



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

August 23, 2002

MEMORANDUM TO: ACRS Members

FROM: Tim Kobetz, Senior Staff Engineer
ACRS 

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS
SUBCOMMITTEE MEETING ON THE SAFETY EVALUATION
REPORT RELATED TO THE LICENSE RENEWAL
APPLICATIONS FOR NORTH ANNA UNITS 1 AND 2, AND
SURRY UNITS 1 AND 2, JULY 9, 2002, ROCKVILLE,
MARYLAND.

The minutes of the subject meeting, issued July 23, 2002, 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: ACRS Staff
S. Banerjee, Consultant
J. Barton, Consultant

cc: via E-mail:

J. Larkins
S. Bahadur
R. Savio



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

Deliver to:

MEMORANDUM TO: Tim Kobetz, Senior Staff Engineer
ACRS

FROM: Mr. Graham Leitch, Chairman
Plant License Renewal Subcommittee 2

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS SUBCOMMITTEE
MEETING ON THE SAFETY EVALUATION REPORT RELATED TO THE
LICENSE RENEWAL APPLICATIONS FOR NORTH ANNA UNITS 1
AND 2, SURRY UNITS 1 AND 2, JULY 9, 2002 - ROCKVILLE,
MARYLAND

I hereby certify that, the best of my knowledge and belief, the minutes of the subject meeting issued on July 23, 2002, are an accurate record of the proceedings for the meeting.

as modified by our conversations on 7/25/02

Mr. Graham Leitch, Chairman
Plant License Renewal Subcommittee 2

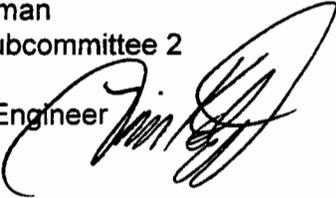
7/26/02
Date



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

July 23, 2002

MEMORANDUM TO: Mr. Graham Leitch, Chairman
Plant License Renewal Subcommittee 2

FROM: Tim Kobetz, Senior Staff Engineer
ACRS 

SUBJECT: WORKING COPY OF THE MINUTES OF THE ACRS SUBCOMMITTEE
MEETING ON THE SAFETY EVALUATION REPORT RELATED TO THE
LICENSE RENEWAL APPLICATIONS FOR NORTH ANNA UNITS 1
AND 2, SURRY UNITS 1 AND 2, JULY 9, 2002 - ROCKVILLE,
MARYLAND

A working copy of the minutes for the subject meeting is attached for your review. I would appreciate your review and comment as soon as possible. Copies are being sent to the Plant License Renewal Subcommittee members for information and/or review.

Attachment: As stated

cc: M. Bonaca
P. Ford
T. Kress
V. Ransom
S. Rosen
J. Sieber
G. Wallis
J. Barton, Consultant

cc via e-mail:
J. Larkins
S. Bahadur

CERTIFIED

Issued: 07/23/02
Certified: 07/26/02

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF ACRS SUBCOMMITTEE MEETING ON
PLANT LICENSE RENEWAL
NORTH ANNA UNITS 1 AND 2
SURRY UNITS 1 AND 2
JULY 9, 2002
ROCKVILLE, MD

The ACRS Subcommittee on Plant License Renewal held a meeting on July 9, 2002, at 11545 Rockville Pike, Rockville, Maryland, in Room T-2B3. The purpose of the meeting was to hold discussions with representatives of NRC staff and Virginia Electric and Power Company (Dominion) concerning the safety evaluation report (SER), with open and confirmatory items and associated supporting information, for the license renewal of North Anna Units 1 and 2, and Surry Units 1 and 2. Mr. Timothy Kobetz was the cognizant ACRS staff engineer for this meeting. The meeting was convened at 8:30 AM and adjourned at 4:12 PM on the same day.

PARTICIPANTS:

ACRS

G. Leitch, Chairman
M. Bonaca
P. Ford
T. Kress
V. Ransom

S. Rosen
J. Sieber
G. Wallis
J. Barton, Consultant

NRC Staff

P. T. Kuo
S. Lee
O. Tabatabai
M. Khanna
C. Munson

G. Georgie
J. Medoff
C. Lauron
J. Lazevnick
J. Fair

Dominion

W. Corbin
L. Wroniewicz
M. Henig

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

ACRS SUBCOMMITTEE CHAIRMAN'S INTRODUCTION

Mr. Graham Leitch, Chairman of Plant License Renewal Subcommittee, convened the meeting and stated that the purpose of the meeting was to review the staff's SER with open items related

to the application for license renewal of the operating licenses for North Anna Power Station Units 1 and 2, and Surry Power Station Units 1 and 2. Mr. Leitch then called upon NRC staff to begin.

NRC STAFF INTRODUCTION Mr. P. T. Kuo and Mr. Sam Lee

Mr. Lee made opening remarks noting that reviewing the license renewal applications (LRA), for four units at two separate facilities, was not much more difficult than previous applications when all of the units were at one facility. All of the units at North Anna and Surry are 3-loop Westinghouse pressurized water reactors (PWR) and most systems were similar. However, it was noted that future LRAs are anticipated which will combine different reactor designs at the same facility and the review of those LRAs will be more challenging to the staff.

NRC STAFF OVERVIEW OF THE LICENSE RENEWAL APPLICATION Mr. Omid Tabatabai

Mr. Tabatabai discussed the format and content of the draft SER, dated June 2002, stating that the eight (8) open items and 15 confirmatory items listed in the SER have been resolved between the staff and the applicant.

Mr. Tabatabai briefly discussed the NRC inspections that were performed to support the conclusion in the SER noting that the overall material condition of the plants was good.

Dr. Wallis questioned what the staff looked for in the plants when assessing their material condition. The staff committed to provide the Committee details of the material condition inspections at both plants at the Full Committee Meeting regarding this license renewal application. Dr. Wallis further questioned whether there was any difference in the material condition between North Anna and Surry. Mr. Bill Corbin, Dominion, stated that some concerns with the material condition of Surry have been identified and committed to discuss them at the Full Committee Meeting.

DOMINION PRESENTATION: Bill Corbin

Mr. Corbin presented background information regarding the preparation of the license renewal application. Dominion used a draft version of the Generic Aging Lessons Learned (GALL) Report, however, they were not required to use it and it was not referenced in the application. Mr. Corbin reviewed the integrated plant assessment (IPA) process used to identify systems, structures, and commodities within the scope of license renewal as stated in 10 CFR 54.21.

Mr. Corbin discussed the scoping methodology used noting that it covered all three criterion listed in 10 CFR 54.4. Dominion used various documents to perform the scoping including an In-house Scoping Criteria Report that was unique to North Anna and Surry and not used in previous LRAs.

Dr. Bonaca questioned why rod position indicators (RPIs) were screened out during the process. The applicant stated that the RPIs are not safety-related and were active, not passive, components.

Mr. Corbin presented an overview of the Aging Management Review noting that part of the review included an inspection of the reactor vessel heads. Some boric acid leakage had been found and weld repairs had been made at both North Anna and Surry. Dominion has committed to replace all four heads as-soon-as-possible noting that the forging of the heads had already been completed. In addition, Dominion plans to inspect the heads one more time prior to their replacement.

