

November 1, 2000

MEMORANDUM TO: ACRS Members

/RA/
FROM: Noel Dudley, Senior Staff Engineer
ACRS\ACNW

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS SUBCOMMITTEE
MEETING ON PLANT LICENSE RENEWAL CONCERNING GUIDANCE
DOCUMENTS FOR PREPARING AND REVIEWING LICENSE RENEWAL
APPLICATIONS, OCTOBER 19-20, 2000 - ROCKVILLE, MARYLAND

The minutes of the subject meeting, issued on October 25, 2000, have been certified as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc: Technical Support Branch
Operations Support Branch (3 copies)

cc via e-mail:
J. Larkins
J. Lyons
ACRS Fellows and Technical Staff
E. Barnard

Issued: October 25, 2000

ACRS-3222

CERTIFIED: October 31, 2000

CERTIFIED

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF SUBCOMMITTEE MEETING ON
PLANT LICENSE RENEWAL
GUIDANCE DOCUMENTS FOR PREPARING AND REVIEWING APPLICATIONS
OCTOBER 19-20, 2000
ROCKVILLE, MARYLAND

The ACRS Subcommittee on Plant License Renewal met on October 19-20, 2000, to hold discussions with the NRC staff and its consultants concerning drafts of the Standard Review Plant (SRP) for license renewal, the Generic Aging Lessons Learned (GALL) report, the Draft Regulatory Guide DG-1104, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," and NEI 95-10, revision 2, "Industry Guideline for Implementing the Requirements of 10 CFR Part 54 - the License Renewal Rule."

The entire meeting was open to public attendance. Mr. Noel Dudley was the cognizant ACRS staff engineer for this meeting. The meeting was convened at 8:35 a.m. and recessed at 4:00 p.m. on October 19, 2000, and reconvened at 8:30 a.m. and adjourned at 12:00 noon on October 20, 2000.

ATTENDEES

ACRS

M. Bonaca, Chairman

R. Seale, Vice Chairman

T. Kress, Member

G. Leitch, Member

J. Sieber, Member

W. Shack, Member

R. Uhrig, Member

NRC REPRESENTATIVES

C. Grimes, NRR

S. Hoffman, NRR

P. T. Kuo, NRR

S. Lee, NRR

S. Mitra, NRR

P. Kang, NRR

H.P. Wang, NRR

J. Dozier, NRR

R. Franovich, NRR

T. Bloomer, NRR

J. Strnisha, NRR

C. Gratton, NRR

P. Semmanski, NRR

J. Peralta, NRR

INDUSTRY REPRESENTATIVES

D. Walter, NEI

There were no written comments or requests for time to make oral statements received from members of the public. One member of the public attended the meeting. A list of meeting attendees is available in the ACRS office files.

INTRODUCTION

Dr. Mario V. Bonaca, Chairman of the Materials and Metallurgy Subcommittee, identified the guidance documents that would be discussed at this Subcommittee meeting and summarized the past ACRS review activities associated with the guidance documents.

INTRODUCTION AND OVERVIEW - Dr. Samson Lee, NRR

Dr. Samson Lee, RES, provided background information concerning the development of the proposed guidance documents. He explained how the SRP and the GALL report were intended to work together. He presented the past and future schedule for revising and approving the guidance documents. The Subcommittee members and the staff discussed possible staff responses to the public comments, the status of the license renewal generic issues inventory, the effects of risk-informing regulations on the license renewal process, and possible revisions to the license renewal rule.

STANDARD REVIEW PLAN - Mr. Sikhindra Mitra and Dr. Samson Lee, NRR

Mr. Sikhindra Mitra, NRR, explained that the SRP was developed to establish a standard format for license renewal applications and to incorporate lessons learned from the staff's review of the first two license renewal applications. He noted that the SRP references the GALL report, which identifies acceptable existing programs for managing aging. Mr. Mitra identified the most significant NEI comments concerning the scoping and screening methodology. He explained the staff's resolution of these comments and the disposition of the associated license renewal generic issues.

