



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

December 12, 2005

The Honorable Nils J. Diaz
Chairman
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Chairman Diaz:

SUBJECT: SUMMARY REPORT - 527th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, NOVEMBER 3-5, 2005, AND OTHER RELATED ACTIVITIES OF THE COMMITTEE

During its 527th meeting, November 3-5, 2005, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports, letters, and memoranda:

REPORTS:

Reports to Nils J. Diaz, Chairman, NRC, from Graham B. Wallis, Chairman, ACRS:

- Report on the Safety Aspects of the License Renewal Application for the Point Beach Nuclear Plant Units 1 and 2, dated November 18, 2005
- Staff Recommendation to Withdraw the Proposed Rule on Post-Fire Operator Manual Actions, dated November 18, 2005

LETTERS:

Letters to Luis A. Reyes, Executive Director for Operations (EDO), NRC, from Graham B. Wallis, Chairman, ACRS:

- Draft Final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power," dated November 18, 2005
- Draft NRC Digital System Research Plan for FY 2006-FY 2009, dated November 21, 2005

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MEMORANDA:

Memoranda to Luis A. Reyes, EDO, NRC, from John T. Larkins, Executive Director, ACRS:

- Proposed Revision to Standard Review Plan Section 12.5, "Operational Radiation Protection Program," dated November 8, 2005
- Standard Review Plan Section 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs," dated November 9, 2005
- Draft Final Generic Letter 2005-XX, "Steam Generator Tube Integrity and Associated Technical Specifications," dated November 9, 2005
- Final Rule - AP1000 Design Certification, dated November 15, 2005

HIGHLIGHTS OF KEY ISSUES

1. Final Review of the License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2

The Committee met with NRC staff and representatives of the Nuclear Management Company, (NMC) LLC, to review the license renewal application for the Point Beach Nuclear Plant (PBNP), Units 1 and 2 and the related final Safety Evaluation Report (SER). The Committee issued an interim report on the safety aspects of this license renewal application on June 9, 2005. The operating licenses for Units 1 and 2 expire on October 5, 2010, and March 8, 2013, respectively. The applicant has requested approval for continued operation of each unit for a period of 20 years beyond the current license expiration dates. Each unit is a two-loop Westinghouse pressurized water reactor licensed at a power level of 1540 MWt. The steam generators and the reactor vessel heads for both units have been replaced. The applicant has implemented approximately 20% of its license renewal programs and commitments. The draft SER issued in May 2005 contained five open items and fifteen confirmatory items. In the final SER, the staff documents the resolution of these items and concludes that the requirements of 10 CFR 54 have been met. The staff provided an overview of the final SER and described the EDO response to the Committee's interim report. The interim report had described the Committee's concerns with NMC's corrective action program and human performance that may affect the development and effective implementation of license renewal programs. The EDO response described the staff's inspection activities for license renewal and the Reactor Oversight Process. The Confirmatory Action Letter issued to PBNP is still open, and PBNP remains in the Multiple/Repetitive Degraded Cornerstone Column of the Reactor Oversight Program Action Matrix.

Committee Action

The Committee issued a report to the NRC Chairman dated November 18, 2005, recommending that the license renewal application of PBNP Units 1 and 2 be approved once the staff has committed to additional actions to ensure that the requirements of the license renewal rule have been met. These additional actions are expanding the scope of the staff's

post-approval site inspection to verify that all license renewal programs and commitments have been met and performing a review of the effectiveness of the PBNP Corrective Action Program before the plant enters the period of extended operation.

2. Draft Final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"

The Committee heard presentations by and held discussions with representatives of the staff regarding the draft final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power." The staff provided the Committee a summary of the comments received during the public comment period. The staff provided its responses to the public comments and explained the changes to the draft Generic Letter based on the public comments. The staff presented information regarding the activities of the Office of Nuclear Regulatory Research (RES) on grid reliability issues. A representative of the Nuclear Energy Institute (NEI) stated that NEI did not understand the problem the staff is trying to solve. NEI does not see a compliance issue, and they believe that any grid-related issues will be addressed by the nuclear power plant grid reliability standard being developed by the North American Electric Reliability Council (NERC).

Committee Action

The Committee issued a letter to the EDO dated November 18, 2005, recommending that the staff issue the final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power." The Committee recommended that the staff continue to interact with the Federal Energy Regulatory Commission (FERC) and NERC on grid reliability issues. The Committee would also like to hear a briefing from the staff after the staff has evaluated the information submitted by the licensees.

3. Economic Simplified Boiling Water Reactor (ESBWR) Design

The Committee heard presentations by and held discussions with representatives of the General Electric (GE) Nuclear Energy and the NRC staff regarding the general description of the ESBWR design and the review schedule for design approval and certification.

On August 24, 2005, GE submitted an application for final design approval and standard design certification of the ESBWR design pursuant to 10 CFR Part 52. The application contains Tiers 1 and 2 material.

The ESBWR has a rated thermal power of 4500 MW. The plant uses a direct-cycle, natural circulation boiling water reactor, and a low-leakage containment vessel that comprises the drywell and wetwell. The plant is expected to operate at an estimated gross electrical power output of approximately 1600 MW and net estimated electrical output of approximately 1535 MW. Currently, GE is considering only a single standard unit. If a multi-unit is desired, the changes and additional information needed to license a multi-unit plant would be supplied by the combined license applicant.

On September 23, 2005, the NRC staff notified GE that the contents of the ESBWR application in accordance with 10 CFR 52.47 are not sufficiently complete in certain areas. GE has responded to the staff's request. As of the meeting date, the staff was performing an acceptance review on the supplemental information.

Committee Action

This briefing was provided for information only. The ACRS plans to hold Subcommittee meetings regarding the ESBWR thermal-hydraulic and probabilistic risk assessment issues. The draft SER regarding the ESBWR Stability Methodology will be reviewed in early 2006.

4. Draft ACRS Report to the Commission on the NRC Safety Research Program

The ACRS provides the Commission a biennial report, presenting the Committee's observations and recommendations concerning the overall NRC Safety Research Program. During the November meeting, the Committee discussed the overall themes of its draft 2006 report to the Commission on the NRC Safety Research Program.

Committee Action

The Committee plans to continue discussing a draft report on NRC Safety Research Program during its December 7-10, 2005 meeting.

5. Digital Systems Research Plan

The Committee met with representatives of the NRC staff to discuss the draft final NRC Digital Systems Research Plan for FY 2005 - FY 2009. During the May 2005 ACRS meeting, the Committee had heard an information briefing on the draft plan from RES and initial comments from the Office of Nuclear Reactor Regulation (NRR) staff. During the November 2005 ACRS meeting, the RES staff reviewed the updates to the plan and briefly described each research area within the plan. The staff discussed six research areas: systems aspects of digital technology, software quality assurance, risk assessment of digital systems, security aspects of digital systems, emerging digital technology and applications, and advanced nuclear power plant digital systems. The details of each research area were discussed at Subcommittee meetings in June and October 2005. The current version of the plan incorporated both formal and informal comments from NRR, the Office of Nuclear Materials Safety and Safeguards (NMSS), and the Office of Nuclear Security and Incident Response (NSIR).

Committee Action:

The Committee issued a report to the EDO dated November 21, 2005, concluding that the research programs are well directed toward meeting agency needs. The Committee also recommended that the staff refine the plan to include an inventory and classification of the types of digital systems to be used in nuclear power plants, more specifically to identify current and future regulatory needs, to increase the "system-centric" aspects of software safety, and to increase the priority of the research on advanced nuclear power plant digital systems.

6. Status of Rulemaking on Post-Fire Operator Manual Actions

The Committee heard presentations by and held discussions with representatives of the staff regarding the staff's recommendation to withdraw the proposed rule, "Post-Fire Operator Manual Actions." The staff provided the Committee a summary of the comments received during the public comment period and its responses to the public comments. The staff explained the justification for recommending withdrawal of the proposed rule. It stated that implementation of the proposed rule could require exemption or deviation requests for a large number of licensees. A large number of exemption requests would be inconsistent with the Commission expectation as discussed in Staff Requirements Memorandum, "Staff Requirements - SECY-04-0233 - Proposed Rulemaking - Post-Fire Operator Manual Actions (RIN-3150-AH-54)," dated January 18, 2005. A representative from NEI stated that it supports a rule on this issue but not the proposed rule.

Committee Action

The Committee issued a report to the NRC Chairman dated November 18, 2005, concurring with the staff's decision to withdraw the proposed rule, "Post-Fire Operator Manual Actions."

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS/EDO COMMITMENTS

- The Committee considered the EDO's response of October 26, 2005, to the recommendations included in the ACRS letter dated September 22, 2005, concerning Exelon Generation Company, LLC, application for early site permit (ESP) and the NRC staff's associated draft safety evaluation report. The Committee decided that it was satisfied with the EDO's response.

The NRC staff committed to meet with the ACRS in March 2006 to present the conclusions of the staff's review of the Clinton ESP.

- The Committee considered the EDO's response of November 1, 2005, to the comments included in the ACRS report of September 21, 2005, concerning two policy issues related to new plant licensing.

The Committee decided that it was satisfied with the EDO's response.

- The Committee considered the EDO's response of October 31, 2005, to the recommendations included in the ACRS report dated September 22, 2005 regarding the draft final revisions to generic license renewal guidance documents. The Committee decided that it was satisfied with the EDO's response.

The staff committed to continue to evaluate the need for revisions to the license renewal guidance documents and update them as needed.

- The Committee considered the EDO's response of October 26, 2005, to the recommendations included in the ACRS letter dated September 20, 2005 regarding

draft proposed Revision 4 to Regulatory Guide 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident." The Committee decided that it was satisfied with the EDO's response.

The staff committed to revise proposed Revision 4 to Regulatory Guide 1.82 to address ACRS concerns and to meet with the Committee to present the proposed revision.

OTHER RELATED ACTIVITIES OF THE COMMITTEE

During the period from October 6, 2005 through November 2, 2005, the following Subcommittee meetings were held:

- Digital Instrumentation and Control Systems - October 20-21, 2005

The Subcommittee reviewed selected digital instrumentation and control research projects.

- Planning and Procedures - November 2, 2005

The Subcommittee discussed proposed ACRS activities, practices, and procedures for conducting Committee business and organizational and personnel matters relating to ACRS and its staff.

LIST OF MATTERS FOR THE ATTENTION OF THE EDO

- The Committee plans to meet with the staff after they have evaluated the information submitted by licensees in response to the Generic Letter on grid reliability.
- The Committee plans to review the staff's evaluation of licensee responses to Generic Letter 2005-XX, "Steam Generator Tube Integrity and Associated Technical Specifications."
- The Committee plans to review the thermal-hydraulic issues, probabilistic risk assessment, and the NRC staff's associated SER for the ESBWR.
- The Committee plans to continue its interaction with the NRC staff regarding the Exelon Generation Company, LLC, application for an early site permit (ESP), utilizing "performance-based" seismic hazard analysis methodology.
- The Committee plans to continue its interaction with the NRC staff regarding policy issues and the technology-neutral framework related to new plant licensing.
- The Committee plans to review the proposed revision to NUREG-0800, Standard Review Plan, Section 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs."

PROPOSED SCHEDULE FOR THE 528th ACRS MEETING

The Committee agreed to consider the following topics during the 528th ACRS meeting, to be held on December 8-10, 2005:

- Final Review of the Vermont Yankee Extended Power Uprate Application and the Associated Safety Evaluation
- Draft ACRS Report on the NRC Safety Research Program
- Final Review of the ESP Application for the Grand Gulf Nuclear Station and the Associated Final SER
- Draft Final Generic Letter, "Impact of Potentially Degraded Hemyc/MT Fire Barrier Materials on Compliance with Fire Protection Regulations"
- Proposed Program Plan and Advance Notice of Proposed Rulemaking for Risk-Informing 10 CFR Part 50
- Staff Activities Associated with Responding to the Commission's Staff Requirements Memorandum (SRM) related to Safety Conscious Work Environment and Safety Culture

Sincerely,



Graham B. Wallis
Chairman

CERTIFIED

Date Issued: 01/09/2006
Date Certified: 01/18/2006

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Letters to Luis A. Reyes, Executive Director for Operations (EDO), NRC, from Graham B. Wallis, Chairman, ACRS:

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- I. *Federal Register Notice*
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MINUTES OF THE 527th MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
NOVEMBER 3-5, 2005
ROCKVILLE, MARYLAND

The 527th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room 2B3, Two White Flint North Building, Rockville, Maryland, on November 3-5, 2005. Notice of this meeting was published in the *Federal Register* on October 18, 2005 (65 FR 60564) (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. There were no written statements or requests for time to make oral statements from members of the public regarding the meeting.

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: ACRS Members: Dr. Graham B. Wallis (Chairman), Dr. William J. Shack (Vice Chairman), Mr. John D. Sieber, (Member-at-Large), Dr. George E. Apostolakis, Dr. Mario V. Bonaca, Dr. Richard S. Denning, Dr. Thomas S. Kress, Dr. Dana A. Powers, and Dr. Victor H. Ransom. For a list of other attendees, see Appendix III.

I. Chairman's Report (Open)

[Note: Dr. John T. Larkins was the Designated Federal Official for this portion of the meeting.]

Dr. Graham B. Wallis, Committee Chairman, convened the meeting at 8:30 a.m. and reviewed the schedule for the meeting. He summarized the agenda topics for this meeting and discussed the administrative items for consideration by the full Committee.

II. Final Review of the License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2 (Open)

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

The Committee met with NRC staff and representatives of the Nuclear Management Company, LLC (NMC) to conduct a final review of the license renewal application for the Point Beach Nuclear Plant (PBNP), Units 1 and 2, and the related final safety evaluation report (SER). The Committee issued an interim report on the safety aspects of this license renewal application on June 9, 2005. The operating licenses for Units 1 and 2 expire on October 5, 2010, and March 8, 2013, respectively. The applicant has requested approval for continued operation of each unit for a period of 20 years beyond the current license expiration dates. Each unit is a two-loop Westinghouse pressurized water reactor rated at a power level of 1540 MWt. The plant has four emergency diesel generators and uses Lake Michigan as the ultimate heat sink. Some of the major plant improvements include replacing the steam generators, reactor vessel heads, and low pressure turbines. The plant's corrective action program ensures that corrective actions are timely, effective, and sustainable. The applicant has implemented approximately 20% of its license renewal programs and commitments.

The draft SER that was issued in May 2005 contained five open items, fifteen confirmatory items, and three proposed license conditions. The final SER that was issued in October 2005 documents the resolution of these items. The open items associated with the ASME Section XI Inservice Inspection Programs and the Bolting Integrity Program were resolved by NMC providing adequate technical justification for exceptions to these programs. The open item associated with the component cooling water system was resolved by NMC's commitment to use the one-time inspection program in conjunction with the water chemistry control program to manage aging. For the containment liner open item NMC committed to include a description of the evaluation, repair, replacement, and requirements in the ASME Section XI Inservice Inspection Program. The open item associated with steam generator components was closed because NMC's justification was consistent with the updated generic aging lessons learned report. One of the confirmatory items was associated with the scoping methodology. NMC revised its scoping methodology to use the "spaces" approach and remove the term, exposure duration. The new methodology resulted in the inclusion of 14 new component types to the scope of license renewal. However, no new aging effects or mechanisms were identified. In the final SER the staff concludes that the requirements of 10 CFR 54 had been met.

The staff's presentation also described the EDO response to the Committee's interim report. The interim report described the Committee's concerns with NMC's corrective action program and human performance which may affect the development and effective implementation of license renewal programs. The EDO response described the staff's inspection activities for license renewal and the reactor oversight process. The staff performed a license renewal follow-up inspection in August 2005 and plans to perform a post-approval license renewal inspection per Inspection Procedure 71003. The regional office has performed inspections to address the five areas of concern described in the confirmatory action letter issued to PBNP. Two areas of concern (emergency preparedness and engineering operations interface) have

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been returned to the baseline inspection program. The staff will continue to perform special inspections in the areas of human performance, engineering design control, and problem identification and resolution. The confirmatory action letter is still open and the applicant remains in the multiple/repetitive degraded cornerstone column of the reactor oversight program action matrix.

Committee Action

The Committee issued a report to the NRC Chairman dated November 18, 2005, recommending that the license renewal application of PBNP Units 1 and 2 be approved once the staff has committed to additional actions to ensure that the requirements of the license renewal rule have been met. These additional actions are expanding the scope of its post-approval site inspection to verify that all license renewal programs and commitments have been met and performing a review of the effectiveness of the PBNP corrective action program before the plant enters the period of extended operation.

III. Draft Final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power" (Open)

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

The Chairman of the Plant Operations Subcommittee provided background and an introduction to the staff. The Committee had the benefit of presentations and discussions with representatives of the staff regarding the draft final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power."

The staff provided a brief chronology of significant grid reliability activities. The staff stated that Staff Requirements Memorandum M050426, dated May 19, 2005, directed the staff to issue the final generic letter no later than December 15, 2005. The staff said the results of two Temporary Instructions (TI) completed in 2004 and 2005 indicated a great deal of variability on the use of nuclear power plant (NPP)/transmission system operator (TSO) protocols. The staff provided the structure of the generic letter stating that four questions pertain to General Design Criteria 17 or technical specifications, two questions pertain to the maintenance rule, and two questions pertain to station blackout. The staff provided the Committee a summary of 14 comment letters that the staff received during the public comment period. The staff described their responses to the public comments. The staff explained the changes to the draft generic letter based on the public comments. Information was presented regarding the Office of Nuclear Regulatory Research (RES) supporting grid reliability actions. The staff is collaborating with North American Electric Reliability Council (NERC) under the Memorandum of Agreement. The staff explained they are working with NERC to include NPP electrical parameters in NERC grid models used for power flow and dynamic analyses. The staff stated that the Federal Energy Regulatory Commission (FERC) plans to participate in the use of these models.

The Nuclear Energy Institute (NEI) provided comments on the generic letter from an industry perspective. NEI stated that they provided written comments to the staff dated June 13, 2005. They have not heard the staff state that the requested information in the generic letter is required for safety or compliance. NEI stated NERC and FERC have done a great deal of work in the area of grid reliability. NEI also said they do not see a problem and cannot identify a problem.

Committee Action

The Committee issued a letter dated November 18, 2005, recommending that the staff issue the final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power." The Committee recommended the staff continue to interact with FERC and NERC on grid reliability issues. The Committee requested a briefing after the staff has evaluated the information submitted by the licensees.

IV. Economic Simplified Boiling Water Reactor (ESBWR) Design (Open)

[Note: Dr. Medhat El-Zeftawy was the Designated Federal Official for this portion of the meeting.]

Dr. Thomas S. Kress, Future Plant Designs Subcommittee Chairman, stated that the purpose of this meeting was to hold discussions with representatives of the General Electric Nuclear (GE) Energy and the NRC staff regarding the general description of the ESBWR design and the NRC staff's schedule for reviewing the ESBWR design certification application.

Mr. David Hinds (GE) stated that on August 24, 2005, GE submitted an application for final design approval and standard design certification of the ESBWR design pursuant to 10 CFR Part 52, and indicated the application contained Tiers 1 and 2 material. Per 10 CFR Part 52, Appendix A, Tier 1 described a portion of the design-related information contained in the generic design control document (DCD) is approved and certified. Thus, Tier 1 information may not be changed without prior NRC approval. Tier 1 information included:

- Definitions and general provisions,
- Design descriptions,
- Inspections, tests, analyses, and acceptance criteria (ITAAC),
- Significant site parameters, and
- Significant interface requirements.

Tier 2 described a portion of the design-related information contained in the generic DCD is approved but not certified. Compliance with Tier 2 is required, but generic changes to and plant-specific departures from, and governed by Section VIII of 10 CFR Part 52, Appendix A. Tier 2 changes do not require a Tier 1, and technical specification changes may be implemented without prior NRC approval, if the change would be allowable per a 10 CFR 50.59.

Mr. Alan Beard, GE, stated that the ESBWR Standard Plant includes six main buildings. These are:

- Reactor Building- houses safety-related structures, systems and components, except for the main control room, control building and spent fuel storage pool and associated auxiliary equipment in the fuel building. The reactor building includes the reactor, containment, refueling area, and auxiliary equipment.
- Control Building- houses the main control room and safety-related controls outside the reactor building.
- Fuel Building- houses the spent fuel storage pool and its associated auxiliary equipment.
- Turbine Building- houses equipment associated with the main turbine and generator, and their auxiliary systems and equipment, including the condensate purification system and the process off-gas treatment system.
- Radwaste Building- houses equipment associated with the collection and processing of solid and liquid radioactive waste generated by the plant.
- Electrical Building- houses the two nonsafety-related standby diesel generators and their associated auxiliary equipment.

The ESBWR has a rated thermal power of 4500 Mwt. The plant uses a direct-cycle, natural circulation boiling water reactor. The plant is expected to operate at an estimated gross electrical power output of approximately 1600 Mwe and net-estimated electrical output of approximately 1535 Mwe. Currently, GE is considering only a single standard unit. If a multi-unit is desired, the changes and additional information needed to license a multi-unit plant would be supplied by the Combined Operating License (COL) applicant.

The ESBWR has a low-leakage containment vessel, which comprises the drywell and wetwell. The containment vessel is a cylindrical steel-lined reinforced concrete structure integrated with the reactor building.

Buildings and structures not in the ESBWR scope include the main transformer, switchyard, heat sinks for the main condenser, decay heat, and system waste heat, sewage and water treatment building, and storage tanks for fuel oil, nitrogen and demineralized water.

The ESBWR is a natural circulation reactor that requires additional elevation head created by the density difference between the saturated water-steam mixture exiting the core and the subcooled water exiting the region just below the steam separators and the feedwater inlet. The chimney provides the elevation head or driving head necessary to sustain the natural circulation flow. The chimney is a long cylinder mounted to the top guide and supports the steam separators assembly. The chimney forms the annulus separating the subcooled recirculation flow returning downward from the steam separators and feedwater, from the

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upward steam-water mixture flow exiting the core. Inside the chimney are partitions that separate groups of 16 fuel assemblies and hence, form smaller chimney sections limiting cross flow and flow instabilities.

The ESBWR utilizes a digital data network for plant-wide control and display. It also utilizes a manual scram and isolation with four divisions of reactor protection systems (four divisions of ATWS/SLCS, four divisions of ECCS), triple redundant controller for diverse reactor protection systems and ECCS, and triple redundant controllers for major nuclear control functions. It has redundant controllers for investment protection and balance of plant control.

Mr. Beard stated that for the ESBWR design, the internal events core damage frequency (CDF) is $3.2E-08$ and the internal events large release frequency (LRF) is $1E-09$, with CCFP of 0.025. The probability of exceeding 25 rem at 0.5 mile is $2E-10$. External events contribution is negligible, and the shutdown CDF is $4E-09$.

Ms. Amy Cabbage, Office of Nuclear Reactor Regulation (NRR), stated that on September 23, 2005, the NRC staff notified GE that the contents of the ESBWR application, in accordance with 10 CFR 52.47, are not sufficiently complete in certain areas. GE has responded to the staff's request. Currently, the staff is performing an acceptance review on the supplemental information. The results of the staff's review will be forwarded to GE by the end of November 2005. The incomplete areas in the application are as follows:

- Fuel and control rod design
- Thermal-Hydraulic Code (TRACG)
- Fuel Correlation
- Fission product removal
- Human Factors Engineering
- Digital Instrumentation and Control
- Operating experience evaluation
- Flood protection
- Steam dryer design and structural integrity
- Chimney assembly design and structural integrity
- Reactor pressure vessel internals vibration
- Radiation protection
- Fire protection
- Safeguards information

The staff has begun to review those areas of the application that now contain sufficient information.

Committee Action

This briefing was provided for information only. The ACRS plans to hold several subcommittee meetings regarding the ESBWR thermal-hydraulic and probabilistic risk assessment issues, and to review the draft safety evaluation report in early 2006.

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V. Draft ACRS Report to the Commission on the NRC Safety Research Program (Open)

[Note: Dr. Hossein Nourbakhsh was the Designated Federal Official for this portion of the meeting.]

The ACRS provided the Commission a biennial report presenting the Committee's observations and recommendations concerning the NRC Safety Research Program. During the November meeting, the Committee discussed the overall themes of the draft 2006 report to the Commission on the NRC Safety Research Program.

Committee Action

The Committee plans to continue discussing the draft report on the NRC's safety research program during its December 7-9, 2005 meeting.

VI. Digital Systems Research Plan (Open)

[Note: Mr. Eric Thornsbury 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 NRC Digital Systems Research Plan, FY 2005 - FY 2009. During the May 2005 meeting, the Committee heard an information briefing on the draft plan from RES and initial comments from the NRR staff. During this Committee meeting, the RES staff reviewed the updates to the plan and briefly described each research area within the plan. The staff discussed six research areas: systems aspects of digital technology, software quality assurance, risk assessment of digital systems, security aspects of digital systems, emerging digital technology and applications, and advanced nuclear power plant digital systems. The details of each research area were discussed at subcommittee meetings in June and October 2005. The current version of the plan incorporated both formal and informal comments from staff in NRR, Office of Nuclear Materials, Safety and Safeguards, and the Office of Nuclear Security and Incident Response..

Committee Action:

The Committee issued a report to the NRC Executive Director for Operations, dated November 21, 2005, concluding that the research programs are well directed toward meeting agency needs. The Committee also recommended refinements to the plan to include an inventory and classification of the types of digital systems to be used in nuclear power plants, more specifically identify current and future regulatory needs, increase the "system-centric" aspects of software safety, and increase the priority of the research on advanced nuclear power plant digital systems.

VII. Status of Rulemaking on Post-Fire Operator Manual Actions (Open)

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

The Chairman of the Fire Protection Subcommittee provided an introduction to the staff. The Committee had the benefit of presentations and discussions with representatives of the staff regarding the staff's recommendation to withdraw the proposed draft rule, "Post-Fire Operator Manual Actions (RIN 3150 AH-54)."

The staff provided a brief background on the proposed rulemaking. The staff explained the primary purpose of the proposed rulemaking as stated in SECY-03-0100 was to codify the use of manual actions and its acceptance criteria and avoid the need to process numerous exemption requests. The staff said the Staff Requirements Memorandum (SRM) dated January 18, 2005 stated that the staff should engage stakeholders to get a clear understanding of the proposed rule to achieve its underlying purpose. The staff said the SRM also stated that the Commission considers the proposed rulemaking of 10 CFR 50.48(c) more desirable in order to minimize the need for future exemption requests. The staff provided the Committee a summary of 14 comment letters that were received during the public comment period. The major comments were in the areas of (1) requirement for automatic suppression is unnecessary, (2) numerous exemptions will still be needed, (3) alternative rule language proposed, and (4) IP 7111.05T criteria was endorsed. The staff provided their responses to the public comments. The staff stated that the requirement for automatic suppression is essential to maintain defense-in-depth. The staff also stated that they would require writing exceptions to the proposed rule to cover all situations in order to reduce the request for numerous exemptions. The staff said the proposed alternative rule language does not ensure defense-in-depth. The staff developed the proposed rule acceptance criteria as part of a self-implementing rule.

The staff went on to explain the justification for recommending withdrawal of the implementation of the proposed rule could require exemption or deviation requests for a large number of licensees. The staff stated that a large number of exemption requests would be inconsistent with the Commission's expectation as discussed in SECY-04-0233 - "Proposed Rulemaking - Post-Fire Operator Manual Actions (RIN-3150-AH-54," dated January 18, 2005.

The staff recommended to the Commission that the proposed rule on operator manual actions be withdrawn. The staff is developing a policy paper recommending withdrawal of the proposed rule and the staff expects to complete it by the end of calendar year 2005. The staff plans to issue a regulatory issue summary that will communicate the staff's regulatory compliance expectations in the Spring of 2006. The staff requested the Committee endorsement of their recommendation.

A representative from NEI provided the industry's view on the staff's recommendation to withdraw the proposed draft rule. NEI said that they support rulemaking in this area for stability in the process. NEI stated operator manual actions have been approved by the staff in safety evaluation reports and inspection reports. NEI disagreed that automatic suppression is required. NEI stated that they have a problem with the time margin factor and the problem still exists. NEI planned to submit acceptance criteria for the staff's approval in the first week of December 2005. NEI stated they are disappointed with the recommendation to withdraw the proposed rule and the process of operator manual actions is unpredictable. NEI does not support the proposed rule as written because it will result in numerous exemptions.

Committee Action

The Committee issued a letter dated November 18, 2005, recommending that the staff withdraw the proposed draft rule on "Post-Fire Operator Manual Actions (RIN 3150 AH-54)."

X. Executive Session (Open)

[Note: Dr. John T. Larkins was the Designated Federal Official for this portion of the meeting.]

A. Reconciliation of ACRS Comments and Recommendations/EDO Commitments

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

The Committee discussed the response from the NRC Executive Director for Operations (EDO) to ACRS comments and recommendations included in recent ACRS reports:

- The Committee considered the EDO's response of October 26, 2005, to the recommendations included in the ACRS letter dated September 22, 2005, concerning Exelon Generation Company, LLC, application for early site permit (ESP) and the NRC staff's associated draft safety evaluation report. The Committee decided that it was satisfied with the EDO's response.

The NRC staff committed to meet with the ACRS in March 2006 to present the conclusions of the staff's review of the Clinton ESP.

- The Committee considered the EDO's response of November 1, 2005, to the comments included in the ACRS report of September 21, 2005, concerning two policy issues related to new plant licensing.

The Committee decided that it was satisfied with the EDO's response.

- The Committee considered the EDO's response of October 31, 2005, to the recommendations included in the ACRS report dated September 22, 2005 regarding the draft final revisions to generic license renewal guidance documents. The Committee decided that it was satisfied with the EDO's response.

The staff committed to continue to evaluate the need for revisions to the license renewal guidance documents and update them as needed.

- The Committee considered the EDO's response of October 26, 2005, to the recommendations included in the ACRS letter dated September 20, 2005 regarding draft proposed Revision 4 to Regulatory Guide 1.82, "Water Sources for Long-Term Recirculation Cooling Following a Loss-of-Coolant Accident." The Committee decided that it was satisfied with the EDO's response.

The staff committed to revise proposed Revision 4 to Regulatory Guide 1.82 to address ACRS concerns and to meet with the Committee to present the proposed revision.

B. Report on the Meeting of the Planning and Procedures Subcommittee (Open)

The Committee heard a report from the ACRS Chairman and the Executive Director, ACRS, regarding the Planning and Procedures Subcommittee meeting held on November 2, 2005. The following items were discussed:

- Review of the Member Assignments and Priorities for ACRS Reports and Letters for the November 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 February 2006 was addressed. 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

During this session, the Subcommittee also discussed and developed recommendations on items requiring Committee action.

527th ACRS Meeting
November 3-5, 2005

- Meeting with the NRC Commissioners

The ACRS is scheduled to meet with the NRC Commissioners on Thursday, December 8, 2005 to discuss the following topics, which were approved by the Commission:

- Issues Related to New Plant Licensing (including technology Neutral Framework) (TSK/MME)
- Proposed Alternative Embrittlement Criteria in 10 CFR 50.46 (DAP/RC)
- Fire Protection Matters (GEA/JGL)
- Power Uprate Technical Issues (RSD/RC)

In addition to these topics, the ACRS Chairman will provide an overview. Proposed topics for the overview include:

- Major accomplishments
- License renewal
- Early site permits
- Future ACRS activities

On October 24, 2005, a new topic was added "Technical Issues Related to PWR Sumps." It should be noted that the Committee has not written a report on this matter since the last meeting with the Commission, which was on April 7, 2005. However, the NRC staff provided an information briefing to the Thermal-Hydraulic Phenomena Subcommittee on the interim results of the integrated chemical effects tests.

- ACRS Retreat in 2006

During the October 2005 meeting, the Committee agreed to hold a retreat on January 26-27, 2006. Several members and the ACRS Executive Director proposed topics for discussion during the retreat. A list of proposed topics and lead members was discussed and approved by the Planning and Procedures Subcommittee.

- Candidates for Potential Membership on the ACRS (Closed)

During the October 2005 ACRS meeting, the ACRS members and the Candidate Screening Panel interviewed six candidates with expertise in the areas of Materials and Metallurgy and Plant Operations for potential membership on the ACRS. Earlier this month, the Screening Panel forwarded its recommendations to the Commission to fill the vacancy in the area of Materials and Metallurgy. Two other candidates, with expertise in plant operations, are scheduled for interview on November 3, 2005.

There are two additional vacancies for membership on the ACRS Committee with expertise in thermal-hydraulics and other areas. Two applicants will be considered during the December meeting.

527th ACRS Meeting
November 3-5, 2005

- Assignments for Reviewing License Renewal Applications During CY 2006

Dr. Bonaca, Chairman of the Plant License Renewal Subcommittee, previously suggested that if a new member with expertise in the area of plant operations is not on board by the end of 2005, the Committee should distribute the responsibility for reviewing these applications among the current members. Accordingly, the responsibility for reviewing these applications in CY 2006 has been divided between Dr. Bonaca and Mr. Sieber, both members concur with the proposed assignments. These assignments may be changed, as needed.

- Election of Officers for CY 2006

During the December 2005 meeting, the Committee will elect Chairman and Vice Chairman for the ACRS, and Member-at-Large, for the Planning and Procedures Subcommittee. In accordance with the ACRS Bylaws, those members who do not wish to be considered for all or any of these Offices, should inform the ACRS Executive Director in writing two weeks prior to the election.

- Holiday Party

It has been the tradition of the ACRS Committee to sponsor a Holiday Party to the ACRS/ACNW staff. The Committee needs to decide whether it wants to continue with this tradition and sponsor a Holiday Party for the staff during the December 2005 ACRS meeting.

- Worksheet on Skills Set

In response to ACRS/ACNW self assessment survey, information is being collected regarding the members and staff and their technical skill sets. A worksheet will be distributed that, once completed by each member and staff, will be used to identify needed skills and sources available for supporting Committee activity.

- December 2005 ACRS Meeting

The December ACRS meeting is scheduled for December 8-10, 2005. On December 8, the Committee is scheduled to meet with the NRC Commissioners. In addition, the Committee is expected to spend about 4 hours in reviewing the ACRS report to the Commission on the NRC Safety Research Program and there are four letters scheduled for discussion. In view of the heavy workload for the December meeting, the Committee should consider starting the meeting at 1:00 p.m. on Wednesday, December 7.

527th ACRS Meeting
November 3-5, 2005

- Revised Policy for Reporting Member Time

The policy for reporting labor hours for compensation has changed. Members and consultants are now required to report their time every two weeks based on the NRC payroll schedule and will be paid for that time on the same pay day as the NRC employees. Representatives from the OCFO will provide a briefing to the Committee on November 4, 2005, to discuss the details of this policy change.

C. Future Meeting Agenda

Appendix IV summarizes the proposed items endorsed by the Committee for the 528th ACRS Meeting, December 7-10, 2005.

The 527th ACRS meeting was adjourned at 11:30 am on November 5, 2005.



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

January 18, 2006

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

FROM: Graham B. Wallis *Graham B. Wallis*
ACRS Chairman

SUBJECT: CERTIFIED MINUTES OF THE 527TH MEETING OF THE
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
(ACRS), NOVEMBER 3-5, 2005

I certify that based on my review of the minutes from the 527TH 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.

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards; Meeting Notice

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 November 3–5, 2005, 11545 Rockville Pike, Rockville, Maryland. The date of this meeting was previously published in the **Federal Register** on Wednesday, November 24, 2004 (69 FR 68412).

Thursday, November 3, 2005, Conference Room T-2B3, 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.–10a.m.: Final Review of the License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2 (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff and the Nuclear Management Company, LLC regarding the license renewal application for the Point Beach Nuclear Plant, Units 1 and 2 and the associated final Safety Evaluation Report prepared by the NRC staff.

10:15 a.m.–11:45 a.m.: Draft Final Generic Letter 2005-xx, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power" (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the draft final version of the Generic Letter 2005-xx on Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power.

12:45 p.m.–2:45 p.m.: Economic Simplified Boiling Water Reactor (ESBWR) Design (Open)—The Committee will hear presentations by and hold discussions with representatives of the General Electric Nuclear Energy and the NRC staff regarding the general description of the ESBWR design and the NRC staff's schedule for reviewing the ESBWR design certification application.

3 p.m.–5 p.m.: Draft ACRS Report to the Commission on the NRC Safety Research Program (Open)—The Committee will discuss the draft ACRS report to the Commission on the NRC Safety Research Program.

5:15 p.m.–7 p.m.: Preparation of ACRS Reports (Open)—The Committee

will discuss proposed ACRS reports on matters considered during this meeting.

Friday, November 4, 2005, Conference Room T-2B3, 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.: Digital Systems Research Plan (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the draft final digital systems research plan and related matters.

10:15 a.m.–11:15 a.m.: Status of Rulemaking on Post-Fire Operator Manual Actions (Open)—The Committee will hear presentations by and hold discussions with representatives of the NRC staff regarding the status of the rulemaking on post-fire operator manual actions.

11:15 a.m.–12:15 p.m.: Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open)—The Committee will discuss the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future meetings. Also, it will hear a report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, including anticipated workload and member assignments.

1:30 p.m.–1:45 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.

1:45 p.m.–3:15 p.m.: Preparation for Meeting with the NRC Commissioners (Open)—The Committee will discuss the following topics scheduled for discussion with the NRC Commissioners between 1 and 3 p.m. on Thursday, December 8, 2005: Overview by the ACRS Chairman; Issues Related to New Plant Licensing (including Technology Neutral Framework); Proposed Alternative Embrittlement Criteria in 10 CFR 50.46; Fire Protection Matters; and Power Uprate Technical Issues.

3:30 p.m.–7 p.m.: Preparation of ACRS Reports (Open)—The Committee will discuss proposed ACRS reports.

Saturday, November 5, 2005, Conference Room-2B3, Two White Flint North, Rockville, Maryland

8:30 a.m.–1 p.m.: Preparation of ACRS Reports (Open)—The Committee will continue its discussion of proposed ACRS reports.

1 p.m.–1:30 p.m.: Miscellaneous (Open)—The Committee will discuss matters related to the conduct of Committee activities and matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

Procedures for the conduct of and participation in ACRS meetings were published in the **Federal Register** on September 29, 2005 (70 FR 56936). In accordance with those procedures, oral or written views may be presented by members of the public, including representatives of the nuclear industry. Electronic recordings will be permitted only during the open portions of the meeting. Persons desiring to make oral statements should notify the Cognizant ACRS staff named below five days before the meeting, if possible, so that appropriate arrangements can be made to allow necessary time during the meeting for such statements. 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.

Information regarding the time to be set aside for this purpose may be obtained by contacting the Cognizant ACRS staff prior to the meeting. 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.

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, as well as the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by contacting Mr. Sam Duraiswamy, Cognizant ACRS staff (301-415-7364), between 7:30 a.m. and 4:15 p.m., e.t.

ACRS meeting agenda, meeting transcripts, and letter reports are available through the NRC Public Document Room at pdr@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 & ACNW Mtg schedules/agendas).

Videoteleconferencing 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., e.t., 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 videoteleconferencing link. The availability of videoteleconferencing services is not guaranteed.

Dated: October 12, 2005.

Andrew L. Bates,

Advisory Committee Management Officer.

[FR Doc. E5-5734 Filed 10-17-05; 8:45 am]

BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Sunshine Act Meeting Notice

AGENCY HOLDING THE MEETINGS: Nuclear Regulatory Commission.

DATE: Weeks of October 17, 24, 31, November 7, 14, 21, 2005.

PLACE: Commissioners' Conference Room, 11555 Rockville Pike, Rockville, Maryland.

STATUS: Public and Closed.

MATTERS TO BE CONSIDERED:

Week of October 17, 2005

Tuesday, October 18, 2005

9:30 a.m.

Briefing on Decommissioning Activities and Status (Public Meeting) (Contact: Dan Gillen, (301) 415-7295.)

This meeting will be Webcast live at the Web address—<http://www.nrc.gov>.

Week of October 24, 2005—Tentative

Wednesday, October 26, 2005

1:30 p.m.

Discussion of Security Issues (Closed—Ex. 1).

Thursday, October 27, 2005

10 a.m.

Discussion of Security Issues (Closed—Ex. 1).

Week of October 31, 2005—Tentative

Tuesday, November 1, 2005

9:30 a.m.

Briefing on Implementation of Davis-

Besse Lessons Learned Task Force (DBLLTF) Recommendations (Public Meeting). (Contact: Brendan Moroney, (301) 415-3974.)

This meeting will be Webcast live at the Web address—<http://www.nrc.gov>.

Week of November 7, 2005—Tentative

There are no meetings scheduled for the Week of November 7, 2005.

Week of November 14, 2005—Tentative

There are no meetings scheduled for the Week of November 14, 2005.

Week of November 21, 2005—Tentative

Monday, November 21, 2005

9:30 a.m.

Briefing on Status of New Reactor Issues, Part 1 (Public Meeting). (Contact: Laura Dudes, (301) 415-0146.)

1:30 p.m.

Briefing on Status of New Reactor Issues, Part 2 (Public Meeting). (Contact: Laura Dudes, (301) 415-0146.)

These meetings will be Webcast live at the Web address—<http://www.nrc.gov>.

*The schedule for Commission meetings is subject to change on short notice. To verify the status of meetings call (recording)—(301) 415-1292. Contact person for more information: Michelle Schroll, (301) 415-1662.

* * * * *

The NRC Commission Meeting Schedule can be found on the Internet at: <http://www.nrc.gov/what-we-do/policy-making/schedule.html>.

* * * * *

The NRC provides reasonable accommodation to individuals with disabilities where appropriate. If you need a reasonable accommodation to participate in these public meetings, or need this meeting notice or the transcript or other information from the public meetings in another format (e.g. braille, large print), please notify the NRC's Disability Program Coordinator, August Spector, at (301) 415-7080, TDD: (301) 415-2100, or by e-mail at aks@nrc.gov. Determinations on requests for reasonable accommodation will be made on a case-by-case basis.

* * * * *

This notice is distributed by mail to several hundred subscribers; if you no longer wish to receive it, or would like to be added to the distribution, please contact the Office of the Secretary, Washington, DC 20555 (301) 415-1969). In addition, distribution of this meeting notice over the Internet system is available. If you are interested in

receiving this Commission meeting schedule electronically, please send an electronic message to dkw@nrc.gov.

Dated: October 13, 2005.

R. Michelle Schroll,

Office of the Secretary.

[FR Doc. 05-20881 Filed 10-14-05; 10:32 am]

BILLING CODE 7590-01-M

NUCLEAR REGULATORY COMMISSION

Notice of Availability of Interim Staff Guidance Document for Fuel Cycle Facilities

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability.

FOR FURTHER INFORMATION CONTACT:

James Smith, Project manager, Technical Support Group, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20005-0001. Telephone: (301) 415-6459; fax number: (301) 415-5370; e-mail: jas4@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The Nuclear Regulatory Commission (NRC) continues to issue Interim Staff Guidance (ISG) documents for fuel cycle facilities. These ISG documents provide clarifying guidance to the NRC staff when reviewing either a license application or a license amendment request for a fuel cycle facility under 10 CFR Part 70. The NRC is soliciting public comments on the attached draft ISG document, which will be considered in the final version or subsequent revisions.

II. Summary

The purpose of this notice is to provide the public an opportunity to review and comment on a revised draft Interim Staff Guidance document for fuel cycle facilities. A previous version of this draft received substantive comments; therefore, to provide the public an opportunity to review and comment on the revised version, the document is being re-issued in draft. FCSS-Interim Staff Guidance-10 provides guidance to NRC staff relative to determining whether the minimum margin of subcriticality (MoS) is sufficient to provide an adequate assurance of subcriticality for safety to demonstrate compliance with the performance requirements of 10 CFR 70.61(d).

APPENDIX II

October 12, 2005

**SCHEDULE AND OUTLINE FOR DISCUSSION
527th ACRS MEETING
NOVEMBER 3-5, 2005**

**THURSDAY, NOVEMBER 3, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT
NORTH, ROCKVILLE, MARYLAND**

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

- 2) 8:35 - 10:00 A.M. Final Review of the License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2 (Open) (MVB/CS)
 - 2.1) Remarks by the Subcommittee Chairman
 - 2.2) Briefing by and discussions with representatives of the NRC staff and the Nuclear Management Company, LLC regarding the license renewal application for the Point Beach Nuclear Plant, Units 1 and 2 and the associated final Safety Evaluation Report prepared by the NRC staff.

- 10:00 - 10:15 A.M. *****BREAK*****

- 3) 10:15 - 11:45 A.M. Draft Final Generic Letter 2005-xx, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power" (Open) (JDS/JGL)
 - 3.1) Remarks by the Subcommittee Chairman
 - 3.2) Briefing by and discussions with representatives of the NRC staff regarding the draft final version of the Generic Letter 2005-xx on Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power.

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

11:45 - 12:45 P.M. *****LUNCH*****

- 4) 12:45 - 2:45 P.M. Economic Simplified Boiling Water Reactor (ESBWR) Design (Open) (TSK/MME/GJT)
4.1) Remarks by the Subcommittee Chairman
4.2) Briefing by and discussions with representatives of the General Electric Nuclear Energy and the NRC staff regarding the general description of the ESBWR design and the NRC staff's schedule for reviewing the ESBWR design certification application.

2:45 - 3:00 P.M. *****BREAK*****

- 5) 3:00 - 5:00 P.M. Draft ACRS Report to the Commission on the NRC Safety Research Program (Open) (DAP/HPN/SD)
Discussion of the draft ACRS report to the Commission on the NRC Safety Research Program.

5:00 - 5:15 P.M. *****BREAK*****

- 6) 5:15 - 7:00 P.M. Preparation of ACRS Reports (Open)
Discussion of proposed ACRS reports on:
6.1) License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2 (MVB/CS)
6.2) Draft Final Generic Letter 2005-xxx, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power" (JDS/JGL)

FRIDAY, NOVEMBER 4, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 7) 8:30 - 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (GBW/JTL/SD)

- 8) 8:35 - 10:00 A.M. Digital Systems Research Plan (Open) (GEA/EAT)
8.1) Remarks by the Subcommittee Chairman
8.2) Briefing by and discussions with representatives of the NRC staff regarding the draft final digital systems research plan and related matters.

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 - 11:15 A.M. Status of Rulemaking on Post-Fire Operator Manual Actions
(Open) (RSD/GEA/JGL)
9.1) Remarks by the Subcommittee Chairman
9.2) Briefing by and discussions with representatives of the NRC staff regarding the status of the rulemaking on post-fire operator manual actions.

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

- 10) 11:15 - 12:15 P.M. Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open) (GBW/JTL/SD)
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.

12:15 - 1:30 P.M. *LUNCH*****

- 11) 1:30 - 1:45 P.M. Reconciliation of ACRS Comments and Recommendations
(Open) (GBW, et al./SD, et al.)
Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.

- 12) 1:45 - 3:15 P.M. Preparation for Meeting with the NRC Commissioners (Open)
(GBW, et. al/JTL, et. al)
Discussion of the following topics scheduled for discussion with the NRC Commissioners on December 8, 2005:
- I. Overview
 - License Renewal
 - Early Site Permits
 - Future ACRS Activities
 - II. Issues Related to New Plant Licensing (including Technology Neutral Framework)
 - III. Proposed Alternative Embrittlement Criteria in 10 CFR 50.46
 - IV. Fire Protection Matters
 - V. Power Uprate Technical Issues

3:15 - 3:30 P.M. *BREAK*****

- 13) 3:30 - 7:00 P.M. Preparation of ACRS Reports (Open)
Discussion of proposed ACRS reports on:
- 13.1) License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2 (MVB/CS)
 - 13.2) Draft Final Generic Letter 2005-xxx, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power" (JDS/JGL)
 - 13.3) Draft Final Digital Systems Research Plan (GEA/EAT)
 - 13.4) Rulemaking on Post-Fire Operator Manual Actions (RSD/JGL)
 - 13.5) NRC Safety Research Program Report (DAP/HPN/SD)

SATURDAY, NOVEMBER 5, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 14) 8:30 - 1:00 P.M. Preparation of ACRS Reports (Open)
Continue discussion of the proposed ACRS reports listed under Item 13.
- 15) 1:00 - 1:30 P.M. Miscellaneous (Open) (GBW/JTL)
Discussion of matters related to the conduct of Committee activities and matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

NOTE:

- Presentation time should not exceed 50 percent of the total time allocated for a specific item. The remaining 50 percent of the time is reserved for discussion.
- Thirty-Five (35) hard copies and (1) electronic copy of the presentation materials should be provided to the ACRS.