Dr. Bonaca and Dr. Ford questioned whether void swelling of reactor internals would be monitored and whether in-service inspections would be performed for penetration cracking. The staff stated that the issue was still under review by the industry and that, when the industry resolved the issues to the staff's satisfaction, the staff would endorse the industry position. Mr. Corbin added that it is unclear how these inspections would be implemented during the license renewal period until this issue is resolved.

Mr. Corbin stated that with regard to the reactor oversight process (ROP) that North Anna was in the licensee response column but that both Surry units were in the regulatory response column due to diesel generator failure and unavailability problems.

Mr. Rosen questioned whether there was a nexus between the facility's performance assessment performed in the ROP and license renewal. The staff stated that, to date, they had not encountered a problem with the performance of a facility that was seeking to renew its license. In addition, problems that arise out of the ROP are usually problems with licensee performance and programs and are not age related.

Mr. Corbin discussed the results of the Time-Limited Aging Analyses (TLAA). He noted that all items were considered and then items were screened to be excluded rather than included in the TLAA.

Mr. Leitch, Dr. Bonaca, and Dr. Ford asked the staff whether they had reviewed the documentation that supported the applicant's conclusion that all items requiring TLAA had been identified. The staff stated that they had not. Mr. Corbin added that Dominion's internal documentation, reports, and analyses were more specific than what was included in the LRA but they had decided not to include the information in the LRA. However, Dominion would make it available on-site if the staff requested to review it.

Mr. Corbin described the information contained in Appendixes A, B, and C of the LRA. Mr. Corbin ended his presentation by briefly describing that Dominion had closed the eight (8) open items and 15 confirmatory items and had verified the technical adequacy of the draft SER and provided comments to the staff.

NRC SAFETY EVALUATION REPORT (SER) PRESENTATION

Introduction: Mr. Omid Tabatabai

Mr. Tabatabai stated that the applicant's methodology and implementation was thorough. The scoping process was well defined and proceduralized. The applicant's renewal team was well trained. Audits provided confirmation of process and implementation and the staff found that there is reasonable assurance that the applicant's methodologies for identifying structures and components, that are subject to aging management review (AMR), are consistent with the requirements of 10 CFR 54.4 and 10 CFR 54.21(a)(1). The staff used several means to evaluate the scoping and screening methodologies. The staff reviewed on-site documents, license renewal applications, updated FSARs, design basis documents. In addition, the staff conducted on-site audits of engineering reports, procedures, design documentation, and held discussions with the Dominion staff.

Chapter 2 - Scoping and Screening Methodology for Identifying Structures and Components Subject to Aging: Mr. Chang Li, NRR

Mr. Li stated that five (5) reactor coolant systems, five (5) engineering safeguard systems, 38 auxiliary systems, and seven (7) steam and power conversion systems were reviewed by the staff. The staff did not identify any open items in this chapter but did identify one confirmatory action that has been completed.

Chapter 3 - Aging Management Review Results: Ms. Meena Khanna and Mr. Cliff Munson

Ms. Khanna stated that the review of the aging management programs had been performed under contract to Brookhaven National Laboratory. There were 19 existing aging management programs and four (4) new programs. No open items were identified during the review.

Ms. Khanna noted the staff had reviewed Dominion's responses to US NRC Bulletin (BL) 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity," dated March 18, 2002, and did not identify any problems with the response.

Dr. Ford and Dr. Bonaca expressed a concern regarding the one-time opportunistic inspections of buried piping. The staff stated that the results from the one-time inspections will be input into the licensee's corrective action program. If significant degradation is found, the licensee will expand its inspection program. The staff further stated that this was the first application that it had received in which a work control program of this type had been implemented.

Dr. Rosen asked how piping covered with insulation was inspected. The staff stated that it was reassessing the basis for licensee programs implemented to satisfy the requirements of Generic Letter (GL) 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants." The staff is reviewing whether to continue to allow piping inspections with insulation in place. Currently, the GL 88-05 programs for North Anna and Surry do not require insulation removal unless a leak is identified. This is something that the staff is

going to resolve when closing out BL 2002-01. Mr. Corbin added that this is not an issue that is unique to license renewal.

Dr. Bonaca stated that the Committee would like the staff or applicant to provide data used to support the TLAA so that the Committee can understand the margin between the life of the components and the 60 year total facility life. The staff and applicant agreed to provide this information to support the ACRS Full Committee Meeting on the subject LRA.

Dr. Wallis questioned how the staff assured itself that the 19 existing aging management programs adequately covered all of the activities required to be covered in the aging management review. The staff stated that there are two steps for the license renewal review. The first step is the scoping and screening. Based on those results, the structures and components that are within the scope of the license renewal will be subject to aging management review. The 19 aging management programs that are grouped together and common to many structures and components. Others may be component specific, however, each structure and component is reviewed for aging management effects in the aging management program.

Section 3.4 - Reactor Coolant Systems: George Georgiev, NRR

Mr. Georgiev stated that the review of the reactor coolant system was performed by Brookhaven National Laboratory. The reactor coolant system is broken down into the reactor coolant piping, the reactor coolant internals, the vessels, the steam generators, and the pressurizers. The material for the reactor coolant system is mostly stainless steel for the pressurizer, the reactor vessel, and the primary side for the steam generator is alloy steel clad with stainless steel overlay. The application identified aging effects associated with these materials. Some of these aging effects are cracking in stainless steel, loss of materials in carbon steel, and cracking in the nickel.

Mr. Georgiev noted that the application identified the several aging management programs; the chemistry control program, the boric acid corrosion surveillance program, the in-service inspection program, and augmented inspection activities. In addition, Dominion has a plant-specific work control process program.

The review of the application used the guidance specified in the Westinghouse Owner's Group reports for piping, for the pressurizer, and for the reactor internals. The staff reviewed and approved the use of these reports with certain stipulations. Each stipulation was addressed in the staff's review.

The staff did not identify any open items in this section.

Dr. Wallis and Dr. Bonaca questioned whether the staff was satisfied that the method for inspecting for cracks in the reactor coolant piping was adequate noting that V. C. Summer must inspect vessel nozzles and welds every outage in response to cracks identified in these areas that were missed by previous inspections. Ms. Coffin responded that the Electric Power Research Institute (EPRI) and others are taking an active interest in pursuing the generic

implications of the Summer event. Ms. Coffin also stated that this is another current issue that the staff feels confident their in-service inspection (ISI) programs are adequate to cover this primary-water stress corrosion cracking issue. Mr. Georgiev noted that inspection methods have improved. The sensitivity of detection or likelihood of detection continues to improve. Mr. Georgiev added that North Anna has completed its reactor vessel nozzle inspections using a combination of eddy current, ultra sonic testing, visual and, in some instances, liquid penetrant inspections. Dr. Kuo committed to address this issue both generically and for this LRA specifically, during a future ACRS Meeting.

Section 3.5 - Engineered Safety Features: Jim Medoff, NRR

Mr. Medoff stated that the engineered safety features (ESF) for these facilities include the quench spray, the fuel pit cooling, the recirculation spray, the residual heat removal, and the safety injection systems. The staff reviewed the systems as a commodity group due to similarities in the materials and the environment for the components in the systems. The ESF materials and environments were similar to those identified in other applications, specifically Oconee and Turkey Point, which the staff used for comparisons.

