



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
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ATLANTA, GEORGIA 30303-8931**

May 8, 2003

Carolina Power & Light Company
ATTN: Mr. J. W. Moyer
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Hartsville, SC 29550

**SUBJECT: H. B. ROBINSON STEAM ELECTRIC PLANT - NRC INSPECTION REPORT
50-261/03-08**

Dear Mr. Moyer:

On October 25, 2002, the NRC completed an inspection regarding the application for license renewal for your Robinson facility. The enclosed report documents the inspection findings, which were discussed on April 4, 2003, with you and other members of your staff in an exit meeting open for public observation at the Hartsville Memorial Library.

The purpose of this inspection was an examination of activities that support the application for a renewed license for the Robinson facility. The inspection consisted of a selected examination of procedures and representative records, and interviews with personnel regarding the process of scoping and screening plant equipment to select equipment subject to an aging management review. For a sample of plant systems, inspectors performed visual examination of accessible portions of the systems to observe any effects of equipment aging.

The inspection concluded that the scoping and screening portion of the license renewal activities were conducted as described in the License Renewal Application and that documentation supporting the application is in an auditable and retrievable form. With the exception of the items identified in this report, your scoping and screening process was successful in identifying those systems, structures, and components required to be considered for aging management.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

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Should you have any questions concerning this letter, please contact Caudle Julian at 404-562-4603.

Sincerely,

\RA

Charles A Casto, Director
Division of Reactor Safety

Docket Nos.: 50-261
License Nos.: DPR-23

cc: See page 3

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket No: 50-261

License No: DPR-23

Report No: 50-261/03-08

Licensee: Carolina Power and Light Company (CPL)

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: March 31 - April 4, 2003

Inspectors: W Bearden, Reactor Inspector
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SUMMARY OF FINDINGS

IR 05000261-03-08; 3/31-4/4/20032; Carolina Power and Light Company, H. B. Robinson Steam Electric Plant, Unit 2. License Renewal Inspection Program, Scoping and Screening.

This inspection of License Renewal (LR) activities was performed by six regional office engineering inspectors, and one staff member from the office of Nuclear Reactor Regulation. The inspection program followed was NRC Manual Chapter 2516 and NRC Inspection Procedure 71002. This inspection did not identify any "findings" as defined in NRC Manual Chapter 0612.

The overall conclusion of this inspection was that the license renewal scoping and screening process was successful. The inspection did reveal the following discrepancies in the applicant's supporting documentation.

Three examples were identified where there was an inconsistency between the application, the boundary drawing, and the calculation that supports the applicant's conclusion. The applicant wrote a plant Action Request (AR) number 89349 to initiate corrective action to correct the inconsistencies.

Regarding the auxiliary feedwater system, the inspectors questioned why the backup Deep Well water supply was not in scope for license renewal. NRR has asked the same question via a Request for Additional Information (RAI). Inspectors will review the applicant's answer to the RAI during a future inspection.

Regarding the diesel fuel oil system, applicant's calculation RNP-L/LR-0006 states that the unit 1 fuel oil tanks and piping used to transfer oil to unit 2 for long term operation of the emergency diesel generators are in scope. However the boundary drawings didn't depict the transfer piping as being in scope. The inspectors concluded that the piping should be in scope. The applicant acknowledged the inspectors' comments and will resolve the discrepancy.

Applicant's calculation RNP-L/LR-0396 was intended to explain the process used for scoping and screening of Criterion 2 piping. Criterion 2 are cases where non-safety related piping (NSR) located in the vicinity of safety related (SR) components might cause damage to SR components if they failed due to aging. The inspectors had extensive discussion with the applicant to understand the process and to agree with the applicant's conclusions. However calculation 0396 did not clearly describe the process or conclusions and inspectors identified several minor errors in the calculation. The inspectors stated that the applicant should revise calculation 0396 to more clearly explain their process and conclusions.

The inspectors identified several instances where the applicant's proposed responses to NRR written RAI questions appeared to be unclear or incomplete. The applicant agreed to consider the inspectors comments when completing their response to the RAIs.

In walking down plant systems and examining plant equipment the inspectors found no significant adverse conditions and it appears plant equipment was being maintained adequately.

