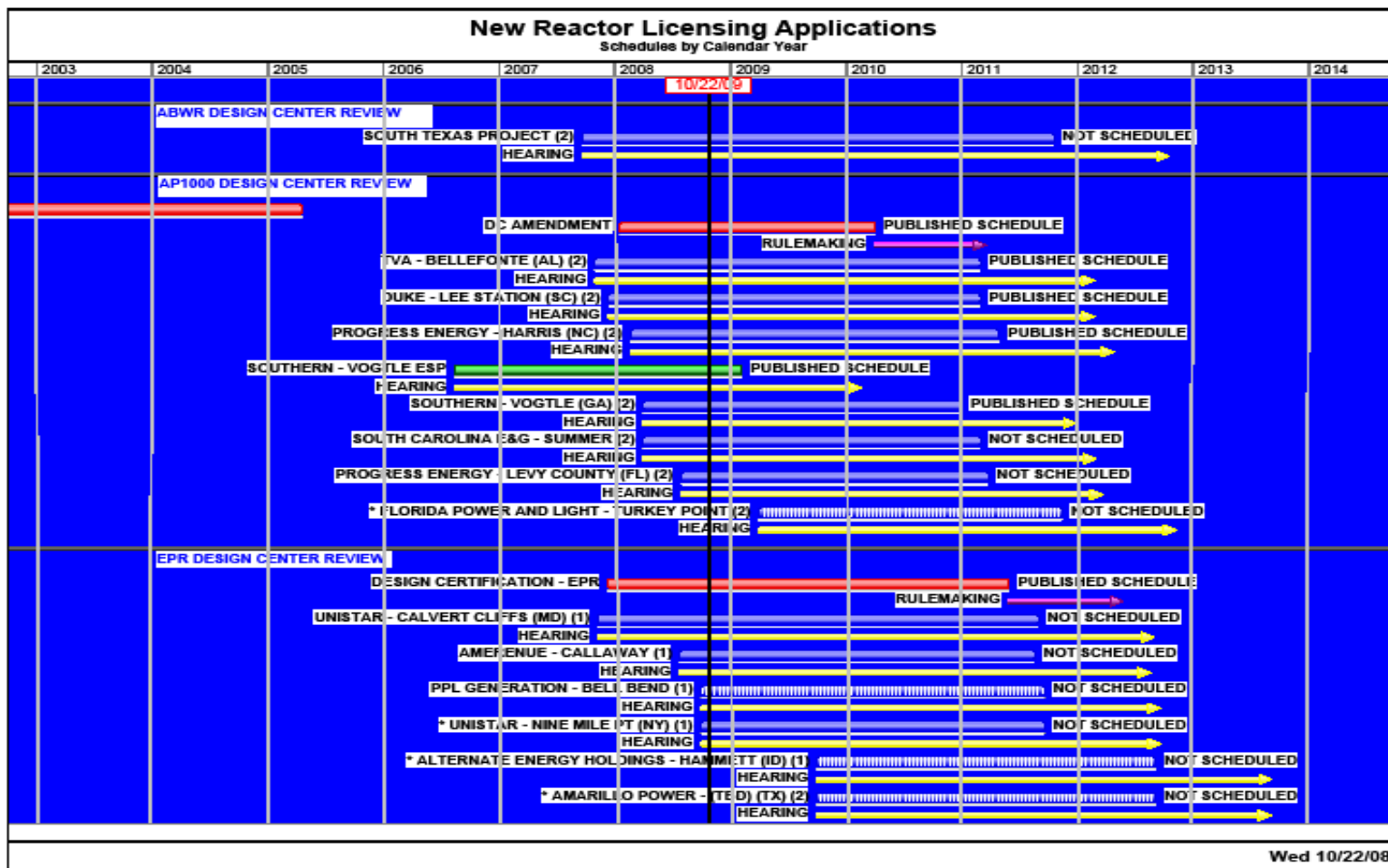
Agenda

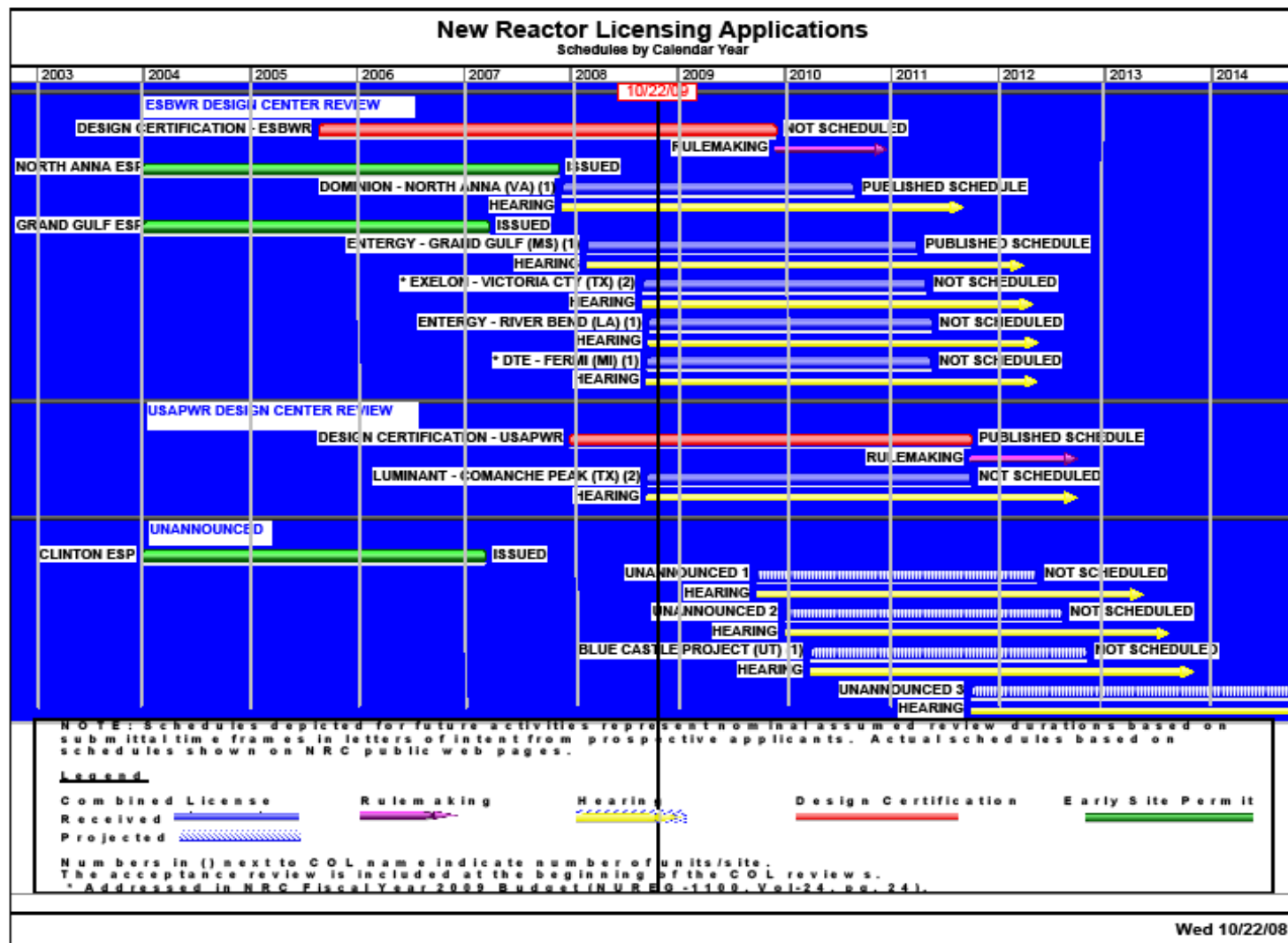
- Design-Centered Review Approach
- Application Review Process
- 4-Phase COL Application Review Process
- Expansion of 4-Phase Review Process to SCOLs

Design-Centered Review Approach (DCRA)

Problem: How are we going to review all those applications?