Most of the components in the ESFs are carbon steel or stainless steel materials, and they are exposed to either treated water internal environments, and external controlled air environments.

The staff determined that the applicant's aging management reviews for the North Anna and Surry ESFs were sufficient to identify both the effects of aging for those ESF components within the scope of license renewal. In addition, the aging management programs that will be used to manage the effect of aging that were identified by the applicant.

The staff did not identify any open items or confirmatory items with regard to the engineered safety features.

Section 3.6 - Auxiliary Systems: Ms. Carolyn Lauron

Ms. Lauron stated that the staff reviewed the open and closed water systems, the air and gas, ventilation and vacuum systems, the drain and liquid processing systems, the vent and gaseous waste processing systems, and the fire protection and supporting systems. Both internal and external environments were considered, and the staff found that the aging management programs were adequate for managing the various aging effects.

The staff did not identify any open items regarding this section.

Section 3.7 - Steam and Power Conversion Systems Mr. George Georgiev

Mr. Georgiev stated that the steam and power conversion systems for this application included seven systems: Auxiliary steam; blowdown; condensate; feedwater; main steam; steam drains; and steam generator water treatment. Aging effects that were identified with those systems were cracking of carbon steel, low alloy steel, stainless steel, in treated water and steam

environment, cracking of nickel based alloy and copper alloys in air, loss of materials from carbon steel and low alloy steel in treated water materials.

Mr. Georgiev noted that the application proposed ten (10) different aging management programs to manage the aging effects, and those ten (10) aging management programs are augmented by services station activities; boric acid, corrosion surveillance program; chemistry control program for primary systems; chemistry control program for secondary systems; general condition monitoring activities; infrequently accessed area station activities; ISI program component; components of post-inspection; secondary piping and component inspections; tank inspection activities; and the work control processes.

The staff determined that the aging management programs are adequate to manage the effects for the extended period of operation. No open items were identified.

Dr. Ford questioned whether, in light of past erosion/corrosion problems at Surry, the staff validate the CHECKWORKS program. The staff replied that it did not.

Dr. Rosen asked whether any significant flow accelerated corrosion had been found at either North Anna or Surry. The staff replied that to the best of its knowledge none had been identified. Mr. Corbin added that there are a number of components that had been identified with erosion/corrosion problems but have not reached the minimum wall thickness yet. However, it was predicted that before the end of the next operating cycle they would and those components are replaced.

Dr. Ford and Dr. Rosen expressed concern that, while Dominion has compiled a lot of data on erosion/corrosion for North Anna and Surry, the NRC was not aware of the data or how the erosion/corrosion of components at the facilities is trending. Mr. Corbin agreed to provide the Committee with the erosion/corrosion data for the facilities.

Section 3.8 - Structures and Components: Mr. Clifford Munson

Mr. Munson stated that the staff contracted Brookhaven National Laboratory to perform the work in this area. The components that the applicant included in the AMR were in containment and other plant structures, the nuclear steam supply system (NSSS) equipment supports, general structural supports, miscellaneous structural commodities, and load-handling cranes and devices.

In the containment, the applicant identified aging effects for steel and elastomers. The applicant did not identify any applicable aging effects for containment concrete components. Based on staff concerns, the applicant committed to manage aging effects for all accessible concrete structural components. For below grade concrete, the applicant committed to monitoring the groundwater on an annual basis to check for chloride sulfates and pH.

For structures outside containment, the applicant identified aging effects for steel, concrete in soil and water, elastomers, and soil embankments. Based on staff concerns, Dominion

committed to managing cracking, loss of material, and change of material properties for concrete components.

For the NSSS equipment supports, general structural supports, and miscellaneous structural commodities, and load-handling cranes and devices the staff's review showed that the applicant AMR adequately identified the aging effects for each of these components in these structures and systems.

Section 3.9 - Electrical, and Instrumentation and Controls: Mr. Jim Lazevnick

Mr. Lazevnick stated that there were relatively minor license renewal differences between the two plants. The staff identified a number of open items:

- The plant system portion of the offsite power system was not included in the scope of license renewal.
- The assessment of low-voltage, low-signal level instrumentation circuits should include the potential for moisture in the area.
- The use of visual inspection versus calibration to identify the potential of age-related degradation in high-voltage neutron monitoring instrumentation cables and radiation monitoring cables.
- Periodic testing of inaccessible medium-voltage cables that are exposed to significant voltage and moisture.

All open items were resolved.

Dr. Rosen asked whether the cables in underground vaults at North Anna and Surry have typically been exposed to standing water. The staff stated that there have been problems identified in the past. The applicant indicated that those problems have been corrected. In some cases, cables have been replaced, and the applicant is now relying upon essentially a condition monitoring and the fixes made to the sump pumps, the drains, etc., to keep the cables dry. And if the applicant determines through his inspections that it is not doing that job, then they will be subject to the testing requirement.

Chapter 4.0 - Time-Limited Aging Analyses: Mr. John Fair

Mr. Fair noted that the staff asked one question on the identification of TLAA relative to pipe break criteria, because at North Anna they had used fatigue usage as a criteria for postulating pipe breaks. The applicant responded that the number of design cycles that they used in the original postulation of pipe break would not be exceeded during the period of extended operations. The staff considered this an adequate TLAA.

The staff identified two (2) open items in its review of this chapter:

- Evaluation of charging system and safety injection system nozzles for environmental fatigue.

- Update the Final Safety Analysis Report supplement for environmental fatigue and reference WCAP-15338 for TLAA evaluation under cracking.

These open items have been resolved.

Dr. Ford, Mr. Leitch, Dr. Rosen, and Dr. Wallis all expressed concern that the staff had not reviewed reactor vessel margins for pressurized thermal shock, upper shelf energy, and the nil ductility transition temperature. The staff noted that those values were submitted under oath and affirmation and, therefore, elected not to review them. Mr. Corbin committed to provide the Committee with those values.

STAFF AND INDUSTRY COMMITMENTS

1. The staff committed to provide the Committee details of the material condition inspections at both plants at the Full Committee Meeting regarding this license renewal application.
2. The staff and Dominion committed to discuss concerns with the material condition of Surry at Full Committee Meeting regarding this license renewal application.
3. The staff and Dominion committed to provide quantitative data on vessel pressurized thermal shock, upper shelf energy, and the nil ductility transition temperature which support the TLAA, and demonstrate that the margin between the life of the components and the 60 year total facility life, at the Full Committee Meeting regarding this license renewal application.
4. With regard to the methods for inspecting for cracks in the reactor coolant piping, the staff committed to brief the Committee on both the generic aspects of the V. C. Summer vessel nozzle inspection findings at a future ACRS Meeting. In addition, the staff and Dominion committed to address how those findings relate to the North Anna and Surry LRAs at the Full Committee Meeting regarding this license renewal application.
5. Dominion agreed to provide the Committee with the erosion/corrosion data for the facilities at the Full Committee Meeting regarding this license renewal application.

