



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

March 4, 2005

MEMORANDUM TO: ACRS Members

FROM: Cayetano Santos Jr., Senior Staff Engineer */RA/*
Technical Support Staff
ACRS/ACNW

SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS
SUBCOMMITTEE MEETING ON THE DONALD C. COOK UNITS 1
AND 2 LICENSE RENEWAL APPLICATION, FEBRUARY 9, 2005 -
ROCKVILLE, MARYLAND

The minutes of the subject meeting were certified on March 2, 2005, as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc: J. Larkins
S. Duraiswamy
J. Flack
M. Snodderly

CERTIFIED
3/2/05
by Mario Bonaca
Issued 02/28/05

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
MINUTES OF ACRS PLANT LICENSE RENEWAL SUBCOMMITTEE MEETING
ON THE DONALD C. COOK NUCLEAR POWER PLANT UNITS 1 AND 2
FEBRUARY 9, 2005
ROCKVILLE, MARYLAND

On February 9, 2005, the Plant License Renewal Subcommittee held a meeting in Room T2B3, 11545 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to review and discuss the Donald C. Cook Units 1 and 2 License Renewal Application (LRA) and Safety Evaluation Report (SER) with Open Items.

The meeting was open to the public. No written comments or requests to make oral statements were received from members of the public related to this meeting. Mr. Cayetano Santos was the Designated Federal Official for this meeting. The meeting convened at 1:30 pm and adjourned at 5:30 pm on February 9, 2005.

ATTENDEES:

ACRS MEMBERS/STAFF

Mario Bonaca, Chairman
Victor Ransom, Member
Jack Sieber, Member
John Barton, Consultant

Stephen Rosen, Member
William Shack, Member
Graham Leitch, Consultant
Cayetano Santos Jr., ACRS Staff

NRC STAFF/PRESENTERS

P. Kuo, NRR
C. Lauron, NRR
J. Strnisha, NRR
P. Loughheed, Region III
Y. Li, NRR
T. Cheng, NRR
R. Subbaratnam, NRR
G. Cranston, NRR
S. Lee, NRR
K. Hsu, NRR
M. Razzaque, NRR
H. Ashar, NRR
M. Mitchell, NRR
L. Tran, NRR

J. Rowley, NRR
E. Reichelt, NRR
C. Li, NRR
M. Morgan, NRR
J. Fair, NRR
O. Chopra, NRR
J. Zimmerman, NRR
R. Hernandez, NRR
J. Downs, NRR
V. Rodriguez, NRR
L. Lund, NRR
N. Iqbal, NRR
T. Terry, NRR
G. Suber, NRR

OTHER ATTENDEES

M. Miller, AREVA
D. Wooten, Dominion
R. Finnin, AREVA
M. Scarpello, AEP
C. Lane, AEP
K. Faris, PNNL
K. Sakamoto, JNES
L. Lindquist, AEP
R. Ahrabli, Entergy
C. Marks, ISL
S. Pope, ISL

J. Gebbie, AEP
M. Rinckel, AREVA
R. Grumbir, AEP
P. Schoepf, AEP
N. Haggerty, AEP
W. Fromme, NMC
B. Kalinowski, AEP
G. Young, Entergy
A. Cox, Entergy
F. Saba, ISL

The presentation slides, handouts used during the meeting, and a complete list of attendees are attached to the Office Copy of the meeting minutes. The presentation to the Subcommittee is summarized below.

Opening Remarks

Mr. Bonaca, Chairman of the Plant License Renewal Subcommittee, convened the meeting and made a few introductory remarks. The purpose of this meeting is to review the Indiana Michigan Power Company's (I&M) license renewal application (LRA) and the related Safety Evaluation Report (SER) with Open Items for the Donald C. Cook Nuclear Plant (CNP) Units 1 and 2. Mr. Bonaca called upon Mr. Kuo of the Office of Nuclear Reactor Regulation (NRR) to begin the discussion.

Staff Introduction

Mr. Kuo introduced several members of the staff including Mr. Rowley (Project Manager), Ms. Loughed (Inspection Team Leader), and Mr. Cranston (Audit Team Leader).

