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

December 29, 2009

MEMORANDUM TO: ACRS Members

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

SUBJECT: CERTIFICATION OF THE MEETING MINUTES FROM THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS 565th FULL COMMITTEE MEETING HELD ON SEPTEMBER 10-12, 2009 IN ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on December 10, 2009 as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment:
As stated

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

December 10, 2009

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

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

SUBJECT: MINUTES OF THE 565th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS (ACRS), SEPTEMBER 10-12, 2009

I certify that based on my review of the minutes from the 565th ACRS Full Committee meeting, and to the best of my knowledge and belief, I have observed no substantive errors or omissions in the record of this proceeding subject to the comments noted below.

OFFICE	ACRS	ACRS:RSB
NAME	SMeador	CSantos/sam
DATE	12/ 10 /09	12/ 10 /09

OFFICIAL RECORD COPY

CERTIFIED Date Certified: 12/10/2009

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MINUTES OF THE 565th ACRS MEETING

September 10-12, 2009

During its 565th meeting, September 10-12, 2009, the Advisory Committee on Reactor Safeguards (ACRS) discussed several matters and completed the following reports, letters, and memoranda:

REPORTS

Reports to Gregory B. Jaczko, Chairman, NRC, from Mario V. Bonaca, Chairman, ACRS:

- Draft Digital System Research Plan for FY 2010 – FY 2014, dated October 2, 2009

- Report on the Safety Aspects of the License Renewal Application for the Three Mile Island Nuclear Station, Unit 1, dated September 28, 2009

- Report on the Safety Aspects of the License Renewal Application for the Beaver Valley Power Station, Units 1 and 2, dated September 16, 2009

- Report on the Safety Aspects of the License Renewal Application for the Indian Point Nuclear Generating Unit Nos. 2 and 3, dated September 23, 2009

LETTERS

Letter to R. W. Borchardt, Executive Director for Operations, NRC, from Mario V. Bonaca, Chairman, ACRS:

- Plant-Specific Operating Experience for License Renewal Applications, dated September 28, 2009

Letter to Dr. Brian Sheron, Director, Office of Nuclear Regulatory Research, NRC, from Mario V. Bonaca, Chairman, ACRS:

- ACRS Assessment of the Quality of Selected NRC Research Projects - FY 2009, dated September 16, 2009

Letter to Mr. Theodore Robinson, Esq., Citizen Power, from Edwin M. Hackett, Executive Director, ACRS:

- Response to Your August 27, 2009, Letter to the Advisory Committee on Reactor Safeguards Concerning Containment Liner Integrity at Beaver Valley Power Station, Units 1 and 2, dated September 23, 2009

MEMORANDA

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

- Open Items in the Draft Safety Evaluation Report Related to License Renewal Applications, dated September 23, 2009

- Letter from Citizen Power Concerning the License Renewal for the Beaver Valley Power Station, dated September 22, 2009

- Proposed Revisions to Regulatory Guides 4.16, 8.18, 8.24, 6.9, and 1.115 dated September 21, 2009

- Proposed Revision 2 to Regulatory Guide 6.7, dated September 21, 2009

- Request by the ACRS for a Future Briefing by NRR on Current Containment Liner Corrosion Issues and Actions Being Taken by the Staff to Address Them, dated September 21, 2009

- Proposed Revision to NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility," dated September 21, 2009

- Withdrawal of Regulatory Guides 4.5, 4.6, 7.1, 7.5, 1.83, and 1.165, dated September 28, 2009

- Questions Raised by a Member of the Public During an ACRS Subcommittee Meeting On Watts Bar Unit 2, dated September 16, 2009

MINUTES OF THE 565th MEETING OF THE ADVISORY COMMITTEE ON REACTOR SAFEGUARDS ROCKVILLE, MARYLAND

The 565th meeting of the Advisory Committee on Reactor Safeguards (ACRS) was held in Conference Room 2B3, Two White Flint North Building, Rockville, Maryland, on September 10-12, 2009. Notice of this meeting was published in the *Federal Register* on August 25, 2009 (72 FR42946-42947). The purpose of this meeting was to discuss and take appropriate action on the items listed in the meeting agenda. The meeting was open to public attendance.

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

ATTENDEES

ACRS Members: Dr. Mario Bonaca (Chairman), Dr. Said Abdel-Khalik (Vice-Chairman), Mr. J. Sam Armijo (Member-at-Large), Dr. George E. Apostolakis, Dr. Sanjoy Banerjee, Dr. Dennis Bley, Mr. Charles Brown, Dr. Michael Corradini, Mr. Otto L. Maynard, Dr. Dana A. Powers, Mr. Harold Ray, Dr. Michael Ryan, Dr. William Shack, Mr. John Sieber, and Mr. John Stetkar.