APPENDIX III: MEETING ATTENDEES

527TH ACRS MEETING
NOVEMBER 3-5, 2005

NRC STAFF (November 3, 2005)

P. Longheed, RIII	N. Iqbal, NRR	T. Beltz, NRR
V. Rodriguez, NRR	Y. Li, NRR	P. Gill, NRR
R. DeLaGarza, NRR	Y. Diaz, NRR	R. Jenkins, NRR
D. Reddy, NRR	K. Hsu, NRR	F. Guenther, NRR
J. Eady, NRR	H. Asher, NRR	M. Cheok, RES
D. Merzke, NRR	A. Lee, NRR	M. Stutzke, NRR
K. Tahaba, NRR	K. Cozens, NRR	T. Boyce, NRR
T. Koshy, NRR	M. Mitchell, NRR	J. Ibarra, RES
V. Goel, NRR	J. Ma, NRR	J. Rosenthal, RES
J. Zimmerman, NRR	S. Mitra, NRR	P. Yasby, NRR
G. Galletti, NRR	G. Suber, NMSS	R. Li, NRR
M. Thorpe-Kavanaugh, NRR	L. Miller, NRR	L. Rossbach, NRR
J. Ayala, NRR	C. Collet, OIG	E. Throm, NRR
R. Auluckm NRR	B. Raughley, RES	R. Landry, NRR
L. Tran, NRR	S. Unikewicz, NRR	K. Klump, NRR
N. Ray, NRR	L. Land, NRR	A. Cabbage, NRR
T. Steingass, NRR	G. Morris, NRR	J. Han, RES
J. Hernandez, NRR	M. McConnell, NRR	L. Lois, NRR
J. Struisha, NRR	A. Markley, NRR	K. Kavanach, NRR
B. Elliott, NRR	A. Muniz, NRR	J. Hernandez, NRR
R. Assa, RES	J. Calvo, NRR	W. Beckner, NRR

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

B. Herrman, NMC, Point Beach	R. Wachowiak, GE
C. Church, Legin Group, Inc.	J. Hegner, Dominion
M. Homiack, Legin Group, Inc.	A. Beard, GE
J. Thorgersen, NMC	A. Lewis, Framatome ANP
S. Schellin, NMC-PBNP	M. Jonzen, AREVA
T. Mielke, NMC-PBNP	J. Weil, McGraw-Hill
W. B. Fromm, NMC	
J. Kuorr, NMC-PBNP	
D. Kunsemiller, FENOC-BUPS	
T. Basicj, FENOC-BVPS	
A. Marion, NEI	
G. Clefton, NEI	
D. Hinds, GE	

NRC STAFF (November 4, 2005)

S. Arndt, RES
W. Kemper, RES
M. Waterman, RES
G. Tartal, RES
N. Carte, RES
M. Chiramal, NRR
R. Barrett, RES
M. Evans, RES
R. Shaffer, RES
C. Antonesu, RES
J. Kauffman, RES
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D. Frumkin, NRR
A. Klein, NRR
P. Qualls, NRR
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E. McKenna, NRR
S. Weerakody, NRR
E. Lois, RES
R. Gallucci, NRR
J. Bongarra, NRR
P. Lain, NRR
A. Szabo, RES
S. Lee, OEDO
W. Lyons, NRR

ATTENDEES FROM OTHER AGENCIES AND GENERAL PUBLIC

T. Harris, NEI
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A. Marion, NEI
B. Jamar, NEI
G. Clefton, NEI
N. Chapman, SERCH/Bechtel
S. Tollay, McGraw Hill/Inside NRC
D. Raleigh, LIS

APPENDIX IV: FUTURE AGENDA

November 15, 2005

**SCHEDULE AND OUTLINE FOR DISCUSSION
528th ACRS MEETING
DECEMBER 7-10, 2005**

**WEDNESDAY, DECEMBER 7, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT
NORTH, ROCKVILLE, MARYLAND**

- 1) 1:00 - 1:05 P.M. Opening Remarks by the ACRS Chairman (Open) (GBW/JTL/SD)
1.1) Opening statement
1.2) Items of current interest
- 2) 1:05 - 3:00 P.M. Final Review of the Vermont Yankee Extended Power Uprate
Application and the Associated Safety Evaluation (Open)
(RSD/GBW/RC)
2.1) Remarks by the Subcommittee Chairman
2.2) Briefing by and discussions with representatives of the
Entergy Nuclear Operations, Inc. and the NRC staff
regarding the 20% power uprate application for the
Vermont Yankee Nuclear Plant and the NRC staff's
associated Safety Evaluation.

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

3:00 - 3:30 P.M. *BREAK*****

- 3) 3:30 - 5:30 P.M. Draft ACRS Report on the NRC Safety Research Program (Open)
(DAP/HPN/SD)
3.1) Remarks by the Subcommittee Chairman
3.2) Discussion of the draft ACRS report to the Commission on
the NRC Safety Research Program.

5:30 - 5:45 P.M. *BREAK*****

- 4) 5:45 - 6:45 P.M. Preparation for Meeting with the NRC Commissioners (Open)
(GBW, et. al/JTL, et. al)
Discussion of the following topic scheduled for discussion with the
NRC Commissioners on December 8, 2005:
- I Overview (GBW)
 - License Renewal
 - Early Site Permits
 - Future ACRS Activities
 - II Issues Related to New Plant Licensing (including
Technology-Neutral Framework) (TSK)

Appendix IV
527th ACRS Meeting

- III Proposed Alternative Embrittlement Criteria in 10 CFR 50.46 (DAP)
- IV Fire Protection Matters (GEA)
- V Power Uprate Technical Issues (RSD)

THURSDAY, DECEMBER 8, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 5) 8:30 - 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (GBW/JTL/SD)
- 6) 8:35 - 10:00 A.M. Early Site Permit Application for the Grand Gulf Nuclear Station and the Associated Final Safety Evaluation Report (Open) (DAP/MME)
 - 6.1) Remarks by the Subcommittee Chairman
 - 6.2) Briefing by and discussions with representatives of the System Energy Resources, Inc. and the NRC staff regarding the early site permit application for the Grand Gulf Nuclear Station and the associated final Safety Evaluation Report prepared by the NRC staff.
- 10:00 - 10:15 A.M. *****BREAK*****
- 7) 10:15 - 11:45 A.M. Draft Final Generic Letter, "Impact of Potentially Degraded Hemyc/MT Fire Barrier Materials on Compliance with Fire Protection Regulations" (Open) (RSD/JGL)
 - 7.1) Remarks by the Subcommittee Chairman
 - 7.2) Briefing by and discussions with representatives of the NRC staff regarding the draft final Generic Letter on "Impact of Potentially Degraded Hemyc/MT Fire Barrier Materials on Compliance with Fire Protection Regulations" and a summary of the NRC staff's resolution of public comments received on the public comment version of this Generic Letter.

Representatives of the nuclear industry and members of the public may provide their views, as appropriate.
- 11:45 - 1:00 P.M. *****LUNCH*****
- 8) 1:00 - 3:00 P.M. Meeting with the NRC Commissioners, Commissioners' Conference Room, One White Flint North, Rockville, MD (Open) (GBW, et. al/JTL, et. al)

Meeting with the NRC Commissioners to discuss the topics listed under Item 4.
- 3:00 - 3:30 P.M. *****BREAK*****

Appendix IV
527th ACRS Meeting

- 9) 3:30 - 5:00 P.M. Proposed Program Plan and Advance Notice of Proposed Rulemaking for Risk-Informing 10 CFR Part 50 (Open) (WJS/GEA/MRS/EAT)
- 9.1) Remarks by the Subcommittee Chairman
 - 9.2) Briefing by and discussions with representatives of the NRC staff regarding the proposed Program Plan and the Advance Notice of Proposed Rulemaking for Risk-Informing 10 CFR Part 50, and related matters.

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

5:00 - 5:15 P.M. *BREAK*****

- 10) 5:15 - 7:00 P.M. Preparation of ACRS Reports (Open)
Discussion of proposed ACRS reports on:
- 10.1) Final Review of the Extended Power Uprate Application for the Vermont Yankee Nuclear Plant (RSD/GBW/RC)
 - 10.2) Final Review of the Early Site Permit Application for the Grand Gulf Nuclear Station (DAP/MME)
 - 10.3) Draft Final Generic Letter, "Impact of Potentially Degraded Hemyc/MT Fire Barrier Materials on Compliance with Fire Protection Regulations" (RSD/JGL)
 - 10.4) Proposed Program Plan and Advance Notice of Proposed Rulemaking for Risk-Informing 10 CFR Part 50 (WJS/GEA/MRS/EAT)

FRIDAY, DECEMBER 9, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT NORTH, ROCKVILLE, MARYLAND

- 11) 8:30 - 8:35 A.M. Opening Remarks by the ACRS Chairman (Open) (GBW/JTL/SD)
- 12) 8:35 - 10:00 A.M. Staff Activities Associated with Responding to the Commission's Staff Requirements Memorandum (SRM) related to Safety Conscious Work Environment and Safety Culture (Open) (MVB/GEA/JHF)
- 12.1) Remarks by the Subcommittee Chairman
 - 12.2) Briefing by and discussions with representatives of the NRC staff regarding staff activities associated with responding to the Commission's SRM related to safety conscious work environment and safety culture, and related matters.

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

Appendix IV
527th ACRS Meeting

- 10:00 - 10:15 A.M. ***BREAK*****
- 13) 10:15 - 11:15 A.M. Future ACRS Activities/Report of the Planning and Procedures Subcommittee (Open) (GBW/JTL/SD)
13.1) Discussion of the recommendations of the Planning and Procedures Subcommittee regarding items proposed for consideration by the full Committee during future ACRS meetings.
13.2) Report of the Planning and Procedures Subcommittee on matters related to the conduct of ACRS business, including anticipated workload and member assignments.
- 14) 11:15 - 11:30 A.M. Reconciliation of ACRS Comments and Recommendations (Open) (GBW, et al./SD, et al.)
Discussion of the responses from the NRC Executive Director for Operations to comments and recommendations included in recent ACRS reports and letters.
- 15) 11:30 - 12:00 Noon Election of ACRS Officers for CY 2006 (Open) (JTL/SD)
Election of Chairman and Vice Chairman for the ACRS and Member-at-Large for the Planning and Procedures Subcommittee.
- 12:00 - 1:30 P.M. ***LUNCH*****
- 16) 1:30 - 3:30 P.M. Draft ACRS Report on the NRC Safety Research Program (Open) (DAP/HPN/SD)
Discussion of the draft ACRS report to the Commission on the NRC Safety Research Program.
- 3:30 - 3:45 P.M. ***BREAK*****
- 17) 3:45 - 6:45 P.M. Preparation of ACRS Reports (Open)
Discussion of proposed ACRS reports listed under Item 10.

**SATURDAY, DECEMBER 10, 2005, CONFERENCE ROOM T-2B3, TWO WHITE FLINT
NORTH, ROCKVILLE, MARYLAND**

- 18) 8:30 - 12:30 P.M. Preparation of ACRS Reports (Open)
Continue discussion of the proposed ACRS reports listed under
Item 10.
- 19) 12:30 - 1:00 P.M. Miscellaneous (Open) (GBW/JTL)
Discussion of matters related to the conduct of Committee
activities and matters and specific issues that were not
completed during previous meetings, as time and availability
of information permit.

NOTE:

- **Presentation time should not exceed 50 percent of the total time allocated for a specific item. The remaining 50 percent of the time is reserved for discussion.**
- **Thirty-Five (35) hard copies and (1) electronic copy of the presentation materials should be provided to the ACRS.**

APPENDIX V
LIST OF DOCUMENTS PROVIDED TO THE COMMITTEE
527TH ACRS MEETING
NOVEMBER 3-5, 2005

[Note: Some documents listed below may have been provided or prepared for Committee use only. These documents must be reviewed prior to release to the public.]

MEETING HANDOUTS

AGENDA
ITEM NO.

DOCUMENTS

- | | |
|----|---|
| 1 | <u>Opening Remarks by the ACRS Chairman</u>
1. Items of Interest, dated November 3-5, 2005 |
| 2 | <u>Final Review of the License Renewal Application for the Point Beach Nuclear Plant, Units 1 and 2</u>
2. Point Beach Nuclear Plant, License Renewal, presentation by Nuclear Management Company, LLC [Viewgraphs] |
| 3 | <u>Draft Final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"</u>
3. Draft Final Generic Letter 2005-xx, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power" presentation by NRR [Viewgraphs] |
| 4 | <u>Economic Simplified Boiling Water Reactor (ESBWR) Design</u>
4. ESBWR Overview presentation by General Electric [Viewgraphs]
5. ESBWR Design Certification presentation by NRR [Viewgraphs] |
| 8 | <u>Digital Systems Research Plan</u>
6. NRC Digital System Research Plan FY2005 through FY2009 presentation by RES [Viewgraphs] |
| 9 | <u>Status of Rulemaking on Post-Fire Operator Manual Actions</u>
7. Operator Manual Actions Rulemaking presentation by NRR [Viewgraphs] |
| 10 | <u>Future ACRS Activities/Report of the Planning and Procedures Subcommittee</u>
8. Future ACRS Activities/Final Draft Minutes of Planning and Procedures Subcommittee Meeting - November 2, 2005 [Handout #10.1]
9. ACRS Workforce Planning [Handout] |
| 11 | <u>Reconciliation of ACRS Comments and Recommendations</u>
10. Reconciliation of ACRS Comments and Recommendations [Handout 11.1] |

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DOCUMENTS

- 2 Review of the License Renewal Application and Final Safety Evaluation Report for the Point Beach Nuclear Plant, Units 1 and 2
 1. Table of Contents
 2. Meeting Schedule
 3. Status Report

- 3 Regarding Draft Final Generic Letter 2005-XX, "Grid Reliability and the Impact of Plant Risk and the Operability of Offsite Power"
 4. Agenda
 5. Status Report
 6. Memorandum from M. Mayfield, NRR, to J. Larkins, ACRS, dated October 6, 2005, Subject: Request for Review and Endorsement by the ACRS regarding the Proposed Generic Letter 2005-xx, "Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power"

- 4 Economic Simplified Boiling Water Reactor (ESBWR) Design
 7. Table of Contents
 8. Proposed Schedule
 9. Status Report
 10. ESBWR Design Control Document (Tier 1 and Tier 2), CD-GE Energy-supplied to all ACRS members
 11. GE Slides (ESBWR Overview, August 30, 2005
 12. Letter from W. Beckner, NRC, to S. Hucik, GE, dated September 23, 2005

- 8 Digital Instrumentation and Controls Research Plan
 13. Table of Contents
 14. Proposed Schedule
 15. Status Report
 16. NRC Digital Systems Research Plan, FY2005-FY2009 (draft)," transmitted to ACRS by memorandum dated September 29, 2005
 17. Letter from Mario Bonaca, ACRS, to Luis Reyes, EDO, "Digital Instrumentation and Controls Research Program," June 9, 2004

- 9 Post-Fire Operator Manual Actions Draft Final Rule
 18. Proposed agenda
 19. Status Report
 20. Letter from M. Bonaca, ACRS, to N. Diaz, Chairman, dated November 19, 2004, "Draft Proposed Rule on Post-Fire Operator Manual Actions"
 21. Memorandum from E. Merschoff, Acting EDO, to M. Bonaca, ACRS, dated December 22, 2004, "Draft Proposed Rule on Post-Fire Operator Manual Actions"

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
527th FULL COMMITTEE MEETING

November 3-5, 2005

TODAY'S DATE: November 3, 2005

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2	Veronica Rodriguez	NRC/RLRA
3	Rodrigo De La Garza	NRC/RLRA
4	Devender K. Reddy	NRC/NRR/DSSA
5	Johnny Ead,	NRC/NRR/DLR
6	DANIEL MORZKE	NRC/NRR/DLR
7	Kiyoto Tanabe	NRC/NRR/DLR/RLRC/Japanese Assignee
	THOMAS KOSHY	NRR/DE/EEEB.
9	VIJAY GOEL	NRR/DE/EEEB
10	Jake Zimmerman	NRR/DLR
11	Greg Gulletti	NRR/DIPM
12	Meghan Thorpe-Kavanaugh	NRR/DIPM
13	JUAN AYALA	NRR/DLR
14	Raj Auluck	NRR/DRR
15	L. Tran	NRR/DLR
16	Neil Ray	NRR/DCI
17	TIM STENGASS	NRR/DCI
18	Jorge Hernandez	NRR/DSS
	Jim Struziska	NRR/DCI
20	BARRY ELLIOT	NRR/DCI

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
527th FULL COMMITTEE MEETING

November 3-5, 2005

TODAY'S DATE: November 3, 2005

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2	<u>Y.C. (Rene) Li</u>	<u>NRR/DE/EMEB</u>
3	<u>Yaira Diaz</u>	<u>NRR/DLR</u>
4	<u>Kathwa Hsu</u>	<u>NRR/DLR.</u>
5	<u>Ham Asher</u>	<u>NRR/DE</u>
6	<u>Arnold Lee</u>	<u>NRR/DE</u>
7	<u>KURT COZENS</u>	<u>NRR/NR2B</u>
	<u>Matthew A. Mitchell</u>	<u>NRR/DCI/CVIB</u>
9	<u>John S. Ma</u>	<u>NRR/DE/EMEB</u>
10	<u>S.K. MITNA</u>	<u>NRR/DLR</u>
11	<u>G. Suber</u>	<u>NMSS/DWM</u>
12	<u>Leslie Miller</u>	<u>NRR/DCI</u>
13	<u>Cathy Collet</u>	<u>OLG</u>
14	<u>Bill Raughley</u>	<u>RES</u>
15	<u>Steve Winkewicz</u>	<u>NRR/DE</u>
16	<u>Louise Lund</u>	<u>NRR/DE^{DLR}</u>
17	<u>GEORGE MORRIS</u>	<u>NRR/DE</u>
18	<u>Matthew McConnell</u>	<u>NRR/DE</u>
	<u>ANTHONY MARKLEY</u>	<u>NRR/DPR</u>
20	<u>ADRIAN MUÑIZ</u>	<u>NRR/DORL</u>

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
527th FULL COMMITTEE MEETING

November 3-5, 2005

TODAY'S DATE: November 3, 2005

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2 PAUL GILL	NRR/DE
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4 Fred Guenther	NRR/IOLB
5 Mike Cheek	RES/DRAA
6 MARTIN STUTZKE	NRR/DRA/APLA
7 TOM BOYCE	NRR/DIPM/TSB
8 Jose Ibarra	RES/DSARE
9 Jack Rosenthal	RES/DSARE
10 Pete Yarky	NRR/ADDES/DSS
11 Rui Li	NRR/DRZF/RLEP
12 Larry Rossbach	NRR/DNRL/NRBA
13 EDWARD D THAM	NRR/DRA/ACVB
14 RALPH LANDRY	NRR/DSS/NBCB
15 Kendra Klump	NRR/DNRL/NRBA
16 Amy Cabbage	NRR/DNRL/NRBA
17 JAMES HAN	RES/DSARE/ARREB
18 Lambros Lois	NRR/DSS/SBWB
19 KEVIN KAVANAGH	NRR/DE/EQVA
20 Jorge Hernandez	NRR/DSS

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
527th FULL COMMITTEE MEETING

November 3-5, 2005

TODAY'S DATE: November 4³, 2005

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	NAME	NRC ORGANIZATION
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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
5267th FULL COMMITTEE MEETING
November 3-5, 2005

November 3, 2005
Today's Date

ATTENDEES PLEASE SIGN IN BELOW
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NAME	AFFILIATION
1 Bill Herriman	NMC - Point Beach.
2 Cheryl Howard	Legin Co.
3 Matt Homick	Legin Group, Inc.
4 John G. Thorgersen	NMC
5 STEVEN A. SCHELLIN	NMC - PBNP
6 TODD D. MIELKE	NMC - PBNP
7 W. B. FROMM	NMC
8 Tom Kuorn	NMC - PBNP
9 Mark Ortmyer	NMC - PBNP
10 David Kunsemiller	FENOC - BUPS
11 Timothy C. Beside	FENOC - BUPS
12 Jorge Hernandez	NRC
13 Kathia Hsu	NRC
14 Bill Raughter	USNRC - RES
15 Alex Marion	NEI
16 GORDON CLETON	NEI
17 Matthew McE...	NRC
18 Jose CALVO	NRC
19 WILLIAM BECKNER	NRC
20 DAVID HINDS	GE

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
527th FULL COMMITTEE MEETING

November 3-5, 2005

TODAY'S DATE: November 4, 2005

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NAME	NRC ORGANIZATION
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2 WILLIAM E. KEMPER	RES/DET/ERAB
3 Mike Waterman	RES/DET/ERAB & NRR/ADES/DE/EICB
4 George Tartal	RES/DET/ERAB
5 Norbert Carte	RES/DET/ERAB/ICS
6 MATT CAKMAZ	NRR/DE/EEIB
7 RICHARD BARRETT	RES/DET
Michele Evans	RES/DET
9 Roman Shaffer	RES/PMOA
10 Chrshina Antonescu	RES/DET/ERAB
11 John Kauffman	RES/DSARE
12 David Dine	NRR/DPR
13 Daniel Frankin	NRR/AFPB
14 Alex Klein	NRR/AFPB
15 Phil Qualls	NRR
16 Bob Radlinski	NRR/AFPB
17 Eileen McKenna	NRR/AFPB
18 Sunil Weerabody	NRR/AFPB
Erasmusia Los	RES/PPAB
20 Ray Gallucci	NRR/(ADRA) ² /AFPB

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
527th FULL COMMITTEE MEETING

November 3-5, 2005

TODAY'S DATE: November 4, 2005

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NAME

NRC ORGANIZATION

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2

PAUL LAIN

NRR/DRA/AFPB

3

A Szabo

LES/DRAA/HFRS

4

Samuel Lee

OEDO

5

Jim Lyons

NRR/DRA

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ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
5267th FULL COMMITTEE MEETING
November 3-5, 2005

November 4, 2005
Today's Date

ATTENDEES PLEASE SIGN IN BELOW
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NAME

AFFILIATION

1

Tony Harris

NEI

2

Alan Levin

FANP

3

Alex Marion

NEI

4

Brandon Jamar

NEI

5

Gordon Cleaton

NEI

6

Nancy Chapman

SERCH/Bechtel

7

Steven Dolan

McGraw Hill / FAS of NRC

8

Deann Kately

LIS, Susquehanna

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ITEMS OF INTEREST

527th ACRS MEETING

NOVEMBER 3-5, 2005





**ITEMS OF INTEREST
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
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November 3-5, 2005**

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NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

Office of Public Affairs

Telephone: 301/415-8200

Washington, D.C. 20555-0001

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Web Site: <http://www.nrc.gov>

No. S-05-014

Opening a New Chapter in the NRC and Agreement State Partnership

Organization of Agreement States

2005 Annual Meeting

San Diego, California

October 4, 2005

Peter B. Lyons

Commissioner, USNRC

Thank you for inviting me to join you in your annual meeting. I appreciated the opportunity to talk with many of you at last Spring's meeting of the Conference of Radiation Control Program Directors. There were more excellent interactions with the Commission when representatives of the OAS and CRCPD visited NRC Headquarters in August. I've also valued interactions with several of you during my visits to facilities located in your state.

Personally, I am looking forward to continuing our dialogue throughout this week about our important partnership in protecting the nation's public health, safety, and the environment. I believe that the visits in August confirmed that the Commissioners and NRC staff are watching the development of this partnership with intense interest to verify that solid progress is being demonstrated.

I believe that we are currently opening a new chapter in the Agreement State program and in the partnership between the NRC and Agreement States. We independently and collectively face a number of opportunities and challenges that are setting the stage for this new chapter, and I look forward to addressing these issues collaboratively.

These challenges and opportunities will test the resolve of this program to continue to demonstrate if the past successes of the Agreement State program can be continued and carried into the future. They will demand our continued cooperation and joint collective efforts to further define and implement a coherent radiation protection program across the entire nation. As a new member of the Commission, I am pleased to have the opportunity to be able to work with each of you and with OAS and CRCPD in further advancing the Agreement State program.

I have chosen my theme today to be “opening a new chapter in the NRC and Agreement State partnership.” I want to use my time to talk about some of what I see as key challenges and opportunities we face. These are not only involved in opening this new chapter, but also in making this chapter another successful bookmark for the program and setting the stage for subsequent successful chapters. Let me begin first with a discussion of recent new legislation, the Energy Policy Act of 2005.

Energy Policy Act – Treatment of Accelerator-Produced and Other Radioactive Material as Byproduct Material

The enactment of the Energy Policy Act of 2005 brings under the Commission’s regulatory authority certain types of radioactive material – more specifically, certain accelerator-produced material, radium-226, and naturally occurring radioactive material – that previously were not included under the Atomic Energy Act’s definition of byproduct material or under the purview of NRC’s regulatory program. In time, this will help provide a more coherent national framework for regulation of most radioactive materials. And because the Energy Policy Act provided the Commission in this Section of the Act with authority to grant limited-time waivers involving most of its requirements, the Commission has been able to maintain the ‘status quo’ with respect to regulatory responsibilities of the States through issuance of a waiver.

However, by February 8, 2007, NRC must issue final regulations addressing the newly covered material. Issuance of the regulations will enable each State to compare their regulatory program against NRC’s requirements. NRC will consult with the States and other stakeholders in developing these regulations, and to the maximum practicable extent, will use existing model State standards in promulgating the regulations.

We are hoping to make this transition as smooth as possible, both for regulators and licensees. In issuing the regulations, the Commission will also prepare and publish a transition plan describing the conditions under which States may continue to exercise authority over the newly covered byproduct material. The transition plan will allow that any Agreement between the Commission and a State covering byproduct material and entered into before the date of publication of the transition plan will be considered to include the newly covered byproduct material. Non-Agreement States that wish to regulate the newly covered material have the option of making an application to the NRC for Agreement State status.

Greater Control and Accountability of Sources

An area that I feel illustrates this new chapter in our partnership is our collective initiative to coordinate increased controls over radioactive materials. The recent hard work between NRC staff and the States in this area demonstrates how a true partnership between the States and NRC can leverage our resources to effectively increase protection and accountability of these materials.

Ensuring adequate control of radioactive material has always been a mission of the NRC and the Agreement States. Prior to 9/11, NRC and the Agreement States focused our efforts on the control of radioactive sources to ensure protection of public health and safety. This included focusing not only on control of radioactive materials to prevent unintentional exposure, but also on preventing malevolent acts.

The events of 9/11 did not change our collective mission or its focus concerning control of sources to ensure protection of public health and safety. A licensee's loss of control of high-risk radioactive sources, whether it is inadvertent or through a deliberate act, has a potential to result in significant adverse health impacts. Addressing these risks through an integrated approach that recognizes the complementary nature of safety and security requirements will meet our collective goal to enhance the control of sources in today's environment. This approach can ensure adequate control of sources to prevent both adverse health impacts and, as an additional complementary benefit, prevent potential malevolent use of radioactive sources.

The Commission heard your concerns about our initial post-9/11 approach to addressing this area. I believe that we responded in an inclusive and thoughtful approach with the States that achieves our common objective to enhance controls over certain radioactive materials and enhance the protection of public health and safety. Many of you are well aware that the Commission undertook this path after extensive debate in which a range of opinions and concerns were expressed. In my opinion, it is fair to say that your response will define for many years the level of mutual trust and partnership between the Agreement States and the Commission.

We've initiated an aggressive implementation plan and expect our State partners, with our Regional Offices, to implement the orders and license conditions in a timely manner to meet the implementation plan. We've coordinated our offices to expeditiously review the license conditions you have or will be submitting for a compatibility review.

With any partnership, there are obligations and responsibilities of both partners to fulfill our collective commitment. Agreement States must fulfill their additional commitments in this area to ensure a coherent national program and establish greater control and accountability of sources nationwide. The Office of State and Tribal Programs will be working with all of you to ensure we keep on track to make this process work.

Regulation Adoption

I wanted to briefly stress the importance of regulation adoption by the Agreement States. I understand that regulation adoption is a task that sometimes is difficult to get to when there are so many inspections and licensing actions to perform. However, regulations are the foundation of any regulatory program. Keeping regulations up-to-date, although a daunting task, is necessary and should be considered a fundamental activity in your program, not an ancillary one.

Programs that do not adopt a number of NRC-compatible regulations in the expected timeframe are being found Not Compatible during IMPEP reviews, regardless of the adequacy of the program. I encourage you to take action to adopt NRC-compatible regulations within the timeframe designated.

I understand that quite a few States have highly complicated and cumbersome regulation adoption programs, but I cannot stress enough the importance of keeping regulations up-to-date. This is the second area that I think the Commission will watch very closely to verify that the States are living up to their end of our mutual partnership.

National Radiation Monitoring System for Safety and Security

Another opportunity for the States to interface on the federal level is with the Department of Homeland Security's Domestic Nuclear Detection Office (DNDO). As you know, DNDO is attempting to establish a national radiation monitoring system for safety and security.

The DNDO's mission is to provide a single accountable organization with dedicated responsibilities to develop the global nuclear detection architecture. DNDO will acquire and support the deployment of the domestic detection system to detect and report attempts to import or transport a nuclear device or fissile or radiological material intended for illicit use. NRC currently has two staff on a detail assignment assisting DNDO in this effort.

It was encouraging to hear that the OAS and CRCPD leadership briefed the DNDO on your capabilities and made them aware of the established resources in the States that may help DNDO in their mission. I was also pleased to learn that DNDO has solicited a State representative to join their effort and I encourage you to do so. This presents another opportunity for the States to partner with the federal government to leverage existing national expertise to protect the nation from malevolent uses of radioactive material. State involvement will provide DNDO with valuable insight on how this national radiation monitoring system may be deployed.

Agreement State Personnel Increased Participation in International Activities

In the international arena, I am encouraged to see our State colleagues sharing their expertise globally. Whether serving in Vienna, Austria at the International Atomic Energy Agency, revising guidance on the categorization of radiation sources, or performing IMPEP-like reviews in Ecuador, the application of State expertise in the international arena reflects well on all of us as a nation.

The Commission encourages State participation in international activities and believes your expertise has added much needed value to the global radiation protection community. A friendly reminder to those that do participate in international activities is that they coordinate through our Office of State and Tribal Programs with our Office of International Programs before traveling overseas. We look forward to working with our State partners in future international activities.

National Materials Program

In January, the Commission approved the recommendation from NRC staff and the OAS and CRCPD Chairs that NRC and Agreement States continue to operate the NMP under the Blended Option. Thus, NRC continues to follow the Blended Option to work cooperatively and collaboratively with Agreement States, OAS and CRCPD. Under this option, I believe the relationship between NRC and Agreement States will continue to evolve as we each gain further experience in our joint collaborative activities to address regulatory needs of both NRC and the Agreement States.

The Commission directed staff to evaluate the effectiveness of implementation of the pilot project products and make appropriate changes or adjustments to the products when necessary. In response, NRC, OAS and CRCPD leadership have initiated discussions on next steps that should be taken to complete and implement pilot project work products. These include further examining Pilot Project 2 products proposing that CRCPD exercise lead responsibility for a national industrial

radiographer safety certification program and completion of I-125 medical guidance by the Pilot Project 4 working group.

I am pleased to learn that Pilot Project 4, which is led by OAS, has completed draft guidance and that the guidance is currently being reviewed by NRC and Agreement State staff. Implementation of the guidance will help further demonstrate the ability of Agreement States to assume responsibility for development of guidance for use by both NRC and Agreement States as well as demonstrate the key process steps that should be followed in the development of such guidance. I hope that we can continue to move forward with these cooperative initiatives and look forward to observing the progress of the National Materials Program.

I am confident that through our collective efforts in the NMP and through a strong federal-state partnership we will continue to experience a record of success as we enter a new chapter in the Agreement State program.

Increased Leadership of OAS and CRCPD Boards in Addressing Issues Cooperatively with NRC

I specifically want to acknowledge the increased participation of the OAS and CRCPD Boards in partnering with NRC to address the aforementioned issues and the many day-to-day issues involved in implementing the Agreement State program. The Commission appreciates the Boards' efforts in marshaling State resources to support working groups and rulemaking activities that impact all of our programs. We recognize that OAS and CRCPD Board members do these activities in addition to their day jobs, and we appreciate having a point of contact to address our collective challenges in a coordinated manner.

New STP Senior Management

Finally, I would like to take this opportunity to acknowledge that this is the last OAS meeting with Paul Lohaus as Director of State and Tribal Programs. I want to thank him for his leadership and vision in acting as the NRC's "Statesman" implementing the Agreement State program. In my brief tenure as a Commissioner, I've come to appreciate his tireless efforts to foster the NRC and Agreement State partnership. I wish him the best of luck in his retirement.

With that said, I welcome Janet Schlueter as the new Director of the Office of State and Tribal Programs. I have every confidence that Janet's skills and experience will build upon the strong foundation that supports the NRC and Agreement State partnership. I look forward to working with her and all of you in continuing to enhance our collective goal to protect public health, safety, and the environment. I thank you for this opportunity to address you today.



NRC NEWS

U.S. NUCLEAR REGULATORY COMMISSION

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No. S-05-015

U.S. NRC Perspectives on the Halden Reactor Program

Enlarged Halden Programme Group Meeting

Lillehammer, Norway

October 17, 2005

Peter B. Lyons

Commissioner, USNRC

Thank you for inviting me to speak here today. It is an honor to address this group of researchers from around the world. I am encouraged to see this degree of international cooperation in the Halden Reactor Program.

I'm the newest Commissioner at the NRC, and with that in mind I'd like to provide you with a sketch of my background. From that background, I think you'll understand why I am particularly enthusiastic about the work of the Halden Program.

My graduate training focused on experimental nuclear physics and its applications to astrophysics. I spent 15 of my roughly 30 years at Los Alamos supporting experimental plasma diagnostic measurements. From that work, I acquired an appreciation for the significant challenges associated with the translation of basic research and engineering knowledge into real systems. Those experiences also taught me to have a healthy respect for the limitations of even the best calculations. All too often my measurements differed enough from expectations to provide new insights into the physics or engineering that were missing from computational models.

As one example, I participated in many of the early laser fusion experiments. There was immense optimism then, based on the best calculations available at the time, that modestly sized, fairly inexpensive lasers would provide enough energy to ignite fuel and enable efficient production of fusion energy. In 1972, several researchers wrote "One kilo Joule of laser energy may be sufficient to generate an equal thermonuclear energy." Based on such assertions, some assumed that laser fusion would soon be producing power for the grid.

Thirty years later, you don't hear much today about laser fusion supplying grid power in the near future. The early predictions for success with small lasers are now replaced by construction of multi-megajoule, multibillion dollar facilities, where ignition and energy gain might be demonstrated.

So what went wrong? It seems that careful experiment, some done by my group at Los Alamos, simply did not support the optimism of the early calculations, which were sadly lacking in accurate descriptions of many aspects of the underlying physics. As these new facilities come into operation, we'll see if nature has more new physics surprises to reveal!

Calculations and modeling have a critical role in any technically complex endeavor. But I've learned that computational models are as good, or as bad, as the depth of the physics and engineering underpinning them. Models require careful validation and the Halden Program has been instrumental in validating many of our current codes.

In addition, I'm no stranger to international cooperation. During my time at Los Alamos, I was involved in international cooperative research when I served on and later chaired the NATO research study group on radiation effects. I hosted international scientists for extended stays in my Los Alamos group, and I spent five months in France in support of that international work.

With that as my background, I hope you understand why my interest in the work at the Halden project follows from my own personal experiences. And also you can appreciate that I was very glad to learn that the NRC has fostered and supported international cooperation, including significant participation in multinational research efforts.

Led by the NRC's Office of Nuclear Regulatory Research, our international cooperative research program covers a wide range of activities and technical disciplines: mixed oxide and high burn-up fuel, plant aging and material degradation, digital instrumentation and control, thermal-hydraulic and severe accident analysis, probabilistic risk assessment, fire risk, radiation protection, human performance, seismic risk, spent fuel, and waste management. Through these interests, we participate in major experimental programs using test facilities that are not available in the U.S. Access to these facilities expands our knowledge base, efficiently addresses research on high priority safety issues, and helps strengthen international cooperation that in turn strengthens oversight programs around the world

Data from these programs are used to develop new analytical models and updates for NRC's analytical codes and to validate existing models. International cooperative research programs also provide access to operating experience from foreign reactors, which augments our own programs in areas such as fire risk, plant aging and materials degradation, and pressurized thermal shock. Analysis of this experience contributes to our knowledge base and improved assessments of plant risk and to the development of risk-informed approaches to regulation.

In addition, as our senior staff retires and we hire less-experienced replacements, knowledge management will become a significant issue. International data bases, such as that associated with the work in the Halden Reactor Program, will be one of the key ways of transferring knowledge to these new workers.

Our Research Office has 95 bilateral and multilateral cooperative research agreements and seven more under negotiation with many international organizations. Through our participation in these international activities, we have the opportunity to exchange information with counterparts on regulatory activities, research results, and operating experience; to participate in peer reviews of

regulatory programs and international safety standards and guidance, and to contribute to the outcome of emerging international issues.

Our international arrangements began prior to creation of the NRC. During 1974, the about-to-be-abolished Atomic Energy Commission negotiated and signed the first technical information exchange arrangements with Japan, France, Spain, Sweden and Switzerland. Later, these agreements transitioned to the NRC and were soon followed by arrangements with the United Kingdom, Italy, and Germany.

Today, those original eight "standard" arrangements have been augmented by 22 for a total of 30. We also have other arrangements, which are tailored to specific circumstances, generally reflecting more limited cooperation. These arrangements have led to more than 300 international assignees to the NRC. Their knowledge has informed the NRC, and as each returned to their national regulatory organizations they were able to share knowledge they gained during their stay with us.

The Halden Program is an essential component of our international cooperative research program. Over the years, there have been many positive contributions to the NRC from this program. For today's talk, I'll break these contributions into five different areas: Fuels, Materials and Water Chemistry, Instrumentation and Control, Human Factors, and Human Reliability.

Fuels

In the fuels area, let me note a recent (2004) Licensing Board hearing on the use of mixed-oxide (MOX) Lead Test Assemblies in a U.S. reactor. The NRC staff used fuel centerline thermocouple data from MOX tests in the Halden Reactor to support the hearing record.

We made further use of this and other Halden data to confirm analysis of the performance of the MOX Lead Test Assemblies and to support the use of the NRC fuel performance code FRAPCON-3 for MOX. Because of the availability of these valuable data, the use of MOX assemblies was approved and they are now in their first cycle of operation. In the report on the FRAPCON-3 code the staff noted that:

The current report is . . . noteworthy because of its extensive use of experimental data from test reactor programs (particularly the Halden Reactor Project . . .).

The continued availability of fuel behavior data from Halden will be important inputs to the NRC staff's review of advanced fuel designs and new versions of computer codes submitted by fuel vendors.

Testing facilities with broad capabilities is a cornerstone of the Halden Project. In the fuels area, these facilities include the instrumented reactor, which I visited yesterday, the on-site gamma-scanning device, and the off-site hot cells. Additionally, the multiple loops and their in-reactor flasks have provided valuable data on cladding corrosion, cladding creep, and fission gas flow. Over the years the balance between steady-state and transient tests seems about right, although the NRC continues to primarily be interested in transient and accident behavior.

Looking toward the future in the fuels area, we expect Halden fission gas release and integral burnable poison data to address the issue of fuel performance limitations (e.g., end-of-life rod pressure limits). Also, the ongoing in-reactor LOCA test series will complement related hot cell tests in the United States and other countries by focusing on in-reactor effects that are different from those obtained in out-of-reactor tests. These data are of particular interest to NRC as we revise our cladding embrittlement regulatory criteria.

Materials and Water Chemistry

Turning to the materials and water chemistry area, for about a decade, material test specimens have been irradiated in the Halden reactor to levels typical of the end-of-life condition for BWRs. These specimens were then further tested in a U.S. laboratory to study several mechanical properties as a function of specific compositional influences or thermal treatment processes. These tests included examination of cracking susceptibility under slow tensile strain rates, fracture toughness, and crack growth rate determination. Subsequent evaluations of these specimens are now being carried out in simulated BWR environments to further validate our understanding of environmentally assisted degradation of reactor core internals, primary loop components and piping. The results of such tests are often used in our evaluation of stress-corrosion cracking events of core components and in determining the adequacy of aging management strategies as part of the license renewal process in the United States. For example, Halden tests will be used to verify the stress-corrosion cracking mitigation effectiveness of BWR hydrogen water chemistry. We are also making use of the crack-growth-rate data in understanding the effects of PWR coolant chemistry on materials, and look forward to receipt of additional data as it is developed.

Finally, we continue to encourage the recent Halden initiative to fabricate and evaluate in-core sensors for electrochemical potential and coolant electrical conductivity, as well as palladium electrode development for potential use in evaluations of BWR core internals. We are also interested in the development of electrochemical impedance spectroscopy instrumentation and calibration procedures for monitoring the oxidation of Zircaloy cladding on fuel elements.

Instrumentation and Controls

The area of instrumentation and control is evolving rapidly. Nuclear facilities have started to replace older analog systems and equipment with digital systems and equipment as analog replacement parts become more difficult to obtain and because digital systems offer the potential for better performance and flexibility.

However, there are obvious challenges associated with introduction of this technology into safety systems at nuclear facilities. These challenges include increased complexity, rapidly changing technology, new failure modes, reliability metrics, and consistently updating acceptance criteria and review procedures.

In response to these issues, the Halden Project has expanded its research efforts in the area of digital system safety. This expansion is providing a growing technical basis for more realistic safety decisions in this arena. This work also includes developing surveillance and monitoring techniques based on advanced decision algorithms, particularly in the areas of on-line monitoring and diagnostics. I understand that Halden-developed systems, such as core monitoring, condition monitoring of

electrical cables, early fault detection, optimization of plant performance and maintenance, and computerized procedures, are of interest to some of our licensees for implementation in U.S. plants.

The NRC remains very interested in the Halden software engineering laboratory capability to support research, development, assessment, and training related to safety-system software engineering. For regulatory issues involving digital safety system requirements engineering, architecture, fault tolerance, reliability, pre-developed software tools and integrated tool environments, and objective acceptance criteria, the products generated by Halden will continue to aid the NRC in establishing the technical bases guiding our review of current and new digital system designs and technologies. Furthermore, these products will likely provide valuable input into advanced control room designs.

Finally, I'm very pleased that Halden is working with the Nuclear Energy Agency to develop a new database, Computer Systems Important to Safety, or COMPSIS, to collect digital system failure information to support improved operation and regulation of digital systems. This is an area in which improvement in our understanding of digital system failure modes and frequencies can greatly benefit from a worldwide data gathering effort.

Human Factors

In the area of human factors, your experiments related to human error, human performance, teamwork and the effects of computer-driven interfaces on human performance have been valuable to the NRC for development of review guidelines. We don't have a reconfigurable simulator for research use in the U.S., so access to Halden's HAMMLAB facilities is invaluable to us. A simulator that can be driven by either a PWR or BWR model, a prototype reconfigurable advanced control room with an integrated surveillance and control system, data collection facilities, and capabilities in virtual and augmented environments is a unique resource operated by a staff of knowledgeable and dedicated researchers.

We have used the results of Halden human factors research as part of the technical basis for regulatory guidance in areas such as alarm systems, control room design, display navigation, and development of human performance measures. The results have also been used as one of the bases for our Standard Review Plan. These guidance documents are for use in reviewing changes to control stations at current reactors, for licensing reviews of new reactors, for license amendment requests, and for plant inspections.

The related human reliability work to investigate the effects of context, task complexity factors, sustained workload and work practices in computer-based control rooms and team cooperation in new operational settings will also provide continuing contributions to the technical basis for human factors guidance. This will be especially important for new reactor designs and will supplement the NRC's Human Reliability Analysis efforts. The plans to address human system interfaces that deliver relevant data and information in comprehensible and understandable formats, and present the data and information in a manner that does not cause mental overload or confusion, will be useful for developing guidance for new advanced control rooms.

In addition, the Halden research in virtual environments is an application of exciting new technologies to support human-factors-design input into control room configurations, into radiation (and possibly fire) visualization methods, and into virtual reality-based team training.

Human Reliability

Finally let me turn to the area of human reliability. In the United States, the NRC has adopted a risk-informed approach to regulatory decision-making. Given the increasing importance of this approach, it is crucial to use Human Reliability Analysis or HRA methods, tools, and data that can adequately assess the human contribution to risk. The quality of HRA data available is an area that needs to be addressed. Because of its long history in performing studies on human factors, Halden has the capability, facilities, and expertise to conduct simulator experiments and collect data that can be applied to HRA modeling and quantification issues.

Experimental work at Halden can generate the data needed to improve HRA in terms of underlying theories and models. In addition, work at Halden helps to provide probability estimations of human errors during events and accidents. For example, performance shaping factors can be manipulated to collect data for measuring the effects of these factors on an operator's ability to successfully mitigate accidents. Halden results provide evidence of a high degree of successful operator performance as well as a lower degree of less optimal behavior and provide indications of the relative likelihood of success or failure to help explain factors contributing to both outcomes. Therefore, the results could be used to improve plant safety by identifying potential "vulnerabilities" in specific crew behaviors or potential "good practices" to be emphasized.

We encourage the Halden Program to continue the current line of research, further investigating the influence of various factors such as "task complexity" and the contribution of different "crew characteristics" to crew success or failure by addressing issues related to important accident sequences.

I was also interested to learn that we use the Halden-developed Picasso system to aid in the design of graphical user interfaces to improve training at our Technical Training Center. In fact, the Training Center's Nuclear Engineering Workstation Simulator, a classroom training tool originally developed with Halden assistance, continues to be used during training of NRC staff and has been recently upgraded by NRC personnel using the latest version of Picasso.

Halden is working with the U.S. Electric Power Research Institute, the Callaway Plant, and the Nuclear Engineering Department at the University of Illinois on a case study involving application of the Halden Virtual Reality system - CREATE - to develop a Callaway Plant virtual control room model for modernization of the Callaway main control room.

In closing, I want to note the great interest of the Commission in developing a multinational cooperative approach to design approvals for new reactors. Our Chairman discussed this Multinational Design Approval Program, or MDAP, at the recent General Assembly of the IAEA. Like the Halden Program, it would draw upon and benefit from multinational cooperation. Current global trends point toward construction of reactors in countries other than the country in which the reactor was first designed, certified, and operated. The NRC supports cooperation among the regulatory bodies of the relevant countries to facilitate the convergence of safety standards for new designs and improve the effectiveness and efficiency of associated regulatory reviews, safety analyses, and related programs.

Such a program should help improve the clarity and transparency of nuclear safety regulation across international borders and help to ensure that safe, carefully evaluated designs are being used to construct new nuclear power plants around the world.

Above all, the goal of international cooperation, whether in the Halden Program or in a future Multinational Design Approval Program, should be to assure safe operation of nuclear plants, both existing plants and new ones on the drawing boards. International cooperation is one of the best ways to assure that the knowledge base and experience in each country is augmented by that of our colleagues in other nations.

Public confidence in the safety of nuclear power and public confidence in nuclear regulators is vital in every nation that uses this energy source. Through international cooperation, we can strengthen our ability to maintain that confidence.

October 31, 2005

The Honorable Harry Reid
United States Senate
Washington, D.C. 20510

Dear Senator Reid:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of October 12, 2005, requesting an extension of the public comment period for the proposed rule (September 8, 2005; 70 FR 53313) that would amend NRC's regulations governing the disposal of high-level radioactive wastes in a proposed geologic repository at Yucca Mountain, Nevada. The proposed rule would implement the U.S. Environmental Protection Agency's (EPA's) proposed standards for doses that could occur after 10,000 years, but within the period of geologic stability. The comment period for EPA's proposed standards currently expires on November 21, 2005 (extended 30 days from October 21, 2005). The comment period for NRC's proposed rule currently expires on November 7, 2005.

You requested that the comment period for NRC's proposed rule be extended to a total of 180 days, or at least past the date of EPA's 30-day extension. The NRC has also received a letter, representing several citizen and environmental groups, requesting that the deadline for comments be extended to 180 days. In addition, we have received a letter from the Agency for Nuclear Projects, on behalf of the State of Nevada, requesting that NRC extend its comment period for an additional 30 days, consistent with EPA's 30-day extension of its comment period.

Given the interrelationship between these two proposed rules, and for consistency with the ongoing EPA rulemaking process, NRC has decided to extend the comment period for its rulemaking for an additional 30 days, to December 7, 2005, for a total comment period of 90 days.

In vacating the compliance period in NRC's rule at 10 CFR Part 63, the United States Court of Appeals for the District of Columbia Circuit made clear that it is "NRC's obligation under the [Energy Policy Act of 1992] to maintain licensing criteria that are consistent with the public health and safety standards promulgated by EPA." See *Nuclear Energy Institute, Inc. v. EPA*, 373 F.3d 1251, 1299 (D.C. Cir. 2004). Thus, NRC's proposed rule, for the most part, simply implements EPA's proposed standards for doses that could occur after 10,000 years but within the period of geologic stability, and its final rule will need to implement any changes EPA may make regarding its standards. The NRC's proposed rule provides further detail for implementing the EPA standard in only two specific areas: a value to represent climate change after 10,000 years; and a requirement that calculations of radiation doses for workers use the same weighting factors that EPA is proposing for calculating individual doses to members of the public. We believe that potential commenters should not need a lengthy period of time to address these issues, and that NRC's 30-day extension is therefore appropriate.

I trust that this extension of the comment period on our proposed rule responds to your concerns. Please contact me if you have further questions regarding this issue.

Sincerely,

/RA/

Nils J. Diaz

Identical letter sent to:

The Honorable Harry Reid
United States Senate
Washington, D.C. 20510

The Honorable John Ensign
United States Senate
Washington, D.C. 20510



U.S. Nuclear Regulatory Commission



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IN RESPONSE, PLEASE
REFER TO: M051018

November 1, 2005

MEMORANDUM FOR: Luis A. Reyes
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary */RA/*

SUBJECT: STAFF REQUIREMENTS - BRIEFING ON DECOMMISSIONING ACTIVITIES AND STATUS, 9:30 A.M., TUESDAY, OCTOBER 18, 2005, COMMISSIONERS' CONFERENCE ROOM, ONE WHITE FLINT NORTH, ROCKVILLE, MARYLAND (OPEN TO PUBLIC ATTENDANCE)

The Commission was briefed by the staff on the NRC's decommissioning activities and status which are encompassed by the Comprehensive Decommissioning Program. In addition, four stakeholders who represented, respectively, a reactor licensee, material licensee, a State regulator, and a community activist engaged in decommissioning complex sites, commented on their experiences with the NRC's decommissioning process. Within 60 days, the staff should review the recommendations and observations of the stakeholders and informally (Technical Assistance brief or other informal mechanism) provide its analysis, with recommendations, as appropriate, to the Commission. Additionally, the staff should evaluate the lessons learned from the decommissioning of Maine Yankee and Trojan to look for ways to improve stakeholder interactions in NRC decommissioning activities.

The staff should continue to review financial assurance submittals, particularly for sites experiencing financial difficulties, and continue to include this information, in the "Status of Decommissioning Program - Annual Report" or in a Commission paper on Decommissioning Financial Assurance. In addition, the staff should review the various aspects of the NRC's decommissioning program and provide the Commission with possible options for further consolidation of the program in one division in NMSS (e.g., including Research and Test Reactors and other NRR licensed facilities with decommissioning fuel cycle and materials licensees).

cc: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
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Last revised Tuesday, November 01, 2005

October 26, 2005

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary /RA/

SUBJECT: STAFF REQUIREMENTS - SECY-05-0045 - DENIAL OF A
PETITION FOR RULEMAKING TO REVISE 10 CFR PART 50 TO
REQUIRE OFFSITE EMERGENCY PLANS TO INCLUDE
NURSERY SCHOOLS AND DAY CARE CENTERS (PRM-50-79)

The Commission has approved the staff's recommendation to deny the petition for rulemaking (PRM-50-79) and publish the associated *Federal Register* notice, subject to the comments and changes noted below.

The staff should seek further information from the Federal Emergency Management Agency (FEMA) on the level of communication taking place between state and local governments and day care centers in the Three Mile Island (TMI) emergency planning zone. The staff should explore with FEMA and other stakeholders options to further assess the questions raised in the petition about local implementation of relevant requirements and guidance and provide any appropriate recommendations for improvement, as necessary. These options should include public outreach and surveying of day care centers and nursery schools in the TMI emergency planning zone to ascertain the level of cognizance of emergency response activities that would apply to them in the event of an emergency at TMI. The staff should inform the Commission of its progress on this issue within 60 days.