Report Details

I. Inspection Scope

This inspection was conducted by NRC Region II inspectors and members of the NRR staff to interview applicant personnel and to examine a sample of documentation which supports the license renewal application (LRA). This inspection reviewed the results of the applicant's scoping of plant systems and screening of components within those systems to identify the list of components that need evaluation for aging management. The team selected a sample of plant systems, structures, and components (SSC) from the LRA scoping results to verify the adequacy of the applicant's scoping and screening documentation and implementation activities. For the selected in-scope systems/structures, the associated boundary drawings, and the active/passive and short/long lived determinations of the selected SSCs were reviewed to confirm the accuracy of the applicant's results. In addition to the in-scope systems and structures, some systems that the applicant had determined not to be in scope for license renewal were selected for inspection. The inspectors reviewed supporting documentation and interviewed applicant personnel to confirm the accuracy of the LRA conclusions. The SSCs selected for review during this inspection are listed in Attachment 2 to this report. For a sample of plant systems, inspectors performed visual examination of accessible portions of the systems to observe any effects of equipment aging.

II. Findings

A. Evaluation of Scoping and Screening of Mechanical Systems

The inspectors evaluated the applicant's scoping and screening process for mechanical components by reviewing a number of plant systems that the applicant determined to be within the scope of license renewal (LR). The applicant performed scoping at the system level by first identifying safety-related mechanical systems via review of the equipment data base (EDB). In addition, through review of the EDB and other license basis information, non-safety-related mechanical systems which could adversely affect safety-related systems were identified and systems committed to support the five NRC regulated events in 54.4(a)(3) were identified.

After system scoping, screening was accomplished by: establishment of LR system boundaries by creating from official station drawings highlighted license renewal boundary flow diagram drawings; identifying components and component groups subject to an aging management review using a list of all passive, long-lived, mechanical components; and identification of intended function(s) of each mechanical component. The screening process and results were documented in individual system LR Screening Calculations.

Subsequent to the initial LR application, additional NRC guidance was issued for consideration of the effects of NSR systems on SR systems, such as via spray, leakage, pipe whip, jet impingement, flooding, and displacement/falling. The inspectors reviewed the applicant's methodology for inclusion of NSR mechanical systems in scope which could affect SR systems. In addition, the inspectors conducted field walkdowns in various areas of the plant containing SR systems to observe for NSR systems to confirm appropriate NSR systems had been included for LR aging management. During these walkdowns the inspectors also observed equipment material condition. Additional walkdowns are planned for subsequent inspections. The applicant's methodology consisted of: determining all areas where SR and NSR systems were located; considering all NSR systems within these areas to be in scope for LR; evaluating via

documentation and walkdowns which NSR systems could damage SR systems for screening considerations. For those systems which had portions which were NSR of the same materials/environs as the SR portion and had existing credited aging management programs, the applicant simply added the NSR portion of the system for specific areas as requiring aging management via the existing program. For a few cases the applicant screened in a portion of a NSR system as requiring aging management, e.g. a portion of the Potable Water System which was located near some SR switchgear. No significant material condition problems were noted during the field observations and the inspectors concluded that the applicant had added the appropriate NSR equipment for aging management.

Applicant's calculation RNP-L/LR-0396 was intended to explain the process used for scoping and screening of Criterion 2 piping. Criterion 2 are cases where non-safety related piping located in the vicinity of safety related components might cause damage to SR components if they failed due to aging. The inspector's review of the applicant's calculation disclosed that it was not clear in some cases regarding which NSR portions of systems were added for aging management. The inspectors had extensive discussion with the applicant to understand the process and to agree with the applicant's conclusions. However calculation 0396 did not clearly describe the process or conclusions and inspectors identified several minor errors in the calculation. This document was in error regarding the addition of the equipment in the Spent Fuel Pit Room for aging management and listing portions of the Auxiliary Steam System as being in containment. The inspectors stated that the applicant should revise calculation 0396 to more clearly explain their process and conclusions. The applicant initiated Action Request (AR) No. 89608 to track correction/clarification of this document.