The Subcommittee members and the staff discussed the following:

- why some detailed lessons learned from the review of the Oconee scoping and screening methodology review were not incorporated into the SRP,
- developing a list of equipment that normally would be within the scope of the license renewal rule,
- using risk information in the deterministic scoping and screening process,
- how commitments are documented in the updated Final Safety Analysis Report (FSAR),
- whether emergency operating procedures (EOPs) are part of the current licensing basis and why EOPs are not considered during the scoping and screening process, and
- aging management programs for safety related equipment that is in storage for design basis events.

Dr. Lee led the staff presentation of the SRP aging management review results, time-limited aging analyses (TLAAs), and Branch Technical Positions. The staff identified the most significant comments provided by NEI concerning the type and scope of the staff's review, use of Individual Plant Examination results, and verification of the scoping/screening results. The staff explained its resolution of these comments and the disposition of the associated license renewal generic issues.

The Subcommittee members and the staff discussed Generic Safety Issue (GSI) 168, "Environmental Qualification of Low-Voltage Instrumentation and Control Cables," the applicability of resolved GSIs to license renewal, why prestress-tendon management is not a TLAA, and spent fuel pool aging mechanisms. They also discussed why the SRP does not provide more guidance on what additional reviews are required if a Branch Technical position is not followed and whether the SRP and GALL report should be living documents.

GENERIC AGING LESSONS LEARNED (GALL) REPORT - Dr. Samson Lee

Dr. Lee explained that the GALL report was developed from a previous generic aging lessons learned report (NUREG/CR-6490). He described how the GALL report could be used to identify acceptable existing aging management programs for known aging effects and to evaluate the adequacy of an aging management program. Dr. Lee outlined the contents of Volume 1 to the GALL report.

The Subcommittee members and the staff discussed how lessons learned from future staff reviews of license renewal applications and topical reports, and operating experience could be incorporated into the GALL report. They also discussed adding a description in Volume 1 of the GALL report of how to use the tables in Volume 2.

Chapter II: Containment Structures - Mr. Peter Kang, NRR

Mr. Peter Kang, NRR, presented NEI comments on this chapter concerning inspections of inaccessible areas, monitoring protective coating maintenance programs, visual inspections, and settlement of structures. He explained the staff's resolution of these comments and the disposition of associated license renewal issues. The Subcommittee members and the staff discussed when to inspect inaccessible areas, the difference between V1 and V3 visual inspections, the lack of inspection guidance for concrete walls in MARK I containments, and criteria for plant specific erosion.

Chapter III: Structures and Component Supports - Mr. Hai-Boh Wang, NRR

Mr. Hai-Boh Wang, NRR, presented NEI comments on this chapter concerning application of the structural monitoring program, stress corrosion cracking of fuel pool stainless steel liners, and loss of material of concrete elements for water controlled structures. He explained the staff's resolution of these comments and the disposition of associated license renewal issues.

The Subcommittee members and the staff discussed the possibility that responses to Generic Letters for operating plants are insufficient for managing aging effects during the period of

extended operation. They also discussed highlighting guidance for acceptable earthen dam aging management programs and for performing one-time inspections.

Chapter IV: Reactor Pressure Vessel Internals and Reactor Cooling System - Mr. Jerry Dozier, NRR

Mr. Jerry Dozier, NRR, presented NEI comments on this chapter concerning neutron embrittlement of reactor pressure vessel internals, crediting American Society of Mechanical Engineers (ASME) code inservice inspections, managing aging of small bore piping, void swelling, and irradiation-assisted stress corrosion cracking (IASCC). He explained the staff's resolution of these comments and the disposition of associated license renewal issues. Mr. Dozier described the staff's review of Union of Concerned Scientists' reports related to material aging and the subsequent inclusion in the Gall report of the jet pump sensing line and the separator support ring.

The Subcommittee members and the staff discussed the changes made during the last revision to the GALL report, determining above what neutron fluence level (10^{17} or 10^{21}) aging management programs should be required, incorporating lessons learned into the inspection program, use of risk insights to identify the most susceptible components, BWR Vessel Internals Project topical reports, and IASCC.