CNP License Renewal Application

Mr. Grumbir, I&M, greeted the Subcommittee and introduced accompanying members of the I&M staff. Mr. Grumbir's presentation described CNP's recent operating experience, plant improvements, plant-specific aging management programs (AMPs), and implementation plans.

Background

In a letter dated October 31, 2003, I&M submitted an application to the NRC for renewal of CNP operating licenses for an additional 20 years. The current licenses for Units 1 and 2 expire on October 25, 2014, and December 23, 2017, respectively. This is the third plant to be reviewed using the new on-site audit process to verify consistency with the Generic Aging Lessons Learned (GALL) report. CNP made extensive use of past precedents in the LRA.

Plant Description

CNP consists of a two, 4-loop Westinghouse pressurized water reactor units with ice condenser containments. Unit 1 is licensed for a power output of 3304 MWt, and Unit 2 is licensed for a

power output of 3468 MWt. The approximate net electrical outputs of Unit 1 and 2 are 1044 MWe and 1117 MWe, respectively. CNP has 4 emergency diesel generators, operates on an 18 month fuel cycle, and uses Lake Michigan as the ultimate heat sink.

Recent Operating Experience

Some of the recent events at CNP include a design basis recovery effort (September 1997 - December 2000), silt intrusion into the essential service water system (August 2001), and fish intrusion (April 2003). Since their last outages, Unit 1 has been operating for 309 days and Unit 2 has been operating for 73 days. The combined capacity factor for both units in 2004 is 92%.

Mr. Grumbir stated that the Reactor Oversight Process (ROP) has shown improvement in CNP's performance from 2002 to 2005. In the third quarter of 2002, Unit 1 was in the Regulatory Response Column and Unit 2 was in the Degraded Cornerstone Column of the ROP Action Matrix. In 2005 Unit 1 entered the Licensee Response Column and Unit 2 entered the Regulatory Response column of the Action Matrix.

Plant Improvements

Mr. Grumbir stated that a Nuclear Asset Management plan has been developed through 2037. The steam generators for Units 1 and 2 were replaced in 2000 and 1988, respectively. In 2002 and 2003 Appendix K Measurement Uncertainty Recapture power uprates were obtained for both units and the reserve auxiliary transformers were replaced. In 2005 CNP will install traveling water screens, convert to improved technical specifications, and add supplemental diesel generators. In 2006, the Unit 1 turbine rotor will be replaced and a new computerized system (INDUS Passport) will be implemented for corrective action processes, work management, and commitment management. The reactor heads will be replaced in 2006 and 2007. Plant improvements that are currently under evaluation include dry cask storage, stretch power uprates, upgrades to moisture separators, replacement of the Unit 2 main transformer, and rewinds of the main generator.

Industry Issues

Inspections of the reactor vessel heads and bottom-mounted instrumentation nozzles were performed at CNP due to current industry issues. In 2003 a bare metal visual inspection of the reactor head of Unit 1 did not show any leaks or boron deposits. Penetration weld repairs were performed on the reactor head of Unit 2 in 2004. In 2003 the bottom-mounted instrumentation nozzles were inspected and no indications were found. A Flow-Accelerated Corrosion (FAC) operating experience evaluation was performed and showed that historical inspection results were acceptable and the prediction model was working properly.

Scoping and Screening Method

Mr. Kalinowski, I&M, stated that the scoping and screening methodology applied at CNP is consistent with previous applications. Under the "spaces" approach used by CNP, all components in an area of the plant that contained safety-related components were considered to be in scope.

Aging Management Programs

Mr. Kalinowski stated that the Aging Management Reviews (AMRs) were structured to align with GALL and the determination of consistency with GALL was applied conservatively. Prior to the Aging Management Program audit, information was provided regarding past precedents. Of the 46 AMPs at CNP, 16 are plant-specific. Mr. Kalinowski briefly described some of the

plant specific programs such as Boral Surveillance, ISI Augmented Inspection, Instrument Air Quality, and Structures Monitoring.