I. Chairman's Report (Open)

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

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

HIGHLIGHTS OF KEY ISSUES

II. License Renewal Application and Final Safety Evaluation Report (SER) for the Indian Point Nuclear Generating Unit Nos.2 and 3

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

The Committee met with representatives of the NRC staff and Entergy Nuclear Operations Inc., (Entergy or applicant) to discuss the final Safety Evaluation Report (SER) related to the license renewal application for the Indian Point Nuclear Generating Unit Nos. 2 and 3 (IP2 and IP3).

Entergy discussed its evaluations, corrective actions, and commitments relative to the IP2 spent fuel pool. Entergy has committed to a quarterly sampling program to test for changes in tritium concentrations in groundwater in close proximity to the IP2 spent fuel pool. Regarding the leak found in the IP2 refueling cavity during refueling operation, the applicant discussed the inspection conducted to date and the actions planned to be performed prior to and during the period of extended operation. The applicant also discussed the issue of the IP2 containment liner that was damaged during the 1973 waterhammer event. The integrated leak rate tests and inspection results have confirmed that the containment liner has not experienced any degradation following the repairs. Entergy will perform another inspection of the affected area prior to the period of extended operation.

The NRC staff discussed how the applicant amended its buried piping and tanks inspection program to include additional testing of buried components. Entergy has committed to 51 inspections prior to entering the period of extended operation and additional periodic inspections during the period of extended operation. This inspection and monitoring program is consistent with the Generic Aging Lessons Learned (GALL) Report and significantly exceeds the minimum number of inspections required in similar programs at other plants. The staff also provided additional information regarding the applicant's flow-accelerated corrosion (FAC) operating experience. The staff concluded that the applicant's FAC program is consistent with the GALL Report and is acceptable. The staff also provided a brief discussion on the applicant's metal fatigue monitoring program and the reactor vessel upper-shelf energy criteria.

The Indian Point final SER contained no open items. Based on its review, the staff concluded that the requirements of 10 CFR 54.29(a) have been met.

The Committee issued a report to the NRC Chairman on this matter, dated September 23, 2009, recommending that the Entergy application for renewal of the operating licenses of IP2 and IP3 be approved.

III. License Renewal Application and Final SER for the Three Mile Island Nuclear Station, Unit 1

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

The Committee met with representatives of the NRC staff and Exelon Generation Company, LLC, (Exelon or applicant), to discuss the final SER related to the license renewal application for the Three Mile Island Nuclear Station, Unit 1 (TMI-1).

The applicant discussed the method used to consider plant-specific operating and maintenance experience. The method initially used by the applicant was inconsistent with industry guidance. Subsequently, the applicant conducted a direct plant-specific operating experience review for mechanical systems. The applicant indicated that no new aging effects were identified. The applicant also discussed the cause of the corrosion that occurred on the containment liner. The applicant indicated that a weld repair prior to the period of extended operation will be performed followed by an integrated leak rate test for the liner. The applicant also discussed water in underground cable vaults (manholes) and the implementation of semi-annual inspections of vaults to prevent water intrusion. Restoration of the french drains at the bottom of the vaults was also discussed as a measure to prevent water intrusion.

The NRC staff provided an overview of the TMI-1 license renewal inspection/operating experience review. The staff discussed how the applicant reevaluated plant-specific operating and maintenance experience. The staff also discussed the inspection findings of the applicant's plant-specific operating experience, corrosion of the reactor building liner, water found in underground cable vaults and the environmental effects on fatigue life of piping and components for TMI-1.

The TMI-1 final SER contained no open items. Based on its review, the staff concluded that the requirements of 10 CFR 54.29(a) have been met.

The Committee issued a report to the NRC Chairman on this matter, dated September 28, 2009, recommending that the application for renewal of the operating license for TMI-1 be approved.

IV. Draft Final Revision 2 to Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants"

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

The Committee met with representatives of the NRC staff to review draft final Regulatory Guide (RG) 1.189, Revision 2, "Fire Protection for Nuclear Power Plants." The staff described the changes in RG 1.189. These changes included discussions of safe shutdown success path components and components important to safety, and the use of operator manual actions and fire modeling for assessing components important to safe shutdown.

The staff also provided the Committee with a summary of the public comments and their resolution. Industry stakeholders commented that NEI 00-01, Revision 2, "Guidance for Post Fire Safe Shutdown Circuit Analysis," should be referenced in the Guide. The staff described the three areas in which it did not endorse NEI 00-01:

- NEI 00-01 Appendix E, Operator Manual Actions, lacks a clear discussion of the reliability of manual actions and is insufficient to address all plant response scenarios.

- The test data do not justify a limit of 20 minutes for the clearing DC circuit hot shorts for components important to safe shutdown.