(EDO)

(SECY Suspense: 12/27/05)

The staff shall develop guidance and expectations for the NRC review of FEMA's assessment and findings of offsite emergency preparedness.

In addition, the staff should brief the Commission Technical Assistants on how pending organizational changes at the Department of Homeland Security (DHS) will affect the NRC's current relationship with FEMA. The staff should begin discussions with DHS regarding any revisions that may be necessary to the current Memorandum of Understanding (MOU) between the NRC and FEMA as a result of organizational changes. The staff should use these discussions as a vehicle to ensure that any needed changes to strengthen cooperation between the two agencies are made.

SECY NOTE: THIS SRM WILL BE MADE PUBLICLY AVAILABLE 5 WORKING DAYS
AFTER DISPATCH OF THE LETTER TO THE PETITIONER.

Changes to the Federal Register notice

1. On page 5, 2nd to last item in the table, move the 'X' to place it in the proper column.
2. On page 6, in the heading in the middle of the page, insert an apostrophe after 'PETITIONERS'.
3. On page 6, 1st full paragraph, revise line 5 to read ' ... regulations to ensure that'
4. On page 8, 1st full paragraph under "PUBLIC COMMENTS", line 4, after the period insert the following new sentence: In addition, the NRC received 1 letter that discussed KI but did not take a position on the petition.
5. On page 9, move the line that discusses the letter on KI to the end of the list.
6. On page 9, revise the sentence about the 12 letters from State Governments to read ' ... that the petitioners' requests are adequately addressed'
7. On page 10, paragraph 1., revise line 1 to read 'The petitioners' first and more general request'
8. On page 10, last paragraph, revise lines 2 and 3 to read ' ... nuclear power plants. And that consequently, no'
9. On page 11, 1st full paragraph, revise line 2 to read ' ... are adequate and whether there is reasonable assurance that they can be implemented. and it FEMA uses the' Revise lines 3 and 4 to read ' ... makes its findings as to whether under 10 CFR 50.47(a)(2) that the emergency plans' Revise line 5 to read ' ... will be taken under 10 CFR 50.47(a)(2). The NRC's findings are based upon' Revise lines 5 through 7 to read ' ... and determinations in this area. As to whether state and local emergency plans are adequate and whether there is reasonable assurance that they can be implemented. Revise line 14 to read ' ... this information and considering that the existing regulatory structure already has requirements addressing the facilities of concern to the petitioners, no revision' Revise the last line to read ' ... to the petitioners' general'
10. On page 11, paragraph A., revise line 1 to read 'Require that children attending daycare and nursery schools be assigned to'
11. On page 11, last paragraph, revise line 1 to read ' ... petitioners' requested'
12. On page 12, revise line 1 from the top to read ' ... 4) specifies provides that state and local government offsite emergency plans should designate' Revise lines 4 and 5 from the top to read ' ... protects the public. and the NRC cannot license or allow a plant to continue to operate if FEMA does not make such a finding. Under'

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13. On page 12, paragraph B., revise line 1 to read 'Require that children attending daycare and nursery schools be provided'
14. On page 12, paragraph under the heading "NRC Review:", revise lines 2 through 4 to read '... plans are adequate. and the NRC cannot license or allow a plant to continue to operate if FEMA does not make such a finding or if the NRC does not have a specific basis for overriding FEMA's finding. FEMA's' Revise line 5 to read '... 4) specifies provides that the state and local government offsite emergency plans should designate' Revise line 7 to read '... this provisions is' Revise lines 8 and 9 to read '... Part 50 is would not be needed since the requested action is already provided for.'
15. On page 12, paragraph C., revise line 1 to read 'Require that children attending daycare and nursery schools be transported'
16. On page 13, 1st paragraph, revise line 3 to read '... Department of Transportation or appropriate state authorities.'
17. On page 13, in the paragraph under "NRC Review:" in the middle of the page, revise lines 2 and 3 to read '... considers the existing requirements and guidance for currently required agreements between bus drivers and local authorities to be similar to the requested detailed driver' Revise line 3 to read '... EV-2 (p. 10) specifies that provides bus' Revise line 4 to read '... and dosimetry are to be provided for the' Revise line 5 to read '... also specifies that provides for agreements' Revise line 6 to read '... local authorities are to be established for the' Delete the last sentence (Absent compelling evidence ...a roster.) and replace it with the following: NRC has made FEMA aware of the petitioners' concerns, and FEMA recently completed an emergency preparedness exercise at TMI that included issues related to transportation of students attending daycare centers and nursery schools. FEMA's final report on this exercise was issued on August 4, 2005. FEMA identified no deficiencies in this area.
18. On page 14, 1st paragraph, revise lines 1 and 2 to read '... and guidance are adequate. adequately provide for this request. Although the petition requested that day care centers and nursery schools have the responsibility for conveying their emergency planning information to government officials, under current requirements, this communication burden rests with responsible responsibility resides with state and local government officials. FEMA's GM EV-2 (p. 5) specifies provides that the'
19. On page 14, 2nd paragraph, revise line 1 to read 'NRC and FEMA expect local governments to should assume' Revise line 2 to read '... area, and to should work closely' Revise line 3 to read '... (pp. 5 and 6) specifies provides that local'
20. On page 14, 3rd paragraph, revise line 1 to read '... (pp. 5 and 6) specifies provides that evacuation planning is to shall include a'
21. On page 15, in the paragraph after the bullets, delete the 1st sentence (Absent compelling evidence ... offices.) Revise line 3 to read 'Based on the above, the

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petitioners' requested'

22. On page 16, 2nd paragraph under "NRC Review:", revise line 1 to read ' ... (pp. 6 and 7) specifies ~~provides~~ that' Revise line 2 to read ' ... nursery schools, are to demonstrate their' Revise line 10 to read ' ... school activities that might arise during exercise participation. In addition, as mentioned in the response to request "E," pursuant to FEMA guidance, state and local government officials should be contacting daycare centers and nursery schools regarding emergency plans for the facilities. The petition has'
23. On page 16, paragraph H., revise line 2 to read ' ... center, to ensure no'
24. On page 17, 1st full paragraph, revise line 3 to read ' ... planning, has ~~determined that it is unnecessary~~ declined to require that'
25. On page 17, 2nd paragraph under "NRC Review:", revise line 1 to read ' ... adequately address ~~provide for~~ this' Revise line 2 to read ' ... EV-2 (p. 2) specifies ~~provides~~ that the' Delete the last 2 sentence (There is no need ... Part 50.) and replace with the following: The Commission believes that parental notification via the EAS is adequate to assure that parents will be informed of their childrens' location following an emergency evacuation.
26. On page 18, revise line 6 from the top to read ' ... petition ~~did not failed to~~ provide'
27. On page 18, last paragraph, delete the 1st sentence (As previously ...adequate.) Revise line 3 to read ' ... (p. 4) specifies ~~provides~~ that state and local government offsite emergency plans are to designate'
28. On page 19, line 4 from the top, insert a footnote after the period which reads: See March 23, 2005 letter from Roy Zimmerman to Eric J. Epstein and March 24, 2005 letter from Roy Zimmerman to Lawrence T. Christian (available on NRC's ADAMS document system under the accession numbers ML050590344 and ML050590357, respectively).
29. On page 19, delete the sentence in lines 4 through 6 from the top (Absent compelling information ... Part 50.) and replace with the following: The Commission believes that the current publication practices are adequate.
30. On page 19, in the paragraph under "NRC Review:" in the middle of the page, line 1, insert a comma after "guidance".
31. On page 19, last paragraph, revise line 1 to read ' ... (p. 6) specifies ~~provides~~ that a method is to exist' Revise lines 3 and 4 to read ' ... emergency. ~~The Commission sees no added safety benefit of requiring a written script when FEMA has decided that it is unnecessary~~ declined to incorporate' Revise the last line to read ' ... inadequate. As a result, the Commission sees no added safety benefit in requiring a written script.'

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32. On page 20, paragraph 1., revise line 8 and 9 to read ' ... issue that ~~exists on a local level rather than a regulatory issue that exists on a national level and can be~~'
33. On page 20, last paragraph, revise lines 1 and 2 to read 'The requested rulemaking ~~proposed revisions would not enhance openness or public confidence or openness in our~~'
34. On page 21, revise line 1 from the top to read ' ... petitioners' requests ~~raise contentions are based on a potential issues lack of compliance with the existing~~ Revise line 2 from the top to read ' ... and guidance. The NRC staff ~~does not believe that the contentions identify deficiencies in regulatory requirements. and do not provide a basis for amending the regulation.~~ Revise line 4 from the top to read ' ... definition of a "special' Revise line 5 from the top to read ' ... such, ~~it is the responsibility of state and local governments are currently required to ensure~~ Delete the sentence in lines 6 through 8 from the top (The staff does ... process.) Revise line 11 from the top to read ' ... commitment to of'
35. On page 21, paragraph 4., revise line 3 to read ' ... guidance already ~~adequately address provide for many of the petition~~ Delete the sentence in lines 6 and 7 (The NRC staff ... value.)
36. On page 22, paragraph 5., revise line 5 to read ' ... guidance already ~~adequately address provide for many of the petition's requests.~~'
37. On page 22, last paragraph, revise the last 2 lines to read ' ... guidelines. Accordingly, ~~the petition is denied and forwarded to FEMA for review and investigation. NRC staff met with FEMA officials to assure an understanding of this issue for consideration by FEMA as reflected in separate letters to the petitioner and TMI-Alert Chairman, Eric Epstein dated respectively, March 23, 2005 and March 24, 2005. [Insert here a footnote which reads: FEMA did evaluate a May 3, 2005 Emergency Planning exercise at TMI. NRC understands that during this exercise FEMA reviewed aspects of emergency planning involving nurseries and daycare centers. No deficiencies were identified by FEMA during the exercise. FEMA's final report on the exercise was issued on August 4, 2005.] Copies of those letters are available through the NRC's ADAMS document system and can be located using accession numbers ML050590344 and ML050590357, respectively. The NRC staff will continue to work with FEMA to ensure emergency planning exercises are appropriately focused and provide adequate assurance regarding compliance with NRC and FEMA regulations and guidance.'~~

Changes to the letter to the petitioner

38. On page 1, paragraph 4, revise lines 4 and 5 to read ' ... area. Accordingly, the NRC staff met with FEMA to ~~discuss these issues and your petition was is denied and forwarded to FEMA~~ Insert a footnote at the end of the paragraph which reads: FEMA did evaluate a May 3, 2005 Emergency Planning exercise at TMI. NRC understands that during this exercise FEMA did look at aspects of emergency planning

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involving nurseries and daycare centers. No deficiencies were identified by FEMA during the exercise. FEMA's final report on the exercise was issued on August 4, 2005.

cc: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
OGC
CFO
OCA
OPA
Office Directors, Regions, ACRS, ACNW, ASLBP (via E-Mail)
PDR

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October 24, 2005

MEMORANDUM TO: Luis A. Reyes
Executive Director for Operations

FROM: Annette L. Vietti-Cook, Secretary /RA/

SUBJECT: STAFF REQUIREMENTS - SECY-05-0137 - PROPOSED
REVISED ABNORMAL OCCURRENCE CRITERIA

The Commission has approved the staff's recommendation to publish for public comment the proposed Policy Statement revising the criteria that the NRC would use to determine abnormal occurrences subject to the comments and changes noted below.

The existing deterministic criteria for commercial nuclear power plant licensees should be retained in Section II of the abnormal occurrence report, and the staff should add the proposed risk-informed criteria to Section II. The staff should continue to apply the deterministic criteria for cases where the risk-informed criteria are unable to produce applicable or timely results for the abnormal occurrence report. The staff's proposal to delete the existing deterministic criteria should be revisited in the future when the agency's processes can produce timely determinations to support the abnormal occurrence report.

The staff should provide a plan to the Commission to identify and implement changes to ensure that risk informed evaluations are completed in a manner that is timely; and that supports the agency's desire to make changes like those proposed by the staff for commercial nuclear power plant abnormal occurrence criteria.

In the solicitation for public comment, the staff should provide an explanation of the abnormal occurrence thresholds for significance determinations and accident sequence precursors and seek stakeholders input on the use of these thresholds for the selection of abnormal occurrences.

The staff should provide the revised Abnormal Occurrence Policy Statement to the Commission offices prior to publishing it in the federal register.

Changes to the Draft Abnormal Occurrence Criteria and Guidelines for Other Events of Interest

Make conforming changes to the Revised Policy Statement.

1. The staff should provide an introduction to the Abnormal Occurrence Criteria to place this revision into its proper context when viewed by Congress and the public. The introduction should include the Abnormal Occurrence General Policy Statement.

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AND WILL BE LIMITED TO NRC UNLESS THE COMMISSION
DETERMINES OTHERWISE.

2. On page 1, paragraph I.A.1., revise the last 4 lines to read ' ... committed dose equivalent to the bone marrow of 1Sv (100 rem) or more; a committed dose equivalent to the gonads of 2,500 mSv (250 rem) or more; or an annual shallow-dose equivalent to the skin or extremities of 2,500 mSv (250 rem) or more.
3. On page 1, paragraph C.1., revise lines 1 through 3 to read ' ... abandoned sources that exceed the values listed in Appendix P to Part 110, "High Risk Radioactive Material, Category 2." Excluded'
4. On page 2, revise line 12 from the top to read ' ... diversion is acceptably low.'
5. On page 2, revise paragraph 5. to read 'Any significant unauthorized disclosures (loss, theft, and/or deliberate) of classified² and/or safeguards information that cause harm to national security.
6. On page 3, paragraph III., revise the heading to read 'Events at Facilities Other than Nuclear Power Plants and all Transportation Events'
7. On page 4, last paragraph, delete the last sentence (Examples include 1.) any significant ... Action Matrix.)

Changes to the Revised Policy Statement

8. On page 5, paragraph (1) under "Commission Dissemination of AO Information," revise line 1 to read ' ... Commission provides wide dissemination'
9. On page 5, paragraph (2) (last paragraph), revise line 1 to read ' ... Commission submits a report to' Revise line 4 to read ' ... report contains'

cc: Chairman Diaz
Commissioner McGaffigan
Commissioner Merrifield
Commissioner Jaczko
Commissioner Lyons
DOC
OGC
CFO
OCA
OPA

SECY NOTE: THIS SRM AND SECY PAPER CONTAIN SENSITIVE INFORMATION AND WILL BE LIMITED TO NRC UNLESS THE COMMISSION DETERMINES OTHERWISE.

The Commission does not permit uninterested persons to intervene and play the role of "private attorney general" in NRC adjudications.⁴ Rather, we insist that an intervenor have some direct interest in the outcome of the proceeding.⁵ To this end, we have imposed upon all prospective intervenors (a.k.a. "petitioners" to intervene) the requirement to show they have "standing" to participate. To meet this requirement, a petitioner like Mr. Epstein must demonstrate (among other things) that the proposed transfer would injure his financial, property or other interests.⁶

Mr. Epstein never squarely addresses this "injury" requirement. Rather, he merely points to his involvement -- both personal and through organizations -- in numerous activities related to Peach Bottom. Specifically, Mr. Epstein points to his leadership roles in two citizen groups that monitor Peach Bottom and other plants for safety and radiation levels, his participation in negotiations regarding mergers of companies with a financial interest in Peach Bottom, his participation in negotiations involving the decommissioning tariff for Peach Bottom and other nuclear facilities, his roles as publisher and researcher of documents addressing nuclear and electric issues, and finally his status as an intervenor before both this Commission and the Pennsylvania Public Utility Commission on nuclear and electric issues.⁷

Although these kinds of involvement demonstrate both Mr. Epstein's general interest in electric and nuclear issues and his particular interest in the Peach Bottom facility, they do not demonstrate injury. It is well-established that mere intellectual or academic interest in a facility or proceeding is insufficient, in and of itself, to demonstrate standing.⁸

B. "Proximity Standing"

The only other ground on which Mr. Epstein relies for his claim of standing is that his home and business are 40 miles from the Peach Bottom nuclear power plant. Although Mr. Epstein (who is a *pro se* litigant) cites no legal authority in support of his claim, he presumably is relying on a series of Commission decisions granting "proximity standing" to prospective litigants upon the mere showing that they lived within a certain radius of the regulated facility at issue. In such cases, a petitioner need not expressly "establish the [traditional] standing elements of injury, causation or redressability."⁹ Rather, this particular kind of standing rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working or living offsite but within a certain distance of that facility.¹⁰

In ruling on claims of "proximity standing," we decide the appropriate radius on a case-by-case basis. We determine the radius beyond which we believe there is no longer an "obvious potential for offsite consequences"¹¹ by "taking account the nature of the proposed action and the significance of the radioactive source."¹²

The initial question we need to address is whether the kind of action at issue, when considered in light of the radioactive sources at the plant, justifies a presumption that the licensing action "could plausibly lead to the offsite release of radioactive fission products from ... the .. reactors."¹³ The burden falls on the petitioner to demonstrate this. If the petitioner fails to show that a particular licensing action raises an "obvious potential for offsite consequences," then our standing inquiry reverts to a "traditional standing" analysis of whether the petitioner has made a specific showing of injury, causation and redressability.¹⁴

In this proceeding, we conclude that the risks associated with the transfer of the non-operating 50-percent ownership interest are *de minimis* and therefore justify no "proximity standing" at all. For purposes of "proximity standing" analysis, the instant case is quite similar to a license transfer proceeding five years ago involving the Millstone plant -- where we denied "proximity standing" to organizations which claimed to have members living within 5-10 miles of the plant. At issue there was an indirect license transfer involving no change in the facility, its operation, licensees, personnel, or financing. We found that the nature of the Millstone license transfer raised no obvious potential for offsite consequences.¹⁵ In the *Millstone* license transfer, the company operating the plant would continue to do so after completion of the merger.¹⁶ The same is true here with the Peach Bottom merger -- Exelon Generation will continue to operate the plant.¹⁷

We concluded in *Millstone* that it was "far from obvious how [the] corporate restructuring would affect Petitioners' interests."¹⁸ And we likewise conclude here that Mr. Epstein has failed to show how the pending license transfers present an obvious potential for offsite consequences. The direct license transfer here is similar to the *Millstone* indirect license transfer insofar as the Peach Bottom transfer will result in no changes to the physical plant itself, its operating procedures, design basis accident analysis, management, or personnel.¹⁹ Moreover, Exelon Generation will remain both a wholly-owned subsidiary of Exelon Ventures Company and an indirect wholly-owned subsidiary of Exelon Corporation, which will survive the merger.²⁰ Based on these facts, we find that the proposed license transfers raise no "obvious potential for offsite consequences"²¹ and that Mr. Epstein's claim of "proximity standing" consequently lacks merit.²²

Our denial of "proximity standing" to Mr. Epstein -- who lives 40 miles from Peach Bottom -- falls comfortably within the parameters of our general "proximity standing" case law. For instance, in a case involving a license amendment intended to reflect the Zion plants' shutdown and de-fueled condition, a potential intervenor sought standing based on the facts that his residence was within 8½ - 9 miles of the plant, his children's schooling was within 12 miles, and his own and/or his wife's regular errands and business trips took them to within one mile of the plant.²³ The Board concluded (and we affirmed) that the license amendments at issue created no "obvious potential for offsite consequences" and that "proximity standing" should not be granted.²⁴ The Board therefore required the potential intervenor to show that the "amendments could plausibly lead to the offsite release of radioactive fission products from ... the shutdown and de-fueled ... reactors."²⁵ Similarly in *St. Lucie*, we declined to approve "proximity standing" in a reactor license amendment case where the change at issue was a worker-protection requirement with no "obvious potential for offsite consequences."²⁶

With the exception of one case quite different from ours,²⁷ even in license transfer cases where we have granted "proximity standing," the petitioners lived within a *much* smaller radius of the plant than does Mr. Epstein -- *i.e.*, 6 to 6½ miles,²⁸ 5½ miles,²⁹ and 1 to 2 miles³⁰ from the plants at issue.³¹ And of greater significance, each of those cases involved the transfer of both a *100-percent ownership interest* in the plant and the *operating authority* for the plant -- a kind of transfer implicating more significant safety issues than are present here.

CONCLUSION

We reject Mr. Epstein's claim of standing and consequently dismiss this proceeding. Consistent with our prior practice, we direct the NRC Staff to consider Mr. Epstein's contentions and Supplemental Filing as if they were "written comments" under 10 C.F.R. § 2.1305.³²

IT IS SO ORDERED.

For the Commission

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of October, 2005.

¹ 10 C.F.R. § 2.309(d), (f).

² Answer of Exelon Generation Company, LLC to Request for Hearing of Eric Joseph Epstein, dated Sept. 15, 2005, at 4-8.

³ Because our rulings on standing dispose of the case, we need not address the admissibility of Mr. Epstein's contentions.

⁴ See, e.g., *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), ALAB-333, 3 NRC 804, 806 n.6 (1976), *aff'd*, CLI-76-27, 4 NRC 610, 614 (1976).

⁵ 10 C.F.R. § 2.309(d)(1)(iii).

⁶ 10 C.F.R. § 2.309(d); *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

⁷ See Mr. Epstein's Request for a Public Hearing, dated Aug. 21, 2005, at 12-13.

⁸ See, e.g., *United States Department of Energy* (Plutonium Export License), CLI-04-17, 59 NRC 357, 363-64 (2004); *Sierra Club v. Morton*, 405 U.S. 727, 739 (1972) ("[A] mere interest in a problem, no matter how longstanding the interest and no matter how qualified the organization is in evaluating the problem, is not sufficient by itself to render the organization 'adversely affected' or 'aggrieved' within the meaning of the [Administrative Procedure Act]").

⁹ *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 150, *aff'd*, CLI-01-17, 54 NRC 3 (2001). See also *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54, 56 (1979).

¹⁰ *North Anna*, ALAB-522, 9 NRC at 56. See also *Turkey Point*, LBP-01-6, 53 NRC at 146-47; *Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation ["ISFSI"]), LBP-02-23, 56 NRC 413, 426-27 (2002), *petition for review denied*, CLI-03-12, 58 NRC 185 (2003).

¹¹ *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Ga.), CLI-95-12, 42 NRC 111, 116 (1995); *Florida Power and Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329-30 (1989).

¹² *Georgia Tech*, CLI-95-12, 42 NRC at 116-117. See also *Diablo Canyon ISFSI*, LBP-02-23, 56 NRC at 427; *Turkey Point*, LBP-01-6, 53 NRC at 149; *Boston Edison Co.* (Pilgrim Nuclear Power Station), LBP-85-24, 22 NRC 97, 98-99 (1985), *aff'd on other grounds*, ALAB-816, 22 NRC 461 (1985).

¹³ *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 and 2), LBP-98-27, 48 NRC 271, 277 (1998), *aff'd* CLI-99-4, 49 NRC 185 (1999), *petition for review denied*, *Dienethal v. NRC*, 203 F.3d 52 (D.C. Cir. 2000) (table).

¹⁴ Mr. Epstein attempts no such specific showing in his petition to intervene. His "standing" discussion rests solely on his proximity to the plant and his knowledge about and interest in Peach Bottom.

¹⁵ *Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Units 1, 2, and 3), CLI-00-18, 52 NRC 129 (2000).

¹⁶ *Millstone*, CLI-00-18, 52 NRC at 131-32.

¹⁷ Exelon's Answer at 2; Exelon's Application for Approval of License Transfers, dated March 3, 2005, at 2.

¹⁸ *Millstone*, CLI-00-18, 52 NRC at 132-33.

¹⁹ See Exelon's Answer at 2. By contrast, we have granted "proximity standing" to intervenors in proceedings addressing the transfer of both operating authority and ownership interests. See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-02-16, 55 NRC 317 (2002); *Consolidated Edison Co. of New York* (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109 (2001); *Power Authority of the State of New York* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266 (2000); *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151 (2000); *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193 (2000).

²⁰ Application for Consent to Indirect License Transfers, dated March 3, 2005, at 2.

²¹ *Georgia Tech*, CLI-95-12, 42 NRC at 116; *St. Lucie*, CLI-89-21, 30 NRC at 329-30.

²² In a belatedly filed reply brief (styled "Supplemental Filing") addressing Exelon's Answers in both the *Peach Bottom* and *TMI* matters, Mr. Epstein claims precedential support from the NRC's grant of standing, in the TMI restart proceeding, to an intervenor living 50 miles from the plant. Supplemental Filing, dated Oct. 7, 2005, at 3-4. But under 10 C.F.R. § 2.309(h) (2), Mr. Epstein's reply brief was due no later than September 22nd, seven days after service of the licensee's/applicant's Answer. Mr. Epstein's references to section 2.309 in the cover letter to his reply brief demonstrate his awareness of this core regulation. Moreover, given that the authority Mr. Epstein belatedly cites is 25 years old, we see no good cause for the belated augmentation of his standing position. For all these reasons, we decline to consider the Supplemental Filing's augmentation of Mr. Epstein's "proximity standing" argument. But even were we to consider the merits of his latest

argument, we would still reject it. Our two key rulings in this decision render the argument irrelevant: approval of these Beach Bottom license transfers presents no "obvious potential for offsite consequences" and therefore *any* "proximity standing" -- regardless of the number of miles a litigant lives from the plant -- is inapplicable to this license transfer proceeding.

²³ *Zion*, LBP-98-27, 48 NRC at 273-74, *aff'd*, CLI-99-4, 49 NRC at 191-93.

²⁴ *Id.*, LBP-98-27, 48 NRC at 276, *aff'd*, CLI-99-4, 49 NRC at 191.

²⁵ *Id.*, LBP-98-27, 48 NRC at 277.

²⁶ *St. Lucie*, CLI-89-21, 30 NRC at 329-30.

²⁷ *Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), LBP-93-5, 37 NRC 96, 98, 106-07 (1993), *aff'd*, CLI-93-16, 38 NRC 25 (1993), where we approved standing for a petitioner living 35 miles from the plant one week per month. The petitioner in *Vogtle* alleged that he could suffer harm from the transfer of operating authority to a company that, according to him, lacked the "character, competence, and integrity to safely operate the Vogtle plant, and lacks the candor, truthfulness, and willingness to abide by the regulatory requirements necessary to operate a nuclear facility." CLI-93-16, 38 NRC at 33. The petitioner also alleged that management had submitted material false statements to the Commission in order to obstruct an NRC investigation. *Id.* Those unusual circumstances are not present here. Yet even in *Vogtle*, the radius we approved was less than the 40 miles urged by Mr. Epstein.

²⁸ *Vermont Yankee*, CLI-00-20, 52 NRC at 163-64.

²⁹ *FitzPatrick & Indian Point*, CLI-00-22, 52 NRC at 293; *Indian Point*, CLI-01-19, 54 NRC at 133 (adopting CLI-00-22's ruling on "proximity standing"). See also *Fitzpatrick*, CLI-00-22, 52 NRC at 295 (finding that a governmental entity seeking intervenor status had standing, given that its "position [was] analogous to that of an individual living or working within a few miles of a plant whose license may be transferred"); *Diablo Canyon*, CLI-02-16, 55 NRC at 347 (same).

³⁰ *Oyster Creek*, CLI-00-6, 51 NRC at 193.

³¹ See generally *Northern States Power Co.* (Monticello Nuclear Generating Plant; Prairie Island Nuclear Generating Plant, Units 1 and 2; Prairie Island Independent Spent Fuel Storage Installation), CLI-00-14, 52 NRC 37, 47 (2000) (granting standing to petitioners who "live, work, or own property in the vicinity of the ... plants").

³² See, e.g., *Diablo Canyon*, CLI-02-16, 55 NRC at 348-49; *Duquesne Light Co.* (Beaver Valley Power Station, Units 1 and 2), CLI-99-23, 50 NRC 21, 22 (1999), and CLI-99-25, 50 NRC 224, 225 (1999).

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED 10/26/05

SERVED 10/26/05

COMMISSIONERS:

Nils J. Diaz, Chairman
Edward McGaffigan, Jr.
Jeffrey S. Merrifield
Gregory B. Jaczko
Peter B. Lyons

_____)
 In the Matter of)
)
 AMERGEN ENERGY COMPANY, LLC)
)
 (Three Mile Island Nuclear Station, Unit 1))
 _____)

Docket No. 50-289-LT-2

CLI-05-25

MEMORANDUM AND ORDER

Mr. Eric Joseph Epstein requests that we publish a notice of opportunity for hearing, and also grant his petition to intervene and request for hearing, regarding any license transfers associated with the pending merger of Public Service Enterprise Group, Inc. (PSEG) into Exelon Corporation (Exelon Corp.), the indirect parent of licensee AmerGen Energy Company LLC (AmerGen), insofar as that merger affects Unit 1 of the Three Mile Island Nuclear Station (TMI-1). Generally, Mr. Epstein argues that the purported license transfers raise issues involving financial and technical qualifications as well as the possible extent of foreign ownership. We deny all of Mr. Epstein's requests.

Section 189a(1)(A) of the Atomic Energy Act requires the Commission to offer an opportunity for a hearing in certain kinds of "proceedings" such as those involving transfers of control over licensed facilities.¹ But to bring into existence such a "proceeding" and its associated hearing rights, there must actually be a license transfer. Here, there is none. Because the applicant did not propose to change either operating or possession authority, there is no direct license transfer. Similarly, because the ultimate parent (Exelon Corp.) already controls the licensee (AmerGen) indirectly, and because the Exelon Corp. will survive the merger and therefore will continue to control AmerGen and (indirectly) the license, there is no indirect license transfer.² Hence, no "proceeding" exists for which we can publish a notice of opportunity for hearing -- or in which Mr. Epstein can seek intervention and a hearing. Consequently, we reject Mr. Epstein's three requests. But even if we view the PSEG-Exelon merger as effectively requiring some sort of license transfer, Mr. Epstein would lack standing to intervene and challenge it.

To qualify for intervention, Mr. Epstein must (among other things) demonstrate standing.³ Mr. Epstein presents two arguments in favor of his standing, both of which we reject. Under the traditional test for standing, Mr. Epstein must demonstrate (among other things) that the proposed transfer would injure his financial, property or other interests. In apparent support of a "traditional standing" claim, Mr. Epstein points to his involvement -- both personal and through organizations -- in numerous activities related to Three Mile Island. In a separate order issued today in the *Peach Bottom* license transfer proceeding, we consider and reject this same claim to standing.⁴ We incorporate that analysis by reference, and reject Mr. Epstein's arguments here on the same grounds as in *Peach Bottom* -- in essence, such involvement does not support the necessary demonstration of injury.

Mr. Epstein's second argument in support of his standing is that he lives and operates a business 12 miles from the TMI nuclear facility. Although he does not say as much, we presume that Mr. Epstein is relying on a series of Commission decisions granting "proximity standing" to prospective litigants upon the mere showing that they lived within a certain radius of the regulated facility at issue.

"Proximity standing" differs from "traditional standing" in that the petitioner claiming it need not make an express showing of harm. Rather, "proximity standing" rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working, living or regularly engaging in activities offsite but within a certain distance of that facility.⁵ In ruling on claims of "proximity standing," we determine the radius beyond which we believe there is no longer an "obvious potential for offsite consequences"⁶ by "taking into account the nature of the proposed action and the significance of the radioactive source."⁷

In today's *Peach Bottom* order, we have examined the issue of "proximity standing" in license transfer cases,⁸ and we believe our analysis in that decision is equally applicable here.⁹ The proposed Commission action (*i.e.*, the agency's purported approval of license transfers stemming from the merger) that triggered Mr. Epstein's instant petition poses no more radiological risk than the ones at issue in *Peach Bottom*. The merger will result in no changes to the physical plant itself, its operating procedures, design basis accident analysis, management, or personnel.

Moreover, the merger activity is occurring several levels above the current licensee, AmerGen. Even after PSEG has merged into Exelon Corporation (ending the separate corporate existence of PSEG and leaving Exelon Corporation as the surviving company), AmerGen will continue to own and operate Unit 1 of Three Mile Island. It will remain a wholly-owned subsidiary of Exelon Generation Company, LLC, which will in turn remain a wholly-owned subsidiary of Exelon Ventures Company, LLC, which will itself remain a direct, wholly-owned subsidiary of Exelon Corporation, which survives the subject merger. There will thus be no "genealogical" change for AmerGen.¹⁰ Based on these facts, we conclude that the purported "license transfer" raises no "obvious potential for offsite consequences"¹¹ and that Mr. Epstein's presumed claim of "proximity standing" consequently lacks merit.

Our ruling today on Mr. Epstein's lack of "proximity standing" falls comfortably within the distance parameters of other rulings on "proximity standing" in license transfer proceedings. For instance, in the *Millstone* license transfer proceeding, we denied "proximity standing" to organizations claiming to have members living within 5-10 miles of the plant -- even closer than Mr. Epstein's 12-mile proximity to TMI.¹² We also observe that the furthest distance for which this agency has ever granted "proximity standing" in a license transfer case was (with one distinguishable exception¹³) 6½ miles.¹⁴ Because Mr. Epstein offers no specific claim of harm beyond proximity, he lacks standing.

For these reasons, we deny Mr. Epstein's petition to intervene, request for hearing, and request for publication of notice.

IT IS SO ORDERED.

For the Commission

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of October, 2005.

¹ 42 U.S.C. § 2239a(1)(A).

² See letter from George F. Dick, NRC, to Christopher M. Crane, AmerGen Energy Company, LLC, dated July 6, 2005, ADAMS Accession No. ML051780114, concluding that no indirect license transfer approvals are required for (among others) TMI-1 in connection with the subject merger.

³ 10 C.F.R. § 2.309(d), (f).

⁴ *Exelon Generation Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-___, 62 NRC ___, ___, slip op. at 2-3 (Oct. __, 2005).

⁵ *Virginia Electric and Power Co.* (North Anna Nuclear Power Station, Units 1 and 2), ALAB-522, 9 NRC 54, 56 (1979); *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 146-47, *aff'd*, CLI-01-17, 54 NRC 3 (2001); *Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation ["ISFSI"]), LBP-02-23, 56 NRC 413, 426-27 (2002), *petition for review denied*, CLI-03-12, 58 NRC 185 (2003).

⁶ *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Ga.), CLI-95-12, 42 NRC 111, 116 (1995); *Florida Power and Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329-30 (1989).

⁷ *Georgia Tech*, CLI-95-12, 42 NRC at 116-17. See also *Diablo Canyon ISFSI*, LBP-02-23, 56 NRC at 427; *Turkey Point*, LBP-01-6, 53 NRC at 149; *Boston Edison Co.* (Pilgrim Nuclear Power Station), LBP-85-24, 22 NRC 97, 98-99 (1985), *aff'd on other grounds*, ALAB-816, 22 NRC 461 (1985).

⁸ *Exelon Generation Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-___, 62 NRC ___, __- ___, slip op. at 3-8 (Oct. __, 2005).

⁹ Also, for the reasons set forth in today's *Peach Bottom* order at note 22, we decline to consider the "proximity standing" argument presented for the first time in Mr. Epstein's untimely submitted Supplemental Filing.

¹⁰ After the merger, Exelon Corporation will change its name to Exelon Electric and Gas Corporation. However, the parent-subsidiary relationships between AmerGen and Exelon Corporation will remain unchanged upon completion of the merger. We note that the Application for Consent to Indirect License Transfers, dated March 3, 2005, appears to be somewhat imprecise in its description of the merger. Thus, we have taken the opportunity to avail ourselves of the applicants' publicly available filings before the Securities and Exchange Commission for clarification. See Form U-1, Application-Declaration Under The Public Utility Holding Company Act of 1935, filed by Exelon Corporation and PSEG (Mar. 15, 2005), which clarifies the legal steps of the planned merger of PSEG into Exelon Corporation.

¹¹ *Georgia Tech*, CLI-95-12, 42 NRC at 116; *St. Lucie*, CLI-89-21, 30 NRC at 329-30.

¹² *Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Units 1, 2, and 3), CLI-00-18, 52 NRC 129 (2000) (an indirect license transfer involving no change in the facility, its operation, licensees, personnel, or financing).

¹³ *Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), LBP-93-5, 37 NRC 96 (1993), *aff'd*, CLI-93-16, 38 NRC 25 (1993), where we approved standing for a petitioner living 35 miles from the plant one week per month. The petitioner in *Vogtle* alleged that he could suffer harm from the transfer of operating authority to a company that, according to [redacted] lacked the "character, competence, and integrity to safely operate the Vogtle plant, and lacks the candor, truthfulness, and willingness to abide by the regulatory requirements necessary to operate a nuclear facility." CLI-93-16, 38 NRC at 33. The petitioner also alleged that management had submitted material false statements to the Commission in order to obstruct an NRC investigation. *Id.* Those unusual circumstances are not present here.

¹⁴ *Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 NRC 151, 163-64 (2000) (involving a direct transfer of both the ownership and\ operation of the plant).

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ground that it had failed to address the Commission's late-filing standards.³ Suffolk County filed a second petition to intervene on February 1, 2005, and sought a hearing on three contentions relating to emergency planning.⁴ The NRC staff and Dominion Nuclear Connecticut, Inc. ("Dominion" or "licensee") opposed the petition to intervene, arguing *inter alia* that it did not meet the standards governing late filing and that the contentions were outside the scope of a license renewal proceeding.⁵

On April 12, 2005, the Atomic Safety and Licensing Board held a pre-hearing conference to consider Suffolk County's late-filed petition to intervene. At that conference, the Board indicated that it would not be able to turn immediately to Suffolk County's petition. Although Suffolk County had not yet been admitted as a party, the Board suggested that all participants in this proceeding (the NRC Staff, Suffolk County and Dominion) use the three weeks following the prehearing conference to attempt to establish the framework for a "long-term working relationship" that might result in termination of the "short-term focused adjudication in favor of long-term non-adjudicatory solutions."⁶ The Board stated that it would hold the proceeding in abeyance pending receipt of a report on the parties' progress.⁷

On May 6th, the NRC Staff informed the Board that the participants had been unable to meet due to scheduling difficulties, and requested that the Board lift its stay and rule on Suffolk County's intervention petition.⁸ The Staff also assured the Board that, as part of its ongoing regulatory processes, it would continue to engage Suffolk County regarding its emergency-planning concerns, but was of the belief that communication on such issues should be divorced from the instant adjudication.⁹ In a May 11th Memorandum, the Board again encouraged the parties to pursue settlement but did not indicate when it would issue a decision.¹⁰

The settlement meeting eventually took place on May 18th, with the participants concluding that they could not resolve the issues pending in this proceeding. Between May 20th and 26th, echoing the Staff's earlier request, all three litigants urged the Board to rule on Suffolk County's petition for review.¹¹ In apparent response to this unanimous request for action, the Board on June 3rd issued a Status Memorandum explaining that the hearing in *Private Fuel Storage*, which had occupied the time of two of the Board's members, had now concluded and that the *Millstone* Board "will now be turning its attention to deciding the merits of Suffolk County's pending intervention petition and the oppositions thereto."¹² On July 20th -- seven weeks later -- the Board issued LBP-05-16.

On July 28th, we accepted review of the certified question and requested briefs on three additional questions:

1. whether Suffolk County's late-filed contention was admissible under the criteria for considering late-filed pleadings and contentions set out in 10 C.F.R. § 2.309(c);
2. whether Suffolk County's contention regarding "emergency planning" satisfied the contention requirements in 10 C.F.R. § 2.309(f); and
3. whether, under the circumstances of this case, the Board properly postponed its contention-admissibility decision pending settlement talks.

II. THE BOARD'S ORDER

The Board's decision is divided into three parts. The first part considers the late-filing issue, weighs the eight factors set out in 10 C.F.R. § 3.209(c), and concludes that on balance the Board should entertain the untimely petition.¹³ The Board acknowledges that Suffolk County has shown no good cause for the tardiness of its petition for review (the first and most important¹⁴ of the eight factors), which was submitted nine months after the deadline for such filings. It finds, however, that six of the remaining seven factors support consideration of the petition, with the remaining factor carrying little weight in the opposite direction. The Board stressed in particular Suffolk County's status as a governmental entity seeking late intervention.¹⁵

The second part of the Board's decision addresses the adequacy of the petition for review itself.¹⁶ Applying the standards in section 2.309(c), the Board observes that the County "could have drafted its ... intervention petition ... in a manner that would have conformed more precisely to the outline of the governing regulation."¹⁷ But the Board then concludes that "the substance sought after by that regulation was present," and "[w]hen considered in light of the quality and contribution of

the County's later pleadings ... the petition's complaints, objectives, and underpinnings are clear."¹⁸ The Board bases this ruling on Suffolk County's "serious commitment" to the adjudicatory process, the "specific focus" of its contention, its ability to make "a knowledgeable contribution on real issues,"¹⁹ and its accountability to its constituents if the emergency plan were activated.²⁰

The third part of LBP-05-16 considers Suffolk County's request for an exemption from (or a waiver of) the regulatory provision barring emergency-planning issues from consideration in license renewal proceedings.²¹ The Board concludes that Suffolk County's exemption request, while "not overpowering ... has sufficient content to certify it to the Commission."²² In support, the Board relies on the following confluence of circumstances surrounding Suffolk County's interest in the Millstone facility: the County's population growth, its geographical limitations, and Long Island's roadway system.²³ The Board also places considerable reliance on the fact that the county is not in the same state as the reactor and therefore lacks "the usual political forces and administrative relationships that might help [it] draw attention to its concerns, outside the adjudicatory process."²⁴

Finally, the Board in the third part of the order also addresses, *sua sponte*, three issues unrelated to its decision to certify the exemption question - whether the Board exceeded its jurisdiction in suggesting settlement negotiations;²⁵ whether, in urging settlement discussions, the Board was attempting to direct the NRC Staff in the performance of its non-adjudicatory duties;²⁶ and whether the NRC Staff has, in this and other proceedings, made sufficient efforts to establish a collaborative relationship with local governments regarding health and safety issues.²⁷

III. DISCUSSION

A. Certified Question Regarding Exemption

As stated above, the Board has certified to us the question whether to grant Suffolk County's request for an exemption from (or waiver of) the final sentence of 10 C.F.R. § 50.47(a)(1) ("No finding under this section [Emergency plans] is necessary for issuance of a renewed nuclear power reactor operating license"). We answer this question in the negative.

We agree with the Board that Suffolk County has a significant interest in the Millstone facility having a strong and workable emergency plan, and that the factors of population density, anticipated changes in population, geographical limitations, and roadway limitations are relevant to a plan's strength and workability. In fact, section 50.47(c)(2) of our regulations explicitly lists these same factors as relevant for consideration when determining the plume exposure pathway emergency-planning zone.²⁸

But for us to grant an exemption or waiver of section 50.47(a)(1) and thereby permit the adjudication of emergency-planning issues in this proceeding, we must first conclude under our regulations and case law that (i) the rule's strict application "would not serve the purposes for which [it] was adopted;"²⁹ (ii) the movant has alleged "special circumstances"³⁰ that were "not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived;"³¹ (iii) those circumstances are "unique"³² to the facility rather than "common to a large class of facilities;"³³ and (iv) a waiver of the regulation is necessary to reach a "significant safety problem."³⁴ The use of "and" in this list of requirements is both intentional and significant. For a waiver request to be granted, *all four* factors must be met.³⁵ As we explain below, Suffolk County fails to satisfy this burden.

Regarding the first of these factors, Suffolk County asserts that one of the purposes of section 50.47 was to ensure the protection of public health and safety, that Millstone's emergency plan does not provide such protection, and that the Commission should therefore waive the final sentence of section 50.47(a)(1) in order to address the flaws in Millstone's plan.³⁶ Of course, *all* our Part 50 regulations are aimed, directly or indirectly, at protecting public health and safety.³⁷ But that does not mean that they are all suitable subjects for litigation in a license renewal proceeding. They are not. In fact, the primary reason we excluded emergency-planning issues from license renewal proceedings was to limit the scope of those proceedings to "age-related degradation unique to license renewal."³⁸ Emergency planning is, by its very nature, neither germane to age-related degradation nor unique to the period covered by the Millstone license renewal application. Consequently, it makes no sense to spend the parties' and our own valuable resources litigating allegations of *current* deficiencies in a proceeding that is directed to *future*-oriented issues of aging. Indeed, at an earlier stage of this very proceeding, the Commission approved a Board decision excluding an emergency-planning contention.³⁹ As explained at the end of this section of the order, NRC regulations provide two other procedural mechanisms (10 C.F.R. §§ 2.206 and 2.802)

by which Suffolk County may pursue its concerns about Millstone's current emergency plan.

Concerning the second waiver factor -- lack of consideration of the issue in the rulemaking -- we stressed in the Final Rule which added the final sentence to section 50.47 that the litigated issues must be "unique to the license renewal" period:

[T]he final rule amends § 2.758 [now § 2.335] to make clear that challenges to the ... rule could be made in the formal hearing so that certain other issues claimed to be necessary to ensure adequate protection *only during the renewal term* could be admitted in a formal hearing.... *Issues that have relevance during the term of operation under the existing operating license as well as license renewal would not be admissible* under the new provision of § 2.758 [now § 2.335] because there is *no unique relevance of the issue to the renewal term*.⁴⁰

And we expressly addressed the issues of demography and transportation -- issues on which Suffolk County and the Board heavily rely:⁴¹

Through its standards and required exercises, the Commission ensures that existing plans are adequate throughout the life of any plant *even in the face of changing demographics and other site-related factors*.... [T]hese drills, performance criteria, and independent evaluations provide a process to ensure continued adequacy of emergency preparedness in light of *changes in site characteristics that may occur during the term of the existing operating license, such as transportation systems and demographics*.⁴²

As for the third waiver factor -- uniqueness -- we cannot accept Suffolk County's argument that its circumstances are "unique" to the Millstone facility rather than "generic."⁴³ Suffolk County's principal claim to uniqueness is grounded in the county's proximity to a nuclear power facility located in an adjoining state.⁴⁴ But Suffolk County is hardly unique in this respect. Suffolk County also claims to be unique due to changes in its demographics and roadway limitations.⁴⁵ Yet, as our above quotation from the Statement of Considerations to the "Nuclear Power Plant Renewal" Final Rule suggests, this is an important but common problem addressed by the NRC's ongoing regulatory program. Other jurisdictions are subject to demographic trends similar to those of Suffolk County.

Because Suffolk County's waiver request does not satisfy the first three required threshold standards for a waiver, we hold that Suffolk County's emergency-planning concerns do not qualify for a waiver or exemption under our rules. (Given this holding, we need not decide whether Suffolk County has met its burden regarding the fourth required conclusion -- that a waiver of the regulation is necessary to reach a "significant safety problem.")

But this holding does *not* mean that Suffolk County is bereft of appropriate means by which to bring its emergency-planning concerns to this Agency's attention. It may, for instance, file a petition for rulemaking under 10 C.F.R. § 2.802⁴⁶ -- the appropriate means for requesting Commission consideration of *generic* issues such as Suffolk County's challenge to section 50.47's exclusion of emergency-planning issues. (Indeed, one of Suffolk's nearby counties -- Westchester -- has taken just that route to challenge this same exclusion.⁴⁷) Suffolk County also has a second alternative means for seeking Commission consideration of its arguments regarding the Millstone emergency plan. Because Suffolk County criticizes the Millstone facility's emergency plan as inadequate,⁴⁸ Suffolk County may wish to file a petition under 10 C.F.R. § 2.206 for enforcement action against Dominion.⁴⁹ Finally, we observe that the NRC's ongoing oversight programs assure the adequacy of the Millstone emergency plan, removing any need to examine the plan in the context of an aging-focused license renewal proceeding.⁵⁰

B. Late-Filing Issue

Section 2.309(c)(1) of the Commission's regulations sets forth the following factors to be considered and balanced when determining whether to consider a late-filed petition to intervene:

- i. Good cause, if any, for the failure to file on time;
- ii. The nature of the requestor's/petitioner's right under the [Atomic Energy] Act to be made a party to the proceeding;
- iii. The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding;

- iv. The possible effect of any order that may be entered in the proceeding on the requestor's/petitioner's interest;
- v. The availability of other means whereby the requestor's/petitioner's interest will be protected;
- vi. The extent to which the requestor's/petitioner's interests will be represented by existing parties;
- vii. The extent to which the requestor's/petitioner's participation will broaden the issues or delay the proceeding; and
- viii. The extent to which the requestor's/petitioner's participation may reasonably be expected to assist in developing a sound record.⁵¹

The Board rejected Suffolk County's argument that the lack of actual notice (as opposed to constructive notice via the *Federal Register*) constituted good cause for missing the filing deadline by nine months.⁵² But despite the absence of good cause for lateness (factor 1), the Board still found the remaining late-filing factors sufficiently favorable to Suffolk County's position to overcome the tardiness of its petition. The Board relied heavily on our 1975 *West Valley* decision, where we granted Erie County's nine-month-late petition to intervene despite the absence of good cause.⁵³

We disagree with the Board that the late-filing issue in this proceeding is controlled by *West Valley*. That case was an ongoing proceeding at the time Erie County sought late intervention,⁵⁴ while the instant case had already been terminated by the time Suffolk County sought intervention. Also, most of Erie County's issues were "substantially identical" to those previously admitted in the *West Valley* proceeding, and the evidentiary hearing was about a half-year in the future.⁵⁵ Thus, Erie County's admission into the *West Valley* proceeding would not have resulted in an expansion of the issues or a delay in the proceeding. By contrast, Suffolk County's contentions are new to the instant case and, as noted above, the proceeding was already closed at the time Suffolk County filed its February 1st petition to intervene.⁵⁶ And finally, Erie County's contentions, being nearly the same as those already admitted, were themselves admissible, whereas Suffolk County's contentions are not (for the reasons set forth *infra* at Part III.C of this order).

As we have repeatedly ruled in considering late-filed contentions, we and the licensing boards give the "good cause" factor the most weight.⁵⁷ To demonstrate good cause, a petitioner must show not only why it could not have filed within the time specified in the notice of opportunity for hearing, but also that it filed as soon as possible thereafter.⁵⁸ If a petitioner cannot show good cause, then its demonstration on the other factors must be "compelling."⁵⁹ We agree entirely with the Board's finding that Suffolk County's nine-month late contention did not meet our good cause standard. The Board correctly viewed *Federal Register* publication of a notice of hearing opportunity as legally adequate notice.⁶⁰ But we do not agree with the remainder of the Board's "late-filing" ruling allowing Suffolk County to pursue its contentions. The Board either gave insufficient weight to the "good cause" factor or accorded too much to the remaining "late-filing" factors.