Commitment Tracking

Mr. Grumbir stated that commitments documented in the LRA are tracked by CNP's commitment management system and adjusted as needed. I&M has committed to implementing enhancements to the programs prior to entering the period of extended operation but a more aggressive internal schedule has been established. Draft procedure changes are being developed and should be implemented by 2005. Mr. Grumbir noted that many of these enhancements are already being performed but are just not proceduralized. Long-range activities will be tracked by CNP's Action Tracking Program. The project plan includes the turnover of responsibilities to line departments.

Mr. Grumbir concluded his presentation by stating that the staff has performed a thorough review and American Electric Power is committed to the safe, long-term operation of CNP.

SER Overview

Mr. Rowley led the staff's presentation of the SER with Open Items, the scoping and screening review, the AMP reviews and audits, and the time-limited aging analyses (TLAAs).

The SER with Open Items was issued on December 21, 2004, containing two open items and two confirmatory items. Since that time resolution has been reached on all of these items. As a result of the staff's review 5 components/commodities were brought into scope and subjected to an aging management review.

Mr. Rowley listed the dates of the audits and inspections performed by the staff.

Scoping and Screening

Mr. Rowley stated that the scoping and screening methodology is adequately described in the LRA and satisfies the requirements in 10 CFR 54.4 and 10 CFR 54.21(a)(1). The staff reviewed the scoping and screening results to determine if all structures were properly identified. As a result of the staff's review, insulation for pipe and penetrations, emergency diesel generator (EDG) exhaust silencers, auxiliary feedwater suction strainers, the EDG Air distributor housings, and the spent fuel pool makeup supply refueling water storage tank were brought into scope. The staff determined that the systems, structures, and components (SSCs) within scope of license renewal and subject to an AMR have been identified.

Onsite Inspection Results

Ms. Loughed, Region III, described the license renewal inspections performed by the staff. The objective of the scoping and screening inspection is to confirm that the applicant has included all SSCs within the scope of license renewal as required by the rule. During this inspection 3 issues were identified regarding partially buried piping, emergency core cooling system piping leak detection enclosures, and main steam system stop valves. This inspection concluded that the scoping and screening activities successfully identified those SSCs requiring an AMR.

The objective of the AMP inspection is to confirm that the applicant has implemented or plans to implement programs to manage the effects of aging. During this inspection the 3 issues

identified during the scoping and screening inspection were resolved. No issues were identified that would be an adverse indicator for license renewal, but two issues were raised regarding the FAC Program and the Boral Surveillance Program that required additional review from NRR.

Ms. Lougheed described the recent performance of CNP. The licensee is in the Regulatory Response Column of the NRC Action Matrix because both units have a white inspection finding in the Public Radiation Safety cornerstone and Unit 2 has a white performance indicator in the Initiating Events cornerstone. No substantive cross-cutting issues have been identified. The staff is conducting an internal end-of-cycle screening meeting and will provide the results to licensee and public within the next several weeks. Ms. Lougheed concluded by stating that current performance does not show any indicators that would preclude license renewal.

Aging Management Program Review and Audits

There are 46 aging management programs at CNP. 33 of these are existing programs and 13 are new programs. These AMPs can also be categorized by their consistency with GALL. 13 AMPs are consistent with GALL, 17 AMPs are consistent with exceptions and/or enhancements, and 16 AMPs are plant-specific.

The staff reviewed 34 AMPs using the audit process. Mr. Cranston described some of these AMPs such as the Service Water System Reliability Program, the Cast Austenitic Stainless Steel (CASS) Program, the System Walkdown Program, and the FAC Program.

The Service Water System Reliability Program is consistent with GALL with exceptions and enhancements. The exception is that heat exchangers will be visually inspected and cleaned but will not undergo thermal performance testing. The staff's basis for approving this exception is that inspection and cleaning is consistent with the applicant's approved submittal to GL 89-13 and any adverse inspection findings will result in a test of the heat exchanger. In order to be consistent with GALL, a physical check for selective leaching will be performed during visual inspections.

The CASS program originally cited a previously approved staff position to perform only external, visual inspections based on an approved code case. The audit team determined that this code case was not applicable to the plant. This AMP was revised to be consistent with GALL so volumetric inspections or flaw tolerance evaluations will be performed.