- The staff is also concerned with the NEI position that only one cable be considered to have hot shorts for non-latching, non-locking circuits and that concurrent multiple faults in separate cables don't need to be considered.

On September 8, 2009, NEI submitted additional information to address these issues. The staff has come to resolution with industry stakeholders on two of these issues. The staff will continue to work with industry to refine the guidance for operator manual actions. The staff also noted that, when Revision 2 to RG 1.189 is issued, licensees will have 6 months to identify compliances and an additional 30 months to resolve these noncompliances. The staff will make additional revisions to RG 1.189 to address the September 8, 2009 comments by NEI and submit the final version of RG 1.189 to the ACRS for consideration during its October 8-10, 2009 meeting.

V. Draft Digital Instrumentation and Control (DI&C) Research Plan for FY 2010 – 2014

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

The Committee met with representatives of the NRC staff to discuss the July 28, 2009, draft Digital Instrumentation and Control Research Plan for FY 2010-2014. The staff presented information on the research that is needed to supplement and augment current review guidance and develop technical bases to support risk-informed digital system reviews and operational assessments. Some of the issues captured in the DI&C Research Plan are: understanding of associated failure modes; complexity and potential new failure modes; limited operating history; higher level of system integration and complex communication schemes; and cyber vulnerabilities.

This Plan updates the previous Plan for FY 2005 - FY 2009. The staff stated that the purpose of the Plan is to provide a communication and planning framework that identifies necessary research initiatives to support regulatory decisions.

Specifically, the draft digital I&C Research Plan for FY 2010-2014 divide the research into five areas:

- Safety Aspects of Digital Systems
- Security Aspects of Digital Systems
- Advanced Nuclear Power Concepts
- Knowledge Management
- Additional Carry-Over Projects from Digital System Research Plan FY 2005 - FY 2009

The DI&C Research Plan is a continuation of research programs that support regulatory needs of the NRC licensing offices.

The Committee issued a report to the NRC Chairman on this matter, dated October 2, 2009, stating that the July 28, 2009 Digital System Research Plan for FY 2010 - FY 2014 is well directed toward meeting the agency needs. In addition, the Committee provided comments on the following topics to allow the staff to consider them as the Plan is refined: communications among plant-wide systems; safety assessment of tool automated processes; development of benchmark and reliability data; and analytical assessment of DI&C systems and digital system PRA.

VI. Updated Information Related to the License Renewal Application and Supplemental SER for the Beaver Valley Power Station

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

The Committee met with representatives of the NRC staff and FirstEnergy Nuclear operating Company (FENOC), the applicant, to review new information submitted by FENOC and the associated Supplemental SER prepared by the staff related to the license renewal application for the Beaver Valley Power Station (BVPS), Units 1 and 2.

The applicant discussed the new information regarding the Unit 1 containment liner corrosion identified in 2006. Of the three areas of corrosion identified, two were replaced with new plate material. The third area of the liner showed minimal loss of thickness at the deepest pit and was left in place for further monitoring. The applicant further discussed the containment liner inspection performed in April 2009 on Unit 1, in which a paint blister was discovered on the containment liner revealing through-wall corrosion. The applicant attributed this corrosion to a moist piece of foreign material (wood) which was found embedded in the concrete immediately behind and in contact with the liner. The applicant's corrective actions included removal of the wood, inspection of the concrete, and replacement of the affected section of the liner. Future corrective actions include follow-up ultrasonic examination of the replaced area during the next Unit 1 refueling outage and visual examinations to be performed during the next Unit 1 and Unit 2 refueling outages. Supplemental non-random volumetric examinations on the Unit 1 containment liner will be completed by December 2010. In addition, supplemental random volumetric examinations of a minimum of 75 sections of the containment liner will be performed during the next three outages with all tests to be completed no later than the beginning of the period of extended operation. For Unit 2, supplemental volumetric examinations will be completed prior to entering the period of extended operation.

The NRC staff also provided an overview of the applicant's commitments associated with the BVPS, Units 1 and 2 containment liners and discussed its Supplemental SER. Based on its review, the staff concluded that the requirements of 10 CFR 54.29(a) have been met.

The Committee issued a report to the NRC Chairman on this matter, dated September 16, 2009, recommending that the FENOC application for renewal of the operating licenses of BVPS, Units 1 and 2 be approved.