The Board was right that our second and third factors -- which relate to a potential intervenor's standing -- weigh in favor of considering Suffolk County's petition. We recognize Suffolk County's interest in ensuring a strong emergency plan at the Millstone facility. But, as we ruled both in today's decision⁶¹ and in a prior decision in this docket,⁶² emergency-planning issues fall outside the scope of this license renewal proceeding. Consequently, any Suffolk County briefs and evidence -- and any Commission order -- in this proceeding would not protect or affect Suffolk County's interest in emergency planning (fourth factor).

We disagree with the Board that Suffolk County has no other means by which to protect its interests regarding emergency planning (fifth factor). As explained at pages 11-12 *supra*, Suffolk County has two other avenues by which to pursue those interests. It could, under 10 C.F.R. § 2.802, submit a petition for rulemaking to amend 10 C.F.R. § 50.47, or it could file a petition under 10 C.F.R. § 2.206 requesting that the NRC Staff take enforcement or other action with regard to the Millstone facility's emergency plan.⁶³ We also observe that (while not required to do so) Suffolk County has submitted no comments on Westchester County's currently-pending petition for rulemaking,⁶⁴ which raises issues similar to those that Suffolk County seeks to raise in this adjudication.

We agree with the Board that no other current parties could adequately represent those interests (sixth factor). There are no other parties because the instant adjudication was terminated on December 8, 2004.⁶⁵

We agree with the Board that the seventh factor (delay or expansion of proceeding) weighs against Suffolk County.⁶⁶ The

grant of the Petition at this late stage of the adjudicatory proceeding would necessarily broaden the issues (there are now none) and delay the proceeding (originally closed last December). Indeed, the Petition would require reopening a closed administrative adjudicatory record.⁶⁷ But we disagree with the slight amount of weight the Board accords this factor. The Board concludes that the weight should be "minimal[]" because the Staff's safety review will not be issued for several months and the license renewal would itself not take effect for about a decade. This line of reasoning ignores our policy of expediting the handling of license renewal applications - which rests on the lengthy lead time necessary to plan available sources of electricity.⁶⁸

And finally, we conclude that Suffolk County's participation would not assist in developing a sound record (the eighth factor). This factor would weigh in Suffolk County's favor only if its emergency-planning concerns fell within our license renewal inquiry. But as we reiterate in today's decision, license renewal is not a forum for considering emergency planning issues.

Given our conclusions above regarding each of the factors, we disagree with the Board's ruling that the balance of late-filing factors weighs in favor of considering Suffolk County's petition to intervene.

C. Adequacy of the Petition to Intervene

For each admissible contention, a petition to intervene must, among other things:

- iii. Demonstrate that the issue raised in the contention is *within the scope* of the proceeding;
- iv. Demonstrate that the issue raised in the contention is *material* to the findings the NRC must make to support the action that is involved in the proceeding; [and]

* * * * *

- vi. Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a *material* issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner's belief.⁶⁹

The failure of a proposed contention to meet any one of these requirements is grounds for its dismissal.⁷⁰

Suffolk County's contentions are fatally flawed. As explained above, emergency planning is not pertinent to a license renewal proceeding.⁷¹ Suffolk County's three emergency-planning contentions therefore fail, on their face, to satisfy the above admissibility requirements. Moreover, as Dominion and the NRC Staff argue,⁷² it is not at all clear that Suffolk County's emergency-planning contentions -- even were they material to license renewal -- are sufficiently detailed or focused to permit a meaningful hearing. Contrary to the Board's view, government entities seeking to litigate their own contentions are held to the same pleading rules as everyone else.⁷³

IV. GUIDANCE REGARDING BOARD'S ENCOURAGEMENT OF SETTLEMENT

We have no problem with boards encouraging settlement by parties to an adjudication. Indeed, we have a long-standing policy favoring settlements.⁷⁴ But the Board in this proceeding appears to have lost sight of two significant countervailing factors when it delayed an initial ruling on contention-admissibility for a length of time to accommodate settlement discussions.

A. Policy of Prompt Decisionmaking

Apart from our policy of encouraging settlements, we have an equally important policy supporting prompt decisionmaking⁷⁵ - a policy that carries added weight in *license renewal* proceedings such as this one. We have expressed this "prompt decisionmaking" policy repeatedly and explicitly in our case law.⁷⁶ We have also expressed it less directly in 10 C.F.R. § 2.309(i). That Rule *requires* a board to rule on any petition to intervene and/or request for hearing within 45 days of

receiving the answers and replies associated with that petition and/or request. The last reply brief in this proceeding was filed on March 10th, triggering the 45-day period. The Board's order thus might have been expected by April 25th, more than twelve weeks prior to its actual issuance on July 20th.

We recognize that the Board was not silent during this period. The Board indicated that it hoped that the participants could reach a settlement -- at least until the Board received the NRC Staff's Status Report on May 20th indicating that settlement talks had been unproductive.⁷⁷ We also recognize that, until May 24th, two of the *Millstone* Board's members were heavily involved in the *Private Fuel Storage* proceeding, and that the Board considered this factor to be at least a partial justification for suspending its decisionmaking process in this proceeding.⁷⁸ Even so, by May 20th, the Board presumably was aware that settlement talks had proved fruitless.⁷⁹ On June 3rd, the Board said it would "now turn[] its attention to deciding" the issues surrounding the petition to intervene. Those issues are straightforward, all of them had been fully briefed and debated by April 12th, and the administrative record regarding them is quite short. But no decision issued for two months after the collapse of settlement talks. Under the circumstances, we see no reason why the Board could not have prepared its decision more quickly, and could not perhaps have made some progress on it simultaneously with the settlement talks.⁸⁰ The use of parallel tracks (simultaneous adjudication and negotiation) has the effect of spurring the parties to settlement.⁸¹

B. Premature Encouragement of Settlement

The second difficulty we have with the Board's encouragement of settlement is its timing. Until a board has addressed the threshold issues of standing and admissibility of contentions, the proceeding is too inchoate to call for aggressive Board encouragement of settlement. In this case, however, the Board, not the litigants themselves, was the moving force behind seeking settlement. The Board pressed the NRC Staff and the licensee to expend time and resources negotiating with another litigant who had not yet been admitted as a party, about contentions that had not yet been found pertinent. For example, at one point, a member of the Board stated on the record that he believed "[t]he NRC staff has an *obligation* ... to work with you [Suffolk County] and the licensee in these circumstances."⁸² Similarly, the Board's Chairman stated at the end of the conference:

What my colleagues and I ... would like you all to do is ... to ... see if you can't work out some memorandum of understanding that might say ["]here is how we're going to work on the issues today, the issues next week, and if the company gets its license renewal, on the issues over the next 40 years.["]⁸³

Suffolk County certainly viewed the Board's "encouragement" as a form of pressure and welcomed it, stating that "[w]hile Dominion and the NRC staff state that they are committed to meeting with the County, the County feels that the request by the Board gives the parties *added incentive* to ensure that the meeting takes place"⁸⁴ and that "[r]uling on the County's motion [for summary disposition] at this time would *take away the parties' incentive* to continue these discussions."⁸⁵ In our view, while no doubt acting in good faith to facilitate meetings among Suffolk County, the NRC Staff and Dominion, the Board inappropriately stepped outside its own adjudicatory realm and into the NRC Staff's non-adjudicatory realm.⁸⁶ By pressing the Staff to negotiate, the Board assumed a supervisory role of directing the Staff to use its time and resources in negotiations with a non-party over a potential non-issue. As we have stated repeatedly over the last quarter-century, boards lack the authority to supervise the NRC Staff in the performance of its regulatory duties.⁸⁷ We regret that we have to repeat this directive yet again. In our practice, "any party's participation in the settlement process is voluntary."⁸⁸

V. CONCLUSION

1. We *answer* the certified question in the negative and *deny* Suffolk County's request for an exemption from (or waiver of) 10 C.F.R. § 50.47(a)(1).
2. We *find* that the balance of late-filing factors weighs against considering Suffolk County's petition to intervene.
3. We *find* that Suffolk County's three emergency-planning contentions fall outside the scope of, and are immaterial to, this proceeding, and that those contentions are therefore inadmissible.
4. Based on the three preceding conclusions, we *terminate* this adjudicatory proceeding.

IT IS SO ORDERED.

For the Commission

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of October, 2005

We grant the Nuclear Energy Institute's August 18th motion for leave to file that brief.

69 Fed. Reg. 11,897 (March 12, 2004).

10 C.F.R. § 2.309(c).

The three contentions are:

1. The evacuation plan for areas in Suffolk County within the ten (10) mile emergency zone is inadequate and fails to comply with federal regulations regarding such plans.
2. The Town of Southold and the County have unique characteristics which should be considered in an evacuation/emergency plan pursuant to 10 C.F.R. 50.47.
3. Offsite evacuation plans and other emergency plans maintained by the Millstone facility fail to protect the people of Suffolk County.

All three of these contentions concern emergency planning and were therefore submitted under the Atomic Energy Act, 42 U.S.C. §§ 2011 *et seq.* The county submitted no contentions under the National Environmental Policy Act, 42 U.S.C. §§ 1321 *et seq.* See NRC Staff's Response to Suffolk County Brief in Support of Petition for Late Intervention, dated Aug. 25, 2005, at 3-4.

See NRC Staff Answer Opposing the Petition for Late Intervention of the County of Suffolk of the State of New York (February 28, 2005); Dominion Nuclear Connecticut's Answer to the Petition for Late Intervention of the County of Suffolk (February 28, 2005).

Board Memorandum of Conference Call at 2 (April 15, 2005).

Id. The Board indicated that two of its members were devoting virtually all of their attention to issuing a final decision in the longstanding *Private Fuel Storage* adjudication.

NRC Staff's Status Report (May 6, 2005).

Id.

⁰ Board Memorandum (May 11, 2005).

¹¹ NRC Staff's Second Status Report (May 20, 2005); Letter from David R. Lewis (attorney for Dominion) to the Board (May 23, 2005); Letter from Christine Malafi (attorney for Suffolk County) to the Board (May 26, 2005).

¹² [REDACTED] published "Status Memorandum," slip op. at 1-2 (June 3, 2005).

¹³ LBP-05-16, 62 NRC at ___-___, slip op. at 6-10.

¹⁴ See, e.g., *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-00-2, 51 NRC 77, 79 (2000).

¹⁵ LBP-05-16, 62 NRC at ___-___, slip op. at 8-10.

¹⁶ *Id.*, 62 NRC at ___-___, slip op. at 11-12.

¹⁷ *Id.*, 62 NRC at ___, slip op. at 11.

¹⁸ *Id.*

¹⁹ *Id.*, 62 NRC at ___, slip op. at 12.

²⁰ *Id.*, 62 NRC at ___, slip op. at 11.

²¹ *Id.*, 62 NRC at ___-___, slip op. at 12-19.

²² *Id.*, 62 NRC at ___, slip op. at 14.

²³ [REDACTED] 62 NRC at ___ n.15, slip op. at 15 n.15. See also Suffolk County's Brief in Support of Petition for Late Intervention, dated Aug. 17, 2005, at 1.

²⁴ LBP-05-16, 62 NRC at ___, slip op. at 15.

²⁵ *Id.*, 62 NRC at ___ n.13, ___, ___, slip op. at 14 n.13, 16, 18.

²⁶ *Id.*, 62 NRC at ___ n.14, slip op. at 15 n.14.

²⁷ *Id.*, 62 NRC at ___-___, slip op. at 16-18.

²⁸ 10 C.F.R. § 50.47(c)(2).

²⁹ 10 C.F.R. § 2.335(b). See also *Public Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-89-20, 30 NRC 231, 235 (1989) (regarding the regulatory exemption of public utilities from the NRC's financial qualifications rule); *Public Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-88-10, 28 NRC 573, 597 (1988), *reconsid'n denied*, CLI-89-3, 29 NRC 234 & CLI-89-7, 29 NRC 395 (1989); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 239, *reconsid'n granted in part on other grounds*, LBP-98-10, 47 NRC 288, *aff'd*, CLI-98-13, 48 NRC 26 (1998).

³⁰ 10 C.F.R. §2.335(b).

³¹ *Seabrook*, CLI-89-20, 30 NRC at 235; *Seabrook*, CLI-88-10, 38 NRC at 597. See also *Private Fuel Storage*, LBP-98-7, 47 NRC 238.

³² See *Seabrook*, CLI-88-10, 28 NRC at 597; *Statement of Policy: Further Commission Guidance for Power Reactor Operating Licenses*, CLI-81-16, 14 NRC 14, 16 (1981) (Separate Views of Chairman Ahearne and Commissioner Hendrie)

and authority cited; *Private Fuel Storage*, LBP-98-7, 47 NRC at 238, 240.

³³ *Seabrook*, CLI-88-10, 28 NRC at 597. See also *Seabrook*, CLI-89-20, 30 NRC at 235; *Duke Power Co. (Catawba Nuclear Station, Units 1 and 2)*, LBP-75-34, 1 NRC 626, 675 (1975), *aff'd*, ALAB-355, 4 NRC 397 (1976); *Private Fuel Storage*, LBP-98-7, 47 NRC at 238.

³⁴ *Seabrook*, CLI-88-10, 28 NRC at 597, 599; *Seabrook*, CLI-89-20, 30 NRC at 235.

³⁵ See *Seabrook*, CLI-88-10, 28 NRC at 596-97.

³⁶ Suffolk County's Reply Brief in Further Support of Petition for Late Intervention, in Response to Commission Memorandum and Order CLI-05-18, dated Aug. 25, 2005, at 4.

³⁷ See generally *Seabrook*, CLI-89-20, 30 NRC at 244 ("the vast majority of Commission rules have some basis in safety").

³⁸ Final Rule, "Nuclear Power Plant Renewal," 56 Fed. Reg. 64,943, 64,961 (Dec. 13, 1991). See also *id.* ("The final rule is carefully structured to establish a regulatory process that is precisely directed at age-related degradation unique to license renewal"); Final Rule, "Nuclear Power Plant License Renewal; Revisions," 60 Fed. Reg. 22,461, 22,464, 22,481 (May 8, 1995); *Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 & 4)*, CLI-01-17, 54 NRC 3, 9, 10 (2001) (because emergency-planning issues are already the focus of ongoing regulatory processes, they do not fall within the NRC's safety review at the license renewal stage). *Turkey Point* addressed the now-rescinded 10 C.F.R. § 2.758, which was redesignated in 2004 as section 2.335 without substantive change. See Final Rule, "Changes to Adjudicatory Process," 69 Fed. Reg. 2182, 2224 (Jan. 14, 2004).

The scope of a license renewal proceeding may, of course, also include environmental issues but, as indicated in note 4, *supra*, Suffolk County has proffered none. As close as Suffolk County has come to doing so was its filing of a copy of a February 23, 2005 letter from the county commenting on the NRC Staff's Draft Environmental Impact Statement. See Suffolk County's Reply, dated March 10, 2005, at 13 and unnumbered attachment. See also Dominion Nuclear Connecticut's Reply to Suffolk County's Brief in Response to CLI-05-18, dated Aug. 25, 2005, at 9-10.

³⁹ *Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Units 2 and 3)*, CLI-04-36, 60 NRC 631, 640 (2004).

⁴⁰ Final Rule, "Nuclear Power Plant Renewal," 56 Fed. Reg. at 64,961-62 (emphases added).

⁴¹ See note 23, *supra*.

⁴² Final Rule, "Nuclear Power Plant Renewal," 56 Fed. Reg. at 64,966-67 (emphases added).

⁴³ See, e.g., Suffolk County's Reply Brief in Further Support of Petition for Late Intervention, in Response to Commission Memorandum and Order CLI-05-18, dated Aug. 25, 2005, at 1-2.

⁴⁴ *Id.* at 1.

⁴⁵ *Id.*

⁴⁶ See 10 C.F.R. §2.335(e). See also *Turkey Point*, CLI-01-17, 54 NRC at 12; Final Rule, "Nuclear Power Plant License Renewal; Revisions," 60 Fed. Reg. at 22,481.

⁴⁷ See "Petition for Rulemaking; Notice of Receipt," 70 Fed. Reg. 34,700, 34,701-02 (June 15, 2005) (seeking a revision of the Commission's license renewal regulations to require review of emergency evacuation, demographics, siting, population density, and transportation infrastructure).

⁴⁸ See, e.g., Letter from Jennifer B. Kohn (attorney for Suffolk County) to the Board, dated May 26, 2005, at 3; Suffolk

County's Reply, dated March 10, 2005, at 17 & attached Affidavit of Jennifer B. Kohn, dated March 10, 2005, at 2, ¶¶ 6, 7. *But see* Suffolk County's Reply Brief in Further Support of Petition for Late Intervention, in Response to Commission Memorandum and Order CLI-05-18, dated Aug. 25, 2005, at 9 ("since the County does not seek to modify, suspend, or revoke Dominion's license, a motion under 10 C.F.R. § 2.206 would be inappropriate").

⁴⁹ See Final Rule, "Nuclear Power Plant License Renewal; Revisions," 60 Fed. Reg. at 22,481.

⁵⁰ See *id.* at 22,463-64, 22,486; Final Rule, "Nuclear Power Plant Renewal," 56 Fed. Reg. at 64,045. *Cf. Seabrook*, CLI-89-20, 30 NRC at 244 ("even were there to have been a showing in the matter before us that the rationale of the rule was undercut, the Commission sees no indication that [the licensee's] financial uncertainty will overcome the substantial protections that the Commission has in place by means of all its requirements to prevent the occurrence of a significant nuclear safety problem").

⁵¹ 10 C.F.R. § 2.309(c)(1).

⁵² LBP-05-16, 62 NRC at ___, slip op. at 6.

⁵³ *Nuclear Fuel Serv., Inc.* (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273 (1975).

⁵⁴ *Id.* at 275-76.

⁵⁵ *Id.* at 276.

⁵⁶ In fact, even Suffolk County's *first* petition (filed Dec. 17, 2004 and rejected by the Commission's Office of the Secretary) was submitted *after* the date on which this proceeding was closed (December 8, 2004). See *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 NRC 631 (Dec. 8, 2004) (terminating proceeding).

⁵⁷ See, e.g., *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-00-2, 51 NRC 77, 79 (2000); *State of New Jersey* (Department of Law and Public Safety's Requests Dated Oct. 8, 1993), CLI-93-25, 38 NRC 289, 296 (1993).

⁵⁸ *New Jersey*, CLI-93-25, 38 NRC at 295.

⁵⁹ *Id.* at 296. See also *Texas Util. Elec. Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-92-12, 36 NRC 62, 73-75 (1992); *Texas Util. Elec. Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), CLI-88-12, 28 NRC 605, 610, *reconsid'n denied*, CLI-89-6, 29 NRC 348 (1989), *aff'd sub nom. Citizens for Fair Util. Regulation v. NRC*, 898 F.2d 51 (5th Cir. 1990).

⁶⁰ "Publication in the *Federal Register* is legally sufficient notice to all interested or affected persons regardless of actual knowledge or hardship resulting from ignorance, except those who are legally entitled to personal notice." *California v. FERC*, 329 F.3d 700, 707 (9th Cir. 2003). See also 44 U.S.C. §§ 1507, 1508. The Commission's own regulations repeatedly provide for notice *via* the *Federal Register*. 10 C.F.R. §§ 2.104 (notice of hearing), 2.105 (notice of proposed action), 2.106 (notice of issuance of license or license amendment). See also *Private Fuel Storage, L.L.C.*, LBP-98-7, 47 NRC at 173.

⁶¹ See our discussion of the certified question, at pages 7-12, *supra*.

⁶² *Millstone*, CLI-04-36, 60 NRC at 640.

⁶³ The Board or its individual members in this proceeding have repeatedly expressed skepticism regarding section 2.206 petitions' likelihood of success. See LBP-05-16, 62 NRC at ___, slip op. at 8-9; Tr. at 40-41, 49-50. Indeed, one judge said at a pre-hearing conference that "in the last thirty years or so, there have been no more than one or two [such petitions] granted." Tr. at 40-41. Such skepticism is entirely unwarranted and inappropriate in light of the Director Decisions ("DDs") that rule upon section 2.206 petitions. Sixteen of this decade's 26 DDs granted at least some of the requested relief --

either by a direct grant or by noting that Staff action prior to the DD's issuance had already provided the relief sought. See DD-00-3 (prior staff action resulted in the grant of all relief sought); DD-04-4, DD-03-2, DD-02-2, DD-01-5, DD-01-4, DD-01-2, DD-00-5, and DD-00-4 (eight decisions directly granting partial relief); DD-05-1, DD-04-3, DD-04-1, DD-02-7, DD-02-6, DD-02-4, and DD-02-3 (seven decisions granting partial relief *via* prior Staff action). Compare DD-04-2, DD-03-3, DD-03-1, DD-02-5, DD-02-1, DD-01-3, DD-01-1, DD-00-6, and DD-00-1 (ten decisions denying all requested relief). Moreover, the Board's remarks contradict our ruling in this same proceeding just nine months ago -- that if CCAM, the previous unsuccessful petitioner to intervene, "has information supporting its claim that Millstone's operation has caused 'human suffering on a vast scale,' its remedy would not be a narrowly focused license renewal hearing, but a citizen's petition under 10 C.F.R. § 2.206." *Millstone*, CLI-04-36, 60 NRC at 638.

⁶⁴ See "Petition for Rulemaking; Notice of Receipt," 70 Fed. Reg. at 34,701-02 (seeking a revision of the Commission's license renewal regulations to require review of emergency evacuation, demographics, siting, population density, and transportation infrastructure).

⁶⁵ *Millstone*, CLI-04-36, 60 NRC at 640.

⁶⁶ See LBP-05-16, 62 NRC at ___, slip op. at 9.

⁶⁷ See *Comanche Peak*, CLI-92-12, 36 NRC at 75 (citation and internal quotation marks omitted):

[B]arring the most compelling countervailing considerations[,] an inexcusably tardy petition [to intervene] would (as it should) stand little chance of success if its grant would likely occasion an alteration in hearing schedules.... [I]n this case, there is no formal [adjudicatory] proceeding at all. Thus, granting the petition will result in the establishment of an entirely new formal [adjudicatory] proceeding, not just an alteration of an already established hearing schedule.

⁶⁸ See, e.g., *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-11, 58 NRC 130, 131 (2003), CLI-01-27, 54 NRC 385, 391 (2001), & CLI-01-20, 54 NRC 211, 214-16 (2001).

⁶⁹ 10 C.F.R. § 2.309(f)(1)(iii), (iv), (vi) (emphasis added).

⁷⁰ Final Rule, "Changes to Adjudicatory Process," 69 Fed. Reg. at 2,221; *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

⁷¹ 10 C.F.R. § 50.47(a)(1).

⁷² See Brief of Dominion Nuclear Connecticut in Response to CLI-05-18 Concerning Suffolk County's Late Petition and Waiver Request, dated Aug. 18, 2005, at 20-24.

⁷³ See *Louisiana Energy Serv., L.P.* (National Enrichment Facility), CLI-04-25, 60 NRC 223, 224-25 (2004); *Pacific Gas and Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), LBP-02-23, 56 NRC 413, 453-57 (2002), *petition for review denied*, CLI-03-12, 58 NRC 185 (2003).

⁷⁴ See, e.g., Final Rule, "Changes to Adjudicatory Process," 69 Fed. Reg. at 2209, and cited authority; 10 C.F.R. § 2.338; *Sequoyah Fuels Corp.*, CLI-97-13, 46 NRC 195 (1997).

⁷⁵ See, e.g., *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, *passim* (1998).

⁷⁶ See note 69, *supra*.

⁷⁷ NRC Staff's Second Status Report (May 20, 2005).

⁷⁸ See "Memorandum of Conference Call" at 1-2 (April 15, 2005); "Status Memorandum" at 1-2 (June 3, 2005), referring to *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-05-12, 61 NRC 319 (May 24, 2005).

⁷⁹ Even assuming *arguendo* that the settlement talks and the two Board members' involvement in the *PFS* proceeding amounted to an appropriate *de facto* stay of the *Millstone* proceeding, section 2.309(i) would still have required the board to issue its order no later than July 8th.

⁸⁰ [REDACTED] ct, both the licensee and the NRC suggested just this approach. See, e.g., Letter from David R. Lewis (Dominion's counsel) to the Board at 2 (May 6, 2005); NRC Staff's Status Report at 2-3 (May 6, 2005).

⁸¹ Indeed, section 2.338(f) of our regulations can be read to imply our preference for this approach: "The conduct of settlement negotiations ... does not automatically stay the proceeding. A hearing must not be unduly delayed because of the conduct of settlement negotiations." 10 C.F.R. § 2.338(f).

⁸² Transcript of April 12, 2005 Pre-Hearing Conference ("Tr.") at 60 (emphasis added).

⁸³ Tr. at 89.

⁸⁴ Letter from Jennifer B. Kohn (Suffolk County's counsel) to the Board at 2 (May 10, 2005) (emphases added).

⁸⁵ *Id.* at 3 (emphases added).

⁸⁶ Compare *Rockwell International Corp.* (Rocketdyne Division), ALAB-925, 30 NRC 709, 720 (1989) (stating that "the Presiding Officer quite properly has encouraged settlement" between the licensee and the *intervenors*), *aff'd*, CLI-90-5, 31 NRC 337 (1990).

⁸⁷ See, e.g., *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2), CLI-04-6, 59 NRC 62, 74 (2004) ("licensing boards do not sit to . . . supervise or direct NRC Staff regulatory reviews"), citing *Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 349 (1998); *Curators of the Univ. of Mo.*, CLI-95-1, 41 NRC 71 (1995) ("As a general matter, the Commission's licensing boards and presiding officers have no authority to direct the Staff in the performance of its safety reviews"); *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 NRC 514, 516 (1980).

⁸⁸ *Rocketdyne*, CLI-90-5, 31 NRC at 340.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED 10/26/05

SERVED 10/26/05

COMMISSIONERS:

- Nils J. Diaz, Chairman
- Edward McGaffigan, Jr.
- Jeffrey S. Merrifield
- Gregory B. Jaczko
- Peter B. Lyons

In the Matter of)
)
 U.S. ARMY)
)
 (Jefferson Proving Ground Site))

Docket No. 40-8838-MLA-2

CLI-05-23

MEMORANDUM AND ORDER

On September 12, 2005, the Presiding Officer referred to the Commission his order reinstating a conditionally dismissed prior proceeding concerning the U.S. Army's ("Army") plan for decommissioning the Jefferson Proving Ground site in Indiana.¹ We accept the referral, affirm the decision to reinstate the earlier proceeding, and remand with instructions to use, for the remainder of this adjudication, our recently-revised rules of procedure for adjudications.²

I. BACKGROUND

The Presiding Officer has described the history of the Jefferson Proving Ground site and related decommissioning proceedings in his various orders.³ There is no point in reiterating that history at length. In short, the Army ceased testing depleted uranium munitions on the site in 1994, and since 1999, Save the Valley, Inc. ("Save the Valley") has submitted three different hearing requests on Various Army plans to decommission the site -- one on the Army's initial decommissioning plan, another on a revised "decommissioning/license termination plan," and still another on a "possession-only license."⁴

In 2003, the Army determined that testing required to decommission the site was too dangerous because of the presence of unexploded ordnance. It therefore decided to seek a possession-only license amendment that would leave an NRC license in force indefinitely, with institutional controls, but which would require no further cleanup. At that time, the Presiding Officer dismissed without prejudice the then-pending proceeding on a "license termination plan" to decommission the site.⁵ He

then granted Save the Valley's request to intervene in the possession-only license proceeding.⁶

In May of this year, the Army determined that it could in fact perform testing needed to characterize, and ultimately decommission, the site without undue danger to personnel. The Army therefore asked for a license amendment for an alternate schedule for submitting a new decommissioning plan, which it said it could complete within five years. The NRC subsequently published a new *Federal Register* notice providing an opportunity for hearing on the Army's new license amendment request. Thereafter, on July 19, 2005, the Army withdrew its request for a possession-only license and moved to dismiss as moot the proceeding on the possession-only license.⁷

After an August 24, 2005 conference, the Presiding Officer issued a ruling, LBP-05-25, reinstating the prior adjudication on the Army's license termination plan. Pointing to our request earlier this year that the parties file status reports with us, the Presiding Officer referred its latest ruling to us to provide "an opportunity to determine whether [his] conclusion as to the appropriate course of action comports with [our] own."⁸

II. DISCUSSION

Given the lengthy, changing nature of the Army's efforts at the Jefferson Proving Ground site, we understand and defer to the Presiding Officer's reasonable inclination to spare Save the Valley undue procedural burdens. Certainly, steps such as re-establishing standing would be a needless burden to a party that has already done so three times in the last six years. In addition, rather than re-starting the proceeding from scratch, it makes sense to continue before a Presiding Officer who is familiar with the history of the site and proceedings. Further, as the Presiding Officer indicated, it is apparent that the Army's new decommissioning proceeding raises substantially the same issues as the license termination plan proceeding he dismissed without prejudice in 2003. If the 2003 proceeding could not be "revived" when the Army returns to its original plan to decommission the site, the term dismissal "without prejudice" would be meaningless.⁹ In short, we see no reason to disturb the Presiding Officer's decision to revive the earlier license termination plan proceeding rather than force Save the Valley to file a fresh intervention petition.

But we do not agree with the Presiding Officer's decision that the resumed proceeding should go forward under the NRC's old rules of procedure, or with his implication that applying the NRC's revised procedural rules would impose an unnecessary burden on Save the Valley.¹⁰ The revised hearing procedures should improve the effectiveness and efficiency of the NRC hearing process, and better focus and utilize the limited resources of all involved parties.¹¹ With respect to the application of the revised procedures, the final rule expressly provided that the revisions would apply to proceedings noticed on or after February 13, 2004, the effective date of the rule, *unless directed otherwise by the Commission*.¹² Indeed, we have applied the revised Part 2 rules to proceedings noticed prior to the effective date, where circumstances have warranted.¹³ Similarly, we conclude that this proceeding should continue under the revised rules.

It is well established that the Commission may customize its rules of procedure for a particular case so long as there is adequate notice and no prejudice.¹⁴ Applying the revised procedures in this Subpart L proceeding will impose more stringent pleading requirements on Save the Valley with respect to issues raised in connection with the new license amendment request. No longer are general "areas of concern" sufficient to trigger a hearing in a Subpart L proceeding; an intervenor must articulate specific contentions with adequate bases.¹⁵ But even under the prior rules, to effectively participate in this decommissioning proceeding, Save the Valley ultimately would be required to state its objections with sufficient particularity and factual support.¹⁶ Indeed, the Presiding Officer indicated that he would "call [] upon the Petitioner to determine whether it wishes to modify the statement of areas of concern previously filed."¹⁷ Because Save the Valley would ultimately be required to particularize its concerns under the former Part 2 provisions, we do not expect the use of the revised part 2 rules to substantially alter the proceeding or in any way render an unfairness upon Save the Valley. The fact that Save the Valley is having to again defend its hearing request is through no fault of its own.

In addition, we believe the revised Part 2 rules offer benefits to all parties that improve upon the "old" rules of practice. For example, under the "new" Part 2, Subpart L, if a hearing is granted, it would be conducted as an oral hearing,¹⁸ whereas under the "old" Part 2, a Subpart L proceeding consisted of written presentations, with an opportunity to request oral presentations only upon the presiding officer's determination that such presentations would be "necessary to create an adequate record for decision."¹⁹ Moreover, if a hearing is granted, then all parties are subject to a "tiered" discovery process including the mandatory disclosure provisions in 10 C.F.R. Part 2, Subpart C, and the hearing file requirement in Subpart L. These revised requirements are intended to significantly reduce the delays and resources expended by all parties in discovery.²⁰

We do not, therefore, believe that imposition of the revised Part 2 rules prejudices Save the Valley, particularly in view of its longstanding interest in the site.²¹ Moreover, we conclude that applying the revised rules would result in no unwarranted delay, added burden or unfairness in this proceeding.

III. CONCLUSION

We therefore ORDER that:

- 1. The Presiding Officer's reinstatement of the earlier proceeding is *affirmed*.
- 2. Save the Valley's standing shall be considered already established.
- 3. The case shall continue under the jurisdiction of a Board composed of the two current judges and a third, to be designated by the Chief Judge of the Atomic Safety and Licensing Board Panel.²²
- 4. Future proceedings shall be conducted under NRC's revised rules of procedure.
- 5. Save the Valley shall submit contentions within 30 days after issuance of this order. Insofar as feasible it may supplement its previously-filed "areas of concern." (Any further extensions of time are within the discretion of the Board).

IT IS SO ORDERED.

For the Commission

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 26th day of October, 2005

¹ U.S. Army (Jefferson Proving Ground Site), LBP-05-25, 62 NRC __ (2005).

² See "Final Rule: Changes to Adjudicatory Process," 69 Fed. Reg. 2182 (Jan. 24, 2004).

³ See, e.g., U.S. Army (Jefferson Proving Ground Site), LBP-05-9, 61 NRC 218 (2005).

⁴ See Hearing Requests dated Feb. 2, 2000; Dec. 12, 2002, and Nov. 26, 2003. The Presiding Officer sets out this history in LBP-05-9, 61 NRC at 218-21.

⁵ LBP-03-28, 58 NRC 437 (2003).

⁶ LBP-04-01, 59 NRC 27 (2004).

⁷ See Applicant's Motion for Dismissal of Proceeding, July 19, 2005.

⁸ LBP-05-25, 62 NRC at __ (slip op. at 8), *citing* CLI-05-13, 61 NRC 356 (2005).

⁹ Under the revised rules of procedure as well as the old, "[w]ithdrawal of an application after the issuance of a notice of hearing shall be on such terms as the presiding officer may prescribe." See 10 C.F.R. §2.107(a).

¹⁰ LBP-05-25, 62 NRC at __, __ (slip op. at 1 n.1, 6)

¹¹ 69 Fed. Reg. at 2190. The U.S. Court of Appeals for the First Circuit recently held that the revised rules comply with the Administrative Procedure Act, and that the NRC furnished an adequate explanation for the changes. See *Citizens Awareness Network, Inc. v. United States*, 391 F.3d 338 (1st Cir. 2004).

¹² See 69 Fed. Reg. at 2182.

¹³ See *Louisiana Energy Servs., L.P.* (National Enrichment Facility), CLI-04-3, 59 NRC 10, 12 n.1 (2004); *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site), *Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), *System Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), CLI-04-8, 59 NRC 113 (2004).

¹⁴ See *National Whistleblower Center v. NRC*, 208 F.3d 256, 262 (D.C. Cir. 2000), cert. denied, 531 U.S. 1070 (2001); *City of W. Chicago v. NRC*, 701 F.2d 632, 647 (7th Cir. 1983), citing *Bell Aerospace Co.*, 416 U.S. 267, 294 (1974).

¹⁵ See 10 C.F.R. § 2.309(f).

¹⁶ See 10 C.F.R. § 2.1233 (2004).

¹⁷ See LBP-05-25, 62 NRC at __ (slip op. at 9).

¹⁸ See 10 C.F.R. §§ 2.1206, 2.1207. If the parties unanimously agree, they may file a joint motion requesting a hearing consisting of written submissions.

¹⁹ 10 C.F.R. §§ 2.1233, 2.1235 (2004).

²⁰ See 69 Fed. Reg. at 2194; 10 C.F.R. §§ 2.336, 2.1203.

²¹ In its September 15, 2005 motion for further extension of time to file a request for hearing in response to the June 27, 2005 *Federal Register* notice, Save the Valley sought an extension of fourteen days following this ruling. Because of the unusual procedural posture of this case, we further extend the time for Save the Valley to request a hearing to 30 days from the date of this Memorandum and Order. We would note that Save the Valley has indicated its awareness of the heightened contention admissibility standards, and the effort that preparation of new or revised contentions would entail. See "Response in Opposition to Army's Motion to Dismiss and Request for Alternative Relief of Save the Valley, Inc.," dated July 29, 2005, at 4-5.

²² The NRC's revised rules call for hearings before either a 3-judge board or an administrative law judge. See 69 Fed. Reg. at 2191 & 2194; 10 C.F.R. §2.321(a).

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED 10/19/05

SERVED 10/19/05

COMMISSIONERS:

- Nils J. Diaz, Chairman
- Edward McGaffigan, Jr.
- Jeffrey S. Merrifield
- Gregory B. Jaczko
- Peter B. Lyons

_____)
 In the Matter of)
)
 PRIVATE FUEL STORAGE, L.L.C.)
)
 (Independent Spent)
 Fuel Storage Installation))
 _____)

Docket No. 72-22-ISFSI

CLI-05-22

MEMORANDUM AND ORDER

On September 28, 2005, the NRC staff filed a motion for "directed certification."¹ The staff's motion sought interlocutory Commission review of a Licensing Board order² establishing a process for reviewing safeguards redactions to a decision on aircraft crashes that the Board had issued earlier this year. The NRC staff's motion also sought a stay (albeit two days late)³ of the Redaction Order. We deny the NRC staff's motion as moot, and, pursuant to our customary practice, vacate the Board's Redaction Order.

A. Background

On February 24, 2005, the Board issued two versions of its decision resolving a contention that military aircraft flying over the proposed Private Fuel Storage facility posed an unacceptable risk. One version, made publicly available, summarized the reasons for the Board's findings.⁴ The other version, the Board's "official" partial initial decision, gave a more detailed explanation, including certain figures involved in the Board's calculations. Because precise figures could be of possible use to malefactors intending to attack the facility, the Board designated its partial initial decision a "safeguards" order and did not make it public.

When the Board issued its partial initial decision, it indicated that it would investigate whether there were non-safeguards portions of the decision that could be usefully made public and published in the *Nuclear Regulatory Commission Issuances*.

In its recent Redaction Order, the Board instructed the NRC staff to submit a proposed redacted version of the partial initial decision and to forward it to the other litigating parties (Private Fuel Storage, L.L.C., and the State of Utah) for their "comments."

Two weeks later, the NRC staff responded by filing the motion we have before us today. The staff argued that the Board lacked jurisdiction to issue its Redaction Order because the Commission had already issued a final adjudicatory decision in the proceeding,² that the Board's redaction order improperly created an adversarial-type process to decide safeguards questions, and that the Board's order contemplated an improper "balancing" of the NRC's interest in protecting safeguards material against the public's interest in disclosure.

B. Discussion

The NRC staff's appellate challenge to the Board's Redaction Order is now moot. Although the staff requested the Commission to stay the Board's order, the staff almost immediately complied with it by redacting the Board's "air crash" partial initial decision and sending the redacted version to the other two parties.⁵ A few days later, counsel for the State of Utah notified the Board by e-mail that neither the State nor PFS objected to the staff's safeguards designations. The redacted version of the Board's partial initial decision therefore is now ready for publication. There is no outstanding controversy for the Commission to resolve on appeal. Hence, we deny as moot the NRC staff's motion for directed certification and for a stay.

While unreviewed Board decisions do not create binding legal precedent, it is prudent to vacate such decisions when Commission appellate review is cut short by mootness. That is our customary course, and one we take again today.⁷ It eliminates any confusion or future effects stemming from unreviewed Board decisions. We therefore vacate the Board's redaction order.

To provide guidance for the future, we remind our licensing boards that section 147 of the Atomic Energy Act gives NRC authority over protecting safeguards information from unauthorized disclosure.⁸ The protection of safeguards information, where warranted, is absolute;⁹ there is no balancing of the government's duty to protect safeguards information against the public interest in disclosure. Moreover, the Redaction Order appears to contemplate an adversarial process for determining the security classification of information in the Board's opinion. If this is what the Board intended, it is improper. When necessary, the Board can seek Commission appointment of an adjudicatory employee to assist the Board in making safeguards redactions.¹⁰

CONCLUSION

For the foregoing reasons, the NRC staff's motion for directed certification and for a stay is *denied* as moot, and the Licensing Board's September 15 Redaction Order is *vacated*.

IT IS SO ORDERED.

For the Commission

/RA/

Annette L. Vietti-Cook
Secretary of the Commission

Dated at Rockville, Maryland,
this 19th day of October 2005.

¹ In support of its motion – in effect, a petition for interlocutory review – the NRC staff invoked two provisions in our former

ules of practice (applicable to this case), 10 C.F.R. § 2.718(i) (2004) and 10 C.F.R. § 2.786(g) (2004).

² Order Regarding Redaction of Final Partial Initial Decision (Sept.15, 2005) (Redaction Order).

³ The staff itself characterized its stay request as late. See NRC Staff's Motion for Directed Certification, at 2 n.4 (Sept. 28, 2005). In view of our decision today that the NRC staff's motion is moot, we need not consider whether and when we will consider an out-of-time stay request.

⁴ See ADAMS accession number ML050620391.

⁵ *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-19, 62 NRC __ (2005).

⁶ See Letter from Sherwin E. Turk, Counsel for NRC Staff to Denise Chancellor (Sept. 29, 2005).

⁷ See, e.g., *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-99-24, 50 NRC 219, 222 (1999); *Louisiana Energy Services* (Claiborne Enrichment Center), CLI-98-5, 47 NRC 113 (1998). See generally *Northern California Power Agency v. NRC*, 393 F.3d 223, 225-26 (D.C. Cir. 2004).

⁸ See 42 U.S.C. § 2167.

⁹ *Id.* "The Commission ... shall prohibit the unauthorized disclosure of safeguards information"

¹⁰ See 10 C.F.R. § 2.904 (2004).

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET, SW, SUITE 23T85
ATLANTA, GEORGIA 30303-8931

October 14, 2005

Duke Power Company
ATTN: Mr. G. R. Peterson
Vice President
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION (NOED) FOR DUKE POWER
REGARDING MCGUIRE NUCLEAR STATION UNIT 2 [TAC NO. MC8625,
NOED NO. 05-2-002]

By letter dated October 12, 2005, you requested that the NRC exercise discretion to not enforce compliance with the actions required in McGuire Nuclear Station Unit 2 Technical Specification (TS) Limiting Condition for Operation (LCO) 3.7.10 (Required Action E.1), which resulted in the immediate entry of Unit 2 in TS LCO 3.0.3. This letter documents our telephone conversation wherein the NRC verbally granted discretion from TS LCO 3.0.3.

The immediate entry into TS LCO 3.0.3 was directed by Required Action E.1 of TS LCO 3.7.10, when both control room area chilled water system (CRACWS) trains were declared inoperable at 3:20 a.m., on October 8, 2005. Your letter documented information previously discussed with the NRC in two telephone conferences on October 8, 2005 (i.e., a NOED call at 7:30 a.m., and an information followup call at 10:00 a.m.). The principal NRC staff members who participated in these two telephone conferences included: (1) from Region II - William Travers, Regional Administrator; Charles Casto, Director, Division of Reactor Projects (DRP); Joseph Shea, Deputy, DRP; Stephen Cahill, Acting Chief, DRP Branch 1; Walt Rogers, Senior Reactor Analyst; Joseph Brady, Senior Resident Inspector - McGuire; and Shakur Walker, Resident Inspector - McGuire; and (2) from the Office of Nuclear Reactor Regulation - Ledyard Marsh, Division Director, Division of Licensing Project Management (DLPM); Catherine Haney, Deputy Division Director, DLPM; Cornelius Holden, Director, Project Directorate I; Herbert Berkow, Project Director, Project Directorate IV; Harold Chernoff, Senior Project Manager, Project Directorate III; Sean Peters, Project Manager - McGuire, Project Directorate II; and Mike Franovich, Senior Reliability and Risk Analyst, Probabilistic Safety Assessment Branch. You stated that on October 8, 2005, at 3:20 a.m., Unit 2 entered TS LCO 3.0.3., which required the Unit be in Mode 3 (Hot Standby) within 7 hours. In order to facilitate repairs to the "A" train of CRACWS and preclude the inherent operational risks from an unnecessary plant shutdown, you effectively asked for an extension of the time required to be in Mode 3 from 7 hours to 24 hours. As such, you requested that a NOED be granted pursuant to the NRC's policy regarding exercise of discretion for an operating facility, set out in Section VII.C, of the NRC Enforcement Policy, and be effective for the period from 3:20 a.m., on October 8, 2005, to 3:20 a.m., on October 9, 2005. This letter documents our telephone conversation on October 8, 2005, at 7:30 a.m., when we orally issued this NOED. We understand that the condition causing the need for this NOED was corrected by you, resulting in Unit 2 exiting from Required Action E.1 of TS LCO 3.7.10, TS LCO 3.0.3, and from this NOED on October 8, 2005, at 8:06 p.m.

On October 8, 2005, Unit 1 was in a refueling outage (Mode 6) and Unit 2 was in Mode 1 at 100 percent power. At 3:20 a.m., train "A" of the CRACWS, which was electrically aligned to Unit 2, tripped during a start attempt due to a defective oil pressure switch. Having previously been electrically aligned to Unit 1 for "B" train engineered safety features testing, train "B" of the CRACWS was technically inoperable, albeit available and functional, due to its reliance on an inoperable emergency power supply. Specifically, shared portions of this system must be operable for each unit in a mode of applicability; therefore, with Unit 2 in Mode 1, train "B" of the CRACWS must have an emergency power supply. The inoperability of the emergency power supply stemmed from its support system (i.e., nuclear service water) being considered inoperable. Consequently, both trains of the Unit 2 CRACWS were declared inoperable, and in accordance with TS LCO 3.7.10, Required Action E.1, TS LCO 3.0.3 was immediately entered. You verbally stated during our first phone conference on October 8, 2005, that it would take approximately three hours to align the "B" train of control room ventilation back to Unit 2 and did not want the control room to be without ventilation for that amount of time due to overheating concerns. Additionally, you indicated that there was not sufficient time to execute repairs, as compliance with TS LCO 3.0.3 required Unit 2 to be in Mode 3 by 10:20 a.m., on October 8, 2005. We understand from your letter that at 7:23 a.m., on October 8, 2005, a Unit 2 power reduction was initiated in accordance with TS LCO 3.0.3. Unit 2 was reduced to approximately 88 percent power prior to receiving verbal enforcement discretion. The load reduction was subsequently terminated at 8:09 a.m., on October 8, 2005.

Your letter of October 12, 2005, stated that the proposed NOED would avoid an unnecessary transient as a result of compliance with Required Action E.1 of TS LCO 3.7.10; thereby, minimizing the potential safety consequences and operational risks. It also stated that the requested NOED would provide adequate time for completing the necessary engineering and administrative activities for implementing a temporary modification to bypass the CRACWS "A" train defective oil pressure switch with jumpers. During operation of the "A" chiller with its oil pressure switch bypassed, you stated that personnel would be assigned to monitor oil pressure by local indication. In addition, your letter indicated that CRACWS had no impact on the calculated core damage frequency or large early release frequency at McGuire, as its loss can be mitigated by: (1) pre-planned actions to open doors and utilize portable ventilation to cool affected areas and equipment; (2) the ability to maintain hot standby conditions and cool down to cold shutdown conditions from the alternate shutdown panel (ASP); and (3) the independent ability to maintain hot standby conditions from the standby shutdown facility (SSF).

Furthermore, the stated compensatory actions during the NOED period included: (1) protection of the "B" chiller, service water, and normal/emergency power supplies on Unit 1 at the same level as Unit 2; (2) deferring non-essential activities on Unit 2, the switchyard, and transformer yard; and (3) deferring non-essential surveillances or other maintenance activities on other risk significant equipment, such as the emergency diesel generators, SSF, and the ASP. As such, your letter concluded that the proposed NOED would not be of potential detriment to the public health and safety, because there is no net increase in radiological risk to the public. Moreover, there were no activities affecting the supporting systems and equipment, including offsite and onsite power sources, for the "B" chiller, which continued to operate and remain fully functional during the loss of the "A" chiller. Your review also determined that the Unit 2 emergency core cooling system components, the SSF, and the ASP were operable. The Unit 2 "B" nuclear service water train, "B" emergency diesel generator, "B" annulus ventilation train, and the "B"

boration flow path were declared technically inoperable due to the same issues surrounding the "B" CRACWS; however, the systems were available and able to perform their intended function.

In your letter of October 12, 2005, you confirmed your commitment to submit a followup license amendment request (LAR) by close of business October 14, 2005, which incorporates the effective change contained in this NOED into the McGuire TS on a temporary, one-time basis. We plan to complete our review and disposition of your followup license amendment request within 4 weeks of the date of this letter. Recognizing the need for a more in-depth evaluation, your letter also confirms Duke's plans to pursue the underlying equipment operability issues in a future LAR proposing a permanent TS change.

On the basis of the staff's evaluation of your request, we have concluded that granting this NOED is consistent with the Enforcement Policy and staff guidance, and has no adverse impact on public health and safety or the environment. Therefore, it is our intention to exercise discretion to not enforce compliance with TS LCO 3.0.3 for the period from 3:20 a.m., on October 8, 2005, to 3:20 a.m., on October 9, 2005. Your need for the NOED differed from the approved NOED effective duration because a temporary modification was implemented and the "A" train control room chiller was returned to service prior to 3:20 a.m., on October 9, 2005.

As stated in the Enforcement Policy, action will be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this NOED was necessary.

Sincerely,

/RA by Douglas M. Collins Acting For/

William D. Travers
Regional Administrator

Docket No. 50-370
License No. NPF-17

cc: See page 4

DPC

4

cc:

C. J. Thomas
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

October 27, 2005

NRC INFORMATION NOTICE 2005-29: STEAM GENERATOR TUBE AND SUPPORT
CONFIGURATION

ADDRESSEES

All holders of operating licenses or construction permits for pressurized water reactors (PWRs) except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

PURPOSE

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to describe recent experience in which the configuration of steam generator tube supports or expansions was different than expected. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

DESCRIPTION OF CIRCUMSTANCES

The following describes the as-found condition of the steam generators at Byron Unit 1, Davis-Besse, and Waterford Unit 3 during inspections performed during 2005.

Byron Unit 1

Byron Unit 1 replaced the four recirculating steam generators in 1997 with steam generators designed and fabricated by Babcock and Wilcox International. Each steam generator has 6,633 thermally treated Alloy 690 U-tubes. The U-tubes are supported by stainless steel lattice grid structures along the straight portion of the tube and by a collector bar and fan bars in the U-bend region. All fan bars are connected to the collector bar.

During the 2005 steam generator tube inspections, an evaluation of the bobbin coil eddy current data revealed that the collector bar did not completely engage all of the row 1 tubes in steam generator B as expected. Investigations discovered that the collector bar engaged, or partially engaged, only 10 of the 67 row 1 tubes on the hot-leg side of the steam generator, rather than engaging all 67 of the row 1 tubes. The collector bar was verified to engage all row 1 tubes on the cold-leg side of the steam generator. Additionally, the collector bar was verified to be engaged in all row 1 hot-leg and cold-leg tubes in the other three steam generators.