The System Walkdown Program was credited for managing loss of material on both the internal and external surfaces of carbon steel materials. The staff requested more information regarding the basis for this program to detect loss of material on internal surfaces. The applicant made a revision that credits a combination of other AMPs (FAC, Service Water System Reliability, and One-Time Inspection) with the management of internal aging effects for these components.

The staff identified 2 issues during the review of the FAC program. The staff found that this program was not credited for detecting aging effects in main steam nozzles so this AMP was revised to include these components. The staff also found that the basis for expansion testing in this AMP was not consistent with GALL. In GALL the criteria for sample expansion is measured wall thinning greater than predicted. The criteria in the LRA was a measured wall

thickness less than a threshold value. Therefore, the AMP was revised to be consistent with GALL with an exception regarding the use of a threshold criteria for sample expansion.

Mr. Rowley described 2 AMPs that were not reviewed using the audit process. The Reactor Vessel Internals Plates, Forgings, Welds, and Bolting Program was not audited because of emerging issues associated with stress corrosion cracking, irradiation assisted stress corrosion cracking, and void swelling. The Steam Generator Integrity Program was not audited because the replacement steam generator are constructed from Alloy 690 and GALL deals with Alloy 600.

One of the issues identified during the AMP inspection that required additional NRR review dealt with the Boral Surveillance Program. Inspectors found a potential discrepancy in the trending of results from Boral coupons. The staff issued a Request for Additional Information (RAI) to clarify the capability to measure and evaluate these coupons. The applicant provided information regarding coupon evaluations, the results of completed evaluations, and the schedule for future evaluations. The staff found the response acceptable and closed the issue.

The staff's review of the AMR results for the reactor vessel, internals, and reactor coolant systems; engineered safety features systems; steam and power conversion systems; structures and component supports; and electrical and instrumentation and controls did not identify any open or confirmatory items. One open item was identified by the staff during the review of the AMR results for auxiliary systems. The staff was concerned that the visual inspections performed as part of the System Walkdown Program could not effectively manage the effects of aging on internal surfaces of components. As a result of the staff's review, a combination of 3 other AMPs will be used to manage the effects of aging on these internal surfaces. These 3 AMPs are the FAC Program, the Service Water System Reliability Program, and the One-Time Inspection Program. The staff found this acceptable and this open item was closed.

Data taken from two sample wells at CNP show that the below grade soil/water environment is non-aggressive based on pH, chloride, and sulfate levels.

The staff concluded that the applicant has demonstrated the effects of aging will be managed such that intended functions will be maintained consistent with the current licensing basis for the period of extended operation.

Time Limited Aging Analyses (TLAAs)

Mr. Rowley described the staff's review of the TLAAs.

Embrittlement of the reactor vessel affects TLAAs associated with upper shelf energy (USE), pressurized thermal shock (PTS), and pressure-temperature limits. Calculations by the staff and applicant demonstrate that the limiting beltline material for each unit exceeds the minimum USE acceptance criterion in 10 CFR 50 Appendix G through 48 Effective Full Power Years (EFPY). The staff also performed independent calculations of RT_{PTS} values and concluded that the limiting beltline material continues to meet the screening criterion in 10 CFR 50.61 through 48 EFPY.

The staff concluded that the cumulative usage factors (CUF) for Class 1 components will not exceed 1. The staff also determined that for Non-Class 1 components the fatigue analyses

remain valid for the period of extended operation. The applicant has committed to additional actions for the auxiliary spray line, pressurizer surge line, residual heat removal piping, and charging and safety injection nozzles. These additional actions are to either (1) perform a plant-specific fatigue analysis, (2) repair the affected piping, (3) replace the affected piping, or (4) manage the effects of fatigue by an NRC-approved program. One of the confirmatory items listed in the draft SER was to revise the Updated Final Safety Analysis Report Supplement to include these commitments.

The applicant's Environmental Qualification Program is consistent with GALL and will continue to manage equipment in accordance with 10 CFR 50.49.

A concrete containment tendon prestress TLAA is not applicable at CNP.

The applicant has committed to performing additional evaluations of containment penetrations to satisfy the requirements of 10 CFR 54.21(c)(1)(i). The second confirmatory item listed in the draft SER was to revise the Updated Final Safety Analysis Report Supplement to include this commitment.