SUBCOMMITTEE DECISION

The Subcommittee decided not to prepare an interim letter regarding this LRA. The Subcommittee requested that the staff present an abbreviated version of its presentation regarding the SER to the ACRS one month after it submits the final SER to the Committee for review.

FOLLOW-UP ACTIONS

None.

PRESENTATION SLIDES AND HANDOUTS PROVIDED DURING THE MEETING

The presentation slides and handouts used during the meeting are available in the ACRS office files and as attachments to the transcript which will be made available in ADAMS.

BACKGROUND MATERIAL PROVIDED TO THE SUBCOMMITTEE

1. U. S. Nuclear Regulatory Commission "Safety Evaluation Report with Open Items Related to the License Renewal of North Anna Nuclear Station, Units 1 and 2, and Surry Nuclear Power Station, Units 1 and 2," dated June 2002.
2. Selected sections from the Dominion Application Renewed Operating License for North Anna Units 1 and 2, and Surry Units 1 and 2, submitted May 29, 2001, based on individual Committee Member review assignments.
3. Draft Letter, Serial No. 02-360, dated June 24, 2002, "Virginia Electric Power Company (Dominion), Surry and North Anna Power Stations Units 1 and 2 License Renewal Application - Draft SER, Response to Open Items and Confirmatory Actions."
4. Letter, Serial No. 02-332, dated June 13, 2002, "Virginia Electric Power Company (Dominion), Surry and North Anna Power Stations Units 1 and 2, Request for Additional Information, License Renewal Application."
5. Draft Letter, Serial No. 02-297, dated June 24, 2002, "Virginia Electric Power Company (Dominion), Surry and North Anna Power Stations Units 1 and 2, Request for Additional Information - Re: Station Blackout and Non-EQ Cable Monitoring Program, License Renewal Applications."

NOTE: Additional details of this meeting can be obtained from a transcript of this meeting available in the NRC Public Document Room, One White Flint North, 11555 Rockville Pike, Rockville, MD, (301) 415-7000, downloading or view on the Internet at <http://www.nrc.gov/reading-rm/doc-collections/acrs/> can be purchased from Neal R. Gross and Co., 1323 Rhode Island Avenue, NW, Washington, D.C. 20005, (202) 234-4433 (voice), (202) 387-7330 (fax), nrgross@nealgross.com (e-mail).

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
 PLANT LICENSE RENEWAL SUBCOMMITTEE MEETING
 NORTH ANNA, UNITS 1 & 2 AND SURRY UNITS, 1 & 2
 JULY 9, 2002, ROCKVILLE, MARYLAND

Contact: Tim Kobetz (301-874-3449, tj1@nrc.gov)

-PROPOSED SCHEDULE-

	Topics	Presenters	Time
I.	Opening Remarks	G. Leitch, ACRS	8:30-8:35 a.m.
II.	Staff Introduction	P. T. Kuo, NRR	8:35-8:45 a.m.
III.	Overview of the draft SER Related to License Renewal of North Anna (1 & 2) and Surry (1 & 2)	O. Tabatabai, NRR	8:45-9:45 a.m.
	BREAK		9:45-10:00 a.m.
IV.	Virginia Electric and Power Company, Presentation	W. Corbin	10:00-11:45 a.m.
	A. Background		
	B. License Renewal Application Scoping and Screening Process (IPA)		
	C. Aging Effects		
	D. Aging Management Programs		
	E. Time Limited Aging Analyzes		
	LUNCH		11:45-12:45 p.m.
V.	SER Chap. 2: Scoping and Screening of Structures and Components Subject to an Aging Management Review	G. Galletti, Chang Li	12:45 - 1:15 p.m.
VI.	SER Chap. 3: Aging Management Programs	M. Khanna/C. Munson	1:15-1:30 p.m.
	A. Reactor Coolant System	G. Georgiev	1:30-1:45 p.m.
	B. Engineered Safety Features	J. Medoff	1:45-2:00 p.m.
	C. Auxiliary Systems	C. Lauron	2:00-2:15 p.m.
	BREAK		2:15-2:30 p.m.
	D. Steam and Power Conversion Systems	G. Georgiev	2:30-2:45 p.m.
	E. Containment, Structures and Component Support	C. Munson	2:45-3:00 p.m.
	F. Electrical Components	J. Lazevnick	3:00-3:20 p.m.

VII.	SER Chap. 4: Time Limited Aging Analyses	J. Fair, M. Khanna, S. Saba	3:20-3:40 p.m.
VIII.	Subcommittee Discussion	G. Leitch, ACRS	3:40-4:00 p.m.
IX.	Adjourn		4:00 p.m.

NOTE:

- Presentation time should not exceed 50 percent of the total time allocated for specific item. The remaining 50 percent of the time is reserved for discussion.
- 25 copies of the presentation materials to be provided to the Subcommittee

and William J. Quinlan, Deputy General Counsel, Northeast Utilities, P.O. Box 270, Hartford, CT 06141, Phone: 860-665-3761, Fax: 860-665-5504, e-mail: quinlwj@nu.com; the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555 (e-mail address for filings regarding license transfer cases only: OGCLT@NRC.gov); and the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, in accordance with 10 CFR 2.1313.

The Commission will issue a notice or order granting or denying a hearing request or intervention petition, designating the issues for any hearing that will be held and designating the Presiding Officer. A notice granting a hearing will be published in the **Federal Register** and served on the parties to the hearing.

As an alternative to requests for hearing and petitions to intervene, by July 15, 2002, persons may submit written comments regarding the license transfer application, as provided for in 10 CFR 2.1305. The Commission will consider and, if appropriate, respond to these comments, but such comments will not otherwise constitute part of the decisional record. Comments should be submitted to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, and should cite the publication date and page number of this **Federal Register** notice.

For further details with respect to this action, see the application dated May 17, 2002, available for public inspection at the Commission's Public Document Room (PDR), located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management Systems (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209, 301-415-4737 or by e-mail to pdr@nrc.gov.

Dated at Rockville, Maryland this 5th day of June, 2002.

For the Nuclear Regulatory Commission.

Robert D. Starkey,
Project Manager, Section 2, Project Directorate I, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

[FR Doc. 02-15089 Filed 6-13-02; 8:45 am]
BILLING CODE 7590-01-P

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards, Meeting of the Subcommittee on Plant License Renewal; Notice of Meeting

The ACRS Subcommittee on Plant License Renewal will hold a meeting on July 9, 2002, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

Tuesday, July 9, 2002—8:30 a.m. until the conclusion of business

The Subcommittee will review the Virginia Electric and Power Company's (Dominion's) license renewal application for Surry Power Station Units 1 and 2, and North Anna Power Station Units 1 and 2, and the associated Safety Evaluation Report with open items. The purpose of this meeting is to gather information, analyze relevant issues and facts, and to formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Oral statements may be presented by members of the public with the concurrence of the Subcommittee Chairman; written statements will be accepted and made available to the Committee. Electronic recordings will be permitted only during those portions of the meeting that are open to the public, and questions may be asked only by members of the Subcommittee, its consultants, and staff. Persons desiring to make oral statements should notify the Designated Federal Official or the cognizant ACRS staff engineer named below five days prior to the meeting, if possible, so that appropriate arrangements can be made.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC staff, Dominion, and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, and the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by contacting the Designated Federal Official, Mr. Sam Duraiswamy (telephone 301/415-7364) or the cognizant ACRS staff engineer, Mr. Timothy Kobetz (telephone 301/415-8716) between 7:30 a.m. and 4:30 p.m. (EDT). Persons planning to attend this meeting are urged to contact one of the above named individuals one or two working days prior to the meeting to be advised of any potential changes to the agenda that may have occurred.