ML052280011

The nonengaged collector bar of the row 1 hot-leg tubes was identified by eddy current data analysis software that was programmed to compare the existing support structure location with the design locations of the support structures (landmarks). Following identification of this condition, a review of past inspection data revealed that this condition existed before the replacement steam generators were placed into service. The licensee concluded that the condition was not the result of inservice degradation. Since the as-found condition of the steam generator was different than the condition analyzed during the design of the steam generator, an analysis was performed to show that the tubes remain adequately supported despite the mispositioning of the collector bar. Concerned that the "disengaged" tubes would vibrate and become worn at the lattice support or at the other collector bar location on the cold leg side, the licensee reviewed eddy current inspections at those locations and found no wear to date. The licensee concluded that flow-induced vibration is not increased due to the lack of contact with the collector bar.

Davis-Besse

Davis-Besse has two once-through steam generators designed and fabricated by Babcock and Wilcox International. Each steam generator contains approximately 15,500 Alloy 600 mill-annealed tubes. The tubes are partial-depth-expanded into both the upper and the lower tubesheet.

Based on recent operating experience at other similarly designed plants, a significant number of rotating probe inspections were performed at the tube end in the lower tubesheet (cold-leg) for the first time during the 2005 outage at Davis-Besse. While performing these inspections, most tubes (all but approximately 100 tubes) were identified as having two roll-expanded regions in the lower tubesheet. The presence of two rolls (rather than one) in the lower tubesheet region was not known by personnel responsible for determining potential forms of degradation that could affect the tubes. A review of fabrication records indicated the second roll was installed during the original manufacture of the steam generators since there was inadequate control of the original roll in the lower tubesheet and many of the original rolls were too short. The tubes were rerolled prior to annealing the steam generator. The second rolls are referred to as shop rerolls to distinguish them from reroll repairs performed subsequent to commercial operation. Approximately 30 tubes were plugged during the 2005 outage as a result of crack like indications detected at the shop rerolls in the lower tubesheet. None of the crack like indications were safety significant.

Waterford Unit 3

Waterford Unit 3 has two recirculating steam generators designed and fabricated by Combustion Engineering. The mill-annealed Alloy 600 steam generator tubes are supported in the straight portion of the tube by a number of carbon steel lattice grid (i.e., eggcrate) tube supports and in the U-bend region by diagonal bars (also called batwings) and vertical straps. Several of the lattice grid tube supports are referred to as partial eggcrate supports since they only support some of the tubes. The tubes in rows 1 through 18 are U-bends and the tubes in rows 19 through 147 are square bends (i.e., there are two 90-degree bends for tubes in rows 19 through 147).

Routine eddy current testing of the steam generator tubes in 2005 identified that two diagonal batwing supports in steam generator 2 had moved. The two batwings were displaced from their nominal locations on the cold-leg side of tubes in columns 82, 83, and 84. These batwings were at their nominal locations during the previous inspection. Wear scars were observed for tubes in these columns during the 2005 inspections. These wear scars occurred in the free span of the tube at the nominal axial location of the batwing and thus were apparently formed before the displacement of the batwings. These wear indications were not observed during the previous inspection. The depth of these wear indications ranged from 7- to 30-percent of the tube wall thickness.

The batwing assembly is formed by two opposing diagonal bars connected by a short horizontal bar. A visual inspection of the lower portion of the batwings confirmed that two batwings had failed at the intersection of the horizontal bar and a slotted bar, which runs perpendicularly to the horizontal bar and is keyed to the horizontal bar. The slotted bar holds the lower portion of the batwing in place. The licensee concluded that the failure mechanism was fatigue, based on the location of the failure, the length of the batwing (one of the longest in the steam generator), and the flow in this region of the tube bundle. The loads on the batwing in this region are not high enough to cause an overload-type failure.

As a result of these findings, several corrective actions were taken, including plugging and stabilizing many tubes, performing analyses, and evaluating the integrity of the batwing-to-wrapper bar welds. The analyses were done to confirm that tube integrity will not be compromised for the period of time between tube inspections if additional batwings fail. The evaluations were done to ensure that the failed batwings would not become free to move throughout the steam generator, (i.e., become loose parts). The batwing-to-wrapper bar welds connect all of the batwings and are located on the outside of the tube bundle to permit access for visual inspection.

BACKGROUND

High-cycle fatigue due to inadequate tube support (antivibration bar location anomalies) was the cause of a tube rupture in 1987 (Bulletin 88-02, "Rapidly Propagating Fatigue Cracks on Steam Generator Tubes").

Steam generator internals can be important in ensuring that the tubes are capable of performing their intended safety function (Generic Letter 97-06, "Degradation of Steam Generator Internals").

DISCUSSION

The positioning of the tube supports (e.g., antivibration bars, batwings, vertical straps, collector bars, fan bars, lattice grids, support plates) is important in ensuring the tubes are adequately supported. Inadequate tube support can result in increased tube vibration and increased tube wear and fatigue.

At Byron Unit 1, the nonengaged collector bar in the U-bend region of many row 1 tubes was discovered through a review of inspection data. The data indicated that the support was not in the correct position. This condition was identified by applying a computerized data-screening algorithm to the inspection data. In the case of Waterford 3, the failed batwing support was discovered by investigating several indications of wear that were apparently occurring at a location not associated with a support structure. In both cases, the actual tube support conditions were evaluated to identify any tube integrity concerns (e.g., flow-induced vibration). Prompt identification of supports that are not in their proper position (as a result of fabrication or from service-induced conditions) is important to ensure that appropriate actions are taken in a timely manner before tube integrity is compromised.

At Davis-Besse, the presence of a second roll expansion in the lower tubesheet was not known by responsible plant personnel. Roll expansions are locations of high stress and are more susceptible to degradation. As a result, it is important to know all locations of high stress to ensure that appropriate inspection techniques are used at those locations to detect possible degradation.

At Waterford Unit 3, additional evaluations and inspections were performed to ensure that the actual configuration of the failed batwings was stable. Since one end of each failed batwing was free to move, the welds securing the other ends were evaluated to ensure the failed batwings would not become free during operation and potentially impact other tubes. Evaluating the as-found condition to ensure that continued degradation will not result in the generation of loose parts is also important for ensuring tube integrity.

In summary, it is important to compare the as-found condition of the steam generator to the steam generator design. This includes confirming that the as-found location of the steam generator tube supports is consistent with the original design. Significant differences between the as-found and as-designed location of the tube supports can result in increased tube vibration and increased tube wear and fatigue. Promptly identifying significant differences between the as-found and as-designed configuration may prevent a loss of tube integrity. Similarly, monitoring the current condition and location of the tube supports is important to ensure that any service-induced degradation or movement of the supports is promptly detected and evaluated. In addition, it is important to know the actual configuration of the steam generator tubes to ensure that all high-stress locations are identified in the degradation assessment and inspected with techniques capable of detecting the forms of degradation that may occur at those locations.

CONTACT

Please direct any questions about this matter to the technical contact(s) or the Lead Project Manager listed below, or to the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

/RA/

Patrick L. Hiland, Chief
Reactor Operations Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

Technical Contact: Matthew Yoder, NRR
301-415-4017
E-mail: mgy@nrc.gov

Note: NRC generic communications may be found on the NRC public Website, <http://www.nrc.gov>, under Electronic Reading Room/Document Collections.

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Jessie Delgado Honored



Jessie Delgado

Jessie Delgado of the Advisory Committee on Reactor Safeguards was honored at the Hispanic Employment Program Advisory Committee dinner last week.

Jessie received this year's Equal Employment Opportunity award co-sponsored by the Office of Small Business and Civil Rights and HEPAC for her outstanding service over a number of years. The EEO award is presented in recognition of outstanding contributions to the advancement of equal employment goals and for promoting diversity within the Nuclear Regulatory Commission.

The annual dinner celebrating Hispanic Heritage Month was held at the South Beach Restaurant in Bethesda. Those attending included Chairman Nils Diaz, Commissioner Gregory Jaczko, Executive Director for Operations Luis Reyes, and many senior agency managers.

Corenthis Kelley, Director of the Office of Small Business and Civil Rights, introduced Jessie.

Jessie's award citation from HEPAC notes that she was Chair of HEPAC for two terms during which HEPAC became more visible as a result of her efforts: "She has been directly responsible for the hiring of technical staff. She has spread goodwill for the NRC Hispanic Community from the Chairman to the newly hired employees. During her eight years as a HEPAC member, Hispanics in the NRC more than doubled. Jessie, we must salute you for helping make this happen. You have quite properly focused your energies on recruitment, retention, and advancement of Hispanics in the NRC, and you have had a profound impact in all these areas.... You served as a role model and mentor. You served as host and surrogate mother to many of our employees from Puerto Rico. You have served this agency for a long time and you have won important victories for all Hispanics in this agency. We thank you on behalf of HEPAC and on behalf of the NRC."

Jessie has worked for NRC for 17 years. She began her career as a temporary secretary in the Office of State and Tribal Programs, accepted a permanent position in the Office of Nuclear Reactor Regulation, and joined the staff of the Advisory Committee on Reactor Safeguards 4 years ago.

Inside NRC

Volume 27 / Number 22 / October 31, 2005

French regulators to participate in multinational review process

French nuclear regulatory authority DGSNR “will be one of the closest partners” in NRC’s plan for multinational reactor design approval, DGSNR Director General Andre-Claude Lacoste said this month.

Lacoste observed that cooperation between nuclear safety authorities in licensing new designs is “not completely new.” He cited DGSNR’s work with Chinese regulators to license French design PWRs built in China over the past two decades and the more recent work with Finland’s STUK in the latter’s review of the Areva EPR unit being built at Olkiluoto.

DGSNR was absent from a meeting of international regulators organized in Vienna last month by NRC Chairman Nils Diaz to discuss the proposed Multinational Design Approval Process (MDAP). At that meeting, Diaz outlined the MDAP as a three-phase process, beginning with foreign participation in NRC’s design approval process, and later evolving into a real multinational system based on IAEA safety standards (INRC, 30 Sept., 1).

Lacoste said Oct. 19 that the Diaz proposal was “being analyzed” in France but that he expected his agency to participate in EPR design review in

the U.S., as Diaz has requested. Philippe Bordarier, head of DGSNR's legal and organizational mission, said the French authority considers it "our duty" to put its previous design review work at the disposal of foreign regulators who are asked to approve the same design. Lacoste said he had no fundamental objection to the MDAP proposal, but added, "we have to make sure it doesn't turn into a hegemonic (situation) in which all the reactors in the world are certified according to the NRC's process."

At a presentation to the press of the latest issue of DGSNR's magazine, *Controle*, devoted to explaining the authority's safety supervision mission, Bordarier said the French regulatory body is "called upon to play the role of 'competitive partnership' with the NRC. He said that meant being a "constructive partner, without being entirely submissive."

Commenting further, Lacoste said that while DGSNR's relations with NRC are among the deepest it has with any foreign counterpart, "at the same time there's a sort of competition" between the French and the American regulators. "NRC has developed its own world view," Lacoste said. "It's up to us to bring a complementary world view."

Independent inspectors

Among the areas where the two authorities differ is in the use of resident inspectors: NRC uses them, DGSNR does not. "We see resident inspectors as raising an issue of independence," Bordarier explained. There have been cases elsewhere, he said, where resident inspectors have had "problems of distance and of taking a position" vis-a-vis the facility for which they are responsible.

At the same time, DGSNR is not as concentrated as other regulatory bodies, such as the U.K. Nuclear Installations Inspectorate, which conducts all its functions out of a headquarters office. The French authority has 11 regional offices in addition to its headquarters in Paris. It's also a little younger: The average age of its staff—which will number 400 in December of this year—is 39, with regional staff slightly younger than that.

DGSNR has also eschewed the use of quantitative performance indicators, even color codes as practiced by the

NRC, to evaluate licensee performance.

Olivier Gupta, director for power plants at DGSNR, said the French authority had observed that “quantitative indicators are not necessarily the best way to get a clear view of a plant. We prefer to use more qualitative methods, like inspections, incident analyses, and safety cases, to build our perception of each site and each operator. Quantitative indicators are a small part of that whole.”

DGSNR has been warier than many other regulators of the “risk-informed regulation” approach espoused by the NRC. Lacoste said the French do not object to the idea that regulation is “informed by risk” evaluations. But he said he had warned his American counterparts that “they ran the risk of equating ‘risk-informed’ with the use of probabilities” as a basis for regulation.

Effective and efficient

Like other nuclear regulatory bodies, notably those participating in the OECD Nuclear Energy Agency’s (NEA) work, DGSNR has been seeking ways to improve its own effectiveness and efficiency. Lacoste and Bordarier said they sometimes had trouble distinguishing between those two words in English, and knowing whether a given action would promote efficiency, effectiveness, or both. Luckily, a single word in French—*performant*—expresses both concepts.

One initiative the French agency has developed in recent years is the system of “internal decisions,” in which DGSNR and a licensee together elaborate a protocol under which the licensee can self-authorize certain actions, thus preserving regulatory resources for more important decisions.

Bordarier said the internal decisions had first been developed with the Commissariat à l’Energie Atomique, which operates research installations that are continually changing. “We realized that our review (of the CEA’s safety cases) didn’t have much added value” and that in fact, “it was perverting” the system because the CEA saw DGSNR as a “safety net” for catching mistakes of its own personnel in preparing safety cases. “We were diluting our resources,” he said. Now, the CEA licenses some of its own operations under a strict internal authorization system, subject to DGSNR oversight. The same approach has been adopted for decommissioning programs: The overall program is licensed by DGSNR at the outset, but operators can proceed from one

phase to the next under internal authorizations. More recently, at the end of last year, DGSNR notified Electricite de France (EDF) that two operating domains were no longer subject to prior authorization from the regulatory authority. They are: passage to mid-loop operation while the reactor core is loaded; and restart of a reactor after an outage of more than 15 days without significant maintenance.

Those decisions are now taken on the national level by EDF's National Committee for Internal Authorizations reporting to EDF's director of nuclear generation (DPN), based on independent analysis by DPN's engineering office. On the plant level, they are handled by the site safety committee, reporting to the plant manager.

Nicolas Pot, special assistant to the DPN management, said the division is working to identify other domains of operation that could be candidates for internal authorizations. Lacoste said that he was "in favor of this process being applied wherever feasible."—**Ann MacLachlan, Paris**

Senior regulators to seek path to permanent international forum

The Russian government will host an international conference next year on effective regulatory systems, which organizers said was the first step toward establishing a permanent international forum for nuclear regulators.

Senior safety officials involved in the effort also said it could be a way to involve industry and other stakeholders more deeply in nuclear regulatory issues, a need they said was underlined by the results of this year's third Convention on Nuclear Safety (CNS) peer review meeting. According to Tomihiko Taniguchi, IAEA deputy director general for safety and security, the conference is "a followup" to discussions involving NRC Chairman Nils Diaz; Andrey Malyshev, acting director of Russian regulatory agency Rostekhnadzor; and IAEA Director General Mohamed ElBaradei at the IAEA General Conference in September 2004.

The conference will be held Feb. 27-March 3 in Moscow. It will address three broad topical issues: independence and regulatory effectiveness; regulatory challenges, including the challenges presenting by regulating new technologies; and enhanced international regulatory cooperation, including how to bridge gaps between different national standards and different regulatory approaches.

Senior regulators have been meeting in different fora over the past years. The OECD Nuclear Energy Agency (NEA) has had a Committee on Nuclear Regulatory Activities (CNRA) in place since the 1980s, but by definition it excludes regulators from non-OECD countries like Russia, China and India. The IAEA has hosted a Senior Regulators Forum for the past decade or so during its general conferences, but that convenes only one day a year and the exchanges are necessarily brief. A variety of smaller regulators' "clubs" have sprung up, notably the International Nuclear Regulators Association and the Western European Nuclear Regulators Association. But Tomiguchi told senior regulators during the last general conference in September that the agency felt it was time to discuss "what kind of mechanism" could be set up "to share views between senior regulators from time to time," to

allow "more in-depth discussions" among them. Equally, Linda Keen, president/CEO of the Canadian Nuclear Safety Commission and chair of the April 2005 CNS review meeting, said the Moscow meeting would "help with the dialogue among regulators," but also hopefully with the dialogue between regulators and industry. She said she and Duncan Hawthorne, president of Ontario Power Generation, had been discussing how to enhance that dialogue. She said she would seek to convene a meeting of senior regulatory officials and senior officials of the World Association of Nuclear Operators (WANO) after the Moscow conference.

But Jukka Laaksonen, head of Finnish regulatory authority STUK, said the question was "who can represent industry in international circuits?" He said that his experience as CNRA chairman was that "WANO is shy" and "doesn't have a mandate" to represent the world nuclear industry. One answer, he suggested, would be to have industry "strongly represented" in national delegations attending the CNS reviews and IAEA meetings. Malyshev told Inside NRC in an interview that the Moscow meeting was aimed at "assessing and improving the effectiveness of regulators' activity."

He cited such high-level issues as the impact of electricity market deregulation, the "political position" of regulatory bodies "within the state system," and harmonization of national safety standards with IAEA standards, including the development of "international approaches."

Regulators from Western countries said having the meeting in Moscow was also a way to bolster Malyshev and his fledgling regulatory organization, which was set up two years ago as a combination of three formerly separate technical supervision bodies including the former nuclear regulatory agency Gosatomnadzor (GAN). Malyshev has been acting director for two years. A few years ago, Malyshev's predecessor Yuri Vishnevksy was obliged to call for help from his Western counterparts when Minatom leaders attempted to wrest licensing authority from GAN via new legislation after Vishnevsky had threatened not to license extended operation of first-generation reactors. That ploy worked, and the legislation was eventually withdrawn.

Western officials dealing with Rostekhnadzor say that despite Malyshev's former career in industry—he was head of design bureau Atomenergoproekt and then a deputy minister in the atomic energy ministry, Minatom—the Russian regulatory body appears to have gained strength over the past years.

One of the topics listed for discussion at the Moscow conference is “establishment and assurance of effective independence against undue influences.” The participants will also seek to define independence and will discuss de facto versus de jure independence. Regulatory independence is established as a principle in all the international safety conventions and codes of conduct sponsored by the IAEA.—*Ann MacLachlan, Vienna*

Dominion decision to use cooling tower takes heat off of challenge

Dominion decided last week to switch the cooling system proposed for one of two potential new units at its North Anna site, setting the stage for the likely removal of the only contention admitted in an administrative proceeding on its early site permit (ESP) application.

Dominion's ESP application, filed in September 2003, did not specify a particular reactor technology. Rather it referenced a set of bounding plant parameters to be used as the basis of the staff's evaluation. The application seeks approval for two additional units, up to 4,300 megawatts(thermal) each, or totaling a maximum generating capacity of 8,600-MW(t) for the pair.

For the cooling systems, Dominion originally proposed that units 3 and 4 would use water from Lake Anna. In July 2004, the company revised its application so that the proposed unit 4 would use dry cooling towers.

Concerns were raised about the use of once-through cooling by local activists, state regulators, and others. Three intervenors—the Blue Ridge Environmental Defense League, Nuclear Information & Resource Service, and Public Service—argued that Dominion did not adequately address in its environmental report how operating another reactor or two would impact the striped bass population in Lake Anna and the North Anna River. That contention was accepted into the proceeding in an August 2004 ruling (LBP-04-18) by an Atomic Safety & Licensing Board (ASLB). Dominion told the NRC and the Virginia Department of Environmental Quality in separate letters Oct. 24 and Oct. 25, respectively, that it had decided to modify its approach for cooling the proposed unit 3 by adopting a closed-cycle cooling system. "The revised approach would reduce both thermal impacts and water consumption associated with Lake Anna," Eugene Grecheck, vice president of Dominion nuclear support services, told NRC in a letter that was copied to the three-member ASLB panel.

Grecheck acknowledged, "The company is taking this action partly in response to concerns that have been raised by state regulatory bodies and local residents."

Dominion said the use of a dry cooling tower means that the 3,400-acre waste heat treatment facility would not be used to cool water from a third unit. Although some water from Lake Anna would be required for make-up for the cooling tower system, the amount needed would be reduced from previously calculated amounts, Dominion said.

Dominion spokesman Richard Zuercher said the cooling tower system would add \$100-million to the cost of the project, if the company decides to build the new reactor. Dominion constructed a dam on the North Anna River in the early 1970s to create Lake Anna as a source of cooling water for four reactors. It built two reactors but decided in the early 1980s not to finish work on the two other units because of low demand for electricity. The partially constructed units were later removed.—*Jenny Weil, Washington*

Fire protection reg guide readied for 2006 release for licensee use

A regulatory guide on fire protection should be ready to be issued early next year, allowing licensees to switch over to a risk-informed, performance-based approach for their programs, NRC staff said at an Oct. 6 meeting.

The Advisory Committee on Reactor Safeguards (ACRS) said in a June 14 letter to Executive Director for Operations Luis Reyes that the draft guide, DG-1136, "should not be issued in its present form" because the industry guidance it endorses uses methods "that are not based on a fire probabilistic risk assessment (PRA)" and "contains many statements that are inconsistent with the Commission's policy of promoting the use of PRA methods." That industry guidance, NEI 04-02, was developed by the Nuclear Energy Institute (NEI) for implementing a "risk-informed, performance-based fire protection program" based on National Fire Protection Association (NFPA) Standard 805 (INRC, 3 Oct., 11).

The regulatory guide has since been revised to incorporate the ACRS comments and the NRC plans to issue the guide in 2006 "after submitting draft final versions of the Reg Guide and NEI 04-02 to the ACRS in December," Bob Radlinksi, fire protection engineer at NRC's Office of Nuclear Reactor Regulation (NRR), said at the Oct. 6 ACRS meeting. As the ACRS recommended, NEI 04-02 has been revised to "use a detailed calculation approach" more consistent with methodologies specified in Regulatory Guide 1.174, the NRC's guide to risk-informed regulation, Radlinksi said. Duke Power's Oconee and Progress Energy's Harris will serve as pilot plants as they transition to the NFPA 805 performance-based fire protection approach. The transition is planned to take two years at Oconee and three years at Harris, Paul Lain, project manager for NFPA 805 at NRR, said at the meeting.

After the pilots are completed, Duke will transition McGuire and Catawba, and Progress Energy will transition Crystal River-3, Robinson-2, and both Brunswick units. FirstEnergy's Beaver Valley, Entergy Nuclear's Arkansas Nuclear One, AmerenUE's Callaway, and unnamed Constellation and Dominion plants are also "seriously considering transitioning" to NFPA 805, Lain said.

Full fire PRAs not required

The NRC's fire protection regulations, 10 CFR 50.48(c), and NFPA 805 "allow risk assessments to be performed without a full fire PRA," but "to the extent possible, licensees are encouraged to develop a full fire PRA and the regulatory guide does not specifically endorse non-PRA methods," Radlinski said.

At the meeting, ACRS member George Apostolakis expressed displeasure that the NRC staff "has gone out of its way to accommodate incomplete PRAs" on this and other issues, saying it is "past the time" for this approach. "If you want to do risk-informed regulation, you'd better have the tools," he said. Whether calculations of changes in core damage frequency are "realistic" should be "the focus" in the absence of a full fire PRA, Apostolakis said, urging NRC staff to "go back and follow the rule" specified in Reg Guide 1.174 for such analyses.

"Each plant that transitions to NFPA 805 plans to...develop or enhance fire PRAs," and NRC staff "has informed licensees that transition to NFPA 805 without a fire PRA is impractical," Lain said in his presentation. "Staff plans to use completed and emerging regulatory guides, RES [NRC Office of Nuclear Regulatory Research] products, and industry standards to ensure that the pilots rely on acceptable methods for PRA and fire modeling," he said. The NRC staff is also "in discussions" with NEI on developing a fire PRA peer-review methodology, Lain said.

The American Nuclear Society (ANS) is developing quality standards for fire PRAs. ANS has received preliminary comments on its proposal and is preparing draft standards for public comment, Lain said. A final draft should be available for public comment by late November, at which point the standards will be "within a year of completion," he said. Apostolakis also urged the NRC staff to require licensees to estimate risks from fires that occur during plant shutdown. This is an issue that "has to be handled," and "nature will not wait for us to develop standards," he said. NRC staff is not requesting low-power and shutdown PRAs "at this point," said Sunil Weerakkody, chief of the fire protection section at NRR.

The ANS standard for fire PRAs now being developed "doesn't specifically address shutdown fire risks," Lain said.

Weerakkody said that “fires are more likely during shutdown” than during full-power operation, but the risks of such fires are lower. Nonetheless, NRC staff “will go back and take a look at this,” he said.

Licensees have until Dec. 31 to notify the NRC of their intention to transition to an NFPA 805 fire protection program.
—**Steven Dolley, Washington**

NUCLEAR NEWS FLASHES

Monday, October 31, 2005

INTERNATIONAL NEWS: --A KEY U.K. MINISTER AGREED NUCLEAR IS A RENEWABLE during an energy debate in Parliament's House of Lords Oct. 27. U.K. science minister Lord David Sainsbury added that those who care about climate change should question whether nuclear should be phased out. The UK's "renewables obligation" forces generators to source a certain percentage of their electricity from renewables, from which nuclear has been excluded. An upcoming government energy policy review is expected to consider whether nuclear's status should change, particularly in light of global warming concerns, but opposition to terming it a renewable is strong among traditional environmentalists and some government ministers. Lord Sainsbury said phasing out carbon-free nuclear and replacing it with other renewables, as some environmentalists favor, would mean zero progress in lowering carbon emissions. His agreement on the renewables point came at the end of more than four hours of discussion in which a number of peers said the U.K. has no secure technology for future baseload requirements but nuclear.

Thursday, October 27, 2005

-CONSTELLATION ENERGY SAID TODAY IT WILL PREPARE A COL FOR A NEW REACTOR at either its Calvert Cliffs or Nine Mile Point sites. The company did not say when it planned to file a combined construction permit-operating license (COL) application with the NRC, but it does have a meeting scheduled with agency staff on Nov. 2. Constellation said the development of an application would be done with under a joint venture it formed last month with Areva Inc., UniStar Nuclear. The venture's business plan calls for the deployment of a fleet of Areva's Evolutionary Power Reactor, a 1,600-MW advanced PWR. Constellation said in a news release that a COL would be "the first step in a multi-phase process" that could lead to construction of a new reactor.

2.

Thursday, October 20, 2005

--THE SWEDISH GOVERNMENT APPROVED HIGHER POWER OPERATION FOR RINGHALS-1 AND -3 today, as well as relicensing of Ringhals-2. Ringhals management plans to uprate the first and third reactors by about 290 megawatts combined. Ringhals-1 is rated at 865 MW and unit 3 at 968 MW. An environmental court reviewing Ringhals' environmental impact statement asked the government this spring to consider the uprates and the relicensing. The court said the issues were of such significance that, by law, the government should make the decision. The Swedish Greens and antinuclear groups said the decision was hypocritical in the face of the government's official phase-out policy.

OFFICE OF NUCLEAR REACTOR REGULATION

INTERIM REORGANIZATION
effective 10/30/05

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DEPUTY DIRECTOR
R. William Borchardt

**Program Management, Policy
Development & Planning Staff
(PMAS)**
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Richard P. Corroia, Deputy Director

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ORGANIZATIONAL EFFECTIVENESS BRANCH (POEB)	Joseph E. Donoghue, Chief
INFORMATION MANAGEMENT BRANCH (PIMB)	Anthony J. Mandola, Chief

**ASSOCIATE DIRECTOR FOR
ENGINEERING AND SAFETY SYSTEMS
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Brian W. Sheron

**ASSOCIATE DIRECTOR FOR OPERATING
REACTOR OVERSIGHT AND LICENSING
(ADRO)**
Bruce A. Boger

**ASSOCIATE DIRECTOR FOR RISK ASSESSMENT
AND NEW PROJECTS
(ADRA)**
Gary M. Holahan

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DIVISION OF LICENSE RENEWAL (DLR) Frank P. Giespie, Dir. P. T. Kuo, Dep. Dir.	DIVISION OF OPERATING REACTOR LICENSING (DORL) Catherine Haney, Dir. Cornelius F. Holden, Dep. Dir. Edwin M. Hackett, Dep. Dir.	DIVISION OF INSP & REGIONAL SUPPORT (DIRS) Michael J. Cese, Dir. Stuart A. Richards, Dep. Dir. Patrick L. Hland, Dep. Dir.
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BWR SYSTEMS BRANCH (SBWB) Vacant, Chief	SG TUBE INTEGRITY & CHEM ENG BRANCH (SCGB) Allen L. Hiss, Chief	ENGINEERING MECHANICS BRANCH (EEMB) Kamal A. Manoly, Chief
PWR SYSTEMS BRANCH (SPWB) M. A. Nekost, Chief	PIPING & NDE BRANCH (CNPB) Terence L. Chan, Chief	GEOSCIENCE & CIVIL ENGINEERING BRANCH (EGCB) Vacant, Chief
NUCLEAR PERF & CODE REVIEW BRANCH (SNPB) F. M. Akstulewicz, Chief	VESSELS & INTERNALS INTEGR BRANCH (CVIB) Matthew A. Mitchell, Chief	INSTRUMENTATION & CONTROLS BRANCH (EICB) Allen G. Howe, Chief
BALANCE-OF-PLANT BRANCH (SBPB) Vacant, Chief	FLAW EVALUATION & WELDING BRANCH (CFEB) Vacant, Chief	ELECTRICAL ENGINEERING BRANCH (EEEB) Ronald V. Jenkins, Chief
SAFETY ISSUE RESOLUTION BRANCH (SIB) David L. Solorio, Chief	COMPONENT PERFORMANCE & TESTING BRANCH (CPTB) Samson S. Lee, Chief	QUALITY AND VENDOR BRANCH A (EQVA) Dale F. Thatcher, Chief
		QUALITY AND VENDOR BRANCH B (EQVB) Vacant, Chief

LICENSE RENEWAL BRANCH A (RLRA) A. Louise Lund, Chief	PLANT LICENSING BRANCH A (LPLA) Richard J. Luder, Chief	REACTOR INSPECTION BRANCH (RIB) Russell A. Gibbs, Chief
LICENSE RENEWAL BRANCH B (RLRB) Vacant, Chief	PLANT LICENSING BRANCH B (LPLB) Darrell J. Roberts, Chief	PERFORMANCE ASSESSMENT BRANCH (PAB) James W. Anderson, Chief
LICENSE RENEWAL BRANCH C (RLRC) Jacob I. Zimmerman, Chief	PLANT LICENSING BRANCH C (LPLC) E. C. Markov, Chief	OPERATOR LIC & HUMAN PERF. BRANCH (HOLB) David C. Trimble, Chief
ENVIRONMENTAL BRANCH A (REBA) Andrew J. Kugler, Chief	PLANT LICENSING BRANCH D (LPLD) Michael L. Marshall, Chief	OPERATING EXPERIENCE BRANCH (IOEB) Mary J. Ross-Lee, Chief
ENVIRONMENTAL BRANCH B (REBB) Rene L. French, Chief	PLANT LICENSING BRANCH E (LPLE) L. Raghavan, Chief	TECHNICAL SPECIFICATIONS BRANCH (TSB) Thomas H. Boyce, Chief
	PLANT LICENSING BRANCH F (LPLF) Gene Y. Suh, Chief	HEALTH PHYSICS BRANCH (HPB) Vacant, Chief
	PLANT LICENSING BRANCH G (LPLG) David Teras, Chief	

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NEW REACTOR INFRASTRUCTURE PLANNING BRANCH (NRPB) Patrick M. Medden, Chief	PRA LICENSING BRANCH A (APLA) Mark P. Rubin, Chief	REG. ANALYSIS, POLICY & RULEMAKING BRANCH (PRAB) Stephanie M. Coffin, Chief
	PRA LICENSING BRANCH B (APLB) Vacant, Chief	GENERIC COMMUN. & POWER UPRATE BRANCH (PGCB) Vacant, Chief
	PRA OPERATIONAL SUPPORT & MAINT. BRANCH (APOB) F. Mark Reinhart, Chief	SPECIAL PROJECTS BRANCH (PSPB) Robert A. Grams, Chief
	FIRE PROTECTION BRANCH (AFPB) Suzil D. Wearstody, Chief	RES & TEST REACTORS BRANCH A (PRTA) Brian E. Thomas, Chief
	CONTAINMENT & VENTILATION BRANCH (ACVB) Robert L. Darrig, Chief	RES & TEST REACTORS BRANCH B (PRTB) Vacant, Chief







Point Beach Nuclear Plant



License Renewal Presentation to ACRS

Jim Knorr
PBNP License Renewal Project Manager
Nuclear Management Company, LLC
November 3, 2005



1



Participants



- John Thorgersen – Programs Lead
- Todd Mielke – Mechanical Lead
- Mark Ortmayer – Civil/Structural Lead
- Steven Schellin – Electrical Lead
- Brad Fromm – TLAAs & Major Components
- Bill Herrman – Programs & Implementation



2



Description of Point Beach Nuclear Plant



- PBNP Owner – We Energies
- PBNP Operator – Nuclear Management Company, LLC
- Located in Two Creeks, Wisconsin
- Architect/Engineer – Bechtel Corp.
- Westinghouse 2-loop PWRs
- Rated Thermal Power
Units 1 and 2: 1540 MWt
- Rated Electrical Output
Unit 1: 538 MWe
Unit 2: 538 MWe



3



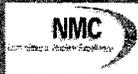
Point Beach Features



- Four Emergency Diesel Generators
- 25 MWe Combustion Turbine
- Ultimate Heat Sink - Lake Michigan
- Once-through Cooling
- Containment - Post Tensioned Steel Reinforced Concrete with Steel Liner
- 18 Month Fuel Cycles



4



PBNP Performance Summary



Point Beach Unit 1				
	Cycle 25 6/98-10/99	Cycle 26 12/99-4/01	Cycle 27 5/01-9/02	Cycle 28 10/02-4/04
Capacity Factor	93.2%	94.7%	95.3%	96.9%
Outage Duration	54 days	37 days	32 days	65 days

Point Beach Unit 2				
	Cycle 24 2/99-10/00	Cycle 25 12/00-4/02	Cycle 26 5/02-10/03	Cycle 27 11/03-4/05
Capacity Factor	97.6%	96.2%	97.1%	96.7%
Outage Duration	62 days	30 days	45 days	98 days



PBNP Major Improvements



- New Steam Generators
 - Unit 1 - 1984
 - Unit 2 - 1997
- Split Pin Replacement - Both Units
- Unit 2 Baffle Bolt Replacement - 1998
- New Integral-Hub Low Pressure Turbines Units 1 and 2 - 1998



PBNP Major Improvements



- Upgrade Portions of Service Water System – 1998-2000
- New Containment Fan Cooler HXs Units 1 and 2 – 2000-2002
- Reactor Vessel Head Replacement
 - Unit 2 in Spring 2005
 - Unit 1 in Fall 2005
- Scheduled to Replace Auxiliary Feedwater Pumps – 2006-2007



7



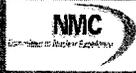
License Renewal Application



- Original License Expiration
 - Unit 1 – October 5, 2011
 - Unit 2 – March 8, 2013
- Application Submitted February 25, 2004
- LRA Process
 - Standard LRA Format with Expanded Content
 - Used Past Precedence
 - NRC Used the New Review Process with Consistent with GALL audits.



8



Corrective Action Program



- Common Process Across NMC Fleet
 - Team-Track/Passport System
 - Corrective Action Program (CAP)
- Integrated into Work Control Process.
- Establishes measures to be taken to assure correction of conditions adverse to quality.
- Thus providing reasonable assurance that:
 - The cause has been determined
 - Corrective actions preclude repetition
 - Corrective action is taken in a timely, effective and sustainable manner
- Integral to Tracking Commitments.

9



License Renewal Commitments

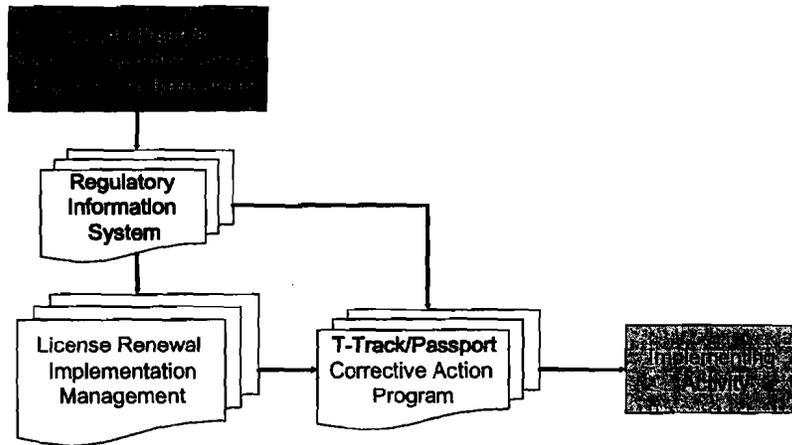


- Commitments were provided as part of the original LRA and modified as part of review.
 - 72 Commitments listed in SER
 - 7 are already complete
- Each of these commitments is managed by our Regulatory Information System and tracked to completion using the Corrective Action Program.
- New Chapter 15 of the FSAR will contain the programmatic and TLAA related license renewal information.
- Existing FSAR sections will be revised to include the appropriate changes resulting from the LRA review.

10

Commitment Management

Commitments were documented in the License Renewal Application or added and modified as needed during the NRC review

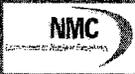


License Renewal Implementation



- License Renewal Implementation has begun.
 - An Aging Management Program owner has been appointed for each AMP.
 - Procedures are being marked up to identify changes required for License Renewal.
 - Some One-time inspections have already been completed.
 - Capitol budget has been provided through 2006 for a focused implementation effort.





License Renewal Implementation



- License Renewal Implementation continues.
 - Organizational changes have been identified to ensure aging management processes are sustainable.
 - Commitments will be completed prior to the period of extended operation or sooner.
 - Individual tasks for each commitment not completed by the end of 2006 will be entered into the Corrective Action Program to ensure completion.
 - Currently Implementation is 20% complete.







Draft Final Generic Letter 2005-xx, “Grid
Reliability and the Impact on Plant Risk
and the Operability of Offsite Power”

Presentation to ACRS

Ronaldo Jenkins

Office of Nuclear Reactor Regulation



Agenda

- Introduction / Overview
- Public Comments on Draft Generic Letter
- Staff Changes to Draft Generic Letter
- RES Supporting Actions



Acronyms

- ACRS Advisory Committee on Reactor Safeguards

- FERC Federal Energy Regulatory Commission

- GDC General Design Criterion

- GL Generic Letter

- LOOP Loss of Offsite Power

- NERC North American Electric Reliability Council

- NPP Nuclear Power Plant



Acronyms

- NRR Office of Nuclear Reactor Regulation
- RES Office of Nuclear Regulatory Research
- RTCA Real Time Contingency Analysis
- SBO Station Blackout
- SRM Staff Requirements Memorandum
- TI Temporary Instruction
- TSO Transmission System Operator



Introduction/Overview

- CHRONOLOGY
 - ◆ AUGUST 14, 2003, BLACKOUT RAISED CONCERNS REGARDING COMPLIANCE WITH NRC REGULATIONS
 - ◆ MAY 18, 2004, SRM ASKED THE STAFF TO CONSIDER WHAT NRC SHOULD DO TO FACILITATE AND IMPROVE COMMUNICATIONS BETWEEN NPPs AND TSOs
 - ◆ NOVEMBER 4, 2004, NRR BRIEFED THE ACRS ON GRID ISSUES
 - ◆ DECEMBER 2004, THE STAFF CONCLUDED THAT A GENERIC LETTER WAS WARRANTED BASED ON RISK INFORMED AND DETERMINISTIC REVIEWS AND THE RESULTS FROM TI 2515/156, "OFFSITE POWER SYSTEM OPERATIONAL READINESS."



Introduction/Overview

- **CHRONOLOGY (CONT'D)**
 - ◆ **APRIL 12, 2005, ISSUED DRAFT GENERIC LETTER FOR PUBLIC COMMENTS**
 - ◆ **APRIL 26, 2005, COMMISSION BRIEFING ON GRID STABILITY**
 - ◆ **MAY 19, 2005, SRM ASKED THE STAFF TO ISSUE FINAL GENERIC LETTER NO LATER THAN DECEMBER 15, 2005**

- **RESULTS OF TWO TEMPORARY INSTRUCTIONS COMPLETED IN 2004 AND 2005 INDICATED A GREAT DEAL OF VARIABILITY ON THE USE OF NPP/TSO PROTOCOLS**



Introduction/Overview

- STRUCTURE OF GENERIC LETTER
 - ◆ QUESTIONS BASED UPON REGULATORY INFORMATION SUMMARY (RIS) 2004-05, "GRID RELIABILITY AND THE IMPACT ON PLANT RISK AND THE OPERABILITY OF OFFSITE POWER," WHICH WAS ISSUED IN APRIL 2004
 - ◆ AREAS OF INQUIRY
 - ◆ 4 QUESTIONS – GDC 17/TECHNICAL SPECIFICATIONS
 - ◆ 2 QUESTIONS- MAINTENANCE RULE
 - ◆ 2 QUESTIONS - SBO



Draft Final Generic Letter 2005-xx, “Grid
Reliability and the Impact on Plant Risk
and the Operability of Offsite Power”

Presentation to ACRS

Paul Gill

Office of Nuclear Reactor Regulation



Public Comments to Draft GL

- COMMENTS RECEIVED FROM:
 - ◆ VARIOUS NUCLEAR POWER UTILITIES/OWNER GROUPS
 - ◆ NUCLEAR ENERGY INSTITUTE
 - ◆ THE OAK RIDGE NATIONAL LABORATORY
 - ◆ THE STATE OF NEW JERSEY
 - ◆ BONNEVILLE POWER ADMINISTRATION
 - ◆ MR. K. M. STRICKLAND



Public Comments to Draft GL

- COMMENTS PERTAINED TO:
 - ◆ GDC 17, "ELECTRIC POWER SYSTEMS"
 - ◆ 10 CFR 50.65 (MAINTENANCE RULE)
 - ◆ 10 CFR 50.63 (SBO RULE)
 - ◆ SCHEDULE
 - ◆ LEGAL/BACKFIT
 - ◆ MISCELLANEOUS



Public Comments to Draft GL

■ GDC 17 COMMENTS FROM INDUSTRY:

- ◆ FORMAL AGREEMENTS BETWEEN THE NPP AND THE TSO ARE NOT ESSENTIAL;
- ◆ USE OF THE RTCA IS NOT ESSENTIAL;
- ◆ GDC-17 IS A DESIGN REQUIREMENT AND DOES NOT STIPULATE OPERATING REQUIREMENTS;
- ◆ PLANTS SHOULD NOT HAVE TO ADDRESS DESIGN CRITERIA TO WHICH THEY ARE NOT LICENSED; AND
- ◆ OFFSITE POWER OPERABILITY DETERMINATIONS SHOULD NOT BE BASED ON CONTINGENCIES OR MODELS (i.e., HYPOTHETICAL SITUATIONS).



Response to Public Comments

- STAFF SEEKS TO UNDERSTAND HOW LICENSEES ENSURE CONSISTENT COMPLIANCE WITH REQUIREMENTS GIVEN DYNAMIC CHANGES OCCURRING IN ELECTRIC POWER INDUSTRY
- GDC-17 IMPLIES OPERATIONAL REQUIREMENTS WHICH ARE THEN REFLECTED IN TECHNICAL SPECIFICATIONS
- ALL NPPs HAVE OFFSITE POWER REQUIREMENTS SIMILAR TO GDC-17 (E.G., ATOMIC ENERGY COMMISSION CRITERION 39)
- AS DEMONSTRATED BY THE 1999 CALLAWAY EVENT, THE CAPABILITY AND CAPACITY OF THE OFFSITE POWER SYSTEM CAN ONLY BE DEMONSTRATED USING ANTICIPATED GRID AND PLANT CONDITIONS



Staff Changes to Draft GL

- IN RESPONSE TO PUBLIC COMMENTS, CLARIFICATIONS WERE MADE TO THE GL TEXT REGARDING:
 - ◆ Formal protocols with TSOs
 - ◆ Use of RTCAs
 - ◆ Use of seasonal variations in grid reliability evaluations under 10 CFR 50.65



Staff Changes to Draft GL (cont'd)

- WE ADDED THE TERM, "GRID-RISK-SENSITIVE," TO REFER TO THOSE MAINTENANCE ACTIVITIES WHICH MUST BE ASSESSED AND MANAGED FOR RISK:
 - ◆ Have a high likelihood of causing a plant trip
 - ◆ Have a high likelihood of causing a LOOP
 - ◆ Impact the ability to cope with LOOP or SBO (e.g., taking an Emergency Diesel Generator, steam-driven Auxiliary Feedwater Pump out of service)



Staff Changes to Draft GL (cont'd)

- IN RESPONSE TO THE SRM DATED MAY 19, 2005, (MO50426), AND A TI 2515/163 FINDING, WE MODIFIED TEXT FOR QUESTIONS 1, 3, 4, 6 AND 7 TO INCLUDE TRAINING:
 - ◆ SRM M050426 requested that the staff review training and examination programs in this area
 - ◆ Finding 05000286/20050302: “Inadequate corrective actions associated with training, procedural adequacy and operator knowledge on methods to address degraded grid”



Draft Final Generic Letter 2005-xx, “Grid
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and the Operability of Offsite Power”

Presentation to ACRS

William Raughley

Office of Nuclear Regulatory Research



RES Supporting Actions

■ SUMMARY

- ◆ Now collaborating with NERC under Memorandum of Agreement to include NPP electrical parameters in NERC grid models used for power-flow and dynamic analyses.
- ◆ The FERC also plans to participate in the use of these models.



RES Supporting Actions (Cont'd)

- **PURPOSE** – Obtain a model to assess the interface between NPPs and TSOs to:
 - ◆ Avoid large scale system disturbances or LOOP to NPPs
 - ◆ Identify potential for small disturbances or inadequacies to NPPs which can lead to larger disturbances or operating problems
 - ◆ Transmission system engineers and operators are made more aware of NPP constraints and critical points that need to be monitored to effectively control NPP voltage



RES Supporting Actions (Cont'd)

■ Uses

- ◆ A way to study grid problems
- ◆ Platform to investigate effects of grid operations on NPPs
- ◆ Keep NERC, FERC and other stakeholders informed of changes due to grid operations.





Draft Final Generic Letter 2005-xx, “Grid
Reliability and the Impact on Plant Risk
and the Operability of Offsite Power”

Presentation to ACRS

Back up Slides



NRC Staff Resolution of Public Comments

Table 1: Key for Resolution of Comments

<u>Sources of Comments</u>	<u>(ADAMS Accession No.)</u>	<u>Comment Designator</u>
Nuclear Energy Institute (NEI)	(ML051710189)	N
Progress Energy, Inc	(ML051740216)	P
Tennessee Valley Authority	(ML051740196)	T
Strategic Teaming and Resource Sharing (STARS)	(ML051740206)	S
Detroit Edison	(ML051740218)	D
Entergy Nuclear Northeast	(ML051740203)	E
AmerGen	(ML051740213)	A
Nuclear management Company (NMC)	(ML051890020)	M
BWR Owners' Group	(ML051740198)	O
Nuclear Regulatory Services Group (NRSRG)	(ML051710193)	G
Bonneville Power Administration	(ML051710186)	B
Oak Ridge National Laboratory	(ML051260218)	R
Kimball M. Strickland	(ML051120223)	
State of New Jersey	(ML051710183)	



Bin # Description

- 1 Comments related to connecting the generic letter to compliance with GDC 17
- 2 Comments related to connecting the generic letter to compliance with 10 CFR 50.65
- 3 Comments related to connecting the generic letter to compliance with 10 CFR 50.63
- 4 Comments related to schedule
- 5 Legal, backfit determinations
- 6 Miscellaneous comments



(BIN 1) GDC -17

COMMENTS/RESOLUTION

- **INDUSTRY COMMENTS DRAFT ON GDC17 IN GENERIC LETTER CONTEND THAT:**
- **•FORMAL AGREEMENTS BETWEEN THE NPP AND THE TSO AND USE OF THE RTCA ARE NOT ESSENTIAL TO ASSURE COMPLIANCE WITH GDC-17;**
- **•GDC-17 IS A DESIGN REQUIREMENT AND DOES NOT STIPULATE OPERATING REQUIREMENTS;**
- **•-PLANTS SHOULD NOT HAVE TO ADDRESS DESIGN CRITERIA TO WHICH THEY ARE NOT LICENSED AND THAT DO NOT APPLY TO THEIR FACILITIES**
- **•-OFFSITE POWER OPERABILITY DETERMINATIONS SHOULD NOT BE BASED ON CONTINGENCIES OR MODELS (i.e., HYPOTHETICAL SITUATIONS)**



IN RESPONSE TO THESE COMMENTS, THE STAFF REVISED THE GL AS FOLLOWS:

- **WITH REGARD TO THE FIRST COMMENT:**
- **TO INDICATE THAT WHILE USE OF RTCA OR EQUIVALENT STATE-OF-THE-ART PROGRAM BY THE TSO TO ASSIST NPP IN MONITORING GRID RELIABILITY AND DETERMINE THE OPERABILITY OF OFFSITE POWER AND THE USE OF FORMAL TSO/NPP COMMUNICATIONS PROTOCOLS ARE NOT EXPLICITLY REQUIRED BY REGULATIONS, THEY ARE CONSIDERED NECESSARY FOR VALID, REAL-TIME GRID RELIABILITY EVALUATIONS.**
- **TO INDICATE THAT THE STAFF SEEKS TO UNDERSTAND HOW LICENSEES COMPLY WITH TECHNICAL SPECIFICATIONS AND GDCs IF TSO DOES NOT USE RTCA IN MONITORING GRID RELIABILITY.**
- **TO INDICATE THAT THE STAFF ALSO SEEKS TO UNDERSTAND HOW LICENSEES ENSURE CONSISTENT COMPLIANCE WITH TS AND THE GDCs IF THERE ARE NO FORMAL COMMUNICATIONS PROTOCOLS BETWEEN NPP AND TSO.**



GDC -17 COMMENTS/RESOLUTION (CONT'D)

- **WITH REGARD TO THE SECOND COMMENT, TO INDICATE THAT THE STAFF BELIEVES THAT THE OPERATIONAL REQUIREMENTS FOR GDC 17 ARE EMBODIED IN THE TECHNICAL SPECIFICATIONS. OTHER GDCs SUCH AS 33, 34, 35, 38, 41, AND 44 REQUIRE OFFSITE POWER TO BE AVAILABLE TO PERFORM THE ASSOCIATED SAFETY FUNCTIONS ASSUMING ONSITE POWER IS NOT AVAILABLE. GDC 17 COMBINED WITH OTHER GDCs STIPULATE FUNCTIONAL REQUIREMENTS FOR THE OFFSITE POWER SUPPLY DURING AND AFTER TRIP OF THE NPP.**
- **WITH REGARD TO THE THIRD COMMENT, TO INDICATE THE STAFF POSITION THAT PLANTS NOT LICENSED TO GDC-17 WERE LICENSED TO PLANT SPECIFIC DESIGN CRITERIA (PDC) SUCH AS AEC CRITERION 39. ALL PLANTS HAVE OFFSITE POWER REQUIREMENTS SIMILAR TO GDC-17. THE STAFF HAS ADDED A FOOTNOTE TO THE GL TO CLARIFY THIS.**



GDC -17 COMMENTS/RESOLUTION (CONT'D)

- WITH REGARD TO THE FOURTH COMMENT, TO INDICATE THE STAFF POSITION THAT THE CAPABILITY AND OPERABILITY OF THE OFFSITE POWER SYSTEM CANNOT BE TESTED EXCEPT WHEN CHALLENGED IN AN ACTUAL EVENT; SUCH THAT THE DESIGN BASES OF THE OFFSITE POWER SYSTEM CAN ONLY BE ASSURED BY CONSIDERING ACTUAL AND ANTICIPATED GRID AND PLANT CONDITIONS. THEREFORE, IT IS ESSENTIAL TO RELY ON REAL-TIME CONTINGENCY ANALYSIS FOR ASSESSING WHETHER OFFSITE POWER SUPPLY IS GOING TO BE FUNCTIONAL OR NOT, UPON A UNIT TRIP. RTCA OR OTHER EQUIVALENT TOOLS PROVIDE THIS TYPE OF INFORMATION.