One of the plant-specific TLAA is a fatigue analysis of the ice condenser lattice frame. Past operating experience indicates that the operational basis earthquake limit of 400 used in the analysis will not be exceeded during the period of extended operation. Therefore, the staff concluded that this analysis remains valid in accordance with 10 CFR 54.21(c)(1)(i).

Mr. Rowley stated that the applicant has identified the appropriate TLAA and demonstrated that either (1) the TLAA are valid for the period of extended operation, (2) the TLAA have been projected to the end of the period of extended operation, or (3) that aging effects will be adequately managed for the period of extended operation.

Mr. Rowley concluded by stating that the applicant has met the requirements for license renewal and there is reasonable assurance that activities will continue to be conducted in the renewal term in accordance with the current licensing basis.

Member Comments

General

Chairman Bonaca made the following general comments regarding the last 3 license renewal applications reviewed by the subcommittee.

- Many of the new AMPs are not fully developed. The audit reports describe these new programs as adequate but add that a final determination will not be made until after the program details have been developed. Chairman Bonaca is concerned that a large number of these undefined programs could impact workload and leave any ACRS letter unsupported. Consultant Leitch stated that a valid reason for accepting programs that have not been fully developed is if technical work is still occurring in that area. Consultant Leitch also noted that for new programs in which there is no equivalent GALL program, there is essentially nothing to review. Consultant Barton added that some AMPs should be implemented sooner than just prior to entering the period of extended operation.

- Applicants are taking the same exceptions to GALL for AMPs associated with buried piping/tanks/cables and fire protection. If these exceptions are always acceptable to the staff, they should be justified and placed in GALL. Consultant Barton noted an inconsistency in the Buried Piping Inspection Program in that some applicants will perform a one-time inspection of these components prior to extended operation while others will only inspect as part of maintenance activities.
- The audit report is very insightful and should be better integrated into the SER.

Consultant Leitch asked why power levels for each unit are different. The applicant stated that the units use different fuel assemblies and turbine generators. The nuclear steam supply equipment for both units are virtually identical.

In response to a question from Member Sieber, the applicant stated the capacity of the emergency diesel generators is 3500 kW.

The Design Basis Recovery effort at CNP required the reconstitution of a large number of safety systems. In response to a question from Consultant Leitch, the applicant described an open issue associated with the operability of 4 kV breakers. These breakers are overdutied and will be replaced in the next outage.

In response to a question from Member Sieber, the applicant stated that the maintenance outage for Unit 2 in November 2004 was due to leakage in a primary side pressurizer manway. The gasket for this manway is not in scope for license renewal because it is a short-lived component that is replaced every 8 years.

Several Members asked about the ice condenser. It was noted that the LRA lacked a lot of specific information about the ice condenser and many of its components were not included in scope. The applicant stated that rebuilding of the ice condenser part of containment was completed as part of the Design Basis Recovery effort in 2000. A detailed examination of the ice condenser components was performed for scoping and a specific AMP exists for the ice condenser. The applicant described the various components in the ice condenser and their functions.

Consultant Leitch asked if there are any recent inspection findings that are not green. The applicant described one issue associated with the transportation of contaminated material in which the dose rate on the exterior of the container exceeded a Department of Transportation limit. Consultant Leitch and Member Rosen also asked about the status of performance indicators (PI). The applicant stated that there is a white PI for Unit 2 for scrams with loss of normal heat removal. The root cause of the problem was closing of MSIVs following a scram. It was resolved by revising the EOPs to throttle back auxiliary feedwater earlier in the sequence.

Member Sieber asked about the steam generators. The applicant stated that the Unit 2 steam generators are constructed from thermally treated Alloy 690. The number of plugged tubes for Unit 1 and 2 are 4 and 16, respectively.

Chairman Bonaca and Member Sieber asked about the supplemental diesel generators that will be added to the plant in 2005. The applicant stated these diesel generators are not safety

grade and will provide redundancy. In response to a question from Consultant Leitch, the applicant stated that CNP does have containment igniters but they do not have a backup power supply. The applicant added that the supplemental diesels will be sized such that they can provide back-up power to the igniters.