Areas containing the following systems/structures were observed for appropriate scoping/screening for NSR effects on SR systems:

- Chemical and Volume Control System
- Spent Fuel Pool Cooling System
- Chemical Feed System (partial)
- Component Cooling Water System
- Auxiliary Feedwater System
- Containment Isolation System

The following mechanical systems were reviewed:

1. Reactor Coolant System (RCS) [including Reactor Vessel and Internals; Reactor Vessel Level Instrumentation/Inadequate Core Cooling Monitor (ICCM) System; Steam Generator (SG); and two SG associated pressure boundary systems, Steam Generator Blowdown and Chemical Feed]

These systems are designed to contain and support the nuclear fuel, contain the reactor coolant, and transfer heat produced in the reactor to the steam and power conversion systems for the production of electricity. The applicant essentially considered all of the RCS, Reactor Internals, ICCM System, and SGs to be in scope of LR except for some components not required for the LR function. The systems associated with SGs for pressure boundary purposes were also included in scope of LR. The inspectors reviewed LR boundary drawings, design basis information, the Updated Final Safety Analysis Report (UFSAR), engineering documentation, system/structure scoping worksheets, screening calculations, and station blackout flow path drawings. The inspectors also conducted field observations of portions of the Chemical Feed System. The inspectors concluded that the applicant had performed scoping and screening for

these systems and identified the mechanical components subject to aging management in accordance with the methodology described in the LRA and the rule.

2. Chemical and Volume Control System

The Chemical and Volume Control System functions to provide reactor coolant pump seal injection, maintain proper RCS inventory, adjust RCS boron concentration, maintain RCS chemistry control, and RCS degasification. Essentially all of the system has been included for LR aging management due to being SR or NSR affecting SR systems. The inspectors reviewed LR boundary drawings, design basis information, the UFSAR, system/structure scoping worksheets, and screening calculations. The inspectors also conducted field observations of the system. The inspectors concluded that the applicant had performed scoping and screening for this systems and identified the mechanical components subject to aging management in accordance with the methodology described in the LRA and the rule.

3. Spent Fuel Pool Cooling System

The Spent Fuel Pool Cooling System functions to remove decay heat from the spent fuel pool and to maintain pool water chemistry which are not functions for LR. Portions are credited for postulated fires and station blackout. The applicant included the portions of the system for fires and station blackout, the portion of the system which interfaces with Component Cooling Water, and NSR portions in the Safety Injection Pump Room and Demineralizers Room for aging management. The inspectors reviewed the LR boundary drawing, design basis information, system/structure scoping worksheets, and screening calculations. The inspectors also conducted field observations of the system. The inspectors concluded that the applicant had performed scoping and screening for this systems and identified the mechanical components subject to aging management in accordance with the methodology in the LRA and the rule.

4. Residual Heat Removal System

The Residual Heat Removal System functions to remove heat from the RCS during normal plant shutdown conditions, provides borated water to RCS during a design basis accident, and recirculates water from the containment sump during a postulated loss of coolant accident. Essentially all of this system was determined to require aging management. The inspectors reviewed LR boundary drawings, system/structure scoping worksheets, and screening calculations. The inspectors concluded that the applicant had performed scoping and screening for these systems and identified the mechanical components subject to aging management in accordance with the methodology described in the LRA and the rule.

5. Safety Injection System (SI)

The SI system provides adequate emergency core cooling following a postulated design basis accident. The SI system performs the functions of : passive accumulator injection, active safety injection, and residual heat removal recirculation of water from the containment sump. The primary purpose of the system is to deliver cooling water to the reactor core in the event of a loss-of-coolant accident. The system also provides a source of borated water for reactivity control. The applicant included all of the safety related portion of the system in scope for license renewal. The inspectors reviewed the system scoping and screening documents, license renewal boundary drawings, the UFSAR, and the SI system description. The inspectors also performed a walkdown of accessible portions of the system. The inspectors concluded that the applicant had performed

scoping and screening for the SI system in accordance with the methodology described in the H.B. Robinson LRA and the rule.

6. Diesel Generator System (DG)

The DG system provides AC power to the onsite electrical distribution system in case normal AC power is lost to assure the capability for a safe plant shutdown. The DG support systems include the Starting Air Subsystem, Lube Oil Subsystem, Jacket Water Cooling Subsystem, Scavenging Air Subsystem, Scavenging Air Cooling Subsystem, Diesel Engine Fuel Oil Subsystem, and the Diesel Exhaust Subsystem. Mechanical components included in the LR scope for aging management review included heat exchangers, regulators, pumps, filters, strainers, exhaust silencer, tanks, flow orifices and elements, valves, piping, tubing and fittings. The inspectors reviewed the system scoping and screening documents, license renewal boundary drawings, the UFSAR, and the DG system description. The inspectors also performed a walkdown of accessible portions of the system. The inspectors concluded that the applicant had performed scoping and screening for the DG system in accordance with the methodology described in the H.B. Robinson LRA and the rule.