VII. Subcommittee Reports

ESBWR Subcommittee Report

The Chairman of the Economic Simplified Boiling Water Reactor (ESBWR) Subcommittee provided a report regarding the matters discussed at the July 21-22, and August 21, 2009, Subcommittee meetings. During the July 22-22, 2009, meeting, the staff and General Electric Hitachi described the resolution of issues associated with the ESBWR Design Control Document (DCD). During the August 21, 2009, meeting, the staff and Dominion Virginia Power presented multiple SER Chapters (2, 3, and 14) with open items, related to the North Anna combined license application (COLA). The SER Chapters contained information incorporated by reference from the ESBWR DCD. Several technical issues were raised by the Subcommittee that will have to be resolved in the context of the certification of the ESBWR design. These issues include: potential explosion hazards on the site, the methodology for

determining the frequency of airplane crashes, and slope stability issues. The Committee plans to continue its review of this matter during future meetings.

AP1000 Subcommittee Report

The Chairman of the AP1000 Subcommittee provided a report regarding the matters discussed at the July 23-24, 2009, Subcommittee meeting. In January 2009, the Westinghouse Electric Company submitted Revision 17 of the DCD, for the AP1000 advanced pressurized water reactor (PWR). In October 2007, the Tennessee Valley Authority (TVA) and the multi-utility consortium NuStart Energy, submitted a COLA for two AP1000 reactors designated as Bellefonte Nuclear Station Units 3 & 4 at TVA's existing yet inactive Bellefonte reactor site in Jackson County, Alabama. The staff is reviewing this material and is required to obtain the views of the ACRS. The Subcommittee was briefed on ten Chapters of the AP1000 DCD amendment and the Bellefonte Reference Combined License Application (RCOLA) for which there were uncontested open items. The Committee determined that because of the complexity and number of amendments being proposed in the DCD, it is impractical to perform the requested reviews (DCD amendment and RCOLA) in parallel, as first requested by the staff. Consequently, the members agreed to conduct these reviews in series. The Subcommittee is scheduled to review the remaining DCD amendments and draft SER chapters in Subcommittee meetings currently scheduled for October 2009, November 2009, and January 2010.

Plant Operations and Fire Protection Subcommittee Report

The Chairmen of the Plant Operations and Fire Protection Subcommittee provided a report regarding the matters discussed during the July 28, and July 30, 2009, Subcommittee meetings. On July 28, 2009, the Subcommittee visited the Watts Bar Nuclear Plant and held a public meeting with TVA. TVA discussed their activities in support of the Watts Bar Unit 2 license review. The focus of the plant tour was to observe fist-hand the material condition at Unit 2 and the status of construction, and review the controls TVA has implemented to ensure that Unit 2 construction activities do not impact the safe operation of Unit 1. The members noted that material condition at Unit 2 appeared favorable, and the TVA's process for Unit 2 construction and licensing was carefully thought-out and systematic. On July 30, 2009, the Subcommittee met with the NRC Region II Administrator and his staff at the Office of Region II in a public meeting. The staff discussed the regional organization, the inspection program in support of Watts Bar Unit 2 construction, the inspection results and future plans, and other regional activities. As further progress has been made, the Subcommittee and subsequently the full Committee will meet with the staff and TVA to discuss the Watts Bar, Unit 2, licensing.

Reliability and PRA Subcommittee Report

The Chairman of the Reliability and PRA Subcommittee provided a report regarding the matters discussed at the August 18, 2009, Subcommittee meeting. The Subcommittee met with the staff and industry representatives to discuss Regulatory Guide 1.205, Rev. 1, "Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants," and the Standard Review Plan, Section 9.5.1, "Risk-Informed, Performance-Based Fire Protection." These are guidance documents for plants adopting NFPA-805, "Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants." The staff presented an overview of the resolution of public comments. The NEI representative discussed industry concerns with current draft revision to Regulatory Guide 1.205; and the EPRI representative

described industry activities to develop an EPRI Fire PRA methodology. Several issues were raised by the Subcommittee that will have to be resolved prior to submitting this Guide to the full Committee for approval. Therefore, the Subcommittee decided to have another meeting in November prior to presenting Revision 1 of Regulatory Guide 1.205 to the full Committee in December 2009.

Evolutionary Power Reactor (EPR) Subcommittee Report

The Chairman of the EPR Subcommittee provided a report regarding the matters discussed at the September 8, 2009, Subcommittee meeting. AREVA, NP presented analyses and results from Technical Report ANP-10299P, "Applicability of AREVA NP Containment Response Evaluation Methodology to the U.S. EPR for Large Break LOCA Analysis," Revision 1, and also provided an overview of several analyses included in the US EPR DCD FSAR submitted to NRC for review. Several technical issues were raised by the Subcommittee that will be discussed further when relevant Chapters of the EPR DCD SER are reviewed by the Subcommittee. These included the applicability of scaling methodologies and benchmarks used in the analyses, uncertainty analyses, and operability of some components of the containment ventilation system. Subcommittee members also expressed interest in learning more about the review of the US EPR design conducted by European Countries where the EPR is being built and the differences in the licensing basis for those plants compared to the licensing basis being developed for the US EPR. The Subcommittee will begin its review of SER Chapters with open items for the US EPR DCD in November 2009.