Chairman Bonaca and Member Shack asked about the reactor vessel heads at CNP. The applicant stated that Unit 1 has a medium susceptibility head while Unit 2 has a high susceptibility head. Two penetration weld repairs were performed on the Unit 2 head because of indications found by dye penetrant (PT) exams. These penetrations were repaired by weld overlays.

In response to a question from Consultant Leitch, the applicant stated that the CDF for each unit is 4.28×10^{-5} .

Consultant Leitch noted that a certain crane manufacturer has reported concerns with overstressing in certain components. The staff stated that 1 crane at CNP is affected by this issue and it is currently being reviewed by the resident inspectors.

Scoping and Screening

Consultant Leitch asked for clarification regarding the “spaces” approach used for the scoping of 10 CFR 54.4(a)(2) components in which all components in an area of the plant that contained safety-related components were considered to be in scope. The applicant stated that an area is defined as a room so all components in the same room as safety-related components are in scope. Consultant Barton commented that this approach led to generic grouping of components making it difficult to determine if specific components in a system were adequately covered in the AMPs. Consultant Barton added that the “spaces” approach led to numerous RAls from the staff.

Consultant Leitch asked how scoping can be performed without locating all of the anchor points. The applicant stated it was assumed that everything from the the nonsafety-related to safety-related interface out to the first major component was in scope.

Chairman Bonaca asked about the 5 components/commodities that were brought into scope as a result of the staff’s review. The staff stated that certain portions of insulation were credited with limited heat load in post accident conditions so they were brought into scope during a review of the methodology. The other components were simply overlooked and brought into scope during the review of the scoping and screening results for mechanical systems.

Consultant Leitch asked about the function of the leak detection enclosures that surround emergency core cooling piping outside containment. The staff stated that they are not safety-related and serve to funnel water to a collection point.

Aging Management

Several Members asked about the criteria for expanding the scope of inspection in the FAC program. The applicant stated that this program is consistent with EPRI guidance and uses an expansion criterion of 60% of the wall thickness. The staff added that in no case will the wall thickness be less than the minimum wall thickness. If a discrepancy is found between inspections and predictions, all other predicted values will be revised. These revised predictions may lead to further expansions of the inspection scope.

Consultants Leitch and Barton asked about an inspection finding in which a pipe was found to be partially buried in the sand. The applicant stated that this pipe was located outdoors so the sand had accumulated around the pipe naturally. The System Walkdown Program was revised to look for significant changes in environment.

There was a discussion about the Boral Surveillance Program. Consultant Barton asked for the basis in extending the inspection interval from 2 years to 5 years. The applicant provided data that demonstrates boral degradation is not expected to be significant. The staff added that 5 years is consistent with a vendor recommendation. Consultant Leitch noted that removal of boral samples have been missed in the past. Consultant Leitch asked why an RAI on this program was issued so late in the review process. The staff stated that the RAI resulted from a discrepancy found during the AMP inspection which did not occur until November 2004.

Consultant Barton asked when the Buried Piping Inspection Program will be implemented. The applicant stated that a date has not yet been determined.

There was a discussion regarding the System Walkdown Program. Consultant Leitch expressed concern about the effectiveness of these inspections for components in the same room as the main steam system stop valves. The staff stated that external degradation in this environment should not be significant. These areas are accessible during normal operation but pipes can't be inspected because they are covered with insulation. The applicant stated that system walkdowns during normal operation look for any evidence of aging such as vibration, support degradation, and dripping water. In addition opportunistic inspection of these pipes would be performed when insulation is removed during outages or maintenance activities. Consultant Barton questioned whether these walkdowns are actually being performed quarterly and whether it will continue at that frequency during the period of extended operation. Consultant Leitch noted that there is a history of problems and procedure noncompliance with this program. The applicant stated that the engineering resources of the plant have been reorganized to ensure that system engineers can effectively perform these walkdowns at the necessary frequency. PIs have also been established to measure their effectiveness.

Consultant Leitch asked why hydraulic fluids are not subject to an AMP. The applicant stated that hydraulic fluids are periodically sampled in order to determine when they should be replaced.