(BIN 2) MAINTENANCE RULE (50.65) COMMENTS/RESOLUTION

- **THE INDUSTRY COMMENTS REGARDING 10 CFR 50.65 COMPLAINED THAT THE GL IMPLIED THAT THE FOLLOWING THINGS WERE REQUIRED FOR COMPLIANCE WITH 50.65(A)(4):**
 - ◆ **GRID RELIABILITY EVALUATION (GRE)**
 - ◆ **FORMAL PROTOCOLS WITH THE TSO**
 - ◆ **INCORPORATING SEASONAL VARIATION IN LOSS-OF-OFFSITE-POWER (LOOP) FREQUENCY IN RISK ASSESSMENTS**
 - ◆ **USE OF REAL TIME CONTINGENCY ANALYSIS (RTCA) PROGRAMS**



IN RESPONSE TO THESE COMMENTS, WE CHANGED THE LANGUAGE OF THE GL TO:

- EXPLAIN WHY GRES ARE REQUIRED FOR COMPLIANCE AS THEY ARE EXTERNAL CONDITIONS, BUT NEED NOT BE QUANTITATIVE
- INDICATE THAT SOME COMMUNICATION WITH THE TSO WOULD BE REQUIRED FOR COMPLIANCE, BUT THAT FORMAL PROTOCOLS WERE NOT REQUIRED, BUT WE NEEDED TO KNOW ABOUT INDUSTRY PRACTICE IN THIS REGARD
- INDICATE THAT ALTHOUGH THERE WAS NO REGULATORY REQUIREMENT OR INDUSTRY GUIDANCE TO USE SEASONAL VARIATIONS, WE NEEDED TO KNOW IF THERE WERE ANY AND, IF SO, HOW WERE THEY ACCOUNTED FOR, RATHER THAN IMPLYING THEY WOULD BE REQUIRED FOR COMPLIANCE
- INDICATING THAT WHILE USE OF RTCAS WAS NOT REQUIRED FOR NPPS AND ALSO NOT FOR TSOs, WE NEEDED TO KNOW IF THEY WERE AVAILABLE AND HOW THEY ARE BEING USED



(BIN 2) MAINTENANCE RULE (50.65) COMMENTS/RESOLUTION

- **IN ADDITION, TO PARALLEL THE LANGUAGE OF 10CFR50.65(A)(4) AND HAVE A COMPREHENSIVE TERM, WE COINED THE TERM "GRID-RISK-SENSITIVE" MAINTENANCE ACTIVITIES, I.E., THOSE MAINTENANCE ACTIVITIES (PRIOR TO WHICH, RISK MUST BE ASSESSED AND MANAGED) THAT:**
 - ◆ Have an increased probability of causing a plant trip
 - ◆ Have an increased probability of causing a LOOP
 - ◆ Impact the ability to cope with LOOP or SBO (e.g., taking an EDG, steam-driven AFW pump, etc. out of service)



(BIN 3) STATION BLACKOUT (50.63) COMMENTS/RESOLUTION

- **INDUSTRY COMMENTS ON SBO IN DRAFT GENERIC LETTER CONTEND THAT:**
 - ◆ IT IS NOT NOT PART OF THE LICENSING BASIS AND NOT REQUIRED FOR COMPLIANCE WITH 50.63 TO HAVE ESTABLISHED AN AGREEMENT WITH THE TSO THAT IDENTIFIES LOCAL POWER SOURCES AND TRANSMISSION PATHS THAT COULD BE MADE AVAILABLE TO SUPPLY THE PLANT.
 - ◆ THE DEFINITION OF LOOP IS INCONSISTENT IN THE DRAFT GL COMPARED TO RG 1.115, I.E., "GRID RELATED TOTAL LOOP," VERSUS "TOTAL LOSS OF OFFSITE POWER CAUSED BY GRID FAILURE."
 - ◆ NPP HAS A GRID-CENTERED LOOP DOES NOT AUTOMATICALLY MEAN THAT THEIR PROBABILITY IS NOW GREATER THAN ONCE IN 20 YEARS AS IMPLIED BY THE PROPOSED GL AND THAT THEY SHOULD RE-EVALUATE THEIR PREVIOUS CATERGORIZATION.
 - ◆ EVEN IF ASSUMPTIONS USED TO ESTABLISH SBO COPING CATEGORIES WERE TO BE CALLED INTO QUESTIONS, IT SHOULD NOT HAVE ANY IMPACT ON THE METHOD OF COMPLIANCE WITH THE SBO RULE FOR PLANTS RELYING ON ALTERNATE AC SOURCES.



(BIN 3) STATION BLACKOUT (50.63) COMMENTS/RESOLUTION

- **IN RESPONSE TO THESE COMMENTS, THE STAFF STATES THE FOLLOWING:**
 - ◆ ALL NPPs USED NUMARC-8700 AND RG 1.155 FOR COMPLYING WITH THE SBO RULE. RG 1.155, SECTION 2 CALL FOR PROCEDURES FOR RESTORING OFFSITE POWER AND USE OF NEARBY POWER SOURCES (SUCH AS HYDRO, FOSSIL, BLACK-START, ETC). NUMARC- 8700, SECTION 4.2.2 and 4.3.2 PROVIDE GUIDANCE FOR OPERATIONS AND LOAD DISPATCHER FOR COURSE OF ACTION TO RESTORE OFFSITE POWER TO THE BLACKED-OUT UNIT. THE STAFF BELIEVES THAT ESTABLISHMENT OF THE THESE PROCEDURES IS PART OF THE LICENSING BASIS IN MEETING THE SBO RULE.

 - ◆ THE STAFF AGREES WITH THE COMMENT. THE GL WAS CHANGED TO REFLECT THE COMMENT.



(BIN 3) STATION BLACKOUT (50.63) COMMENTS/RESOLUTION

- **3RD COMMENT:THE LOSS-OF-OFFSITE POWER (LOOP) FREQUENCY DUE TO GRID-RELATED EVENTS WAS USED IN DETERMINING SBO COPING DURATION AND DISCUSSED IN RG 1.115 AND NUMARC-8700. ONE OF THE UNDERLYING ASSUMPTIONS USED IN DETERMINING OFFSITE POWER DESIGN CHARACTERISTIC GROUP OF AN NPP WAS THE TOTAL LOSS OF OFFSITE POWER CUASED BY GRID-RELATED FAILURES HAVING A FREQUENCY OF \geq 20 YEARS. IN THE DEVELOPMENT OF THE SBO RULE, GRID RELIABILITY WAS CATEGORIZED BY FAILURE FREQUENCY BASED ON PAST EXPERIENCE.(NUREG 1032). THEREFORE, IF THE PAST EXPERIENCE (OVER 20 YEARS) SHOWS A LESS RELIABLE GRID, THEN THE SBO RULE UNDERLYING ASSUMPTIONS MUST BE ADDRESSED TO COMPLY WITH THE SBO RULE.**



(BIN 3) STATION BLACKOUT (50.63) COMMENTS/RESOLUTION

- AT VARIOUS NPPs, AAC SOURCES CREDITED FOR COPING WITH AN SBO VARY FROM BEING MINIMALLY CAPABLE TO FULLY CAPABLE. FOR EXAMPLE, AN NPP USING MINIMALLY CAPABLE AAC SOURCE IS RELYING ON EQUIPMENT THAT IS NOT SUPPORTED BY THE AAC SOURCE, IN OTHER WORDS THIS NPP IS RELYING ON AAC SOURCE AND DC POWER. IF THE SPECIFIED COPING DURATION FOR AN NPP IS INCREASED, SAY FROM 4 TO 8 HOURS, THEN THE APPROVED COPING ANALYSIS WILL NO LONGER BE VALID. THEREFORE, COPING DURATION CHANGE FOR AN NPP WILL HAVE AN IMPACT ON THE METHOD OF COMPLIANCE WITH THE SBO RULE FOR PLANTS USING AAC SOURCES AND THOSE NOT USING AAC SOURCES.



(BIN 5) LEGAL/BACKFIT DETERMINATIONS

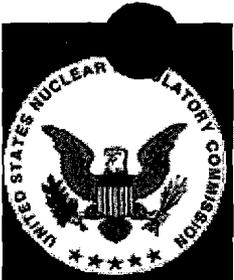
- **INDUSTRY COMMENTS IN THIS AREA ARE:**
 - ◆ IT IS NOT THE PURPOSE OF THE GL TO IMPOSE NEW REGULATORY POSITIONS AND EXPECTATIONS ON LICENSEES BY PRESUMING THAT LICENSEES ARE IN NONCOMPLIANCE WITH EXISTING REGULATORY REQUIREMENTS AS A RESULT OF AN EMERGING ISSUE. SUCH A PRESUMPTION OF NONCOMPLIANCE EXPRESSED VIA A GL ILLEGITIMATELY SHIFTS THE BURDEN OF COMPLIANCE ONTO LICENSEES WHEN AN EMERGING ISSUE ARISES THAT WAS NOT SPECIFICALLY ADDRESSED IN CURRENT REGULATIONS AND THE EXISTING PLANT LICENSING BASES. IF THE NRC DOES PROCEED WITH THE ISSUANCE OF THE PROPOSED GL, WE BELIEVE IT SHOULD BE TREATED AS A BACKFIT UNDER 10 CFR 50.109.



(BIN 5) LEGAL/BACKFIT DETERMINATIONS

■ STAFF RESPONSE:

- ◆ THE GL DOES NOT SET FORTH SUCH A STAFF POSITION. THE GL MERELY ASKS WHETHER AND HOW LICENSEES OBTAIN AND USE RTCA PROGRAM INFORMATION, WITH RESPECT TO COMPLIANCE WITH APPLICABLE REGULATORY REQUIREMENTS (PLANT TSS IN CONJUNCTION WITH 10 CFR PART 50, APPENDIX A, GENERAL DESIGN CRITERIA 17, 10 CFR 50.65(A)(4), AND 10 CFR 50.63) AND WHETHER THESE REQUIREMENTS ARE BEING MET IN REGARD TO THE GRID TOPICS ADDRESSED IN THE GL. THE GL DOES NOT INVOLVE OR PROPOSE ANY BACKFIT OR RULEMAKING. THE GL IS NOT DIRECTED TO TRANSMISSION SYSTEM OPERATORS, NOR DOES IT SUGGEST THAT THE NRC IS CONSIDERING A REQUIREMENT THAT TSOs PROVIDE INFORMATION TO LICENSEES. IF THE NRC DETERMINES THAT SUCH A REQUIREMENT IS NEEDED TO ENSURE COMPLIANCE WITH NRC REQUIREMENTS OR TO ASSURE ADEQUATE PROTECTION OF PUBLIC HEALTH AND SAFETY OR THE COMMON DEFENSE AND SECURITY, THE NRC WILL IMPOSE THE REQUIREMENT THROUGH A RULE OR ORDERS.



(BIN 6) MISCELLANEOUS COMMENTS

- **INDUSTRY COMMENTS IN THIS AREA ARE:**
 - ◆ **CRITICAL INFRASTRUCTURE INFORMATION THAT WOULD BE PROVIDED TO THE COMMISSION AS A RESULT OF THE PROPOSED GL, MAY BE NON-SAFEGUARDS SENSITIVE UNCLASSIFIED INFORMATION THAT WOULD NOT BE SUBJECT TO DISCLOSURE TO ANY THIRD PARTIES.**
 - ◆ **GL APPEARS TO BE A DUPLICATED EFFORT OF A PROCESS THAT IS ALREADY IN PLACE**
 - ◆ **IF ALL OF THE QUESTIONS ARE EXPECTED TO BE ADDRESSED, IT WOULD BE HELPFUL TO NUMBER EACH QUESTION. FOR EXAMPLE, QUESTION 2 CONTAINS APPROXIMATELY 11 SUB-QUESTIONS WHICH COULD BE LABELED 2 A) THROUGH 2 K) TO FACILITATE STANDARD BINNING OF INFORMATION AND ENSURE MORE COMPLETE RESPONSES.**



(BIN 6) MISCELLANEOUS COMMENTS

- **IN RESPONSE TO THESE COMMENTS, WE CHANGED THE LANGUAGE OF THE GL TO:**
 - ◆ WE HAVE ADDED IN THE GL REFERENCE TO SECY-04-0191, "WITHHOLDING SENSITIVE UNCLASSIFIED INFORMATION CONCERNING NUCLEAR REACTORS FROM PUBLIC DISCLOSURE," AND TO 10 CFR 2.390 FOR IDENTIFYING INFORMATION SUBMITTED TO THE NRC AS NONSAFEGUARDS SENSITIVE UNCLASSIFIED INFORMATION.
 - ◆ THE STAFF IS IN FAVOR OF THE INDUSTRY INITIATIVES AND ACTIVITIES CITED. HOWEVER, BASED ON THE UNCERTAINTY OF THE COMPLETION OF SUCH INITIATIVES, THE STAFF BELIEVES THAT THE GL IS NEEDED TO OBTAIN ADDITIONAL INFORMATION FOR FURTHER STAFF ASSESSMENT AND ACTION.
 - ◆ WE HAVE REVISED THE GL QUESTIONS WITH SUB-PARTS THAT ARE INDIVIDUALLY LABELED.



Safety Concerns

- Studies have shown that Station Blackout (Loss of all onsite and offsite AC power) is an important contributor to the core damage frequency for many plants
- Loss of Offsite Power Transients
 - Unnecessarily challenge safety systems
 - Initiate load sequencing that may not be analyzed for all type of operations (Double-Sequencing i.e., IN 95-37)



Safety Concerns (Cont'd)

- CALLAWAY LER(50-483/99-005)
INDICATED THAT GRID
CONDITIONS CAN RESULT IN
VOLTAGES INSUFFICIENT TO
POWER ACCIDENT LOADS
 - Direct reading of switchyard voltage could not verify operability
 - Power wheeling due to deregulation and increased service area loads were responsible for wide switchyard voltage range



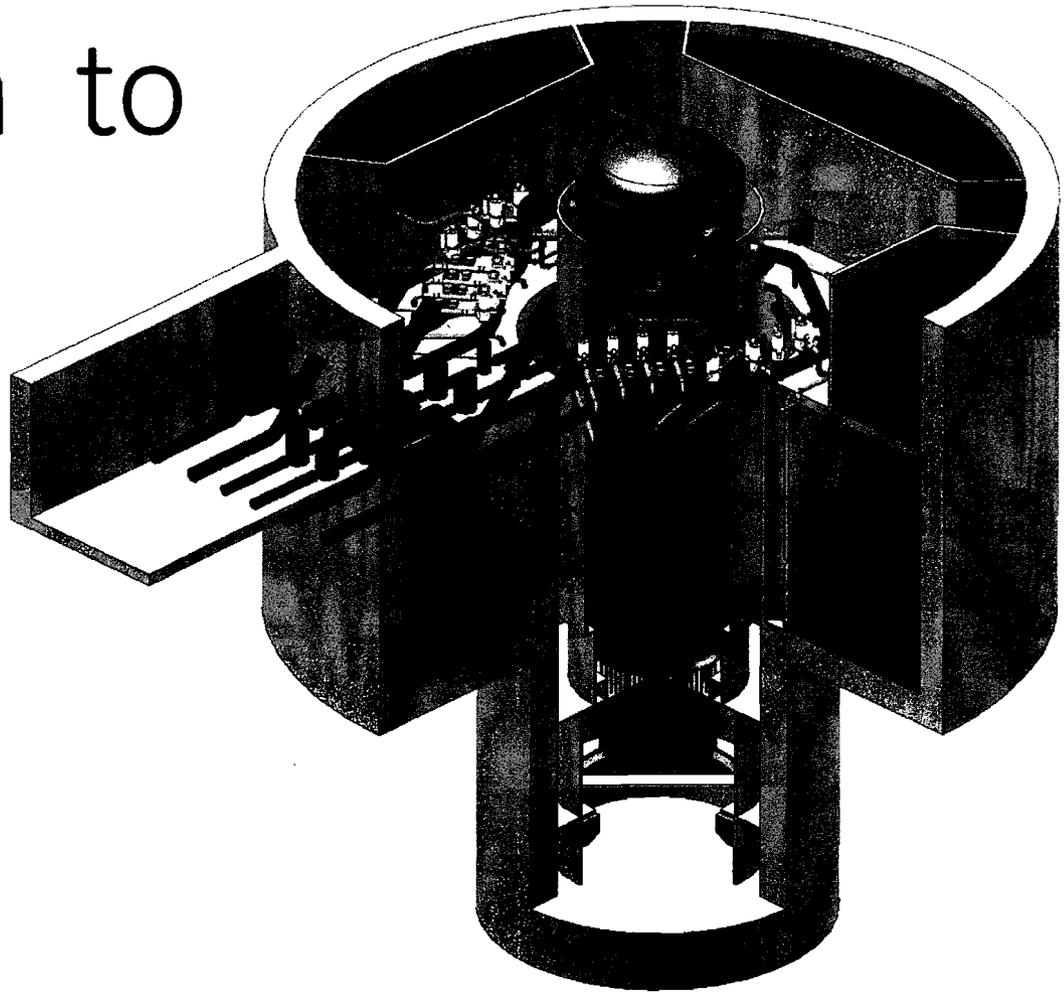
Industry Actions

- **Grid Reliability – Industry Initiative**
 - Communicate to Licensees the Issues Associated with Degraded Grid Voltage
 - Monitor Industry Progress in Addressing the Industry Action Plan for Addressing Grid Voltage Adequacy Concerns
 - Assess Risk Significance of Potential Grid Voltage Sequences
 - Conduct an Industry Workshop to facilitate sharing of practices, insights and activities

Item	NUREG-1784 Result	Current Study Result
Probability of a consequential LOOP given a reactor trip	2.0E-3 for 1985–1996	3.0E-3 for 1986–1996
	4.5E-3 for 1997–2001	5.3E-3 for 1997–2004
	1.0E-2 for 1997–2001 (summer months)	9.1E-3 for 1997–2004 (summer months)
Average LOOP duration has increased (Median Duration)	60 min. for 1985–1996	~125 min. for actual bus restoration for 1986–1996
	688 min. for 1997–2001	~690 min. for actual bus restoration for 1997–2001
		~355 min. for actual bus restoration for 1997–2003

ESBWR Overview Presentation to the ACRS

David Hinds
J. Alan Beard
Rick Wachowiak
November 3, 2005



Presentation Content

- Design Certification Application Status
- BWR Design Evolution
- ESBWR Primary Characteristics
 - > Design Improvements
- ESBWR Passive Systems
- Probabilistic Risk Assessment (PRA) Summary

ESBWR

- Builds on the ABWR certified design
 - > Current project in progress at Lungmen
 - > Experience base developed
 - Suppliers
 - Global and Qualified
 - Digital C&I Design
- GE is committed to producing a quality product
- ESBWR design will Continue to build on the ABWR experience and technology

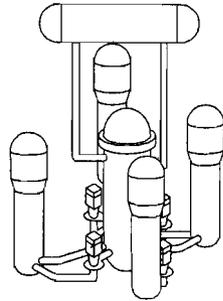
ESBWR DCD Submittal

- Comprehensive DCD Submitted
 - > Reg Guide 1.70 format
 - > Built on experience and lessons learned from SBWR & ABWR applications
 - > Incorporated many of the regulatory positions established during the review of the AP-1000
 - Main Control Room Habitability
 - Regulatory Treatment of Non Safety Systems (RTNSS)
 - Diverse Digital C&I

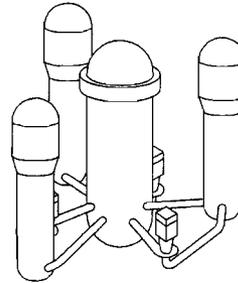
Status of DCD Submittal

- DCD submitted to the NRC on 8/24/05
- NRC initiated a prompt and thorough review of application
- Acceptance review letter received by GE
 - > Identified a number of areas requiring further detailed information
 - > Two days of meetings with Staff to review application
- GE provided additional information and responses by letter on 10/24/05
 - > Provided revised DCD sections and other technical material

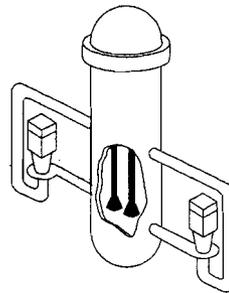
BWR Evolution



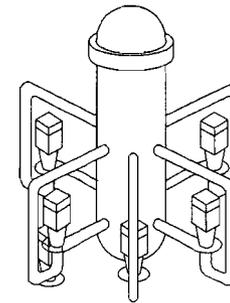
Dresden 1



KRB



Dresden 2



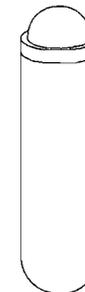
Oyster Creek



ABWR

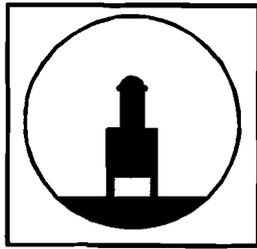


SBWR

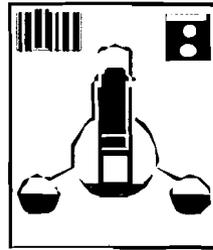


ESBWR

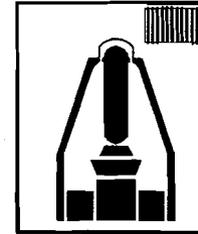
Containment Evolution



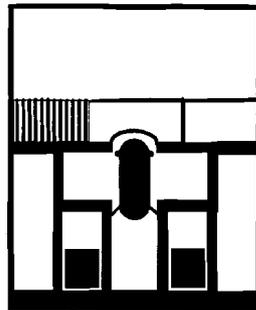
DRY



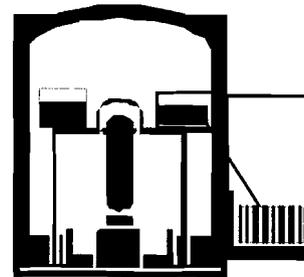
MARK I



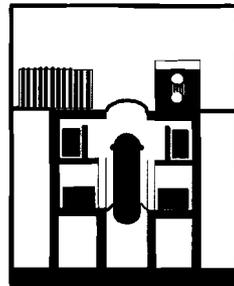
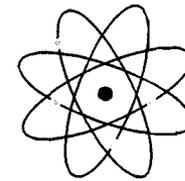
MARK II



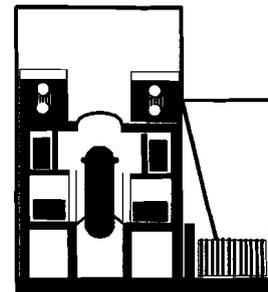
ABWR



MARK III



SBWR



ESBWR

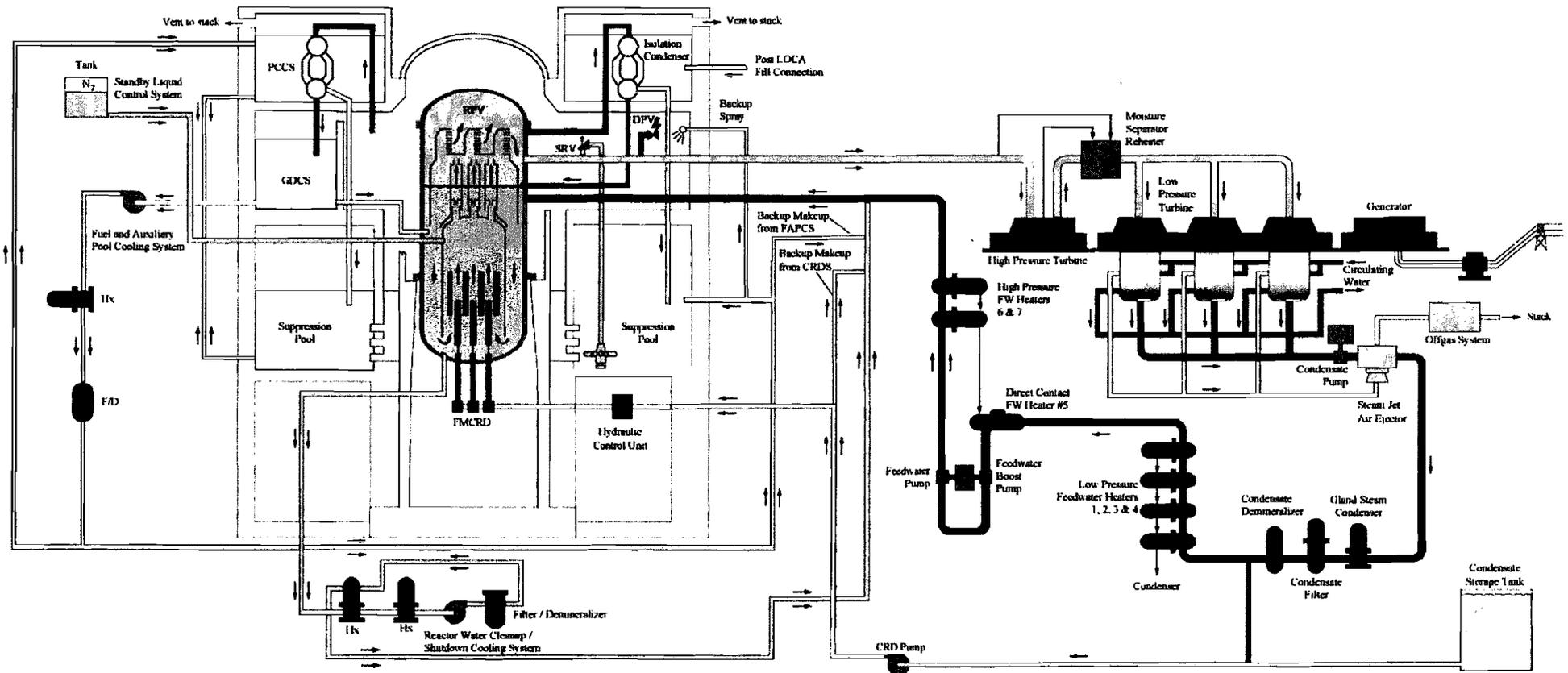
Site Parameters

- EPRI Utility Requirements Document Plus
 - > Tornado
 - 330 mph
 - > Extreme Winds
 - 140 mph for safety-related
 - > Temperatures
 - Bound the 3 ESP sites
 - Increased wet-bulb temperatures
 - > Seismic
 - Reg Guide 1.60 plus a CEUS hard rock site

ESBWR Basic Parameters

- 4,500 Megawatt Core Thermal Power
- ~1,575 Megawatt Electric Gross
- Natural Circulation
 - > No recirculation pumps
- Passive Safety Systems
 - > 72 hours passive capability

ESBWR Overall Schematic



What's different about ESBWR

ABWR	ESBWR
Recirculation System + support systems	Eliminated
HPCF System (2 each)	} Eliminated need for ECCS pumps Utilize passive and stored energy
LPFL (3 each)	
Residual Heat Removal (3 each)	
Safety Grade Diesel Generators (3 each)	Non-safety, combined with cleanup system
RCIC	Eliminated - only 2 non-safety grade diesels
SLC -2 pumps	Replaced with IC heat exchangers
Reactor Building Service Water (Safety Grade) And Plant Service Water (Safety Grade)	Replaced pumps with accumulators
	Made non-safety grade

Optimized Parameters for ESBWR

<u>Parameter</u>	<u>BWR/4-Mk I</u> (Browns Ferry 3)	<u>BWR/6-Mk III</u> (Grand Gulf)	<u>ABWR</u>	<u>ESBWR</u>
Power (MWt/MWe)	3293/1098	3900/1360	3926/1350	4500/1575
Vessel height/dia. (m)	21.9/6.4	21.8/6.4	21.1/7.1	27.7/7.1
Fuel Bundles (number)	764	800	872	1132
Active Fuel Height (m)	3.7	3.7	3.7	3.0
Power density (kw/l)	50	54.2	51	54
Recirculation pumps	2(large)	2(large)	10	zero
Number of CRDs/type	185/LP	193/LP	205/FM	269/FM
Safety system pumps	9	9	18	zero
Safety diesel generator	2	3	3	zero
Core damage freq./yr	1E-5	1E-6	1E-7	3E-8
Safety Bldg Vol (m ³ /MWe)	115	150	160	< 130



Vessel flange and closure head

Steam dryer assembly

DPV/IC outlet

Steam separator assembly

RWCU/SDC outlet

Forged shell rings

IC return

GDCS inlet

Vessel support

GDCS equalizing line inlet

Fuel and control rods

Fuel supports

Control rod guide tubes

In-core housing

Shroud support brackets

Steam outlet flow restrictor

Stabilizer

Feedwater nozzle

Chimney

Chimney partitions

Top guide

Core shroud

Core plate

Control rod drive housings

Vessel bottom head

Control rod drives



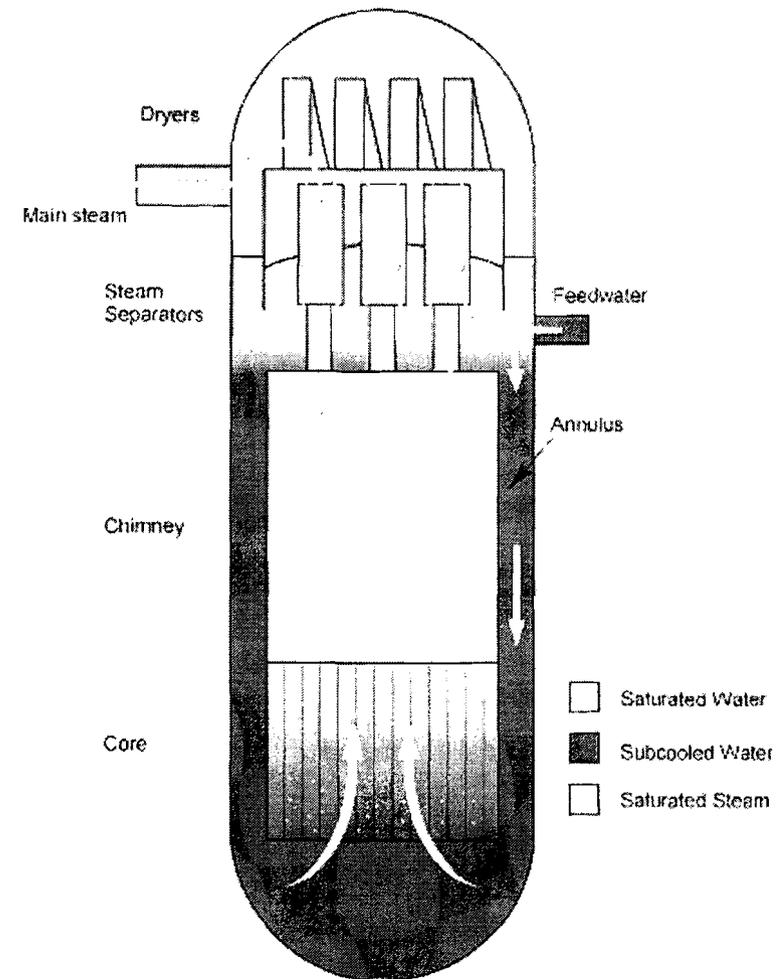
Other Design Improvements

- 100% Steam Bypass
 - > Island Mode of Operation
- Fine Motion Control Rod Drives (FMCRD)
- Shoot-out Steel Eliminated
- Integrated Head Vent Pipe
- Improved Incore Instrumentation
 - > Start-up Range Neutron Monitor (SRNM)
 - > Gamma Thermometer
 - No Traversing Incore Probe (TIP)

Natural Circulation

Simplification without performance loss ..

- **Passive safety/natural circulation**
 - Increase the volume of water in the vessel
 - Increase driving head
- **Significant reduction in components**
 - Pumps, motors, controls, HXers
- **Power Changes with Control Rod Drives**
 - Minimal impact on maintenance



Anticipated Operational Occurrences

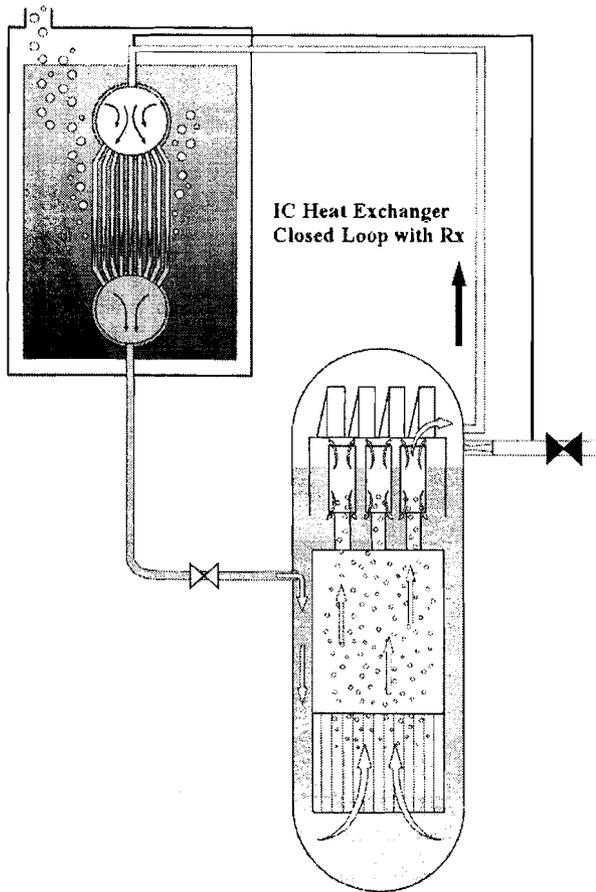
- Reliable controls eliminate most limiting AOOs
- Large steam volume in reactor mitigates pressure increases
 - > No pressure overshoot in any AOO
- IC prevents SRV opening in all AOOs
- CPR change lower than forced circ. BWRs
 - > Loss of FW Heating is Limiting CPR, slow quasi-static response
- Loss of Coolant Accidents (LOCA)
 - > Large margin to fuel uncover in all pipe breaks
 - Only Passive systems credited
 - Designed for 72 hrs w/o external AC power or operator action

AOO Without Scram (ATWS)

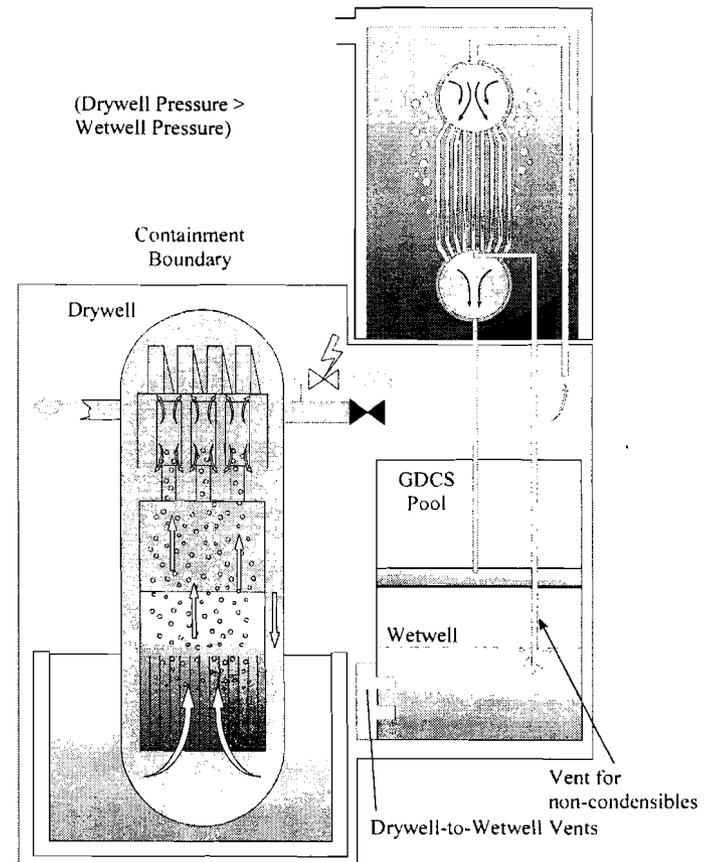
- Scram discharge volume eliminated
 - > Eliminates common mode failure
- Electric Control Blade insertion diverse from hydraulic scram
- FW runback results in decreased water level, core flow, & power reduction; automated and diverse from scram logic
- Boron Injection is direct to core bypass
 - > Eliminates lower plenum boron stratification
- Boron accumulator initial flowrate exceeds 10CFR50 requirement
 - > Shutdown achieved quickly w/o depressurizing
- After shutdown IC terminates steam flow to suppression pool and pool heatup

Passive Safety Systems ...

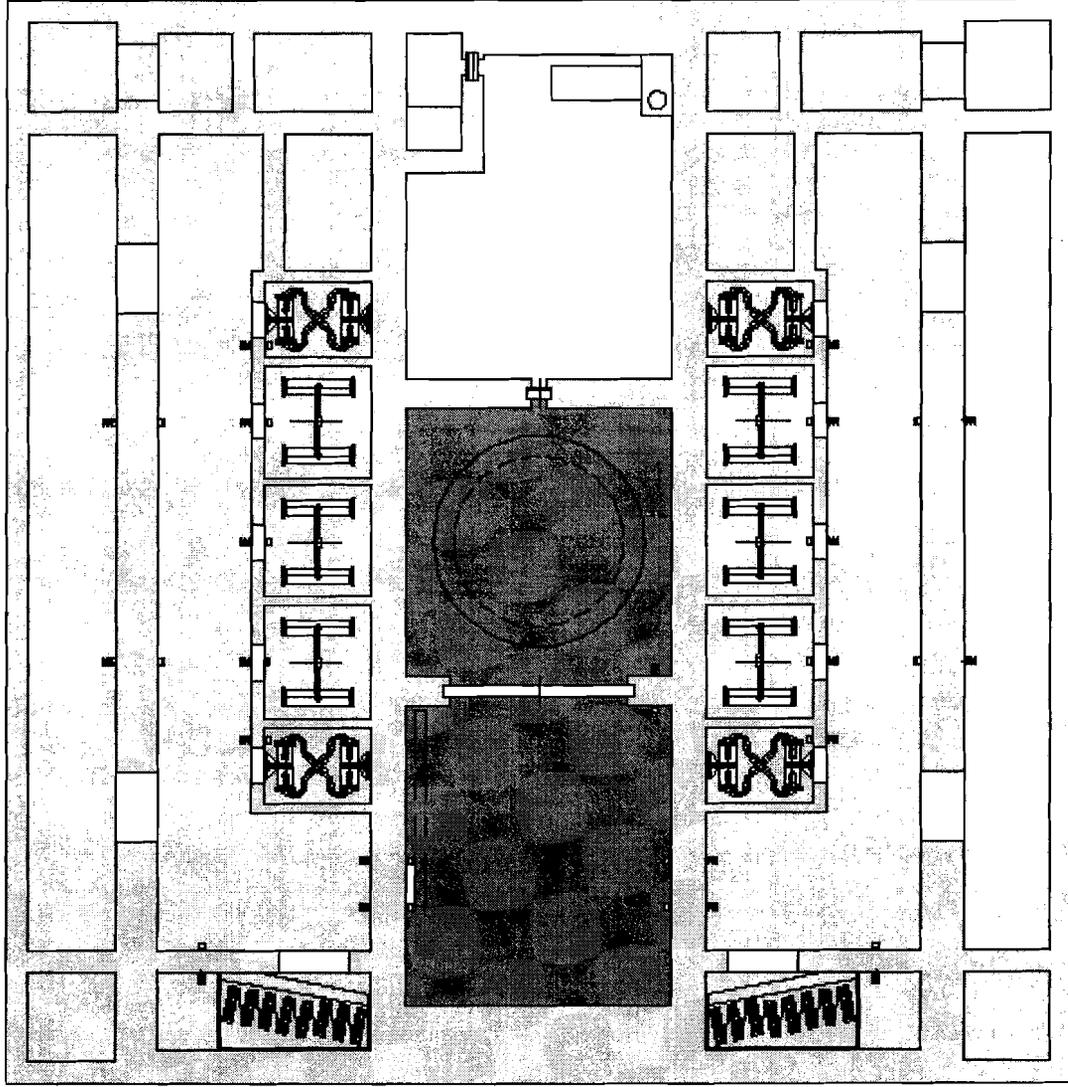
Isolation Condenser System



Passive Containment Cooling



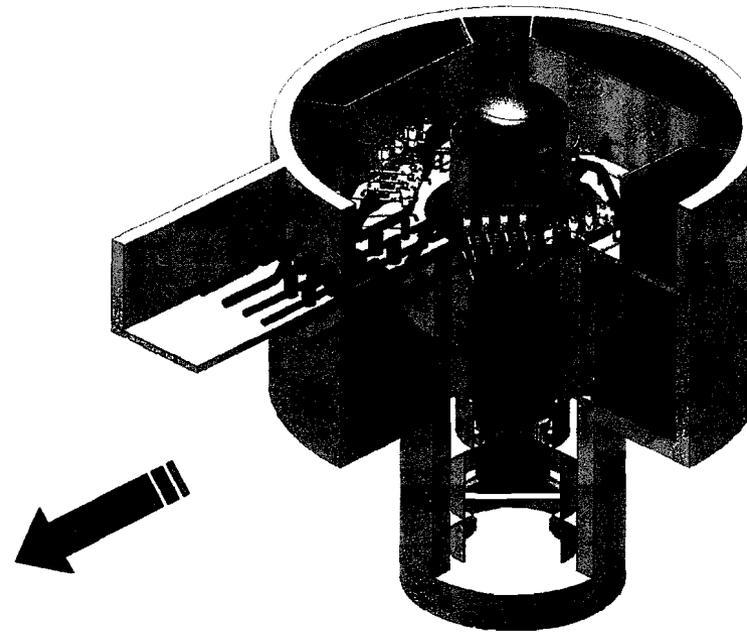
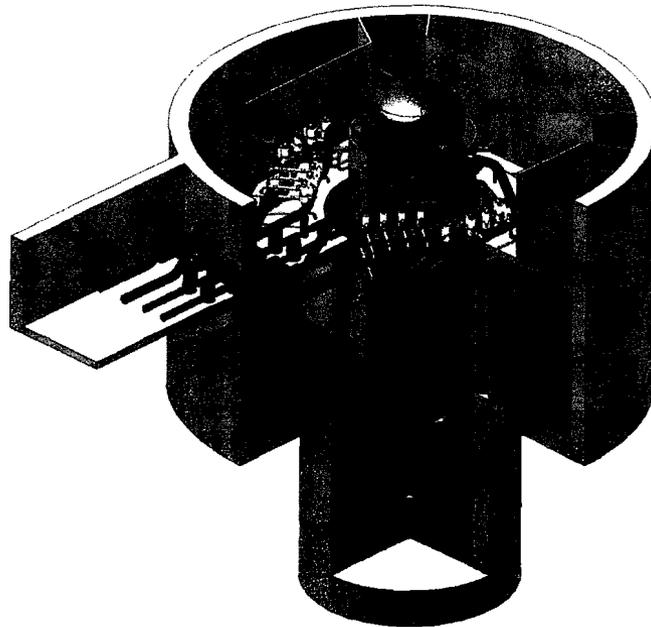
72 Hours Passive Capability



Gravity Driven Cooling System ...