Dated: June 7, 2002.

Sher Bahadur,
Associate Director for Technical Support ACRS/ACNW.

[FR Doc. 02-15087 Filed 6-13-02; 8:45 am]
BILLING CODE 7590-01-P

PENSION BENEFIT GUARANTY CORPORATION

Required Interest Rate Assumption for Determining Variable-Rate Premium; Interest Assumptions for Multiemployer Plan Valuations Following Mass Withdrawal

AGENCY: Pension Benefit Guaranty Corporation.

ACTION: Notice of interest rates and assumptions.

SUMMARY: This notice informs the public of the interest rates and assumptions to be used under certain Pension Benefit Guaranty Corporation regulations. These rates and assumptions are published elsewhere (or can be derived from rates published elsewhere), but are collected and published in this notice for the convenience of the public. Interest rates are also published on the PBGC's Web site (<http://www.pbgc.gov>).

DATES: The required interest rate for determining the variable-rate premium under part 4006 applies to premium payment years beginning in June 2002. The interest assumptions for performing multiemployer plan valuations following mass withdrawal under part 4281 apply to valuation dates occurring in July 2002.

FOR FURTHER INFORMATION CONTACT: Harold J. Ashner, Assistant General Counsel, Office of the General Counsel, Pension Benefit Guaranty Corporation, 1200 K Street, NW., Washington, DC 20005, 202-326-4024. (TTY/TDD users may call the Federal relay service toll-

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
SUBCOMMITTEE MEETING ON PLANT LICENSES RENEWAL

JULY 9 2002

Date

PLEASE PRINT

ATTENDEES PLEASE SIGN-IN FOR THE MEETING

<u>NAME</u>	<u>NRC ORGANIZATION</u>
<u>Omid Talatabai</u>	<u>NRR/DRIP/RLEP</u>
<u>SAM LEE</u>	<u>NRR/DRIP/RLEP</u>
<u>Btm J. Kang</u>	<u>NRR/DRIP/RLEP</u>
<u>PAUL SHERMANIKI</u>	<u>NRR/DE/EEIB</u>
<u>Chang-Yang Li</u>	<u>NRR/DSSA/SPLB</u>
<u>Rami V. Fradovich</u>	<u>NRR/DRIP/RLEP</u>
<u>Dave Sobocin</u>	<u>NRR/DRIP/RLEP</u>
<u>Steve Hoffman</u>	<u>" " "</u>
<u>RAJ ANAND</u>	<u>" " "</u>
<u>St. Fran Martin</u>	<u>ACNW</u>
<u>G. THOMAS BELLARMINE</u>	<u>NRR/DE/EEIB</u>
<u>W.C. Liu</u>	<u>NRR/DRIP/RLEP</u>
<u>G. Bazchi</u>	<u>NRR/DE</u>
<u>R. Pettis</u>	<u>NRR/FEAB</u>
<u>K. Parczewski</u>	<u>NRR/DE/EMCB</u>
<u>S. K. Mirm</u>	<u>NRR/RLEP</u>
<u>JN Hannon</u>	<u>NRR/DSSA</u>
<u>Clayton</u>	<u>NRR/DE</u>
<u>Bill Rogers</u>	<u>NRR/DIPM/IEHB</u>
<u>GEORGE GEORGIEV</u>	<u>NRR/DE/EMCB</u>

Presentation to

**ACRS Subcommittee on
Draft Safety Evaluation Report with Open Items Related to the
North Anna and Surry License Renewal Applications**

July 9, 2002

**Omid Tabatabai, Project Manager
License Renewal and Environmental Impacts Program
Office of Nuclear Reactor Regulation (NRR)**

Agenda

Opening Remarks

G. Leitch, ACRS

Staff Introduction

P.T. Kuo, NRR

Overview

O. Tabatabai, NRR

Applicant Presentation

W. Corbin, VEPCO

Scoping and Screening

**Chang Li, G. Galletti,
NRR**

Aging Management Programs

**M. Khanna, C. Munson,
NRR**

Reactor Coolant System

G. Georgiev, NRR

Engineered Safety Features

J. Medoff, NRR

Auxiliary Systems

C. Lauron, NRR

Steam and Power Conversion Systems

G. Georgiev, NRR

Structures and Components Supports

C. Munson, NRR

Electrical and I&C Components

J. Lazevnick, NRR

Time-limited Aging Analyses

J. Fair, M. Khanna, NRR

ACRS Subcommittee Discussion

G. Leitch

OVERVIEW

(Omid Tabatabai)

- **Applications Submitted on May 29, 2001**
- **NAPS 1/2 Located in Louise County in N. Virginia. Units 1 and 2 Operating Licenses Will Expire on 4/1/18 and 8/21/20, Respectively. Each Designed for 2,893 MW Thermal Output**
- **SPS 1/2 Located in Surry County in S. Virginia. Units 1 and 2 Operating Licenses Will Expire on 5/25/12 and 1/29/13, Respectively. Each Designed for 2,546 MW Thermal Output**
- **All 4 Units Are 3-loop Westinghouse-designed PWRs**

Milestone	Schedule Date	Actual Date
Receive Dominion Joint LRA	05/29/01	05/29/01
Application is accessible	06/15/01	06/15/01
FRN published for receipt & acceptability review	06/28/01	06/28/01
Press Release describing FRN	06/29/01	06/29/01
FRN published describing acceptance and opportunity for hearing	07/27/01	07/27/01
Letter to applicant forwarding FRN and schedule	07/27/01	07/30/01
Press Release describing FRN	07/30/01	07/27/01
FRN published for Intent/Env Scoping mtg (Surry)	08/15/01	08/15/01
Deadline for Filing Hearing Requests and Petitions for Intervention	08/27/01	08/27/01
FRN published for Intent/Env Scoping mtg (North Anna)	09/05/01	09/05/01
Scoping and Screening Methodology Audits Complete	09/14/01	09/14/01
Environmental Scoping Meeting (Surry)	09/19/01	09/19/01
EIS Scoping Period Ends (Surry)	10/15/01	10/15/01
Environmental Scoping Meeting (North Anna)	10/18/01	10/18/02
EIS Scoping Period Ends (North Anna)	11/05/01	11/05/01
Env. RAIs Issued to Applicant (Surry)	11/09/01	10/17/01
Safety RAIs issued by RLEP	11/26/01	11/26/01
Env. RAIs Issued to Applicant (North Anna)	12/07/01	10/17/01
Env. RAIs Responses Issued to NRC (Surry)	12/21/01	12/10/01
Env. RAIs Responses Issued to NRC (North Anna)	01/21/02	12/10/01
Responses to Safety RAIs received	02/08/02	02/05/02
Scoping Inspections Complete	02/15/02	02/08/02
Draft SEIS to EPA, Issue Notice of Availability (Surry)	04/26/02	04/25/02
Draft SEIS to EPA, Issue Notice of Availability (North Anna)	05/17/02	05/08/02
AMR Inspections Complete (N. Anna & Surry)	05/31/02	05/17/02
Public Meeting to Discuss DEIS (Surry)	06/06/02	05/29/02
SER w/OI issued by RLEP	06/10/02	06/06/02
Public Meeting to Discuss DEIS (North Anna)	06/25/02	06/25/02
ACRS Subcommittee of SER w/OI	07/09/02	07/09/02
End of DEIS Comment Period (Surry)	07/18/02	
End of DEIS Comment Period (North Anna)	08/08/02	
Responses to SER OI received	08/22/02	
ACRS Full committee of SER w/OI	09/12/02	
SER issued by RLEP	11/05/02	
Optional Final Inspection complete	11/29/02	
ACRS of full committee of SER	12/05/02	
Final SEIS issued to EPA/Issue Notice of Availability (Surry)	12/13/02	
Final SEIS issued to EPA/Issue Notice of Availability (North Anna)	12/13/02	
ACRS Letter	12/13/02	
Regional Administrator's Letter	01/20/03	
SER issued as NUREG	01/28/03	
Commission Paper W/Staff Recommendations	03/29/03	
Commission Decision	07/04/03	