Chairman Bonaca and Member Rosen asked about the Service Water System Reliability Program. Chairman Bonaca asked how visual inspections can ensure the thermal performance of a heat exchanger. The staff stated that in addition to visual inspection, heat exchangers are cleaned to return them to an "as-new" condition. The applicant listed some of the heat exchangers that would be covered by this AMP.

The Diesel Fuel Monitoring Program takes an exception to GALL in that it will not monitor for microbiologically induced corrosion (MIC) because past operating experience has not shown this to be a problem. Consultant Leitch stated that this was a weak argument and noted that other plants have experienced MIC in these tanks. A similar issue exists with the domestic water supply system at CNP in which there is no guarantee that conditions will not change in the future. Chairman Bonaca added that these issues are generic and apply to the current licensing basis.

Consultant Leitch noted that a number of follow-up items in the audit report related to elastomers. The staff stated that this was due to insufficient information provided by the applicant in the original application.

TLAAs

The reactor vessel neutron embrittlement TLAAs assumed 48 EFPY at the end of license extension. Consultant Leitch stated that this is appropriate for CNP but for other plants 54 EFPY would be more reasonable.

Consultant Leitch asked about the exception to the PT limit calculation that permitted the use of Code Case N641 rather than 10 CFR 50 Appendix G. The staff stated that this code case allows the use of the crack initiation fracture toughness curve instead of the crack arrest fracture toughness curve and has recently been incorporated into Section XI of the ASME Code.

The Cumulative Usage Factor (CUF) for the Pressurizer Surge line is shown to be 4.5 at 60 years. Consultant Leitch asked if the CUF is currently greater than 1 and if so what corrective actions have been taken. The staff stated that more detailed fatigue calculations and fatigue monitoring would result in a lower CUF. However, the staff could not justify requiring all plants to perform the more detailed analysis for the current licensing basis.

In response to a question from Consultant Barton, the staff stated that components in the Environmental Qualification Program that were originally qualified for 40 years will be requalified for the period of extended operation.

Member Shack noted in the LRA that the TLAA associated with Leak-Before-Break did not discuss stress corrosion cracking in dissimilar metal welds. The applicant stated that this is described in the Alloy 600 AMP.

Table 4.3-1 (page 4.3-13) of the LRA shows zero loss of load transients logged as of 10/31/98 and zero projected at 60 years of operation. Consultant Leitch asked if these numbers were accurate. The applicant committed to providing that information at a later date.

Subcommittee Discussion

The Consultants and Members suggested that the following topics be discussed at the Full Committee meeting:

- A description of the ice condenser and the license renewal activities (scoping, screening, and aging management) associated with its components
- Improvements in the commitment tracking process
- The “spaces” methodology used in scoping of 10 CFR 54.4(a)(2) components
- The resolution of the open item associated with the FAC program
- The effectiveness of the System Walkdown Program

Subcommittee Decisions and Follow-up Actions

The Subcommittee will summarize the discussions to the full Committee during the February 2005 ACRS meeting.

Background Materials Provided to the Committee

9. License Renewal Application for Donald C. Cook Nuclear Plant Units 1 and 2, October 31, 2003
10. Donald C. Cook Nuclear Power Plant, Units 1 and 2 NRC License Renewal Scoping/Screening Inspection Report 05000315/2004003; 05000316/2004003, June 22, 2004
11. Information Systems Laboratories, Inc., Audit and Review Report for Plant Aging Management Reviews and Programs, Donald C. Cook Nuclear Plant, Units 1 & 2, September 22, 2004
12. Safety Evaluation Report with Open Items Related to the License Renewal of the Donald C. Cook Nuclear Plant, Units 1 and 2 dated December 2004
13. Donald C. Cook Nuclear Power Plant, Units 1 and 2 NRC Aging Management Program Inspection Report No. 05000315/2004013; 05000316/2004013, January 10, 2005
14. Letter dated January 21, 2005, from Joseph N. Jensen, Site Vice President, Indiana Michigan Power Company, to NRC Document Control Desk, Subject: Response to Open Item and Confirmatory Items in the Draft Safety Evaluation Report Related to the License Renewal of Donald C. Cook Nuclear Plant, Units 1 and 2

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 viewing on the Internet at <http://www.nrc.gov/reading-rm/doc-collections/acrs/>, or 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).