Chapter V: Engineered Safety Features - Ms. Rani Franovich, NRR

Ms. Rani Franovich, NRR, presented NEI comments on this chapter concerning one-time inspections, use of the GALL report for scoping, and the use of ASME code inservice inspections (ISI) as aging management programs. She explained the staff's resolution of these comments and the disposition of associated license renewal issues. She also described items of interest related to corrosion of stainless steel components in borated water, containment isolation valves, and atmospheric corrosion of carbon steel components.

The Subcommittee members and the staff discussed existing inspection requirements, alternatives to augmenting existing programs, negotiating the need for one-time inspections, risk-informed ISI programs, and the addition of atmospheric corrosion of carbon steel as an aging mechanism.

Chapter VI: Electrical Components - Mr. Sikhindra Mitra, NRR

Mr. Mitra presented NEI comments on this chapter concerning buried cables, non-environmentally qualified long-lived passive electrical components, results from industry reports, and the separation of aging management programs and TLAAs. He explained the staff's resolution of these comments and the disposition of associated license renewal issues.

The Subcommittee members and the staff discussed the types and frequency of aging management inspections, IEEE standards, the David-Besse buried cable failure, and the ability to predict the rate of cable aging. They also discussed the impact that the resolution of GSI-168 may have on the license renewal process and the associated cable tests performed at the Wylie Laboratory.

Chapter VII: Auxiliary Systems - Ms. Tamara Bloomer, NRR

Ms. Tamara Bloomer, NRR, presented NEI comments on this chapter concerning crediting water chemistry or coatings as aging management programs, buried piping, bolts, boric acid corrosion, and stress corrosion cracking in stainless steels below 140° F. She explained the staff resolution of these comments and the disposition of associated license renewal issues. The Subcommittee members and the staff discussed water chemistry control programs and the appropriate aging management programs for fire protection equipment.

Chapter VIII: Steam and Power Conversion Systems - Mr. James Strnisha, NRR

Mr. James Strnisha, NRR, presented NEI comments on this chapter concerning the need for one-time inspections and the negligible flow accelerated corrosion in superheated steam lines. He explained the staff resolution of these comments. The Subcommittee members and the staff discussed operating plant aging management programs, consequences of power uprates, and the control of oxygen by water chemistry programs.

DRAFT REGULATORY GUIDE - Dr. Samson Lee, NRR

Dr. Lee provided background on the development of draft Regulatory Guide DG-1104, "Standard Format and Content For Applications to Renew Nuclear Power Plant Operating Licenses," that endorses without exception NEI 95-10, revision 2.

NEI 95-10, "GUIDANCE FOR IMPLEMENTING REQUIREMENTS OF 10 CFR PART 54"

Mr. Douglas Walters, Nuclear Energy Institute (NEI), presented background on the development of NEI 95-10 and outlined the content of the document. He described the major elements in the guideline, the utilization of existing programs, and the resolution of current safety issues. He explained the scoping and screening process and the integrated plant assessment. Mr. Walters presented the six criteria that are used to identify the need to perform a TLAA and a list of potential TLAAAs. He concluded by describing the standard format and content of a license renewal application.

The Subcommittee members, Mr. Walters, and the staff discussed the use of EOPs, severe accident management guidelines, and probabilistic risk assessments in the scoping process, the attributes of an acceptable aging management program, and the need for additional guidance regarding the conduct of the scoping process. They also discussed capturing lessons learned for future applicants and reviewers, the depth of program reviews that will be conducted by future applicants, and applicants' commitment to continue voluntary initiatives.

SUBCOMMITTEE COMMENTS, CONCERNS, AND RECOMMENDATIONS

The Subcommittee members agreed that the guidance documents are integrated well and provide adequate guidance for preparing and reviewing license renewal applications.

Dr. William Shack noted that the GALL report format was improved and suggested that one-time inspections be added as an option to the "Evaluation and Technical Basis" column for appropriate items in the tables.

Dr. Robert Uhrig stated that the aging of electrical cables is a serious concern. He suggested that the staff consider the possible impact that resolution of GSI-168 may have on the license renewal process. He noted that condition monitoring inspections cannot be used to predict cable aging effects even though they provide the best indication of aging presently available. He suggested that the staff perform a complete evaluation of cables taken from 40 year old nuclear or fossil fuel power plants.