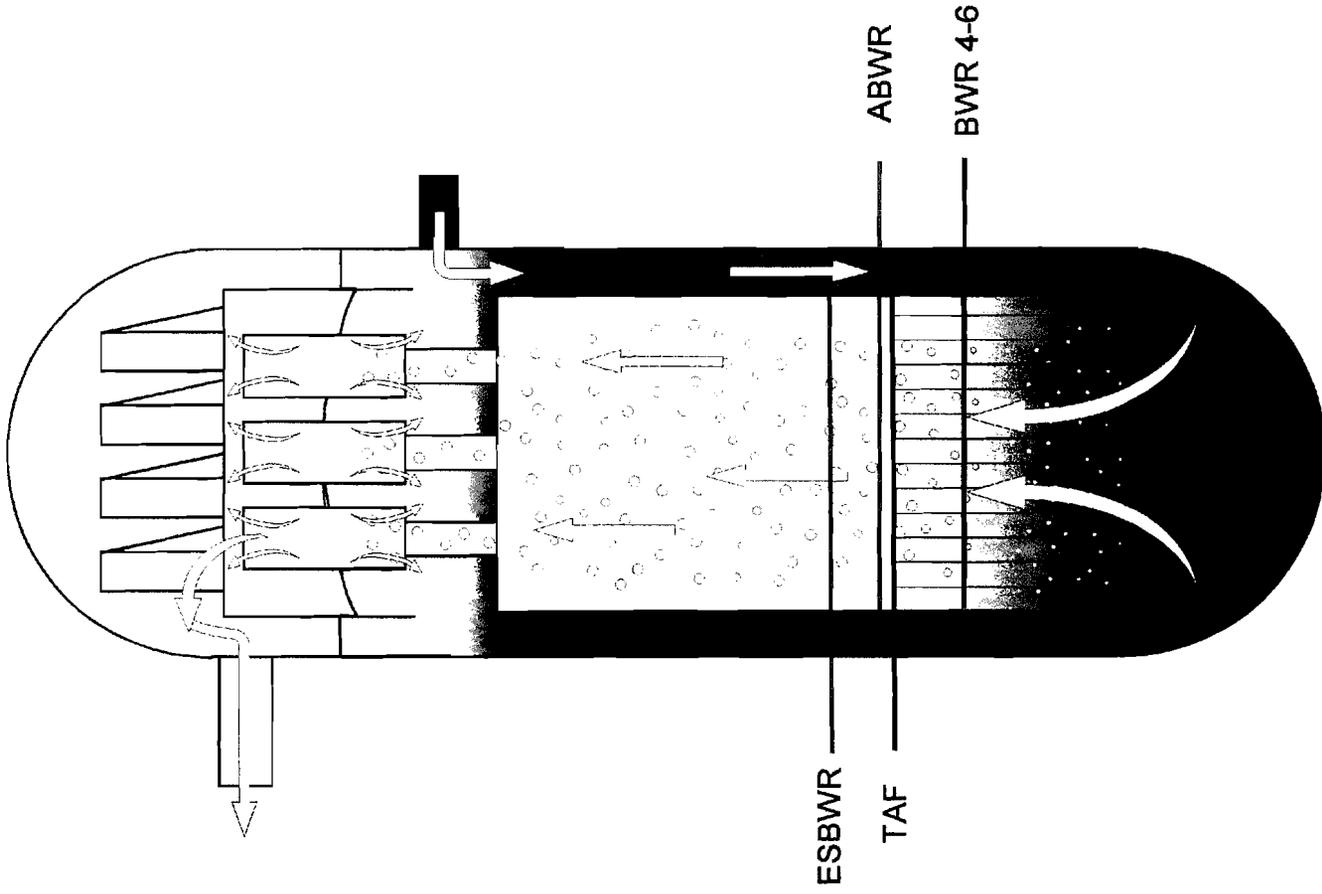
Simple design
Simple analyses

Extensive testing
Large safety margins

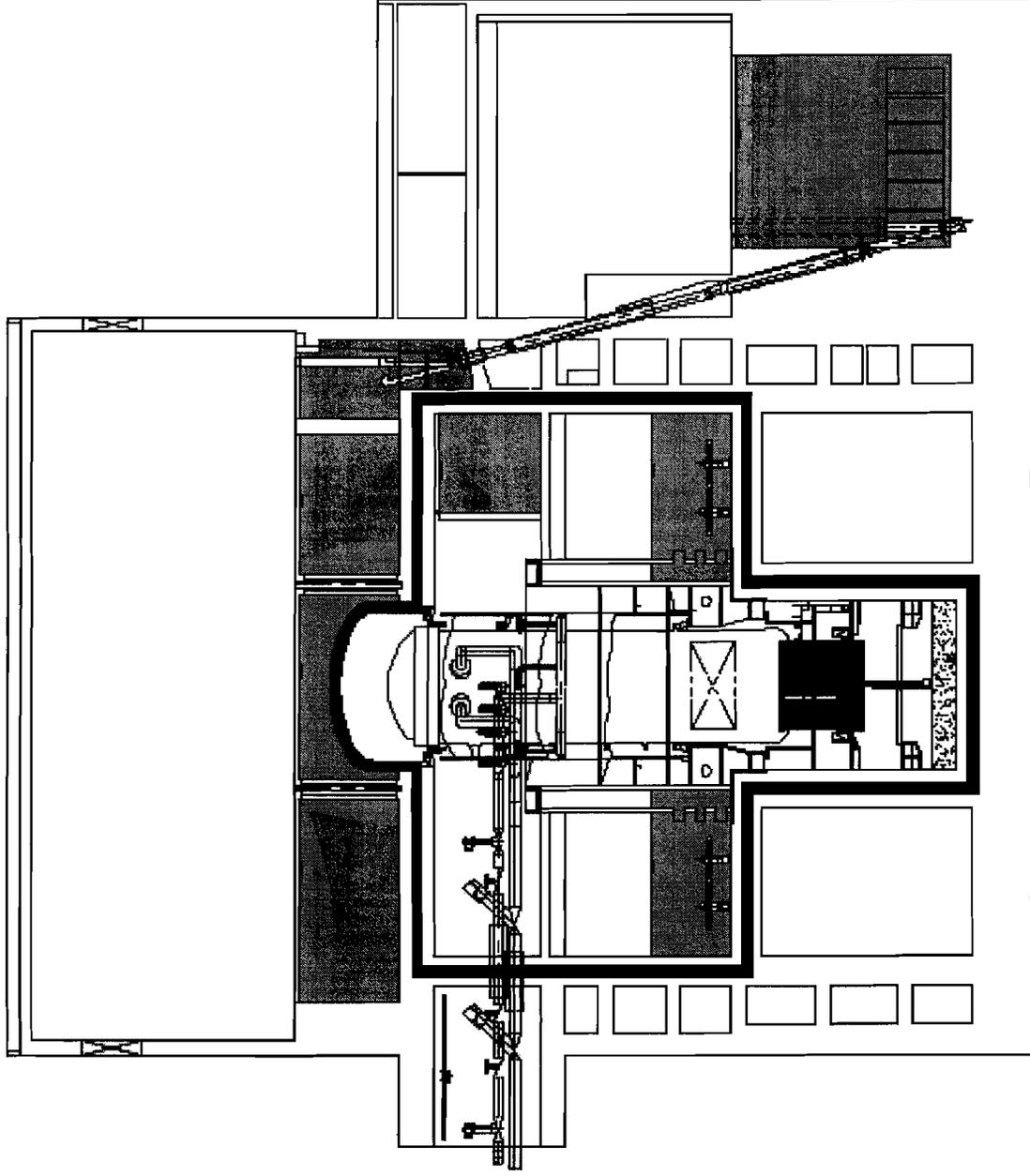


Gravity driven flow keeps core covered

LOCA Water Level Response

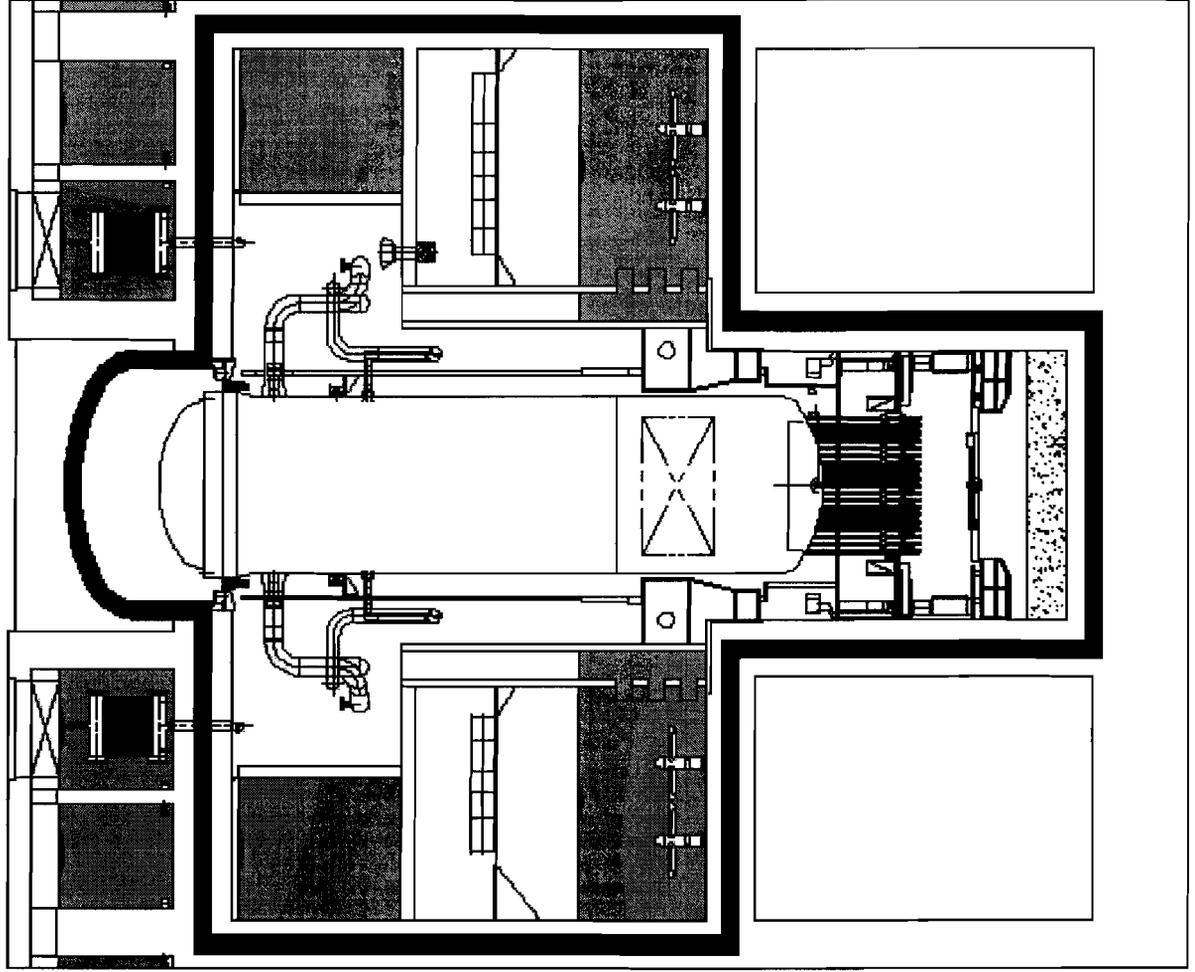


Reactor and Fuel Building



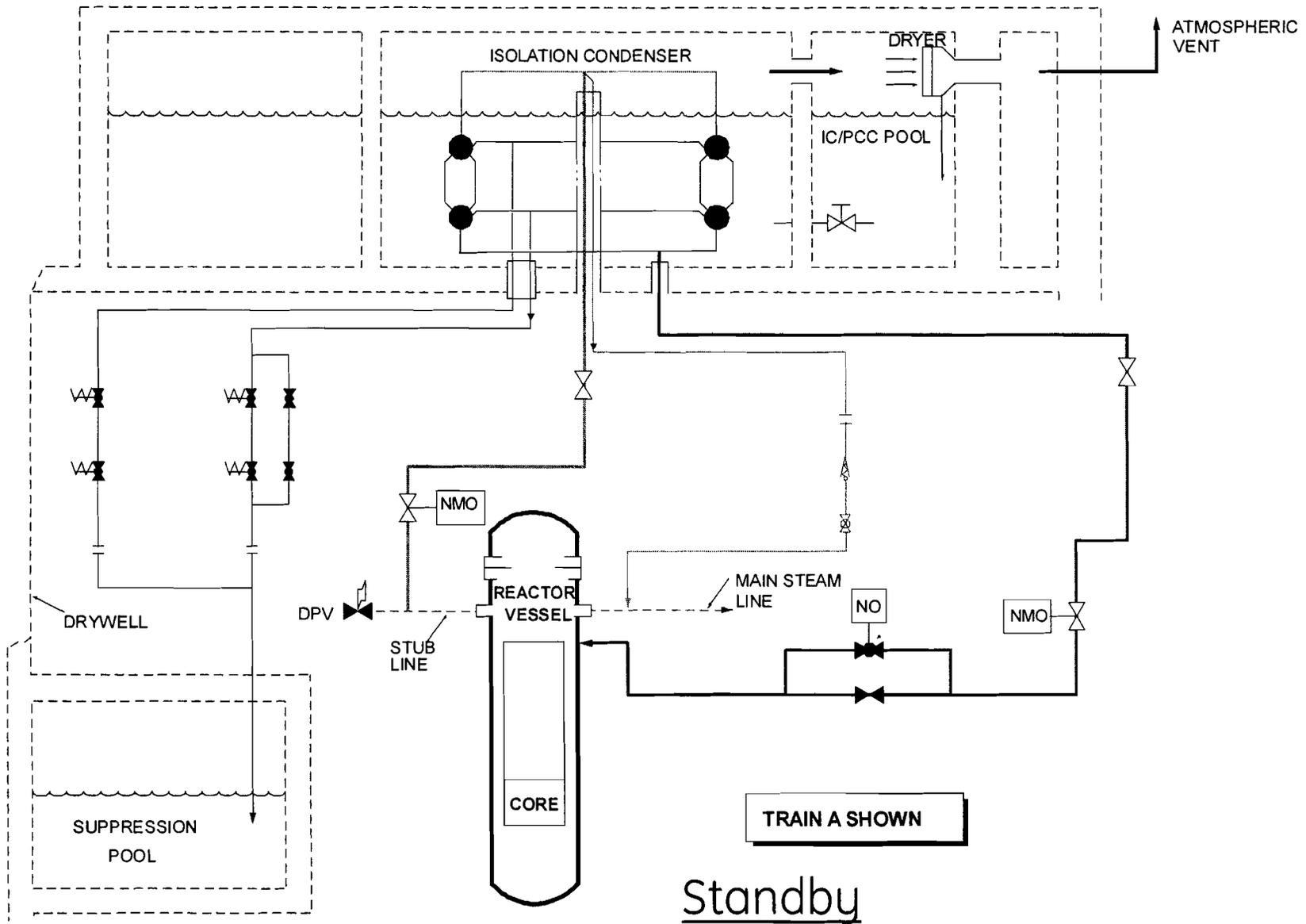
imagination at work

Containment



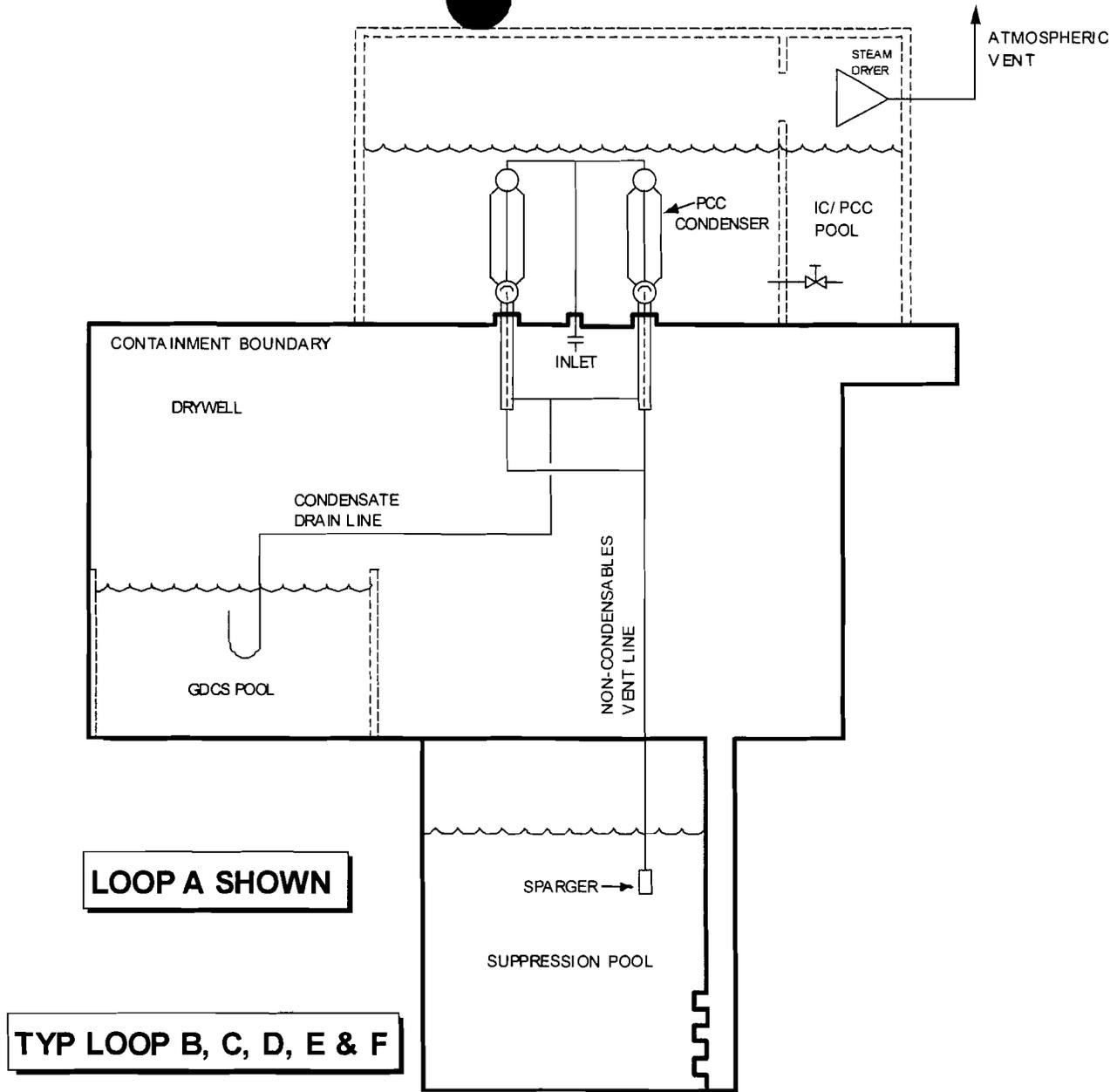
Isolation Condensers

- ICs provide passive decay heat removal
 - > Single Failure Criteria apply
 - > No lift of the Safety Relief Valves (SRVs)
 - > Operates in all Design Basis Conditions except medium and large break LOCAs
 - > ICs transport decay heat direct from NSSS to the Ultimate Heat Sink
 - > No steaming in the primary containment
 - > Rapidly reduces RPV pressure
 - > Redundant Active Components



Passive Containment Cooling

- PCCs provide passive decay heat removal from the primary containment
 - > Operates in medium and large break LOCAs
 - > Provides backup of ICs if needed
 - RPV is depressurized using DPVs
 - > Entirely Passive
 - ~40 hours with demineralized water
 - Opening 1 of 4 valves extends passive to 72 hours



LOOP A SHOWN

TYP LOOP B, C, D, E & F



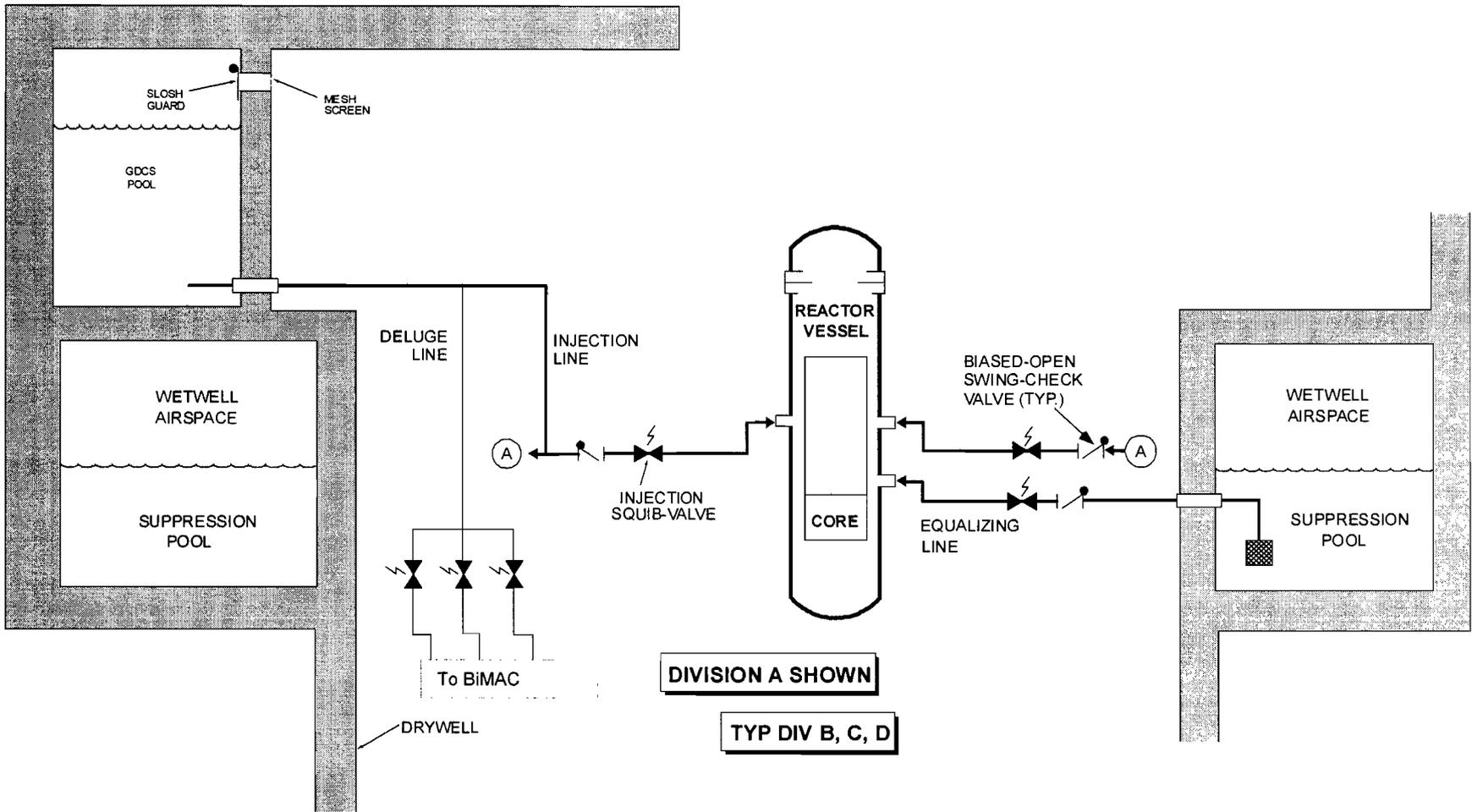
imagination at work

Emergency Core Cooling (ECC)

- Gravity Driven Cooling System (GDACS)
 - Three Pools
 - > ~1700 m³ of water
 - Four Trains
- Automatic Depressurization System (ADS)
 - > 10 of 18 Safety Relief Valves (SRV)
 - Pneumatic actuation
 - > 8 Depressurization Valves (DPV)
 - Squib actuated

Emergency Core Cooling (cont)

- Core remains covered for entire range of Design Basis Accidents
 - > No fuel heat-up
- Complies with 10 CFR 50.46
 - > Codes have been approved by NRC
- Stored water is sufficient to flood containment to above the top of fuel



Gravity-Driven Cooling System



imagination at work

PRA Scope

- Internal Events, Power Operation
 - > Level 1, 2, and 3
- Internal Events, Shutdown
 - > Level 1
 - > 99% SDCDF in mode 6, so no level 2 required
- External Events (non-Seismic)
 - > Screening shows no impact on risk
- Seismic
 - > Seismic margins analysis identified no outliers

Definitions

Core Damage

- Defined as: $PCT > 2200\text{ }^{\circ}\text{F}$
- In practice, GE used “Core Uncovered” as a surrogate for core damage

Containment Failure

- Uncontrolled Release
- Venting Release

Comprehensive System Analysis

- Detailed Fault Tree Model
 - > 24 systems modeled
 - > Major components included
 - > Fully linked support systems
 - > Intra-system common cause
 - > Inter-system common cause for squib valves

Containment Performance

- Level 2 Linked Directly to Level 1
- Phenomena Probabilities from ROAAM
 - > High confidence, rather than mean, values used

Data Used in the Analyses

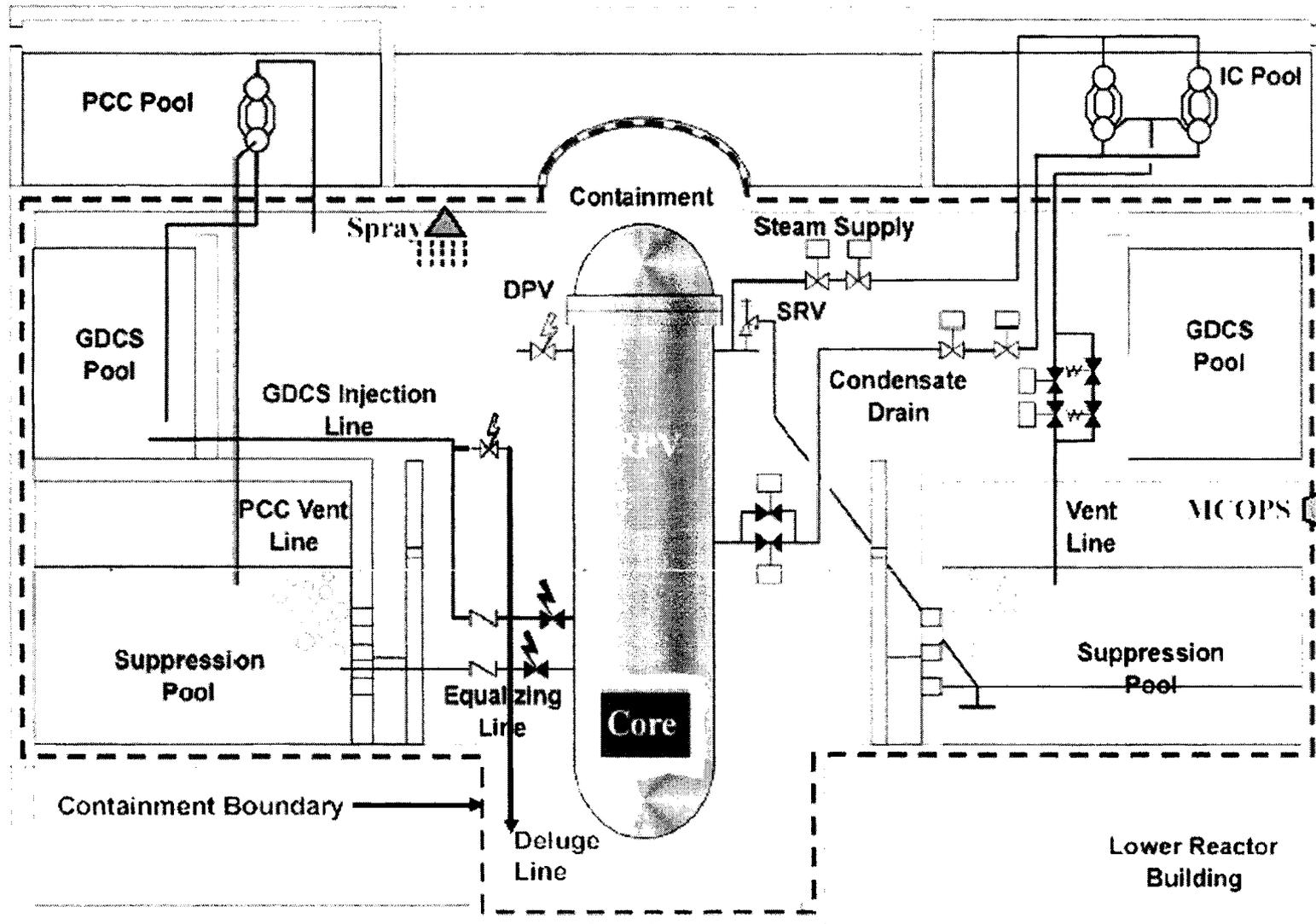
- Initiating Events Based on Operating Plants
- Generic Data For Components
 - > Adjusted for environmental conditions
 - > Adjusted for long test intervals
- Screening Values for Operator Actions

Low CDF Due to Design Rather than Data Values

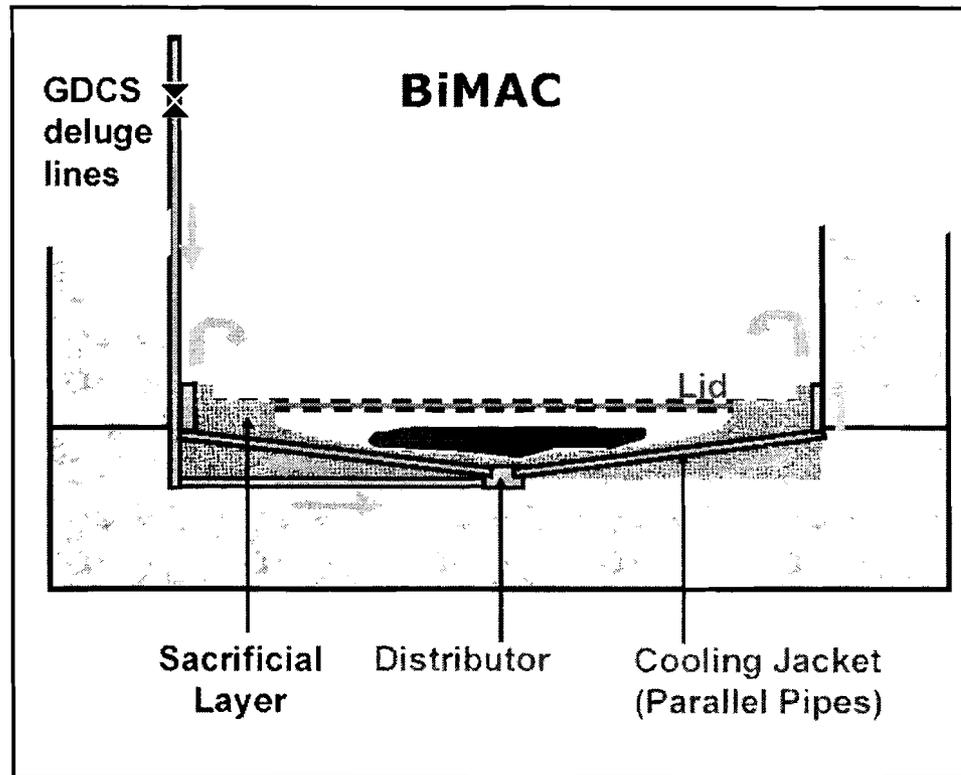
The Bottom Line

Internal Events CDF	3.2×10^{-8}
Internal Events LRF	1×10^{-9}
CCFP	0.025
Probability of Exceeding 25 Rem at 1/2 Mile	2×10^{-9}
External Events Contribution	negligible
Shutdown CDF	4×10^{-9}

ESBWR SA Containment Highlights

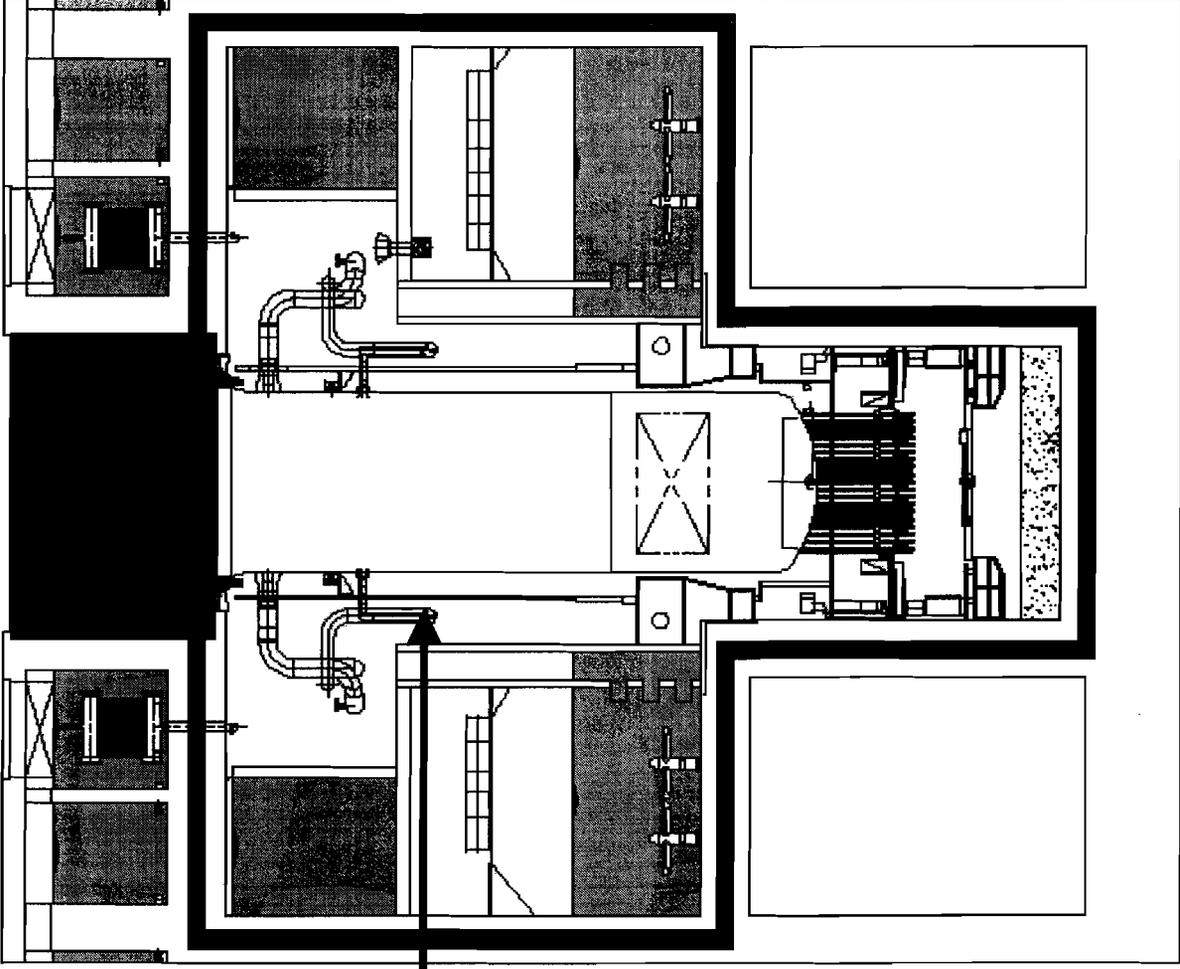


The Basemat internal Melt Arrest and Coolability (BiMAC) device



● Containment Capacity
During Shutdown
LOCA

● Approximate
Water Level
Using Water in
Reactor Building



SA Threats and Failure Modes

- Direct Containment Heating (DCH)
 - > Energetic Failure of UDW
 - > Liner Failure of UDW/LDW
- Ex-Vessel Explosions (EVE)
 - > Pedestal/Liner Failure
 - > BiMAC-Pipes Crushing,
- Basemat Melt Penetration (BMP)
 - > BiMAC Thermal Failure (Burnout, Dryout)

Treatment of Severe Accidents

Severe Accidents in ESBWR.....CDF $\sim 3 \times 10^{-8}$ per year

- That is, they are Remote & Speculative
- Could be treated as Residual Risk

GE Designs for Defense-In-Depth

- > Assess full compliment of severe accident threats
- > Determine and Enhance ESBWR capabilities
- > Verify by a full ROAAM treatment

Conclusion:

Containment Failure is Physically Unreasonable

Attributes of ESBWR Risk

Redundancy and Diversity!!

At Least 3 I&C Systems Need to Fail for Core Damage

Top Cutsets Involve

- > CCF of Batteries
- > CCF of Squib Valves

Loss of All Electric Power (AC & DC) Itself Does Not Result in Core Damage

Containment Failure Does Not Lead to Core Damage within 72 Hours

Containment Can Be Flooded Above Core Using Passive Systems

Attributes Affecting Risk (continued)

- High Containment Ultimate Strength
 - > High confidence pressure 1.2 MPaG
 - > Most scenarios well below 0.9 MPaG
- Conditions for Ex-Vessel Explosion Avoided
- Containment Survives DCH Events
- BiMAC Precludes Basemat Attack

Conclusions

PRA Report Provides a Comprehensive Assessment of
ESBWR Mitigation Capabilities

Incorporating Risk Insights During Design Drives
Reliability

ESBWR Satisfies Risk Goals With Significant Margin



ESBWR Design Certification

Amy Cubbage, Senior Project Manager
New Reactor Licensing Branch, NRR

Advisory Committee on Reactor Safeguards
November 3, 2005



Previous ACRS Meetings

TRACG LOCA Review:

- July 2003 - Thermal hydraulic Subcommittee
- January 2004 - Thermal hydraulic Subcommittee
- February 2004 - Full Committee
- February 2004 - ACRS letter



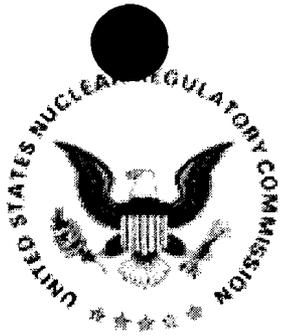
Design Certification Project Overview

- Acceptance Review
- Requests for Additional Information
- Safety Evaluation Report with Open Items
- Supplemental Safety Evaluation Report(s)
- Final Design Approval
- Design Certification Rulemaking
- Nominal Duration 42 – 60 months



ESBWR Design Certification Status

- August 24, 2004 - Design Certification Application submitted
- September 23, 2005 – Acceptance review letter sent to GE
- GE has responded to acceptance review issues (several submittals)
- Staff performing acceptance review on supplemental information
- Results to be communicated to GE by the end of November



NRC DIGITAL SYSTEM RESEARCH PLAN FY 2005 THROUGH FY 2009

Advisory Committee on Reactor Safeguards
November 4, 2005

William E. Kemper
Steven A. Arndt

Engineering Research Application Branch
Division of Engineering Technology
Office of Nuclear Regulatory Research
(301-415-6502, saa@nrc.gov)
(301-415-5974, wek@nrc.gov)



BACKGROUND

- The current digital system review guidance (SRP Chapter 7) is several years old (1997)
- We have already seen and anticipate receipt of more complicated and more extensive plant specific applications, thus the need to make the review process more effective continues to grow
- The FY2001-2004 NRC digital system research program plan was primarily focused on NRR issues
- In the past few years the need to provide support to NSIR and NMSS issues has grown



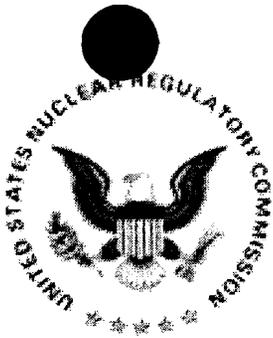
CURRENT SITUATION

- Issues facing NRC
 - We expect that licensees will replace analog systems with digital systems as the existing analog systems become obsolete
 - Licensing these digital systems presents challenges to NRC because of the
 - Increased complexity of the systems
 - Consolidation of discrete analog functions into a single digital system
 - Potential consolidation of independent safety systems into a single digital system
 - Potential new failure modes
 - Limited operating history of digital equipment in nuclear safety related applications
 - Significant effort required by staff with specialized skills
 - Current licensing guidelines provide information on what to review, but not necessarily how to review it, or what the appropriate acceptance criteria should be
 - There is industry interest in risk-informed digital system reviews, but the NRC does not yet have the needed technical bases to support this kind of review



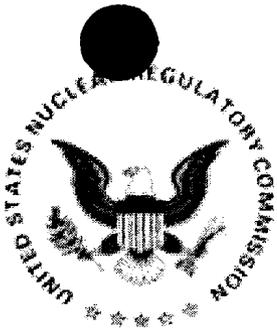
CURRENT SITUATION

- In today's environment, cyber security of safety related digital systems is essential, and staff is working to develop regulatory guidance and acceptance criteria
- The operating history we have indicates digital systems failures may be risk significant
 - An analysis of 1984-1997 ASP data indicated that a large number of risk significant events includes I&C failures and that both safety and non-safety systems contributed to these events
 - An analysis of LER data showed that many software system failures are context-dependent (e.g. dependent upon the operational mode at the time of failure) and that many faults are introduced in testing, operations and maintenance
 - Anecdotal evidence shows potential issues (Palo Verde's Core Protection Calculator and Turkey Point's load sequencers)



DEVELOPMENT OF THE NEW PLAN

- In the 1997 NAS report “Digital Instrumentation and Control Systems in Nuclear Power Plants: Safety and Reliability Issues” the review committee identified a number of key areas that should be explored including;
 - Systems Aspects of Digital Instrumentation and Control Technology
 - Software Quality Assurance
 - Common-Mode Software Failure Potential
 - Safety and Reliability Assessment Methods
 - Human Factors and Human-Machine Interfaces
 - Dedication of Commercial Off-the Shelf Hardware
- In developing the “NRC Research Plan for Digital I&C for FY 2001-2004” RES reviewed the 1997 NAS report recommendations and I&C vendor development efforts at that time and determined that the key areas for research were
 - Systems Aspects of Digital Technology
 - Software Quality Assurance
 - Risk Assessment of Digital I&C Systems
 - Emerging I&C Technology and Applications



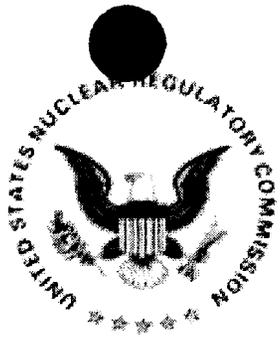
DEVELOPMENT OF THE DIGITAL SAFETY SYSTEM RESEARCH PLAN FY 2005-2009

- The new research plan was developed to
 - Provide improved technical guidance for review of digital systems
 - Provide technical support in areas where program offices need improved acceptance criteria
 - Develop assessment tools and methodologies to improve reviews
- Input was solicited from NRC program offices (NRR, NSIR and NMSS)
- Draft plan was vetted with program offices and comments have been incorporated
- The new research plan has been reviewed by the ACRS Digital I&C Subcommittee and comments are being incorporated
- Provides a flexible, adaptable framework for identifying NRR, NMSS, and NSIR research initiatives needed to meet the challenges of licensing digital I&C systems for safety related applications at nuclear facilities



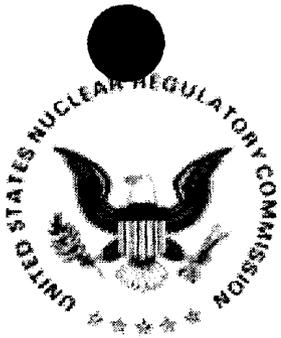
RESEARCH FOCUS

- Structured to include the most important research areas needed to support the program offices
 - Systems Aspects of Digital Technology
 - Software Quality Assurance
 - Risk Assessment of Digital I&C Systems
 - Security Aspects of Digital Systems
 - Emerging Digital Technology and Applications
 - Advanced Nuclear Power Plant Digital Systems
- Broad-based, focusing on improving traditional review methods for
 - Review of existing digital technologies
 - Analysis of emergent technologies
 - Evaluation of issues arising from the application of digital technologies
 - Focus is on improving the assurance of digital I&C system reliability

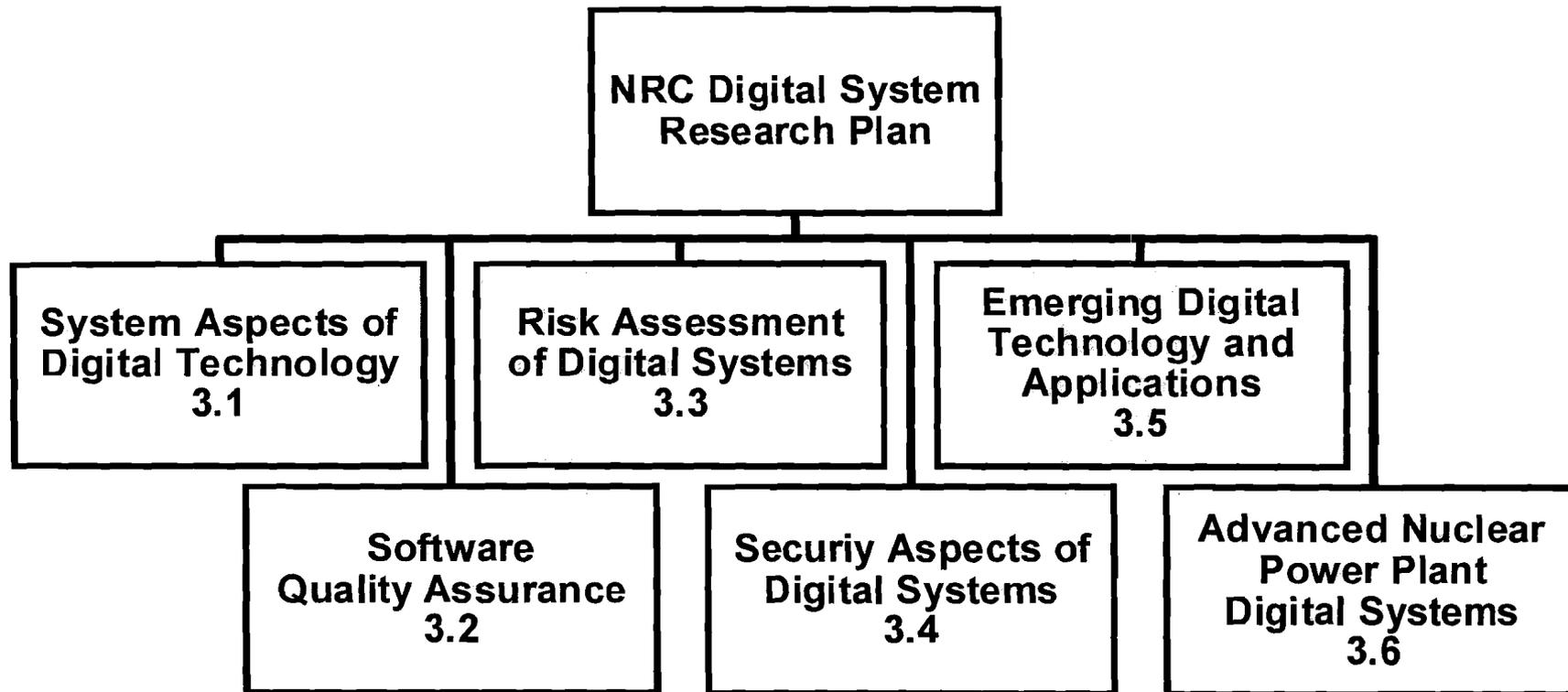


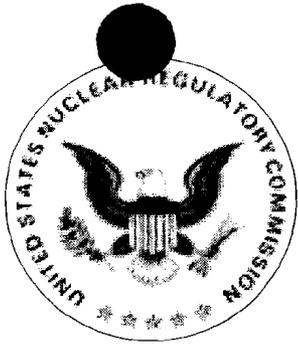
PRIORITIES FOR CONDUCTING THE RESEARCH

- Inputs included
 - Completing ongoing work
 - Program office inputs
 - Balanced between
 - Current regulatory issues (EMI/RFI, D3, Security)
 - Issues that are anticipated to be regulatory issues in the short term (FPGAs, OLM, digital system risk)
 - Following emerging technology that might require future licensing reviews (smart transmitters, self testing methods)
- Supports NRC strategic plan strategies
- Incorporated in the Plan (in Section 4) as
 - Relative priority (high, medium and low)
 - Determined based on operational experience, program office requests and likely application schedule
 - Projects scheduled based on priority and available resources
- Used to support RES budget process

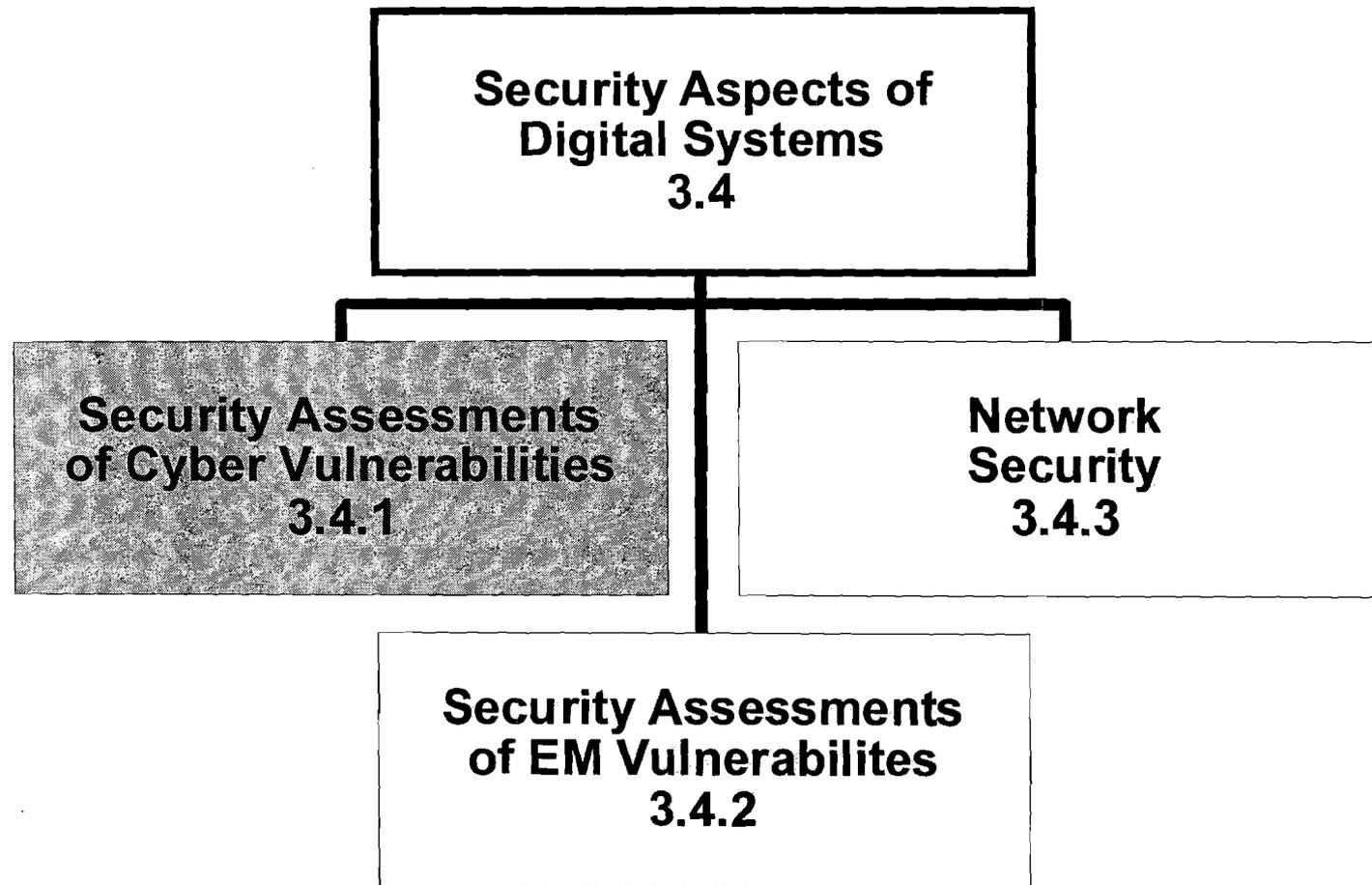


RESEARCH PROGRAMS





SECURITY ASPECTS OF DIGITAL SYSTEMS





SECURITY ASPECTS OF DIGITAL SYSTEMS

- Cyber security is an NRC concern that has been heightened since the events on 9/11
 - Attention to non-safety as well as safety systems
 - New look at safety systems
- Digital system security requires addressing potential vulnerabilities during system development and after installation
- Current regulation, orders and guidance establishes security criteria for the use of digital systems



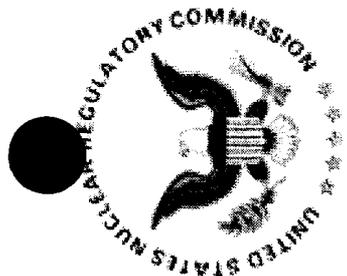
SECURITY ASPECTS OF DIGITAL SYSTEMS

- Additional guidance is needed to develop detailed acceptance criteria and review procedures, and training for reviewers
- Past research indicates that additional information is needed
 - Safety System Isolation Study
 - Protocol Robustness Analyses
 - Network Security Tool Vulnerability Case Study
 - NSIR projects
 - Power Reactor Pilot Study
 - Licensee Self-Assessment Methodology
- This program includes three project areas
 - Security Assessments of Cyber Vulnerabilities
 - Security Assessments of EM Vulnerabilities
 - Network Security

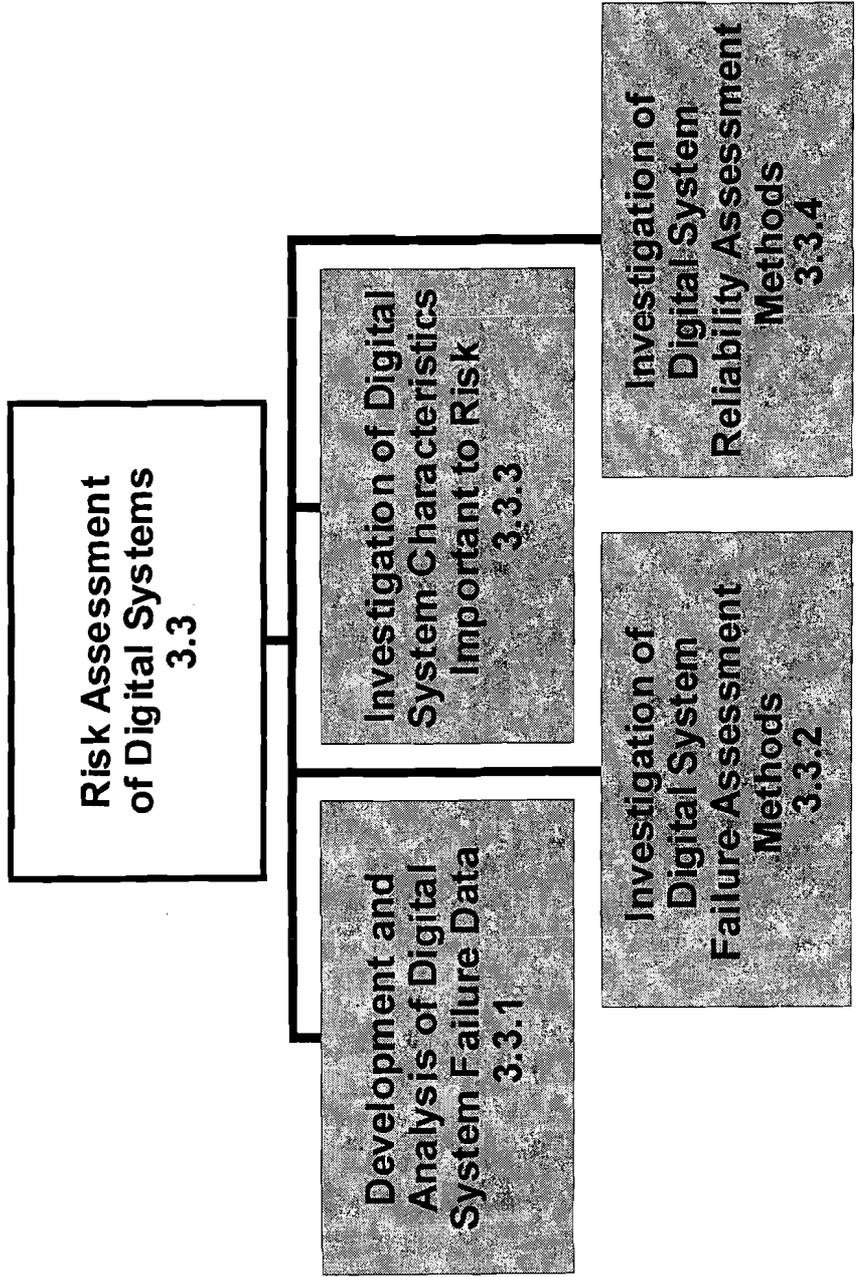


SECURITY ASPECTS OF DIGITAL SYSTEMS

- As an example the security assessments of cyber vulnerabilities research project will conduct detailed
 - Safety System Assessments,
 - Communication Protocol Assessments and
 - Evaluations of safety ⇔ non-safety system interconnections
- This research will produce
 - Test reports, including mitigation measures
 - Taxonomy of potential vulnerabilities
 - Methodologies (including procedures and tools) for reviews and inspections
 - Acceptance criteria
 - Policy and regulatory recommendations