VIII. Executive Session

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

A. Reconciliation of ACRS Comments and Recommendations/EDO Commitments

RECONCILIATION OF ACRS COMMENTS AND RECOMMENDATIONS/EDO COMMITMENTS

- The Committee considered the EDO's response of July 27, 2009, to comments and recommendations included in the March 19, 2009, ACRS letter concerning draft final Regulatory Guide 5.71, "Cyber Security Programs for Nuclear Facilities." The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of July 17, 2009, to comments and recommendations included in the June 16, 2009, ACRS letter on the National Institute of Standards and Technology License Renewal Application. The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of June 23, 2009, to comments and recommendations included in the May 20, 2009, ACRS letter concerning Proposed Resolution of Generic Safety Issue – 163, "Multiple Steam Generator Tube Leakage." In addition, the Committee also considered the EDO's response of June 23, 2009, to a May 18, 2009, memorandum concerning the review of Steam Generator Action Plan Items. The Committee decided that, based on the commitments made by the staff, it was satisfied with the EDO's responses.

- The Committee considered the EDO's response of July 29, 2009, to comments and recommendations included in the June 25, 2009, ACRS letter concerning the Safety Evaluation of the Mitsubishi Heavy Industries (MHI) Topical Report MUAP-P, Revision 2, "Defense –In-Depth and Diversity," related to the US-APWR Design. The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of July 17, 2009, to comments and recommendations included in the June 17, 2009, ACRS letter concerning draft Final Revision 2 to Regulatory Guide 1.21, "Measuring, Evaluating and Reporting Radioactive Material in Liquid and Gaseous Effluents and Solid Waste," and 4.1, "Radiological Environmental Monitoring for Nuclear Power Plants." The Committee decided that it was satisfied with the EDO's response.
- The Committee considered the EDO's response of June 23, 2009, to comments and recommendations included in the May 18, 2009, ACRS letter on Draft Final Regulatory Guide 1.214 (DG-1212), "Response Procedures for Potential or Actual Aircraft Attacks." The Committee decided that it was satisfied with the EDO's response.

B. Report of the Planning and Procedures Subcommittee Meeting

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

Member assignments and priorities for ACRS reports and letters for the May 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 December 2009 were discussed and the objectives were to:

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

Open Items in the Draft Safety Evaluation Report (SER) Related to License Renewal Applications

In February 2003, the Committee established a policy that the draft SER associated with a license renewal application submitted to the ACRS Subcommittee for review should have 10 or less open items. This policy was to preclude having another Subcommittee meeting to discuss the resolution of large number of open items (e.g. 40 open items in the draft SER for Catawba and McGuire license renewal application) and to minimize the full Committee time in discussing the resolution. The Commission and the EDO were informed of this policy. Since establishing this policy, it has been adopted strictly. Since there is new staff management, who are not aware of this policy, the Committee needs to reemphasize its policy.

ACRS Meeting With the Commission

The ACRS is tentatively scheduled to meet with the Commission on December 4, 2009. We informed the Office of SECY that we would let them know, after the September ACRS meeting, whether the Committee wants to hold this meeting or prefers to postpone it until April 2010. Since there are no major topics and the December meeting workload is expected to be heavy, it is suggested that the meeting with the Commission be postponed to April 2010.

Commission Meeting on New Reactor Issues

The Commission is scheduled to hold a meeting with the staff on September 22, 2009, between 9:30 A.M. and 11:30 A.M. to discuss new reactor issues – Progress in Resolving Issues Associated with ITAAC Closure. Members interested in attending this meeting should inform the ACRS Executive Director.

Questions Raised by a Member of the Public Regarding Watts Bar, Unit 2

During the July 28, 2009 meeting on Watts Bar Unit 2, that was held at Spring City, Tennessee, a member of the public raised several questions regarding Watts Bar, Unit 2. Since the Committee does not have all the information to respond to these questions, these questions will be referred to the EDO for disposition.

Candidates for Membership on the ACRS

In response to the announcement in the *Federal Register* notice, press release, and in several Technical Magazines soliciting candidates for membership on the ACRS, we have received several applications. The ACRS Member Candidate Screening Panel will review these applications and develop a list of qualified candidates for interview by the Panel and the ACRS members in November. The Committee should provide feedback to the ACRS Executive Director on the expertise to fill future vacancies.