Mr. Graham Leitch requested clarification concerning the issue of at what neutron fluence level component embrittlement needs to be managed. He requested additional information concerning updating, reviewing, and approving the technical specification changes, the FSAR supplements, and the Environmental Impact Statements related to license renewal applications.

Dr. Robert Seale recommended that the staff consider an appropriate method to update the guidance documents as lessons are learned from the review of future license renewal applications.

Mr. John Sieber suggested that even though acceptable aging management programs for earthen dams are described in Chapter XI of the GALL report, earthen dams should be included in other chapters of the GALL report.

Dr. Bonaca noted that the maintenance rule and the license renewal rule have similar scoping criteria, however the use of Emergency Operating Procedures (EOPs) is excluded from the license renewal rule. He suggested that the staff review whether EOPs comprise part of the current licensing basis and whether EOPs should be used in the scoping process for license renewal applications.

Dr. Bonaca raised a similar concern with the aging of equipment that supports severe accident management guidelines and is not managed because it is not in scope. He noted that licensee voluntary initiatives considered by the staff in making regulatory decisions are not part of the current licensing basis. He recommended that the staff explicitly explain what its expectations are for licensees' continued compliance with voluntary initiatives during the period of extended operations.

STAFF AND INDUSTRY COMMITMENTS

The staff agreed to provide the ACRS with samples of industry's and the Union of Concerned Scientists' comments made during the public comment period.

The staff agreed to describe its process for reviewing and approving technical specification changes, the FSAR supplement, and the Environmental Impact Statement related to the Arkansas Nuclear One, Unit 1, license renewal application.

SUBCOMMITTEE DECISIONS

The Subcommittee requested that the staff brief the Committee on the following items at the November 2-4, 2000 ACRS meeting.

- major differences between the August 2000 draft guidance documents and the previous draft of the documents,
- how to use the documents to identify the need for a one-time inspection,
- disposition of concerns contained in reports by the Union of Concerned Scientists and in the license renewal generic issues inventory,
- cabling performance issues including ability of condition monitoring inspections to predict cable aging,
- fluence level at which reactor vessel internal components require an aging management program,
- meaning of the statement that more review is needed for aging management programs not identified in the GALL report,
- why EOPs are excluded from the scoping process, and
- how voluntary initiatives, such as severe accident management guidelines, will be treated during the period of extended operation.

FOLLOW-UP ACTIONS

The staff requested that the Committee comment on the questions posed in the *Federal Register* that issued the guidance documents for public comments. In particular, the staff requested comments on the treatment of ASME code standard, the 10 CFR 50.55a process, and other codes and standards.

PRESENTATION SLIDES AND HANDOUTS PROVIDED DURING THE MEETING

The presentation slides and handouts used during the meeting are available in the ACRS office files or as attachments to the transcript.

BACKGROUND MATERIAL PROVIDED TO THE SUBCOMMITTEE:

1. Standard Review Plan for the Review of License Renewal Applications for Nuclear Power Plants, Draft for Public Comment, issued August 2000.
2. NUREG-xxxx, Volume 1, "Generic Aging Lessons Learned (GALL) Report, Summary (Draft for Public Comment)," issued August 2000.
3. NUREG-xxxx, Volume 2, "Generic Aging Lessons Learned (GALL) Report, Tabulation of Results (Draft for Public Comment)," issued August 2000.
4. Draft Regulatory Guide DG-1104, "Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses," issued August 2000.
5. NEI 95-10 [Revision 2], "Industry Guideline for Implementing the Requirements of 10 CFR 54 - the License Renewal Rule," issued August 2000.
6. S. P. Carfagno, Consultant, "Review of Adequacy of Staff Guidance for Reviewing License Renewal Applications," dated October 12, 2000.
7. C. Chen, Apollo Consulting, Inc., "Report to USNRC ACRS on the Independent Review of SRP-LR and GALL Report for Containment Structures," dated October 8, 2000.

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NOTE: Additional details of this meeting can be obtained from a transcript of this meeting available in the NRC Public Document Room, 2120 L Street, N.W., Washington, D.C. 20006, (202) 634-3274, or can be purchased from Ann Riley & Associates, LTD., 1025 Connecticut Ave., NW, Suite 1041, Washington, D.C. 20036, (202) 842-0034.

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