- DCRA is the key to making this work
 - Developed by NRC Staff -- Endorsed by Commission
 - Consistent with NRC Policy on Standardization
 - Embraced by Industry
- One issue-one review-one position for multiple applications





Design-Centered Review Approach (DCRA)

No. of FSAR Sections	Percent of FSAR Sections	Section Type*
100	52%	Match DCD
46	24 %	STD (identical)
9	5 %	STD with a limited amount of site-specific info
9	5 %	STD with a moderate amount of site-specific info
27	14 %	Site-specific
191	100 %	Total

*Matrix provided by Dominion with the North Anna COL Application

Design-Centered Review Approach (DCRA)

- Design Certification (DC) Reviews
 - NRC approval of a final standard design for a nuclear power facility
 - Codified as Appendix to 10 CFR 52
 - Majority of safety issues resolved through DC review process
- Reference COL (RCOL) Application Reviews
 - Staff ensures the “incorporation by reference” of the DC is adequate and appropriate
 - Staff reviews standard material that applies to the entire design center
(e.g., operational programs)
 - Staff reviews site specific material (e.g., emergency planning, hydrology)
- SCOL Application Reviews
 - Staff ensures SCOL application conforms to RCOL application
 - Staff reviews site specific material

Application Review Process

- Phase 1: Issue Requests for Additional Information (RAIs)
- Phase 2: Review RAI responses and develop Safety Evaluation Report with Open Items (SER w/ OIs)
- Phase 3: ACRS Review of SER w/ OIs
- Phase 4: Develop Advanced SER with no open items
- Phase 5: ACRS Review of Advanced SER
- Phase 6: Develop Final SER
- Rulemaking (for design certifications) OR Hearings (for COLs)