7. Dedicated Shutdown Diesel Generator (DSDG)

The DSDG provides an alternate AC power source to assure the capability for safe plant shutdown following a fire or total loss of all AC power (Station Blackout). The skid-mounted, self-contained DSDG is a component of the Dedicated Shutdown Electrical System. The inspectors reviewed the system scoping and screening documents, license renewal boundary drawings, the UFSAR, and the DSDG system description. The inspectors also performed a walkdown of accessible portions of the system.

The inspectors observed that the screening calculation RNP-L/LR-0115 and the license renewal application says that an air filter and two relief valves on the air start system are in scope for license renewal. But a note in the calculation says the filter and valves are not in LR scope and the components are not shown as being in scope on the boundary drawing. This is a contradiction that the applicant included in AR 89349 to resolve.

8. EOF/TSC Security Diesel Generator

The EOF/TSC Security Diesel Generator provides backup electrical power to the Emergency Operations Facility/Technical Support Center Building and security systems upon loss of the normal power supplies. The backup electrical power supplied to security lighting in outside areas is relied on for performance of actions required for fire protection safe shutdown, thus the diesel is in the scope of LR. Mechanical components included in the LR scope for aging management review included filters, radiator, exhaust silencer, heaters, ductwork, valves, piping, tubing and fittings. The inspectors reviewed the system scoping and screening documents, license renewal boundary drawings, and the EOF/TSC Security Diesel Generator system description. The inspectors concluded that the applicant had performed scoping and screening for the system in accordance with the methodology described in the Robinson LRA and the rule.

9. Fuel Oil System (FO)

The FO System supplies fuel oil to the Emergency Diesel Engines, the Dedicated Shutdown Diesel Engine, and the Diesel Engine-Driven Fire Pump from fuel oil storage tanks on site. The FO System also provides fuel oil to the EOF/TSC Security Diesel Generator. The FO system

provides a fuel oil storage capacity sufficient to operate the Emergency Diesel Generators at full load for a period of seven days in accordance with Technical Specification requirements if oil can be transferred from Unit 1 storage tanks to Unit 2. The inspectors reviewed the system scoping and screening documents, license renewal boundary drawings, Technical Specification Bases, and an operating procedure. The inspectors also performed a walkdown of some portions of the system.

Regarding the diesel fuel oil system, applicant's calculation RNP-L/LR-0006 says that the unit 1 fuel oil tanks and piping used to transfer oil to unit 2 for long term operation of the emergency diesel generators are in scope. However the boundary drawings didn't depict the transfer piping as being in scope. Also calculation RNP-L/LR-0121 reflects that the transfer piping is not in scope. The inspectors stated their opinion that the piping should be in scope. The applicant agreed to consider the inspectors' comments and resolve the discrepancy.

10. Component Cooling Water (CCW)

This closed loop cooling system removes heat from several safety-related systems, non-safety systems, and components. At the service water to component cooling heat exchanger heat is removed by the cooler Service Water. With minor exception, the entire system is within license renewal scope. The inspectors examined the portions of the system not included in scope and detailed system drawings indicating component locations that were not in scope to verify that those portions would not have adverse interaction with other nearby systems. The inspectors reviewed the license renewal boundary drawings, system descriptions, applicable UFSAR sections, scoping calculations, and application details. The inspectors determined that the system was appropriately scoped in the application and associated boundary drawings.

11. Service Water (SW)

SW is an open cycle cooling loop that removes heat from various safety-related systems, non-safety-related systems, and components. With normal exceptions (turbine building, air compressor systems' cooling, and auxiliary boiler heat loads), the system is within scope under license renewal. The inspectors reviewed the license renewal boundary drawings, system descriptions, applicable UFSAR sections, scoping calculations, and application details. The inspectors determined that the system was appropriately scoped in the application and associated boundary drawings.