Resumes that have been received for the ACRS vacancy announcement are available at the ACRS Sharepoint site at http://portal.nrc.gov/CB/acrs/ACRS%20Member%20Solicitations/Resumes/default.aspx. Please note that this link is part of the ACRS Sharepoint site, and CITRIX is required for access. SharePoint is the only Agency approved vehicle for sharing Personally Identifiable Information (PII). For members who prefer to review the notebooks containing resumes of the candidates, as has been in the past, notebooks will be made available for check out during the September and October meetings. Please see Jessie Delgado for a copy of the notebook. The notebooks must be returned when your review is completed.

Naval Reactor Review

The ACRS will review the Safety Analysis Report related to a new navel reactor design in June 2012. The staff plans to issue a draft SER in August 2013 in preparation for a full-day Subcommittee meeting in September 2013. This would be followed by a full Committee meeting in October 2013. This schedule is similar to what was done in previous reviews.

To help the members prepare for this review, Naval Reactors have proposed a visit to Naval Reactors Headquarters in Washington D.C. (Half a day on December 2, 2009). Other visits may be planned in the future.

Standard Review Plan and Regulatory Guides

a) Standard Review Plan

The staff plans to issue the following Standard Review Plan (SRP) for public comment and would like to know whether the Committee wants to review this SRP prior to being issued for public comment.

- Proposed Revision to NUREG-1520, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility"

  The staff plans to publish a proposed revision to NUREG-1520, and requests that the ACRS defer its review until after reconciling public comments. The proposed revision updates the March 2002 SRP that is used by the staff to perform safety and environmental impact reviews of applications to construct, operate, extend, or modify nuclear fuel cycle facilities. Chapter 3 of the SRP focuses on a licensee's or applicant's ability to perform an integrated safety analysis (ISA), and to provide an ISA summary to the NRC for review. In 2001, a joint ACRS/ACNW Subcommittee questioned the effectiveness of ISA in establishing a risk-informed licensing process. In a subsequent letter to the Commission dated January 14, 2002, the Committee recommended that the staff "move the ISA process systematically in the direction of quantitative risk assessment to enhance the overall understanding of total system risk." Any change in direction to enhance the licensing process would need to be reflected in the proposed revision to the SRP.

  Dr. Ryan recommends that the Committee review the draft final version of this SRP after reconciliation of public comments.

b) Draft Final Regulatory Guide

The staff plans to issue the following Draft Final Regulatory Guide and would like to know whether the Committee wants to review this Guide prior to being issued final.

- Draft Final Revision 1 to Regulatory Guide 1.151 (DG-1178), "Instrument Sensing Lines"

  Regulatory Guide 1.151 describes a method that the staff considers acceptable for use in complying with the regulations with regard to the design and installation of safety-related instrument sensing lines in nuclear power plants. To meet these objectives, the sensing lines must serve a safety-related function to prevent the release of reactor coolant as a part of the reactor coolant pressure boundary and provide adequate connection to the reactor coolant system for measuring process variables (e.g., pressure, level, and flow). Revision 1 to RG 1.151 was issued on October 23, 2008 for public comment. The comment period ended December 22, 2008. Changes to this Guide are (1) to update the references and standards and (2) to provide minor clarifications.

Based on his review of this Regulatory Guide, Mr. Maynard recommends that the Committee not review this Guide.

c) Proposed Regulatory Guides

The staff plans to issue the following Proposed Regulatory Guides for public comment and would like to know whether the Committee wants to review these Guides prior to being issued for public comment.

- Proposed Revision 2 to Regulatory Guide 4.16 (DG-4017), "Monitoring and Reporting Radioactive Materials in Liquid and Gaseous Effluents from Nuclear Fuel Cycle Facilities"

  The staff issued Revision 1 to Regulatory Guide (RG) 4.16, "Monitoring and Reporting Radioactivity in Releases of Radioactive Materials in Liquid and Gaseous Effluents from Nuclear Fuel Processing and Fabrication Plants and Uranium Hexaflouride Production Plants," in December 1985. The original title has been changed. The staff believes that the proposed revision will enhance the collection and documentation of information on the identity, concentration, and quantity of radionuclides in liquid and gaseous effluents from uranium enrichment plants, nuclear fuel processing and fabrication plants, and uranium hexafluoride production plants. It could also lead to cost savings for the industry, especially with regard to the efficiency of staff's review of effluent impact, including estimates of the potential annual radiation doses to the public, meeting regulations and determining whether concentrations of radioactive material in liquid and gaseous effluents have been kept as low as reasonably achievable (ALARA), and determining the adequacy and performance of effluent controls.

Based on his review of this Proposed Regulatory Guide, Dr. Ryan recommends that the Committee review the draft final revision to this Guide after reconciliation of public comments.