(Omid Tabatabai)

NRC Staff's Draft Safety Evaluation Report Format

- **Chapter 1: Introduction - General Discussion**
- **Chapter 2: Scoping and Screening**
- **Chapter 3: Aging Management Programs/review Results**
- **Chapter 4: Time-limited Aging Analyses (TLAAs)**

Open Items

(Omid Tabatabai)

- **The NRC Staff Initially Identified Eight (8) Open Items and 15 Confirmatory Actions in the Draft SER. All have been resolved**
- **Open and Confirmatory Items and their Resolutions Will be Discussed Later in this Presentation**

NRC Inspections

(Omid Tabatabai)

- **Scoping and Screening (S&S) Audits on September 14, 2001**
- **Aging Management Review (AMR) Inspection on May 17, 2002**
- **Overall Material Condition of the Plant Looked Good**
- **Backup Documentation for S&S Process Was Complete**
- **Reviewed AMR Supporting Docs for Existing and New AMPs**

(Chang Li, Greg Galleti)

Chapter 2: Scoping and Screening of SCs Subject to AMR

2.1: Scoping and Screening Methodology: (Greg Galleti)

- **Overview**
- **On-Site Audit**
- **Findings**
- **Conclusions**

Open Items: None

2.3: Mechanical Systems

(Chang Li)

- **Reactor Coolant Systems (5 Systems)**
- **Engineering Safeguard (5 Systems)**
- **Auxiliary Systems (38 Systems)**
- **Steam and Power Conversion Systems (7 Systems)**

Open Items: None

2.4: Structures

(Chang Li)

- **Containment and 11 other structures**

Open Items: None

3.0: Aging Management Review Results

(Meena Khanna,
Cliff Munson)

19 Existing Aging Management Activities:

- **Boric Acid Corrosion Surveillance Program**
- **Chemistry Control Program for Primary Systems**
- **Chemistry Control Program for Secondary Systems**
- **Fuel Oil Chemistry Program**
- **ISI Program - Reactor Vessel Program**
- **Reactor Vessel Integrity Management Program**
- **Reactor Vessel Internals Inspection Program**
- **Steam Generator Inspections Program**
- **Augmented Inspection Activities**
- **Battery Rack Inspections**
- **Civil Engineering Structural Inspection**
- **Fire Protection Program**
- **General Condition Monitoring Activities**
- **Inspection Activities - Load Handling Cranes and Devices**
- **ISI Program - Component and Component Support Inspections**
- **ISI Program - Containment Inspection**

- **Work Control Process**
- **Service Water System Inspections**
- **Secondary Piping and Component Inspection**

4 New Aging Management Programs and Activities:

- **Buried Piping and Valve Inspection Activities**
- **Infrequently Accessed Area Inspection Activities**
- **Tank Inspection Activities**
- **Non-EQ Cables Activity**

Item of Interest:

- ***Davis-Besse Event in regards to boric acid corrosion of the reactor pressure vessel head.***

The staff issued Bulletin 2002-01, "Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity." To date, the staff has reviewed the 15-day responses for North Anna and Surry. The staff found that the responses indicate that the conditions found at Davis-Besse are not present at North Anna and Surry.

Open Items: None

3.4: Reactor Coolant Systems

(George Georgiev)

- **Reactor Coolant Piping**
- **Reactor Coolant Internals**
- **Pressurizers**
- **Steam Generators**
- **Reactor Vessels**

Items of Interest

- **AMR results compared to topical reports (WCAP-14574 on Pressurizers, WCAP-14575 on Piping, and WCAP-14577 on Reactor Vessel Internals). The applicant stated that RCS components described in the reports bound the RCS components, with some clarifications, for both North Anna and Surry**

(George Georgiev)

- **Inspection to address the RPV head penetration cracking issue (NRC bulletin 2001-1) has been completed**
- **Inspection to address boric acid corrosion of RPV head issue (NRC bulletin 2002-01 has been completed**

Open Items: None

3.5: Engineered Safety Features

(Jim Medoff)

- **Engineered Safety Features (ESFs) Include: Quench Spray (QS), Fuel Pit Cooling (FC), Recirculation Spray (RS), Residual Heat Removal (RH), and Safety Injection Systems (SI).**
- **ESFs Were Evaluated as a Commodity Group Due to Similarities of the Materials-of-fabrication/environmental Condition Combinations for the Systems.**
- **Consistent with 10 CFR 54.21(a)(3), the applicant's AMRs for the North Anna/Surry ESFs Were Sufficient to Identify Effects of Aging for the ESF Components Within the Scope of License Renewal and the AMPs That Manage the Effects of Aging.**

Open Items: None

3.6: Auxiliary Systems

(Carolyn Lauron)

- **Primary Process Systems**
- **Open Water Systems**
- **Closed Water Systems**
- **Air and Gas Systems**
- **Ventilation and Vacuum System**
- **Drain and Liquid Processing Systems**
- **Vent and Gaseous Processing Systems**
- **Fire Protection and Supporting Systems**

Open Items: None

(George Georgiev)

3.7: Steam and Power Conversion Systems

Seven Systems:

- **Auxiliary Steam**
- **Blowdown**
- **Condensate**
- **Feedwater**
- **Main Steam**
- **Steam Drains**
- **Steam Generator Water Treatment**

Open Items: None

3.8: STRUCTURES AND COMPONENTS SUPPORTS

- **Containment**
 - **Other Structures**
 - **NSSS Equipment Supports**
 - **General Structural Supports**
 - **Miscellaneous Structural Commodities**
 - **Load-handling Cranes and Devices**
-
- **Open Items: None**

3.9: Electrical and I&C Components

(Jim Lazevnick)

- **Relatively Minor License Renewal Differences**
 - **Bus Duct Materials (e.g., Aluminum Bars at North Anna, Copper Bars at Surry)**
 - **Maximum Service Environments (E.g., Maximum Cable Operating Temperatures, North Anna, Power 162.5°F, I&C 160°F; Surry, Power 164.1°F, I&C 147.5°F)**
 - **Underground Cables (e.g., North Anna Service Water Pump Motor Power Cables)**
 - **Overhead Bare Distribution Conductors (e.g., Surry Offsite Power Circuit Aluminum Overhead Conductor)**

Open Items:

(Jim Lazevnick)

2.5-1: Plant System Portion of Offsite Power System Not Included in Scope of License Renewal

Resolved: Applicant Included Applicable Offsite Power Structures and Components Within the Scope of License Renewal. Appropriate Structures and Components Have Been Included in Aging Management Programs.