4-Phase COL Application Review Process

- Near Term Goal

- Reduce staff resources without affecting the quality of staff review

- Long Term Goal

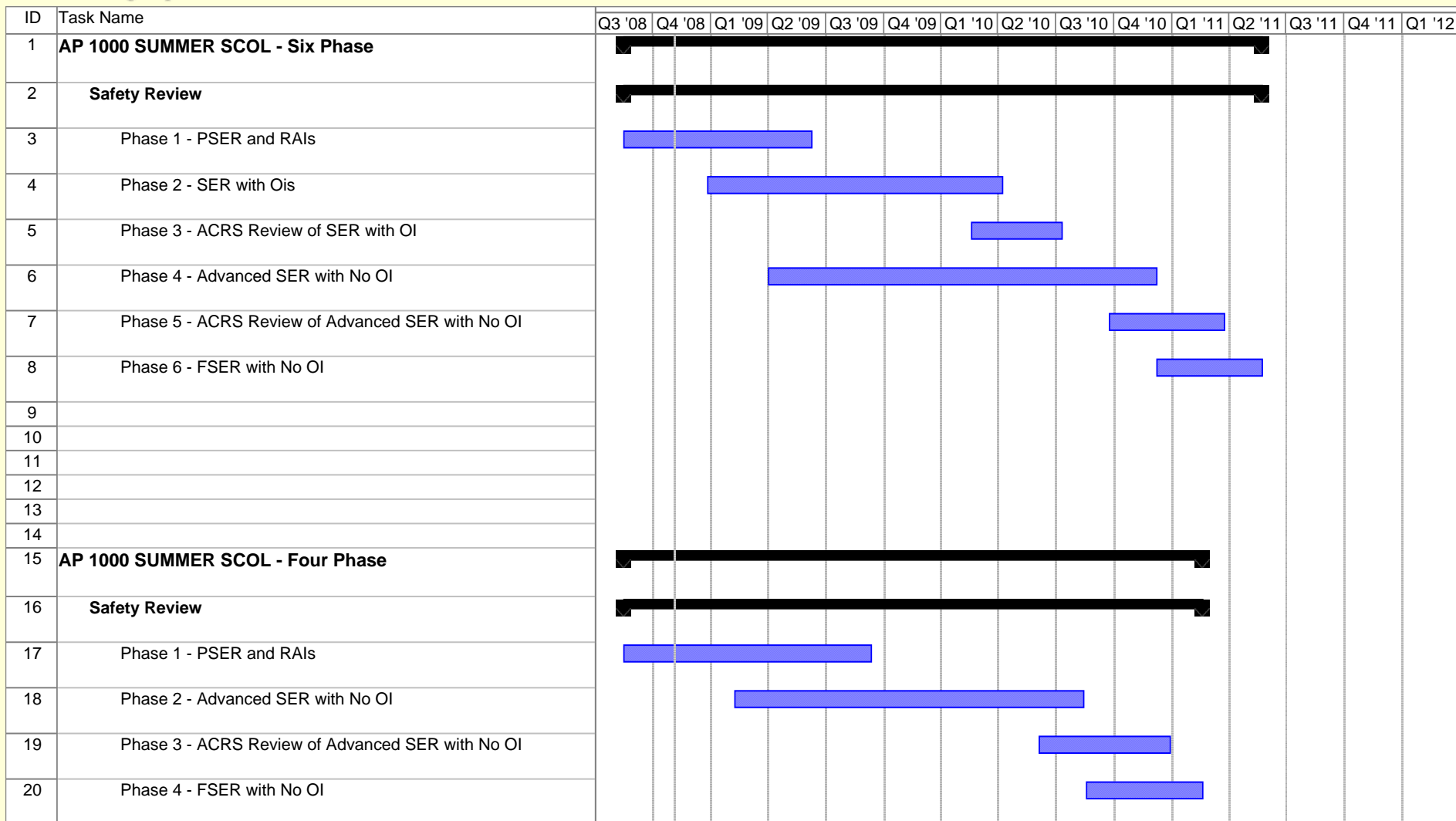
- Reduce SCOL application review time without affecting the quality of staff review

4-Phase COL Application Review Process

- Phase 1: Issue RAIs and supplemental RAIs
 - Combination of “old” phases 1 and 2
- Phase 2: Develop Advanced SER with no Open Items
 - Identical to “old” phase 4
- Phase 3: ACRS review of Advanced SER
 - Identical to “old” phase 5
- Phase 4: Develop Final SER
 - Identical to “old” phase 6

Pilot on AP1000 SCOL (Summer site)

Staff to brief ACRS on any significant issue



Expansion of 4-Phase Review Process to SCOLs

- NRO has decided to expand the pilot to potentially include all SCOLs currently submitted to the NRC:
 - Improvements of an existing process with little downside
 - Reduces resources required for SCOL reviews without affecting quality
 - Enhances NRO's ability to accomplish our work with the current budget and continuing resolution environment
 - Enhances NRO's ability to manage workload peaks
 - With recent receipt of many SCOLs, it is beneficial to develop their initial schedules on the 4-Phase model
- As with original pilot (Summer), schedule for the expanded pilot SCOLs reviews are not expected to have shortened durations

Expansion of 4-Phase Review Process to SCOLs

Challenges

- Planning
- Resolving staff issues
- Ensuring ACRS involved early
- Measuring success

Expansion of 4-Phase Review Process to SCOLs

Challenge: Planning

Will be phased in incrementally in the following sequence

- Applications that have been recently submitted will have their initial schedule as a 4-phase review
- Applications currently under a 6-phase review will be converted as scheduling resources allow
- Some SCOL schedules may not be converted to a 4-phase review, depending on the status of the current review (expected to be a small number)