- Proposed Revision 2 to Regulatory Guide 8.18 (DG-8037), "Information Relevant to Ensuring that Occupational Radiation Exposures at Medical Institutions will be As Low As Reasonably Achievable"

  RG 8.18 provides guidance to medical licensees in order to maintain occupational exposures as low as is reasonably achievable. This Guide includes recommendations for occupational workers and certain persons other than employees that are exposed to radiation from licensed radioactive material. These persons include visitors and patients other than those being treated with radioactive material. The content of this Guide is also applicable to veterinary medical institutions, with respect to specific diagnostic or therapeutic procedures are performed.

Based on his review of this Proposed Regulatory Guide, Dr. Ryan recommends that the Committee review the draft final revision to this Guide after reconciliation of public comments.

- Proposed Revision 2 to Regulatory Guide 8.24 (DG-8040), " Health Physics Surveys During Enriched Uranium-235 Processing and Fuel Cycle Fabrication"

  Revision 1 of Regulatory Guide 8.24 was issued in October 1979. DG-8040 describes a method that the staff considers acceptable for establishing an acceptable survey program in accordance with the "as low as reasonably achievable" philosophy. As used in 10 CFR Part 20, " Standards for Protection Against Radiation," the term " survey" refers to an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions. The main changes to this Guide are editorial and for consistency with the current regulations.

Based on his review of this Proposed Regulatory Guide, Dr. Ryan recommends that the Committee review the draft final revision to this Guide after reconciliation of public comments.

- Proposed Revision 1 to Regulatory Guide 6.9 (DG-6007), "Establishing Quality Assurance Programs for the Manufacture and Distribution of Sealed Sources and Devices Containing Byproduct Material"

  The staff issued Regulatory Guide 6.9, "Establishing Quality Assurance Programs for the Manufacture and Distribution of Sealed Sources and Devices Containing Byproduct Material," in February 1995, to provide licensees with agency-approved guidance for complying with the QA/QC program requirements of 10 CFR Part 32. As part of its redesign of the materials licensing process, the staff consolidated and updated numerous materials license guidance documents into NUREG-1556, "Consolidated Guidance About Materials Licenses." RG 6.9 endorses the method described in Volume 3 of NUREG-1556. The objective of this revision is to provide clear and up-to-date information to support consolidated guidance about materials licenses, in general, and leak-testing radioactive brachytherapy sources in particular.

Based on his review of this Proposed Regulatory Guide, Dr. Ryan recommends that the Committee review the draft final revision to this Guide after reconciliation of public comments.

- Proposed Revision 2 to Regulatory Guide 6.7 (DG-6008), " Preparation of An Environmental Report to Support a Rulemaking Petition Seeking an Exemption for a Radionuclide-Containing Product"

  Revision 2 to RG 6.7 provides general procedures for the preparation of environmental reports submitted to support a rulemaking petition requesting an exemption for a consumer product containing radioactive material. It amends Revision 1 of RG 6.7 issued June 1976.

Based on his review of this Proposed Regulatory Guide, Dr. Ryan recommends that the Committee not review the draft and the final revisions to this Guide.

- Proposed Revision 2 to Regulatory Guide 1.115 (DG-1217), "Protection Against Turbine Missiles"

  Revision 1 to Regulatory Guide 1.115 was issued in July 1977. The focus to Revision 2 is to address high-trajectory turbine missiles as well as low-trajectory turbine missiles.

Based on his review of this Proposed Regulatory Guide, Mr. Ray recommends that the Committee review the draft final revision to this Guide after reconciliation of public comments.

d) Withdrawal of Regulatory Guides

The staff plans to withdraw the following Regulatory Guides and would like to know whether the Committee wants to review the staff's basis for withdrawing these Guides prior to being withdrawn:

- Regulatory Guides 4.5, "Measurements of Radionuclides in the Environment—Sampling and Analysis of Plutonium in Soil," and 4.6, "Measurements of Radionuclides in the Environment—Strontium-89 and Strontium-90 Analysis"

  Regulatory Guides 4.5 and 4.6 were both issued in May 1974. These Guides provide prescriptive guidance to licensees and applicants on the sampling and laboratory analysis of Strontium and Plutonium. These Guides supported a previous revision of 10 CFR Part 20, "Standards for Protection against Radiation," Section 20.106, "Concentrations in Effluents to Unrestricted Areas," which no longer exits. They were used in the implementation of Environmental Technical Specifications. Environmental Technical Specifications were phased out in the 1980s. Some of the related requirements were incorporated into Environmental Protection Plans. Updated guidance for the measurement of Pu, Sr89, and Sr90 is now provided in RG 4.15, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) -- Effluent Streams and the Environment," which was issued in July 2007.

Based on his review of the staff's basis for proposed withdrawal of this Guide, Dr. Ryan recommends that the Committee not object to the staff's proposal to withdraw these Guides.