3.9.2-1: Disposition of Low Voltage, Low Signal Level Instrumentation Circuits Should Include Potential for Moisture in the Area

Resolved: Aging Management Program Considers the Potential for Moisture in the Area of Any Anomalies.

3.9.2-2: Adequacy of Visual Inspection Versus Calibration Approach for High Voltage Neutron Monitoring Instrumentation Cables and Radiation Monitor Cables

(Jim Lazevnick)

Resolved: Aging Management Program Utilizes Calibration Tests to Identify the Potential Existence of Age-related Degradation in These Circuits.

3.9.2-3: Periodic Testing of Inaccessible Medium Voltage Cables Exposed to Significant Voltage and Moisture

Resolved: Aging Management Program Calls for Testing of Inaccessible Medium Voltage Cables Exposed to Significant Voltage and Moisture.

4.0: Time-limited Aging Analysis

(John Fair, Meena Khanna)

4.1: Identification of TLAAs

(John Fair)

- **Reactor Vessel Neutron Embrittlement**
- **Metal Fatigue**
- **Environmental Qualification (EQ) of Electrical Equipment**
- **Containment Liner Plate Fatigue**
- **Other Plant-Specific TLAAs**
 - **Crane Load Cycle Limit**
 - **RCP Flywheel Analysis**
 - **Leak-before-break analysis**
 - **Spent Fuel Pool Liner Analysis**
 - **Piping Subsurface Indications**
 - **Reactor Coolant Pump Code Case N-481**

4.3: Metal Fatigue

(John Fair)

Open Items:

4.3-1: Evaluation of Charging and Safety Injection Nozzles for Environmental Fatigue

4.3-2: Update FSAR Supplement for Environmental Fatigue and Reference WCAP-15338 for TLAA evaluation of underclad cracking

4.6: Containment Liner Plate

(John Fair)

Open Items:

4.6-1: Resolve Discrepancy Between FSAR and NAPS LRA Regarding Design Basis Cycles

4.6-2: Update FSAR Supplement to Specify the Number of Cycles Used in the TLAA Evaluation

4.7.3: Leak-Before-Break (LBB)

(Meena K

Items of Interest:

- **Summer main coolant loop weld cracking event involving Alloy 82/182 weld material**

The staff now considers the effect of primary water stress corrosion cracking (PWSCC) on Alloy 82/182 piping welds for all future LBB evaluations.

Open Items: None



Advisory Committee on Reactor Safeguards Plant License Renewal Subcommittee Meeting

Surry and North Anna Power Stations,
Units 1 and 2

July 9, 2002



Participants

- Dominion
 - Bill Corbin - Director, Nuclear Projects
 - Lucky Wroniewicz - LR Project Manager
 - Mike Henig - LRA Supervisor



Purpose of Meeting

- Provide NRC staff with an overview of the license renewal applications for Surry and North Anna Power Stations
- Report the status of the Draft Safety Evaluation Report Open Items and Confirmatory Actions



Background

- License Renewal Applications submitted May 29, 2001
- Format consistent with NEI 95-10, Revision 3 and NUREG 1800 (SRP), Draft, August 2000
- Class of '01 not expected to use the Draft GALL report



Background

- One License Renewal Application submitted for each station with site specific information identified
- Exemption approved for Electronic Submittal (Adobe® Portable Document Format on CD-ROM)



LRA Format

- Consistent with SRP Draft, August 2000 and NEI 95-10, Revision 3
- Sections discussed today
 - Section 2: Scoping and screening methodology and results
 - Section 3: AMR results - Mechanical, Structural, Electrical
 - Section 4: TLAA methodology and results
 - Appendix A: UFSAR Supplement
 - Appendix B: Aging management activities
 - Appendix C: Aging management review methodology*
 - Appendix E: Environmental Report Supplement

* Reviewers Aid - not required by SRP or NEI 95-10



IPA Process

Defined by 10CFR54.21

1. Identify Systems, Structures, Commodities within scope
2. Identify component groups/structural members/commodity groups requiring AMR
3. Perform AMR
4. Identify the means to manage the effects of aging





Section 2: Scoping Methodology

- Used 10CFR54.4 Rule Scoping “Criteria”
 - Criterion 1: safety-related
 - Criterion 2: non-safety-related affecting safety-related
 - Criterion 3: the five regulated events (FP, EQ, PTS, ATWS, SBO)

Section 2:

Scoping Methodology (cont.)

- Documentation Sources
 - Equipment Data System (EDS) - including safety classifications
 - Maintenance Rule Scoping and Civil Engineering Structural Monitoring Program
 - UFSAR, Technical Specifications, Design Basis Documents
 - In-house Scoping Criteria Reports
 - Plant Drawings and Design Documentation



Section 2: Scoping Results

- Individual Tables for:
 - Systems in scope
 - Systems not in scope
 - Structures in scope
 - Structures not in scope



Section 2: Screening Methodology

- Mechanical System Screening Overview
 - Reviewed documentation sources to identify intended functions.
 - Used EDS database in conjunction with other documentation sources to identify components supporting these functions.
 - Developed license renewal boundary drawings.

Once this was completed, the passive components within the scope of LR requiring an aging management review were identified.

Section 2:

Screening Methodology (cont.)

- Civil/Structural Screening Overview
 - Reviewed documentation sources to identify intended functions.
 - Used structural detail drawings to identify structural members supporting these functions.

Once this was completed, the passive structural members within the scope of LR requiring an aging management review were identified.



Section 2:

Screening Methodology (cont.)

- Electrical/I&C Screening Overview
 - Passive electrical/I&C components screened on a plant-level basis as commodities
 - Electrical/I&C commodities:
 - Cables and Connectors
 - Electrical Penetrations
 - Bus Ducts

Section 2: Screening Results

- Each Screening Results Section
(Mechanical, Structural, Electrical, I&C)
 - Description
 - UFSAR Reference - hyperlink
 - License Renewal Boundary Drawings* - hyperlink
 - Components Subject to AMR - hyperlink to table

* mechanical systems only



Section 3: Aging Management Review

- Each AMR Results Section
 - System/Component description reference
 - AMR results tables
 - Generic Topical Report applicability, applicant action item response table if applicable - N/A for structures and electrical, I&C)
 - Materials
 - Environment descriptions
 - Aging effects
 - TLAA (if applicable)
 - Aging management activities