Expansion of 4-Phase Review Process to SCOLs

Challenge: Resolving Staff's Issues

- Ability of applicants to resolve safety issues in two rounds of RAIs
- Completion of the Advanced SER with no OIs will be impacted

Expansion of 4-Phase Review Process to SCOLs

Challenge: Ensuring ACRS involved early

- Currently ACRS interacts with staff
 - By attending NRO status meetings
 - By attending Design Centered Working Group public meetings
 - Receiving correspondence between staff and applicants
 - Meeting with ACRS to discuss the impacts of 4-phase review on planned interactions with ACRS
- Developing process and criteria to ensure that issues are identified that would benefit from early interaction with ACRS

Expansion of 4-Phase Review Process to SCOLs

Challenge: Measuring success

- Developing measures for effectiveness and efficiency of the 4-phase program
- The measures developed for the Summer-only pilot compared results on that review to other SCOL reviews

Questions?



Daniel Frumkin

Fire Protection Team Leader

Fire Protection Branch

Division of Risk Assessment

Office of Nuclear Reactor Regulation

Fire Protection Closure Plan

November 7, 2008



Background

- In July 2008, the Commission directed the staff to provide a Fire Protection Closure Plan to address milestones and deliverables for a number of fire protection activities (Staff Requirements Memorandum M080717).
- The closure plan is intended to stabilize fire protection regulatory infrastructure
- The staff will update the Commission semiannually on the implementation status of the Closure Plan.

Closure Plan Objectives

- The Closure Plan identifies those staff actions necessary to:
 - Establishing regulatory foundation
 - Structuring enforcement discretion
 - Developing implementation guidance
 - Validating the implementation
 - Define final closure
- The Closure Plan also identifies milestones and deliverables for a variety of fire protection activities

Closure Plan Topics

- National Fire Protection Association Standard 805 transition implementation
- Electrical raceway fire barrier systems
- Fire-induced circuit failures
- Post-fire operator manual actions

Closure Plan Topics (cont.)

- Recommendations made by the U.S. Government Accountability Office (GAO) in GAO 08-747 and Commission direction
 - Assessing effectiveness of fire protection improvements
 - Staff training on key fire protection historical lessons
 - Database of fire protection exemptions
- Perform a survey to establish that reasonable assurance that past regulatory infrastructure instabilities are identified.



Alex Klein

Chief

Fire Protection Branch

Division of Risk Assessment

Office of Nuclear Reactor Regulation

Fire Protection Activities

November 7, 2008

Discussion Topics

- Recent Commission Staff Requirement Memoranda
- Government Accountability Office (GAO) report recommendations and planned staff actions
- Fire protection closure plan
- National Fire Protection Association (NFPA) Standard 805 pilot plant license amendment request reviews
- NFPA 805 Regulatory Guide and Standard Review Plan work





Alex Klein

Chief

Fire Protection Branch

Division of Risk Assessment

Office of Nuclear Reactor Regulation

Anticipated Next Steps

November 7, 2008

Anticipated Next Steps

- Conduct periodic fire protection briefings on specific technical issues – early 2nd Quarter 2009
 - Fire-induced circuit failures
 - Resolution of electrical raceway fire barriers
- Present NFPA 805 guidance documents after resolution of public comments – early 3rd Quarter 2009
 - Revised regulatory guide 1.205
 - New standard review plan

Thank You





Charles Moulton

Fire Protection Engineer

Fire Protection Branch

Division of Risk Assessment

Office of Nuclear Reactor Regulation

GAO Recommendations and Planned Staff Actions

November 7, 2008



GAO Report

- The GAO review focused on three areas:
 - Recent fire events
 - Use of interim compensatory measures and the extent to which these measures promote fire safety
 - Extent to which plants that adopt a risk-informed approach to fire safety are safeguarded against fire emergencies



GAO Recommendations

- Develop a central database of exemptions, compensatory measures, and manual actions
- Address safety concerns related to long term compensatory measures
- Address concerns about the effectiveness of fire wraps
- Commit to a date to develop circuit failure guidance



NRC Planned Actions

- Develop a centralized database of fire protection exemptions
- Develop a metric and monitoring methodology to assess the regulatory effectiveness of ongoing improvements to the regulatory framework which will capture long term compensatory measures and unapproved manual actions
- Close Hemyc/MT related issues via inspections
- Issue guidance on circuit failures by early FY 2009

A large, stylized graphic of an atomic symbol, consisting of a central sphere and three elliptical orbits, is positioned on the left side of the slide, extending from the top to the bottom.