- Regulatory Guide 7.1, "Administrative Guide for Packaging and Transporting Radioactive Material"

  Regulatory Guide (RG) 7.1 was published in June 1974 and provided guidance on which packaging and labeling regulations of the Department of Transportation (DOT) apply in a given case and what must be done to comply with those regulations. The staff is withdrawing this Guide because it is outdated. RG 7.1 references the ANSI N14.10.1, "Administrative Guide for Packaging and Transporting Radioactive Materials," dated September 14, 1973, which has been withdrawn. Generic guidance is provided by DOT, "Radioactive Material Regulations Review," December 2008, which includes radioactive material determination, appropriate packaging for a given material, labeling, and placarding.

Based on his review of the proposed withdrawal of this Guide, Dr. Ryan recommends that the Committee not object to the staff's proposal to withdraw these Guides.

- Regulatory Guide 7.5, "Administrative Guide for Obtaining Exemptions from Certain NRC Requirements over Radioactive Material Shipments"

  Regulatory Guide 7.5 was published in May 1977 and provided guidance on obtaining a modification, waiver or exemption from the NRC-imposed DOT regulations via 10 CFR 71.5(b). Prior to expansion of the Department of Transportation (DOT) regulations in 1998 to include hazardous material transported while in intrastate commerce, most intrastate shipments of NRC-licensed material were not subject to DOT regulations. Recognizing this, NRC imposed the same DOT requirements on these shipments (through 10 CFR 71.5(a)) that were already imposed on shipments in interstate commerce. Additionally, 10 CFR 71.5(b) provides licensees a method to request a modification, waiver or exemption from the DOT regulations imposed in 71.1(a). The number of shipments currently not subject to DOT regulations is markedly lower than in 1997. Shipments that would not be subject to DOT regulations are those made by a Federal, state, or local government, which goes to and from the government site and are made using the government mode of transportation. In the almost 11 years since the DOT final rule became effective in October 1, 1998, NRC has not approved any requests for exemption, waiver or modification of DOT requirements pursuant to 10 CFR 71.5(b).

Based on his review of the proposed withdrawal of this Guide, Dr. Ryan recommends that the Committee not object to the staff's proposal to withdraw these Guides.

- Regulatory Guide 1.165, "Identification and Characterization of Seismic Sources and Determination of Safe Shutdown Earthquake Ground Motion"

  Regulatory Guide 1.165 is being replaced with the improved guidance in RG 1.208, "A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion," issued March 2007. The guidance in RG 1.208 incorporates developments in ground motion estimation, models and new methods for defining site specific ground motion response spectrum which allows for approximately consistent performance of structures, systems, and components across a range of seismic environments. The guidance in RG 1.165 was based on site specific and region-specific investigations combined with probabilistic seismic hazard assessment. Thus, RG 1.165 is no longer needed.

Based on his review of the staff's basis for the proposed withdrawal of this Guide, Dr. Powers recommends that the Committee not object to the staff's proposal to withdraw this Guide.

- Regulatory Guide 1.56, "Maintenance of Water Purity in Boiling Water Reactors"

  Regulatory Guide (RG) 1.56 was issued for comment in July 1978 and never finalized. RG 1.56 was intended to support Title 10, Part 50, of the *Code of Federal Regulations*,

  > "Domestic Licensing of Production and Utilization Facilities," Appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criterion (GDC) 14, "Reactor Coolant Pressure Boundary," and GDC 31, "Fracture Prevention of Reactor Coolant Pressure Boundary." RG 1.56 describes an acceptable method for maintaining water purity levels in the reactor coolant in order to ensure that degradation of the reactor coolant pressure boundary is not exacerbated by poor chemistry conditions. The staff considers water chemistry to be an operational issue for plants. It is in the licensee's best interest to operate the plant with a chemistry regime that optimizes component performance. There is adequate industry-generated guidance available for licensees to develop a plant-specific water chemistry program. The industry routinely updates this guidance to incorporate the latest knowledge and lessons learned in the area of water chemistry.

Based on his review of the proposed withdrawal of this Guide, Dr. Armijo recommends the Committee to not agree with the staff's proposal to withdraw this Guide and recommends that the staff provide the basis for withdrawing this Guide.

Third Quadripartite Working Group Meeting

Japan's Nuclear Safety Commission (NSC) will host the third Quadripartite Working Group (WG) Meeting in Tokyo scheduled for October 13-15, 2009 on the main topic of Digital I&C and an afternoon dedicated to Seismic Safety issues. ACRS Members attending are Mr. Brown and Dr. Powers. Also, Ms. Antonescu of the ACRS staff will be attending this Meeting. The general invitation to the meeting, the proposed agenda and ACRS presentations for this meeting were discussed.

The meeting was adjourned at 7:00 pm on September 11, 2009.