Section 3: AMR Results

Table 3.1.2-1 Reactor Vessels

Subcomponent	Passive Function	Material Group	Environment	Aging Effects Requiring Management	Aging Management Activity
Bottom Mounted Instrumentation Flux Thimble Tubes	PB	Stainless Steel	(E)Treated Water	Cracking	Chemistry Control Program for Primary Systems ISI Program - Reactor Vessel
				Loss of Material	Chemistry Control Program for Primary Systems ISI Program - Reactor Vessel
			(I)Air	None	None Required
Bottom Mounted Instrumentation Guide Tubes	PB	Stainless Steel	(E)Air	None	None Required
			(I)Treated Water	Cracking	Chemistry Control Program for Primary Systems ISI Program - Reactor Vessel
				Loss of Material	Chemistry Control Program for Primary Systems
Bottom Head Dome and Torus (and cladding)	PB	Carbon Steel and Low-alloy Steel	(E)Air	Cracking	ISI Program - Reactor Vessel
			(E)Borated Water Leakage	Loss of Material	Bond Acid Corrosion Surveillance
		Stainless Steel	(I)Treated Water	Cracking	Chemistry Control Program for Primary Systems
				Loss of Material	Chemistry Control Program for Primary Systems
Closure Head Dome and Flange (and cladding)	PB	Carbon Steel and Low-alloy Steel	(E)Air	Cracking	ISI Program - Reactor Vessel
			(E)Borated Water Leakage	Loss of Material	ISI Program - Reactor Vessel
		Stainless Steel	(I)Treated Water	Cracking	Chemistry Control Program for Primary Systems
				Loss of Material	Chemistry Control Program for Primary Systems



Section 4: Time-Limited Aging Analyses Methodology

- Consistent with 10CFR54.21(c) and NEI 95-10
- Key word search of Calculations, Reports, Licensing Correspondence, UFSAR, and WCAPs.



Section 4:

Time-Limited Aging Analyses Results

- Layout consistent with SRP format
- Summarized in Table 4.1-1 showing one of the following criteria are met:
 - (i) the analyses remains valid for period of extended operation.
 - (ii) the analyses have been projected to the end of the period of extended operation.
 - (iii) the effects of aging will be adequately managed for the period of extended operation.



Section 4: Time-Limited Aging Analyses Results (cont.)

- Generic TLAAs
 - Reactor vessel neutron embrittlement
 - Metal Fatigue (including EAF)
 - Environmental Qualification (EQ)
 - Containment tendon prestresses (not applicable)
 - Containment liner plate and penetration fatigue



Section 4: Time-Limited Aging Analyses Results (cont.)

- Plant-specific TLAAAs
 - Crane load cycle limit
 - RCP flywheel
 - Leak-before-break
 - Spent fuel pool liner
 - Piping subsurface indications
 - RCP - Code Case N-481



Appendix A: UFSAR Supplement

- This section provides summaries of the programs and activities credited for managing the effects of aging. Each aging management program or activity accomplishes one or more of the four functions, as listed in the Standard Review Plan for License Renewal: Prevention, Mitigation, Condition Monitoring, and Performance Monitoring.



Appendix B:

Aging Management Activities

- Rely on proven techniques established through existing procedures and programs
- AMA format:
 - Aging effects that are managed
 - List of applicable systems, structures and components
 - Activity evaluation in terms of SRP 10 elements



Appendix B:

Aging Management Activities (cont.)

- Existing Activities - 19
 - Chemistry Control - Primary, Secondary, Fuel Oil
 - Inspections - ISI (components/supports, RPV, RVI, Containment), Augmented, SG, Civil Structures, Battery Racks, Cranes, Secondary Components, Service Water System
 - Boric Acid Corrosion Surveillance
 - Fire Protection Program



Appendix B:

Aging Management Activities (cont.)

- Existing Activities - 19 (cont.)
 - General Condition Monitoring*
 - Reactor Vessel Integrity Management
 - Work Control Process*

* enhanced



Appendix B:

Aging Management Activities (cont.)

- New Activities - 4
 - Buried Pipe and Valve Inspections
 - Infrequently Accessed Areas Inspections
 - Tank Inspections
 - Cable Monitoring (added after submittal)



Appendix B:

Aging Management Activities (cont.)

- Operating Experience
 - Industry and in-house operating experience has been incorporated into aging management activities through the corrective action process
 - Operating experience reviews were performed to identify specific aging issues that might apply to structures, systems and components



Appendix B:

Aging Management Activities (cont.)

- Quality Assurance Program elements of corrective action, confirmation process, and administrative controls are applicable to the safety-related and non-safety-related structures, systems, and components within the scope of license renewal.



Appendix B:

Aging Management Activities (cont.)

- TLAA Support Activities
 - Environmental Qualification Program
 - Transient Cycle Counting Program



Appendix B:

Aging Management Activities (cont.)

- Licensee Follow-up Actions
 - listing of actions required in order to effectively manage the aging effects identified through the aging management review
 - includes commitments for program/activity changes and future inspections
 - most intended to be completed before end of current operating license



Future Actions

- A Revised UFSAR Supplement will incorporate Aging Management Activity Summaries (Appendix A), Licensee Follow-up Actions (Appendix B) and SER Confirmatory Action Items



Aging Management Review Methodology - Appendix C

- Not required - Reviewers Aid - Explains:
 - Grouping of systems, structures, and major components - consistent with SRP and NEI 95-10
 - Short-lived components and consumables
 - Aging effects and mechanisms evaluated
- Westinghouse Generic Topical Reports (Class I Piping, RV Internals, Pressurizer, RCS Supports)



Appendix E: Environmental Report

- Environmental Report and Review Process:
 - 10 CFR 54.23 requires a Supplement to the applicant's original ER-OL IAW 10 CFR 51
 - Environmental Review must be performed IAW NEPA
 - Environmental Impacts evaluated IAW NUREG-1437 GEIS ('96, '99)
 - Severe Accident Mitigation Alternatives (SAMAs) were reviewed and results incorporated



Appendix E: Environmental Report

- Environmental Report and Review Process:
Additional guidance utilized:
 - Supplement 1 to Reg Guide 4.2 (DG-4005)
 - NUREG-1455, Supp.1
 - Previous License Renewal applicants'
Environmental Reports



Appendix E: Environmental Report

- Environmental Report and Review Process:
 - Utilized Subject Matter Experts
 - Conducted New & Significant Information identification/assessment process
 - Involved Environmental Agencies, Organizations, and Public
 - Obtained Industry Peer Review
 - Frequent, Clear and Open Communications w/ NRC



Appendix E: Environmental Report

- Environmental Report Results:
 - Environmental Impacts are Small and Smaller Than Reasonable Alternatives



Draft Safety Evaluation Report Status

- 8 Open Items
 - SBO scope (1)
 - Aging management of cables (3)
 - Additional info on EAF (2)
 - Containment liner design cycles (2)
- 15 Confirmatory Actions
 - confirm that UFSAR Supplement updates were performed (13)
 - drawing updates (1)
 - confirmation of open items resolution (1)



Draft Safety Evaluation Report Status

- Submitted to NRC Project Manager for review and concurrence:
 - Response to 8 Open Items
 - Disposition of 15 Confirmatory Actions, including UFSAR Supplements for both Surry and North Anna
- Technical accuracy of draft SER verified and comments will be provided to NRC



Surry and North Anna
License Renewal Applications

Closing Remarks

**Figure SPS-1
 Surry Power Station**