Harold Barrett, PE

Fire Protection Engineer

Fire Protection Branch

Division of Risk Assessment

Office of Nuclear Reactor Regulation

NFPA 805 Pilot Plant LAR Reviews

November 7, 2008



Discussion Topics

- Background
- NFPA 805 Pilot LAR Status
- Detailed Review of NFPA 805 Pilot LARs
- NFPA 805 LAR Review Schedule
- NFPA 805 Related Issues
- Summary



Background

- NRC has designated two licensees as NFPA 805 Pilots
 - Duke Energy's Oconee Nuclear Site
 - Progress Energy's Shearon Harris Nuclear Plant
- Both Licensees submitted NFPA 805 License Amendment Requests (LARs) in May 2008



NFPA 805 Pilot LAR Status

Shearon Harris

- NRC staff completed the Acceptance Review of the Harris LAR on 8/5/08
- Acceptance Review identified 8 major issues with the LAR content
- Progress Energy committed to provide supplemental information by 11/15/08

NFPA 805 Pilot LAR Status

Oconee

- Duke provided a partial submittal in May, with the remainder of the submittal to be provided by 10/31/08
- NRC staff have performed a limited acceptance review of supplied material and communicated the results to Duke
- Acceptance review will be completed upon receipt of LAR supplement

Detailed Review of NFPA 805 Pilot LARs

- The NFPA 805 Pilot LAR review teams have been established
 - Multi-disciplinary team
- Technical review of the LAR material is ongoing



NFPA 805 LAR Review Schedule

- Generate draft RAIs by 1st Quarter 2009
- Pilot plant Site audit shortly after generating draft RAIs (1st Quarter 2009)
- Submit RAIs to licensee upon completion of site audit (1st Quarter 2009)
- Receive RAI responses from licensee (2nd Quarter 2009)
- Complete review of LAR and generate Safety Evaluation Report (3rd Quarter 2009)

NFPA 805 Related Issues

- Frequently Asked Question (FAQ) Process
- Implementation Guidance
 - NRC Infrastructure – SRP Chapter, Reg Guide 1.205
 - NEI Guidance – NEI 04-02, NEI 00-01, NEI 07-12
 - EPRI/NRC-RES Fire PRA Guidance
 - NUREG/CR 6850
- Non-Pilot Enforcement Discretion Extension

Summary

- We received the NFPA 805 LARs from the pilots
- We performed a Staff Review of the pilot Fire PRAs
- We completed acceptance review of the Harris LAR
- We are performing technical review of the pilot LARs
- We will be generating draft RAIs, visiting the pilot plant sites and then issuing formal RAIs in 1st Qtr '09
- We expect to receive RAI responses in 2nd Qtr '09
- We expect to complete NFPA 805 pilot SERs in 3rd Qtr '09



Thank You



Fire PRA Quality

- The ANS Fire PRA Standard (ANS 58.23) was approved for use late last year (November 2007)
- Industry held a peer review at Diablo Canyon to pilot the new standard in January 2008
 - NRC staff observed
- The ANS Fire standard was absorbed into the combined ASME/ANS Level 1 PRA standard. RG 1.200 will endorse this combined standard
- NRC staff performed a “Staff Review” of both NFPA 805 pilot plant Fire PRAs
 - Shearon Harris – week of 2/4-8/2008
 - Oconee – week of 3/17-21/2008