RISK ASSESSMENT OF DIGITAL SYSTEMS





DIGITAL SYSTEM RISK PROGRAM

- Licensees are replacing analog systems with digital systems
- Licensing these digital systems presents challenges to NRC
 - Consolidation of many analog functions in one digital system challenges traditional diversity and defense-in-depth methods
 - Industry has expressed interest in incorporating risk insights in the reviews of these systems or using risk-informed regulation as an alternate method for licensing these systems (EPRI)
 - Lack of a generally accepted methodology to predict digital system (software) failure probability
 - Research into the limitations of digital systems reliability modeling to support the needed analysis does not currently support expanded use of risk information in licensing digital systems
- As the NRC licensees replace analog systems with digital systems, the current PRAs are not keeping up with these changes
- NRC risk analysis tools and data do not currently support this kind of analysis. NRC risk guidelines currently do not provide acceptance criteria for digital system reviews



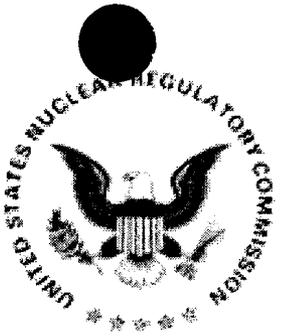
DIGITAL SYSTEM RISK PROGRAM

- The research program is designed to use available information, including failure data and known capabilities of available methods to develop the review methodology
- Available methods and tools for including digital system models will be examined and the most promising ones will be investigated in detail
- Review of current data and development of application-specific databases is on-going and will be used to support methods development

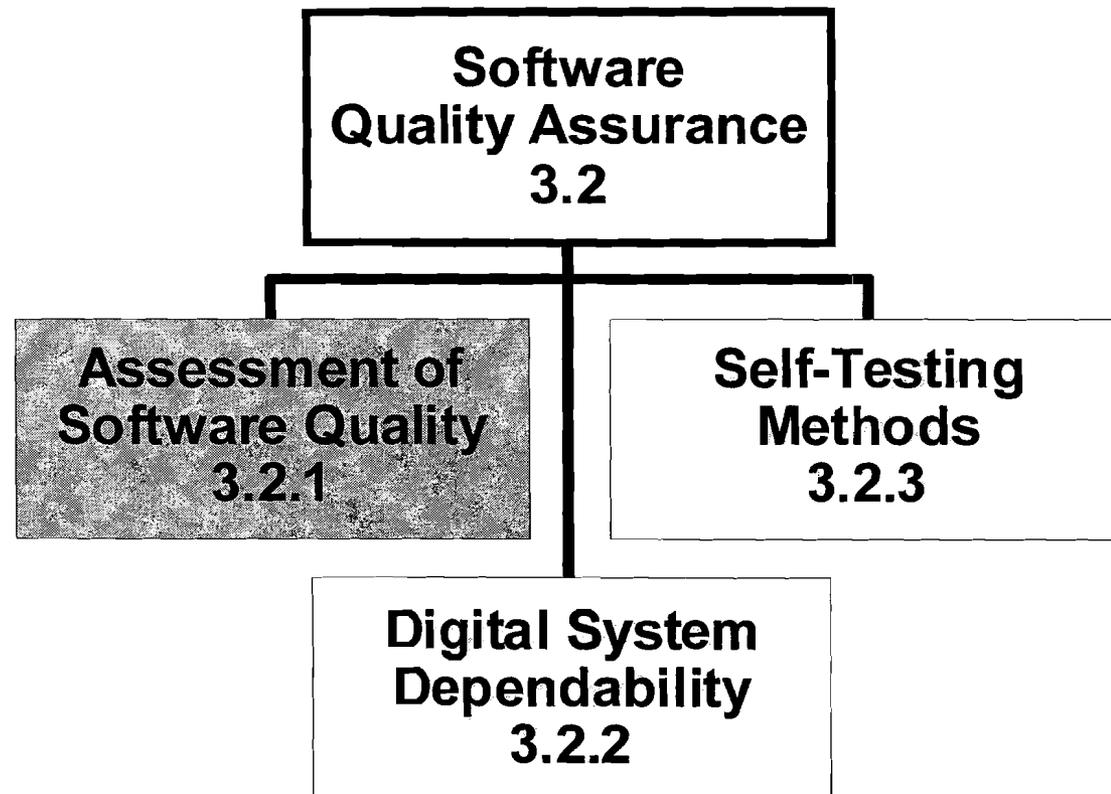


DIGITAL SYSTEM RISK PROGRAM

- Research is oriented toward developing regulator guidance and providing consistent processes for assessing risk based digital safety system applications
 - Gathering, understanding and using failure data
 - Assessing what modeling methods might be acceptable
 - Determining which systems need to be modeled and at what level of detail
 - Developing and testing methods
 - Developing regulatory acceptance criteria
- New methods for integrating current digital system models into PRAs will be developed
 - Pilot methods using both traditional methods and dynamic methods using models
 - Benchmarks of the capabilities of several methods will be completed
 - Uses and limitations of methods will be explored



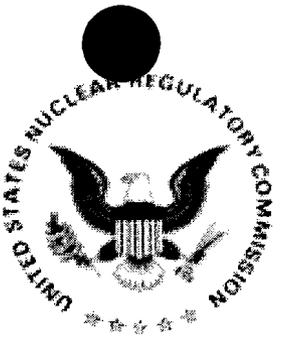
SOFTWARE QUALITY ASSURANCE





SOFTWARE QUALITY ASSURANCE

- NRC SRP Chapter 7, Rev. 4, June 1997 provides regulatory guidance for reviewing digital safety systems
- NRC SRP Chapter 7 BTP HICB-14 identifies digital system development attributes that should be reviewed, but does not provide detailed guidance on the process for confirming that the software conforms to acceptance criteria
- As part of its review of digital safety systems, NRC evaluates safety related software quality by reviewing
 - System and software specifications
 - Development processes (e.g., V&V, CM) and
 - Software development products (e.g., SRS, SDD, Test plans, Code listings, RTM)
- SQA evaluations are performed manually, since assessment tools or other means of obtaining quantitative measures of software quality are not available
 - Time consuming
 - Highly dependent on the skill and experience of the individual reviewer
 - Acceptance criteria is not quantitative



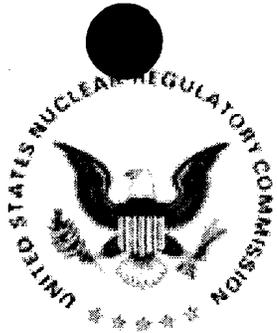
SOFTWARE QUALITY ASSURANCE

- The current state-of-the-art in software system safety assessment includes a number of methods and tools for quantitatively assessing the quality of software:
 - Software system analysis techniques (e.g., Petri-net analysis, Markov Analysis, Dynamic Flow Modeling)
 - Software metrics
 - Formal verification methods
 - Testing Techniques (e.g., Data Flow Testing, Fault Injection, and Mutation Testing)
- None of the these methods have found widespread uses in the nuclear industry



SOFTWARE QUALITY ASSURANCE

- Given the complexity and sophistication of current digital safety systems, the goal of research in this area is to provide independent assessment methods and specific acceptance criteria that can supplement and augment the existing guidance in Chapter 7 of the SRP
- Research in this area will focus on methods that have likely short term application without the need to do extensive development and apply these to nuclear industry applications
 - Fault injection testing has been used by a number of industries including some nuclear platform suppliers
 - Formal methods have been used in several industries to support safety critical applications
 - Software metrics are currently used for software quality control and continuous improvement (e.g., for programs at CMM level 4 and 5 respectively)

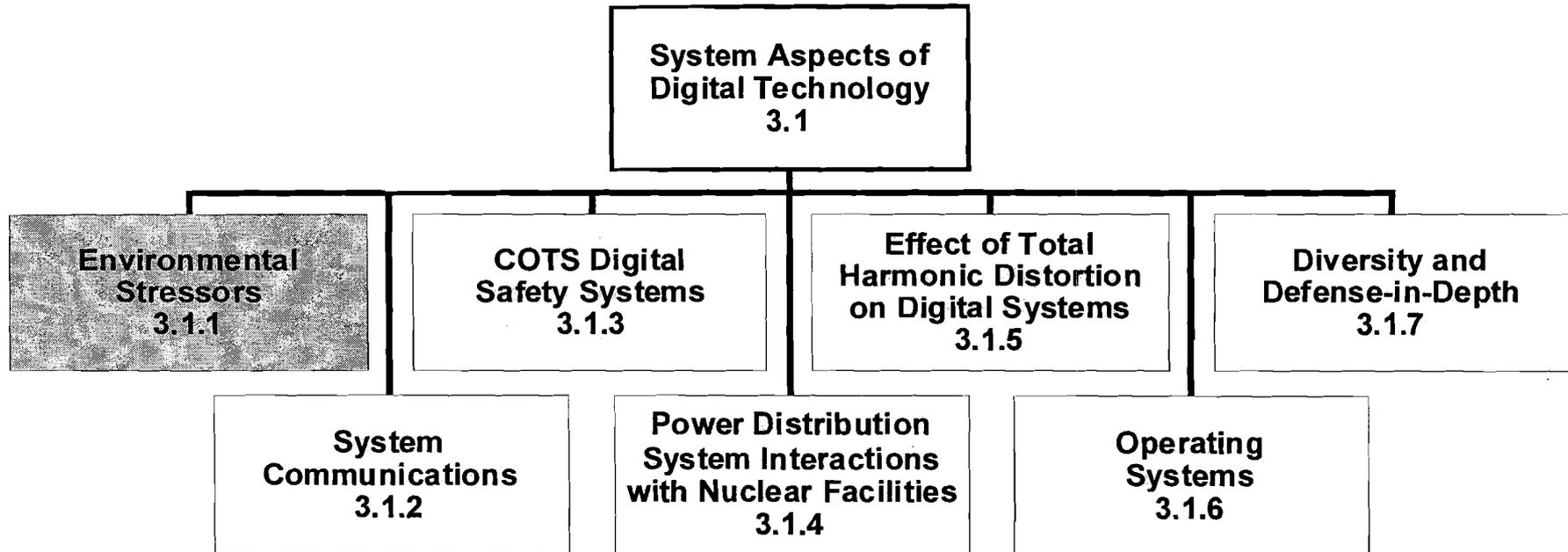


SOFTWARE QUALITY ASSURANCE

- As an example, there have been a number of software errors in nuclear applications, like the Turkey Point 3 load sequencer failure that would be very difficult to find using the current review process that focuses primarily on a review of the software development process and a limited number of thread audits
- This research area currently focuses on developing methods to help assess software quality and reliability using tools and analysis methods that
 - Permit the reviewer to review more of the code with the same amount of effort
 - Assess the added benefits of self testing and improved development processes
 - Provide objective acceptance criteria and review procedures that augment and supplement existing SRP guidance for approving (or denying) digital safety system license applications



SYSTEM ASPECTS OF DIGITAL TECHNOLOGY





SYSTEM ASPECTS OF DIGITAL TECHNOLOGY

- System aspects of digital technology involve factors, both internal and external, that affect the performance of a digital system as a whole
- This research will address aspects of digital systems that can adversely affect safety due to
 - Environmental stressors
 - Systems interactions associated with power distribution and total harmonic distortion effects
 - Operating systems and system communications
 - Diversity and defense-in-depth analysis

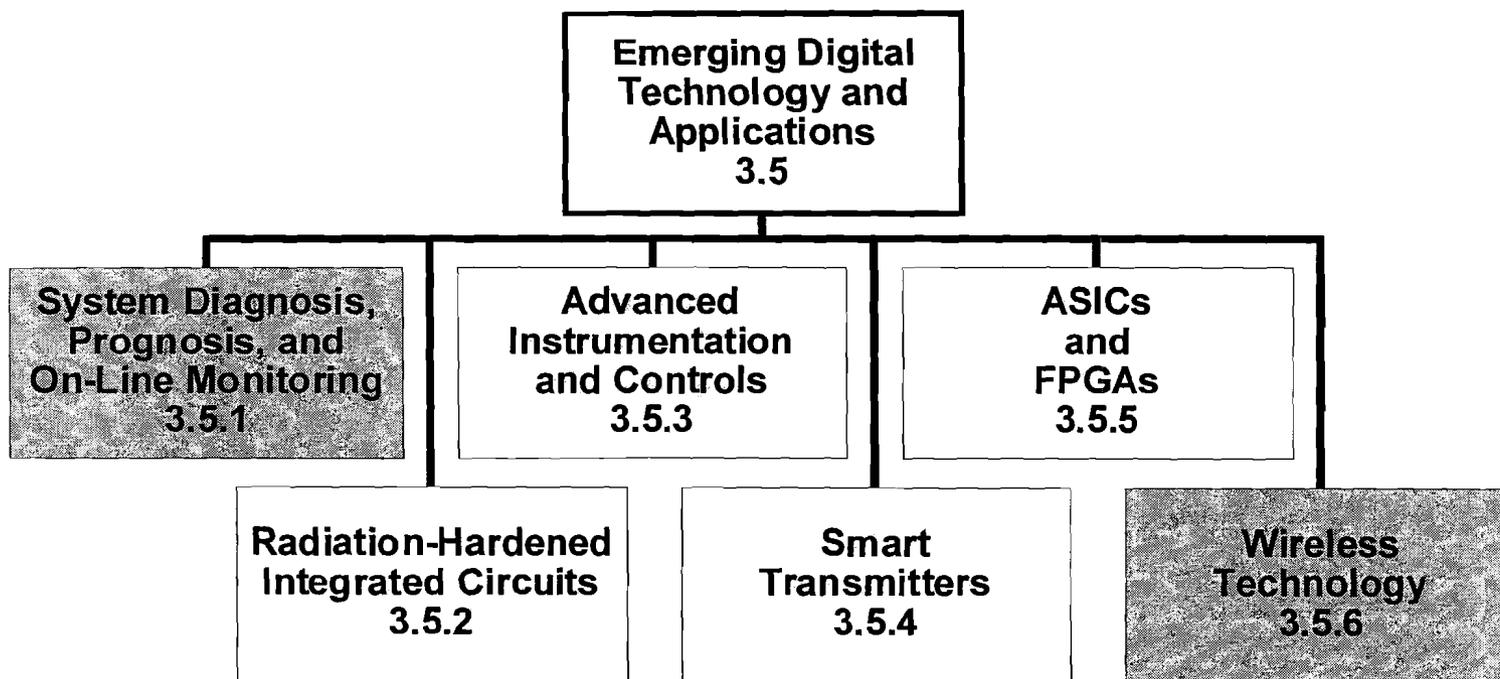


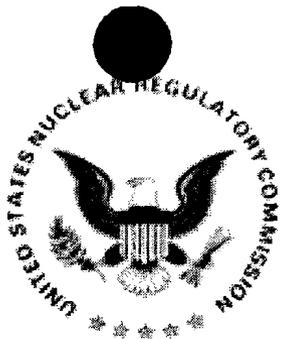
SYSTEM ASPECTS OF DIGITAL TECHNOLOGY

- As an example, systems interactions associated with power distribution and total harmonic distortion effects are safety issues because newer digital components are more sensitive to power quality and power distribution
 - Higher IC circuit densities
 - Lower voltage requirements for memory states
 - Non-linear loading that can effect power quality
- Current criteria adequate for current designs, but as above increases new criteria may be needed
- There have been several events in which these effects have caused a digital system failures
- The goal of the research is to provide detailed acceptance criteria (IC density and/or power quality) to support regulatory reviews



EMERGING DIGITAL TECHNOLOGY AND APPLICATIONS





EMERGING DIGITAL TECHNOLOGY AND APPLICATIONS

- Vendors, licensees, owners groups, and nuclear industry will continue to develop and propose new technologies for nuclear facilities
- A detailed understanding of these emerging technologies is critical for NMSS, NRR, and NSIR staff to license these technologies in safety related applications in an effective and consistent manner
- This part of the research program will include an effort to identify important emerging technology, investigate technologies that may have a regulatory impact and develop the needed information and regulatory guidance before a licensee submits an application



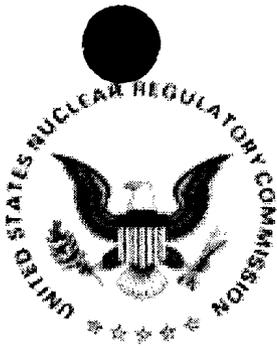
EMERGING DIGITAL TECHNOLOGY AND APPLICATIONS

- The research program in this area includes
 - Developing technology specific information on the potential application
 - Developing assessment tools and review methodologies
 - Revising regulatory guidance to support unique features of each new technology and establish acceptance criteria
 - Adopting the SRP for unique technologies
 - Developing the supporting training curricula
- Ongoing projects include
 - Emerging technology evaluations (every 2-4 years)
 - On-line monitoring
 - Wireless technology
- Future projects include
 - System diagnosis and prognosis
 - Advanced instrumentation and controls
 - Radiation-hardened integrated circuits
 - ASICs and FPGAs
 - Smart transmitters

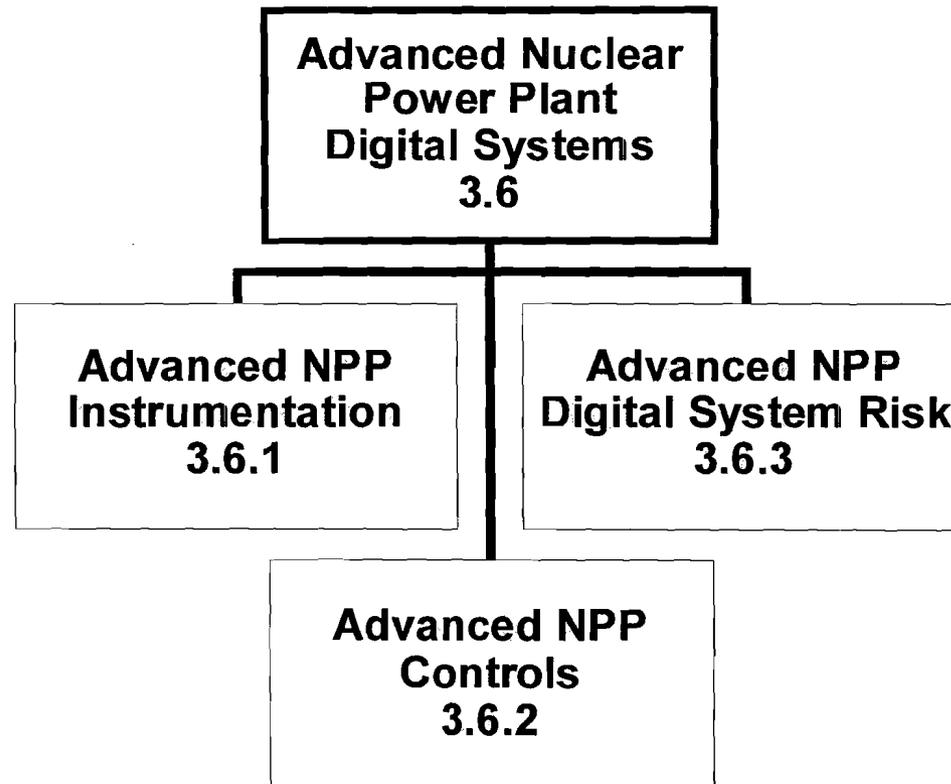


EMERGING DIGITAL TECHNOLOGY AND APPLICATIONS

- As an example, application specific integrated circuits (ASICs) and field programmable gate arrays (FPGAs) are now starting to be used in safety applications
- FPGAs are currently being used by Toshiba in safety systems for international nuclear applications
- FPGAs shift the complexity that might otherwise be in software to the hardware and design tools
- Current review guidance is based on software driven systems
- This research will
 - Evaluate the safety aspects (design, V&V, etc.) of ASICs and FPGAs
 - Develop safety assessment techniques and acceptance criteria for these devices
 - Support modifications of current regulatory guidance (SRP) to include this emerging technology



ADVANCED NPP DIGITAL SYSTEMS





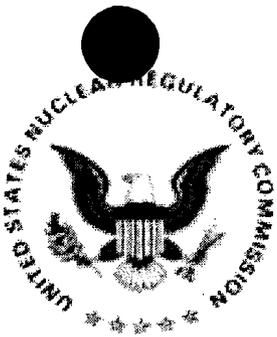
ADVANCED NPP DIGITAL SYSTEMS

- Advanced reactor designs could result in new instrumentation and control technologies, and might present new regulatory challenges
- To date, new reactor vendors have not identified any new technologies, however as the actual implementation come closer, advanced I&C designs are expected to be incorporated
- Research projects are dependent on advanced reactor design pre-application reviews and COL applications
 - EPR
 - AP1000
 - ESBWR
 - ACR-700
 - PBMR



ADVANCED NPP DIGITAL SYSTEMS

- Advanced reactor designs may apply new I&C technologies in safety, important to safety and non-safety systems
 - Robotics, artificial intelligence, autonomous controls, fully integrated DCS, new instrumentation, etc.
 - Research is organized into three basic areas
 - Advanced nuclear power plant instrumentation
 - Advanced nuclear power plant controls
 - Advanced nuclear power plant digital system risk
- No research in progress at this time



SUMMARY

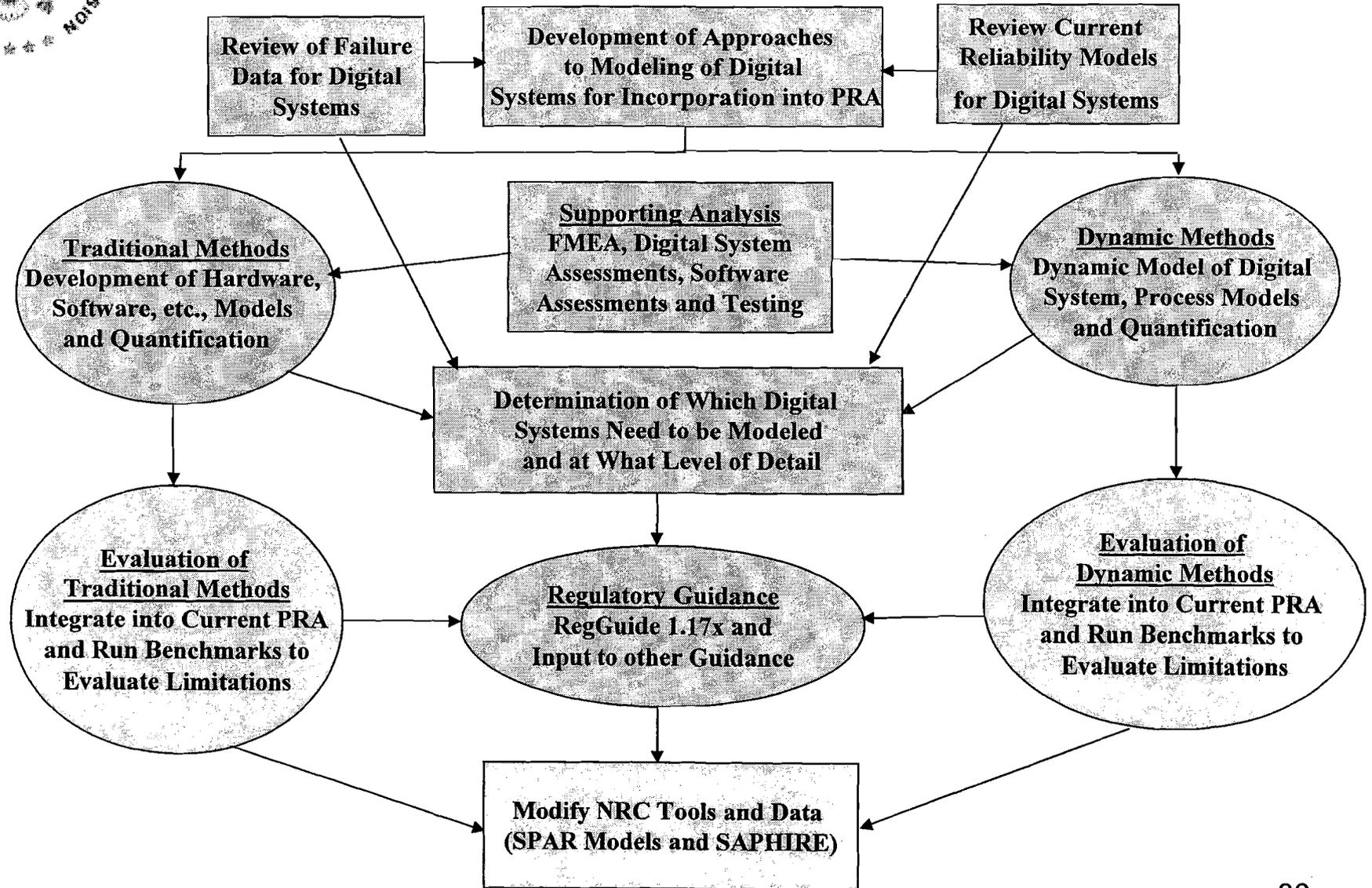
- NRC Digital System Research Plan FY 2005-2009
Provides a flexible, adaptable framework for supporting NRR, NMSS and NSIR regulatory requirements
 - Broad-based program oriented toward providing more consistent processes for regulating nuclear applications
 - improving review methods for new applications of existing technologies, advanced technologies and new issues
 - developing regulatory acceptance criteria
- The staff requests that the ACRS endorse the plan and continue to provide inputs on how to improve the research program
- RES is looking forward to working closely with the ACRS as the research is implemented



BACK-UP SLIDES

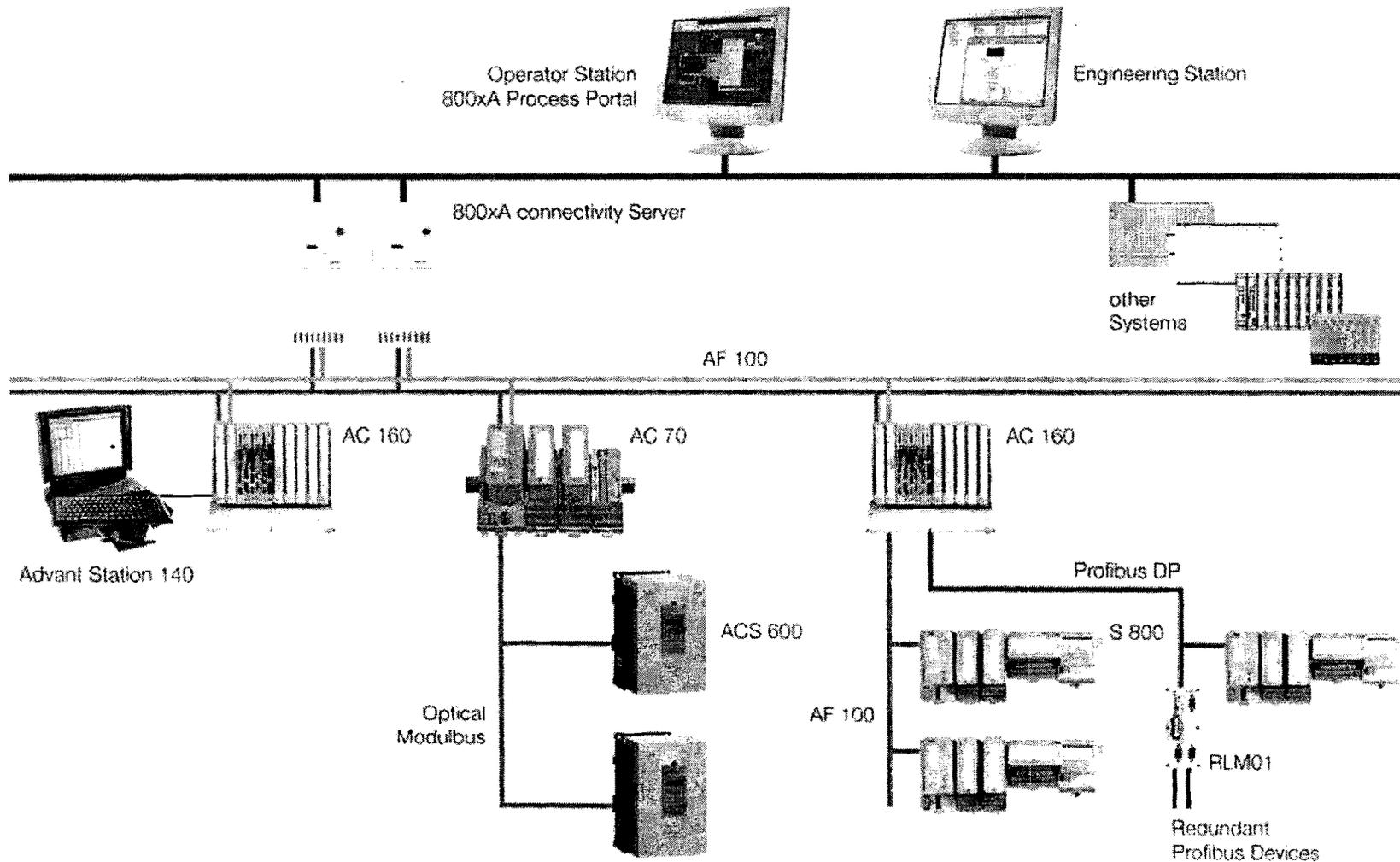


NRC Digital System Risk Program





SECURITY ASPECTS OF DIGITAL SYSTEMS





Building on the Reactor Oversight Process

NRC's Overall Safety Mission

Public Health and Safety (as a Result of Civilian Nuclear Reactor Operation)

Strategic Performance Areas

Reactor Safety

Radiation Safety

Safeguards

NMSS

Cornerstones



Digital I&C

- Function and Unique Characteristics
- How are they reviewed now?
- What evidence is there that improvement is needed?
- Is improvement related to Effectiveness? Efficiency? Regulatory Burden? Other?
- Are there any metrics to measure success of a project?



Operator Manual Actions Rulemaking

Sunil Weerakkody, Chief
Fire Protection Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation



Operator Manual Actions Rulemaking

- Staff introductions
- Purpose



Operator Manual Actions Rulemaking

David Diec, Project Manager
Financial, Policy and Rulemaking Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation



Operator Manual Actions Rulemaking

- Background:
 - Staff briefed ACRS in November 2004
 - Staff published proposed rule in March 2005
Proposed rule comment period ended in May 2005
 - Staff received early feedback on proposed rule in a Category 3 public meeting in April 2005
 - Staff held Category 2 public meeting in September 2005



Next Steps in Rulemaking Process

- Incorporate insights from public comments
- Develop dispositions of public comments
- Develop policy paper with Staff recommendation



Operator Manual Actions Rulemaking

Alexander Klein,
Sr. Fire Protection Engineer
Fire Protection Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation



Key Topics

- Maintaining Safety and Compliance
- Purposes of Rulemaking
- Major Stakeholder Comments
 - ACRS questions
- Staff Recommendation
 - Basis for recommendation
- Closure Plan
- Schedule and Conclusion



Maintaining Safety and Compliance

- Continue Inspections of Manual Actions
- Issue Violations Against Non-Feasible Manual Actions



Purposes of Rulemaking

- Primary purposes of the proposed rule SECY-03-0100
 - Codify the use of manual actions and its acceptance criteria
 - Avoid the need to process numerous exemption requests
- SRM dated January 18, 2005 stated:
 - “the staff should engage stakeholders to get a clear understanding...the proposed rule would achieve its underlying purpose”
 - “although the exemption process is available...the Commission considers the...rulemaking...or 10 CFR 50.48(c) more desirable in order to minimize the need for future exemption requests”



Major Stakeholder Comments

- Public Comments
 - Staff received 14 sets of comments
 - Several hundred individuals commented on November 2003 Federal Register Notice
 - The staff analyzed and considered the comments



Major Stakeholder Comments

- Major comments
 - **Requirement for automatic suppression is unnecessary [Industry, NEI], [ACRS question]**
 - **Numerous exemptions will still be needed [Industry], [ACRS question]**
 - **Alternative rule language proposed [NEI], [ACRS question]**
 - **IP71111.05T criteria endorsed [NEI], [ACRS question]**

 - Objected to the time margin and factor [Industry, NEI]
 - Proposed rule is a backfit [Industry, NEI]
 - Missing an opportunity to risk-inform, performance-base the rule [Industry]
 - Proposed rule abandons defense-in-depth; overlooks security related fires; undermines safety oversight [Public Interest Group]



Major Stakeholder Comment

- Requirement for automatic suppression is unnecessary
 - Industry and NEI object to the requirement
 - Fire hazards analysis

 - Staff concludes that the requirement for automatic suppression is essential to maintain defense-in-depth
 - One success path with an operator manual action
 - Relatively high failure probability of an operator manual action
 - Fire hazards analyses are deterministic



Major Stakeholder Comment

- Numerous exemptions will be needed
 - Industry comment based primarily on requirement for automatic suppression
- Staff position
 - Staff concludes that this would require writing exceptions to the rule to cover all situations
 - Poses a challenge to ensuring safety
 - Each situation is case-specific
 - 10CFR50.48(c), NFPA 805 approach is available



Major Stakeholder Comment

- Alternative rule language proposed by NEI
 - Defines several terms in III.G.1
 - Does not change III.G.2
 - Eliminates III.P
- Staff position
 - Staff considered the alternative rule language
 - Staff concluded that alternative language could lead to operator manual actions in areas where there are redundant trains
 - Some operator manual actions may have high probability of failure resulting in an unsafe plant condition
 - Alternative rule language does not ensure defense-in-depth



Major Stakeholder Comment

- IP71111.05T criteria endorsed by NEI
 - NEI claims IP71111.05T provides criteria for determining feasibility of manual actions
- Staff position
 - Staff developed the proposed rule acceptance criteria as part of a self-implementing rule
 - Staff wrote the acceptance criteria to be objective, inspectable and enforceable
 - Staff wrote the criteria to also ensure reliability



Staff Recommendation

- The staff will recommend to the Commission that the proposed rule on operator manual actions be withdrawn



Bases for Recommendation

- Industry comments stating that numerous exemptions will still be needed
 - Does not achieve a primary purpose
 - Does not meet the Commission SRM view
- Option of 10 CFR 50.48(c) is available to industry
 - Addresses Commission SRM direction
- Comments from stakeholders did not support the proposed rule
 - Industry
 - Public



Closure Plan

- Staff is developing a Policy Paper that will recommend withdrawal of the proposed rule
- Staff plans to issue a Regulatory Issue Summary (RIS) that will communicate our regulatory compliance expectations
- Staff continues inspecting operator manual actions through the Reactor Oversight Process



Schedule and Conclusion

- Schedule
 - Staff plans to submit the policy paper to the Commission by the end of calendar 2005
 - Staff plans to issue a RIS Spring 2006
- Conclusion
 - Staff believes the proposed rule should be withdrawn
 - Staff requests ACRS endorsement of our recommendation

①

ACRS MEETING HANDOUT

Meeting No. 527	Agenda Item 10	Handout No.: 10.1
Title: PLANNING & PROCEDURES/ FUTURE ACRS ACTIVITIES		
Authors: JOHN T. LARKINS		
List of Documents Attached PLANNING & PROCEDURES MINUTES	10	
Instructions to Preparer 1. Paginate Attachments 2. Punch holes 3. Place Copy in file box	From Staff Person JOHN T. LARKINS	

INTERNAL USE ONLY

**SCHEDULE AND OUTLINE FOR DISCUSSION
ACRS PLANNING AND PROCEDURES SUBCOMMITTEE MEETING
November 2, 2005**

The ACRS Subcommittee on Planning and Procedures held a meeting on November 2, 2005, in Room T2B-3, Two White Flint North Building, Rockville, Maryland. The purpose of the meeting was to discuss matters related to the conduct of ACRS business. The meeting was convened at 2:30 p.m. and adjourned at 4:05 p.m.

ATTENDEES

W. Shack
J. Sieber

ACRS STAFF

J. T. Larkins
A. Thadani
S. Duraiswamy
H. Nourbakhsh
M. Snodderly
M. Scott
J. Gallo
J. Lamb
G. Taylor
R. Caruso
J. Flack
C. Santos
E. Thornsbury
R. Savio
S. Meador

- 1) Review of the Member Assignments and Priorities for ACRS Reports and Letters for the November ACRS meeting

Member assignments and priorities for ACRS reports and letters for the November ACRS meeting are attached (pp. 6). Reports and letters that would benefit from additional consideration at a future ACRS meeting were discussed.

RECOMMENDATION

The Subcommittee recommends that the assignments and priorities for the November ACRS meeting be as shown in the attachment (pp. 6).

2) Anticipated Workload for ACRS Members

The anticipated workload for ACRS members through February 2006 is attached (pp. 7-9). 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

During this session, the Subcommittee also discussed and developed recommendations on items requiring Committee action (pp. 10-11).

RECOMMENDATION

The Subcommittee recommends that the members provide comments on the anticipated workload. Changes will be made, as appropriate.

3) Meeting with the NRC Commissioners

The ACRS is scheduled to meet with the NRC Commissioners between 1:00 and 3:00 p.m. on Thursday, December 8, 2005 to discuss the following topics approved by the Commission:

- Issues Related to New Plant Licensing (including technology Neutral Framework) (TSK/MME)
- Proposed Alternative Embrittlement Criteria in 10 CFR 50.46 (DAP/RC)
- Fire Protection Matters (GEA/JGL)
- Power Uprate Technical Issues (RSD/RC)

In addition to the above topics, the ACRS Chairman will provide an overview. Proposed topics for the overview include:

- Major accomplishments
- License renewal
- Early site permits
- Future ACRS activities

Cognizant members and the ACRS staff engineers have prepared presentation slides in their assigned areas of responsibility. The Committee should review and approve these slides during the November meeting. A proposed schedule for this meeting is attached (pp 12-13).

On October 24, 2005, the Chairman added a new topic on "Technical Issues Related to PWR Sumps". Please note that the Committee has not written a report on this matter since the last meeting with the Commission on April 7, 2005. However, the staff provided an information briefing to the Thermal-Hydraulic Phenomena Subcommittee on the interim results of the integrated chemical effects tests.

RECOMMENDATION

The Subcommittee recommends that the Committee approve the presentation slides for the Commission meeting. The slides should be finalized at the November meeting in order to have them transmitted to the Commission on November 25, 2005.

4) ACRS Retreat in 2006

During the October 2005 meeting, the Committee decided to hold a retreat on January 26-27, 2006. Several members and the ACRS Executive Director have proposed topics for discussion during the retreat. A list of proposed topics and lead members are included in the attachment (pp. 14-15). The Planning and Procedures Subcommittee has approved the proposed topics.

RECOMMENDATION

The Subcommittee recommends that the Committee provide feedback on the proposed list of topics for the retreat.

5) Candidates for Potential Membership on the ACRS (Closed)

During the October 2005 ACRS meeting, the members and the ACRS Member Candidate Screening Panel interviewed six candidates with expertise in the areas of Materials and Metallurgy and Plant Operations for potential membership on the ACRS. The Screening Panel plans to send its recommendation to the Commission in early November to fill the vacancy in the area of Materials and Metallurgy. Two other candidates, with expertise in plant operations, are scheduled for interview on November 3, 2005. Additionally, there are two potential candidates for membership on the ACRS, with expertise in thermal-hydraulics and other areas. The ACRS Executive Director would like the Committee to consider these candidates at the December meeting.

RECOMMENDATION

The Subcommittee recommends that the ACRS members make their preference known to Dr. Wallis by noon Friday, November 4, 2005. Subsequently, Dr. Wallis should provide Committee's views to the Screening Panel.

6) Assignments for Reviewing License Renewal Applications During CY 2006

Dr. Bonaca, Chairman of the Plant License Renewal Subcommittee, previously suggested that if a new member with expertise in the area of plant operations is not on board by the end of 2005, the Committee distribute the responsibility for reviewing license renewal applications among members. Accordingly, the responsibility for reviewing license renewal applications in CY 2006 has been divided between Dr. Bonaca and Mr. Sieber (pp. 16), both of them concur with the proposed assignments. These assignments may be changed, as needed.

7) Election of Officers for CY 2006

During its December 2005 meeting, the Committee will elect Chairman and Vice Chairman for the ACRS and Member-at-Large for the Planning and Procedures Subcommittee. In accordance with the ACRS Bylaws, those members who do not wish to be considered for all or any of these Offices, should inform the ACRS Executive Director in writing two weeks prior to the election.

RECOMMENDATION

The Subcommittee recommends that those members who do not wish to be considered for all or any of the Offices noted above inform the ACRS Executive Director in writing by November 21, 2005.

8) Christmas Party

It has been the tradition of the Committee to sponsor a Christmas Party to the ACRS/ACNW staff. The Committee needs to decide whether it wants to continue with this tradition and sponsor a Christmas Party to the ACRS/ACNW staff during the December 2005 ACRS meeting.

RECOMMENDATION

The Subcommittee recommends that the Committee sponsor a Christmas Party to the ACRS/ACNW staff during the December 2005 ACRS meeting and that the ACRS Executive Director invite the Commissioners and the EDO to the party.

9) Worksheet on Skills Set

In response to ACRS/ACNW self assessment survey, information is being collected on ACRS/ACNW members and staff regarding their technical skill sets. A Worksheet will be distributed that, once completed by each member and staff, will be used to identify needed skills and sources available for supporting Committee activity.

RECOMMENDATION

The Subcommittee recommends that the Worksheets be distributed and be completed within 30 days from the date of distribution, and that the Worksheets and associated insights be used to support discussions on ACRS skill set needs during the January 2006 ACRS retreat.

10) December 2005 ACRS Meeting

The December ACRS meeting is scheduled for December 8-10, 2005. On December 8, the Committee is scheduled to meet with the NRC Commissioners between 1:00 and 3:00 p.m. In addition, the Committee is expected to spend about 4 hours in reviewing the ACRS report to the Commission on the NRC Safety Research Program. Also, there are 4 letters scheduled for discussion. In view of the heavy workload for the December meeting, the Committee should consider starting the meeting at 1:00 p.m. on Wednesday, December 7.

RECOMMENDATION

The Subcommittee recommends that the Committee start the December meeting at 1:00 p.m. on Wednesday, December 7, 2005.

11) Revised Policy for Reporting Member Time

The policy for reporting labor hours for compensation has changed. Members and consultants are now required to report their time every two weeks based on the NRC payroll schedule and will be paid for that time on the same pay day as all NRC employees. Representatives from the OCFO will provide a briefing to the Committee on November 4, 2005 at 12:00PM at which time they will address the details of this change in policy.

RECOMMENDATION

The Subcommittee recommends that the members attend the OCIO briefing and provide feedback to the OCIO representatives and to the OSB staff so that the administrative burden of this change has minimal impact on the members.

ANTICIPATED WORKLOAD NOVEMBER 3-5, 2005

LEAD MEMBER	BACKUP	LEAD ENGINEER/ BACKUP	ISSUE	PRIORITY	BASIS FOR REPORT PRIORITY	AVAIL. OF DRAFTS
Apostolakis	—	Thornsbury	Digital I&C Research Plan and Related Matters	A	To provide ACRS views	Draft
Bonaca	—	Santos	Final Review of the License Renewal Application for Point Beach Nuclear Plant	A	To support staff schedule	Draft
Denning	—	Lamb	Status of Rulemaking on Post-Fire Operator Manual Actions	A	To support staff schedule	Draft
Kress	—	El-Zeftawy	General Description of the ESBWR Design/NRC Staff's Review Schedule [INFORMATION BRIEFING]	—	—	—
Powers	All Members	Nourbakhsh/ Duraiswamy	Draft ACRS Report to the Commission on the NRC Safety Research Program	Report to be finalized in December	To respond to SRM. Due date March 15, 2006	—
Sieber	—	Lamb	Draft Final Generic Letter 2005-XX, "Grid Reliability and the Impact on Plant Risk and Operability of Offsite Power"	A	To support staff schedule	Draft
Wallis	All Members	Larkins/Thadani/Scott	Preparation for Meeting with the NRC Commissioners, Dec. 8, 2005	—	—	Draft Slides

ANTICIPATED WORKLOAD DECEMBER 7 (1:00) - 10, 2005

LEAD MEMBER	BACKUP	LEAD ENGINEER/ BACKUP	ISSUE	PRIORITY	BASIS FOR REPORT PRIORITY	AVAIL. OF DRAFTS
Bonaca	Apostolakis	Flack	Staff's Response to SRM (SECY-04-0111) Regarding Staff Actions on Agency Guidance in the Areas of Safety Conscious Work Environment and Safety Culture [INFORMATION BRIEFING]	—	—	—
Denning	—	Lamb	Draft Final Generic Letter, "Impact of Potentially Degraded Hemyc/MT Fire Barrier Materials on Compliance With Fire Protection Regulations"	A	To support staff schedule	—
	Wallis	Caruso	Vermont Yankee Extended Power Uprate Application and the Final SER	A	To support staff schedule	—
Powers	—	El-Zeftawy	Final Review of the Grand Gulf Early Site Permit Application and the Final SER	A	To support staff schedule	—
	All Members	Nourbakhsh/ Duraiswamy	NRC Safety Research Program Report	A	To respond to SRM. Due date March 15, 2006	—
Shack	Apostolakis	Snodderly/ Thornsbury	Program Plan for Risk-Informing 10 CFR Part 50	A	To support staff schedule	—
Wallis	All Members	Larkins/Thadani/ Scott	Meeting with the NRC Commissioners [1:00 - 3:00, December 8, 2005]	—	—	—

ANTICIPATED WORKLOAD FEBRUARY 9-11, 2006

LEAD MEMBER	BACKUP	LEAD ENGINEER/ BACKUP	ISSUE	PRIORITY	BASIS FOR REPORT PRIORITY	AVAIL. OF DRAFTS
Apostolakis	—	Thornsbury	Evaluation of HRA Methods with Respect to HRA Good Practices in NUREG-1792	A	To support staff schedule	—
Bonaca	—	Santos	Draft Final Generic Letter 2005-xx, "Inaccessible or Underground Cable Failures that Disable Accident Mitigation Systems"	A	To support staff schedule	—
Denning	—	Lamb	Draft Final Generic Letter 2005-xx, "Post - Fire Safe Shutdown Circuit Analysis Spurious Actuations"	A	To support staff schedule	—
Powers	All Members	Nourbakhsh/ Duraiswamy	Draft Final ACRS Report to the Commission on the NRC Safety Research Program [TENTATIVE]	To resolve any feedback from the Commissioners	To respond to SRM. Due date March 15, 2006	—
	—	Snodderly/ Thornsbury	Draft Final Revision 1 to Reg. Guide 1.92, "Combining Modal Responses and Spatial Components in Seismic Response Analysis"	A	To support staff schedule	—
Shack	—	Snodderly	Proposed Reg. Guide in Support of the Risk-Informed Revision to 10 CFR 50.46, "Acceptance Criteria for ECCS for Light-Water Nuclear Power Reactors"	A	To support staff schedule	—

ANTICIPATED WORKLOAD February 9-11, 2006

LEAD MEMBER	BACKUP	LEAD ENGINEER/ BACKUP	ISSUE	PRIORITY	BASIS FOR REPORT PRIORITY	AVAIL. OF DRAFTS
Sieber	Bonaca	Lamb/Santos	SUBCOMMITTEE REPORT - Interim Review of the Brunswick License Renewal Application	—	—	—

ACRS Items Requiring Committee Action

1 Review of Generic Letter 2005-XX "Steam Generator Tube Integrity and Associated Technical Specifications" (Open)

Member: John Sieber **Engineer:** Cayetano Santos

Estimated Time:

Purpose: Determine a Course of Action

Priority:

Requested by: NRR K. Karwoski

In a memorandum dated August 11, 2005, from Michael E. Mayfield, Director Division of Engineering, to John T. Larkings, Executive Director, ACRS, the staff asked if the ACRS would like a briefing on GL 2005-XX "Steam Generator Tube Integrity and Associated Technical Specifications." At the September 2005 meeting, Mr. Sieber recommended that the Committee review this GL.

This GL requests that addressees respond with either of the following:

(1) a commitment to modifying the technical specification requirements for steam generator tube integrity that is consistent with TSTF-449, Revision 4, "Steam Generator Tube Integrity." (TSTF-449 was approved in May 2005 and is consistent with NEI 97-06, "Steam Generator Program Guidelines.")

or

(2) a description of their program for ensuring steam generator tube integrity.

Responses to Option 1 are requested within 30 days and responses to Option 2 are requested within 60 days.

This GL is addressed only to licensees that have not already modified their steam generator technical specifications.

The draft GL was issued for public comment in October 2004. The five responses received by the staff resulted in administrative changes to the GL. The staff originally planned to issue the GL in May 2006 to give licensees an opportunity to adopt the new technical specifications. In September 2005, CRGR recommended that the staff not wait until May 2006 to issue the GL. The staff now plans to issue the GL before the end of the year.

Mr. Sieber recommends that the Committee consider reviewing this matter after industry responses have been received by the staff.

2 Staff's Request to Waive the ACRS Review of SRP 12.5, "Operational Radiation Protection Program." (Open)

Member: John Sieber **Engineer:** John Lamb

Estimated Time: 1.5 hours

Purpose: Determine a Course of Action

Priority: High

Requested by: NRR R. Pedersen

The staff has revised SRP 12.5, "Operational Radiation Protection Program." The changes consist of (1) revising the references to 10 CFR 20, (2) assigning different responsibilities to the primary and secondary branches because of office reorganizations, (3) editorial & formatting changes as part of the SRP update effort, and (4) updating several references.

Mr. Sieber recommended to the P&P that the Committee not review this SRP.