Mark Cunningham

Director

Division of Risk Assessment

Office of Nuclear Reactor Regulation

Fire Protection Activities

November 7, 2008



Briefing Objectives

- To provide ACRS a status report on key fire protection program activities
- To propose a set of future interactions on topics such as:
 - Resolution of fire barrier issues
 - Regulatory guidance on treatment of fire-induced circuit failures
 - Regulatory guidance related to 10CFR50.48(c) [NFPA-805]



Naeem Iqbal

Fire Protection Engineer

Fire Protection Branch

Division of Risk Assessment

Office of Nuclear Reactor Regulation

Commission Direction

November 7, 2008



Commission SRMs

SRM-M080717, Issued on July 29, 2009

**Briefing on Fire Protection Issues, 2:00 P.M., Thursday,
July 17, 2008**

The Commission directed the staff to provide a Fire Protection Closure Plan. The plan should include following:

- Milestones and deliverables
- Options for accelerating the completion of the various fire protection issues and the applicable budget implications
- Training to appropriate staff on the important historical lessons learned from the fire protection issue resolution activities since 10 CFR 50 Appendix R was established
- A plan to assess the effectiveness of the ongoing improvements to the fire protection regulatory framework, using recent plant data to establish a baseline. Such a baseline could be, for example, the number and general type of all open fire protection deficiencies that were compensated and the manner of compensation used in CY2007

Commission SRMs

SRM-COMSECY-08-022, Issued on August 19, 2008

Request for an Extension of Discretion for the Interim Enforcement Policy for Fire Protection Issues on 10 CFR Section 50.48(c), “National Fire Protection Association Standard NFPA 805”

The Commission approved proposed NRC Enforcement Discretion Policy. This revision will extend the existing enforcement discretion period for a period of six months beyond the date of the safety evaluation approving the second pilot plant license amendment request to transition to NFPA 805. The extension is not automatic, would be granted on a case-by-case basis, and only after a licensee demonstrates substantial progress in its NFPA 805 transition efforts.

Commission SRMs

SRM-SECY-08-0093, Issued on September 3, 2008

Resolution of Issues Related to Fire-Induced Circuit Failures

The Commission has approved the staff's proposed changes to the enforcement discretion guidance regarding fire-induced circuit failure violations for licensees who choose not to utilize the risk-informed approach contained in 10 CFR 50.48(c) – National Fire Protection Association Standard 805. The new enforcement discretion guidance will provide six months for licensees to identify noncompliances, implement compensatory measures and place the noncompliances in the licensee's corrective action program.



Steve Laur, PE

Senior Technical Advisor, Risk-Informed Initiatives

Division of Risk Assessment

Office of Nuclear Reactor Regulation

NFPA 805 SRP and Regulatory Guide

November 7, 2008



Briefing Objective

- For the Office of Nuclear Reactor Regulation (NRR) Division of Risk Assessment (DRA) to provide ACRS:
 - Status of development of new Standard Review Plan (SRP) Section
 - Status of Regulatory Guide (RG) 1.205 rev. 1
 - Overview of other infrastructure work in progress
- Staff is not seeking ACRS review or endorsement at this time.



Discussion Topics

- New SRP Section 9.5.1b drafted
 - Specific to NFPA 805 license amendment requests (LARs)
 - Draft shared with stakeholders at public meeting (10/3/08)
- RG 1.205, “Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants” (May 2006)
 - Initial version reviewed and approved by ACRS
 - Revision 1 to incorporate lessons learned from pilot plants
- Plan to bring both SRP 9.5.1b and RG 1.205 revision 1 to ACRS after receiving public comments

Discussion Topics (cont'd)

- Other infrastructure activities:
 - Acceptance review matrix per LIC-109, “Acceptance Reviews”
 - Regulatory audit template to support NFPA 805 LAR review
 - Safety evaluation template
 - NFPA 805 inspection procedures, inspector qualification plans, and training material
- For ACRS information only; no plans to present these to ACRS