12. Instrument and Service Air (IA, SA)

These air systems provide air for normal system operations and outage uses. Their critical functions for other off normal conditions identified during the licensee renewal scoping review are pressure boundary interface for other systems and containment penetration integrity. Off-normal gas motive force for critical component operation (e.g., steam generator power operated relief valves) is provided by nitrogen systems, the not-in-scope instrument air, or by instrument air contained in pressurized accumulators isolated by check valves (e.g., main steam isolation valves). The inspectors reviewed the license renewal boundary drawings, system descriptions, applicable UFSAR sections, generic interface documents, scoping calculations, and application details. The inspectors determined that the systems were appropriately scoped in the application and associated boundary drawings.

13. Containment Spray (CS)

The CS system in conjunction with the Containment Air Recirculation System limit the temperature and pressure in containment following a steam line break or loss of coolant accident to less than design values. The CS system's pumps and spray nozzles can deluge the containment with borated water combine with educted sodium hydroxide during its injection phase. The system can be cooled by the residual heat removal system for long term containment cooling. The inspectors reviewed the license renewal boundary drawings, system descriptions, applicable UFSAR sections, scoping calculations, and applications details. The inspectors determined that the systems were appropriately scoped in the application and associated boundary drawings.

14. Auxiliary Feedwater System (AFW)

This system supplies feedwater to the steam generators when normal feedwater sources are not available. The components included in the LR scope for aging management review included the Condensate Storage Tanks as the normal water source and the service water system as the safety related, assured source. The Deep Well pumps are an alternate source referenced in the UFSAR. The inspectors questioned why the Deep Well pumps and piping were not included in the LR scope. The applicant's position was that this equipment does not provide a safety related water source and therefore does not meet the LR scoping criteria. This issue is addressed in RAI 2.3.3.8-1 and 2.3.4.9-1 which is presently under review by the NRC.

Other in scope equipment is identified in LRA table 2.3-29. The inspectors reviewed the applicant's identification and resolution of criterion 2 (NSR equipment potentially affecting LR in-scope equipment) related to the AFW system, field verified these conditions where possible, and concluded the resolutions were acceptable. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the system boundary drawings. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

15. Main Feedwater System

The main feedwater system provides pre-heated, high pressure feedwater to the steam generators under normal operating conditions. The license renewal function of the system is to provide isolation of the feedwater and steam generator blow down following a postulated loss of coolant or steam line break event. The components identified as within LR scope and requiring aging management review are identified in Table 2.3-28 of the application. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections, and boundary drawings. The inspectors concluded the Applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

16. Containment Isolation System

The Containment Isolation System is an engineered safety feature that provides for the closure integrity of containment penetrations in the event of a reactor accident to prevent leakage of uncontrolled or unmonitored radioactive materials to the environment. The following systems have only the license renewal function of containment isolation:

Post Accident Hydrogen
Service Air System

Process/Area Radiation Monitoring
Containment Pressure Relief
Containment Vacuum Breaker
Containment Purge
Containment Vapor and Pressure Sampling
Liquid Waste Processing
Penetration Pressurization Local Leak Rate Test
Isolation Valve Seal Water.

Table 2.3-6 of the Application identified the components of these systems which are in scope for LR and require aging management review. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the boundary drawings. The inspectors reviewed the Criterion 2 (NSR equipment potentially affecting LR in-scope equipment) related to these systems and concluded the identification and resolution of Criterion 2 equipment was acceptable. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

17. Post Accident Sampling

The Post Accident Sampling System provides a means to remotely collect, analyze, and dilute, reactor coolant and containment atmosphere samples. The only component within the LR scope is the sample heat exchanger which is cooled by the Component Cooling System and is included in application Table 2.3-9 as an in-scope component in that system. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the boundary drawings. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

18. Heating, Ventilation, and Air Conditioning (HVAC) - Auxiliary Building

This system provides heat removal of equipment spaces to ensure proper operation of safety related equipment in the Auxiliary Building. The system components included in the scope of LR and requiring aging management review are identified in Table 2.3-18 of the application. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the boundary drawings. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

19. HVAC - Containment Building (Containment Air Re-circulation Cooling System)

This system functions as an independent back up for the Containment Spray System to limit the temperature and pressure that could be experienced in containment following a loss-of-coolant or steam line break event to less than the design values. Heat removed by the system is transferred to the Service Water System via four air handling unit heat exchangers. The system components included in the scope of LR and requiring aging management review are identified in Table 2.3-5 of the Application. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the boundary drawings. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

20. HVAC - Control Room Area

This system provides heating, ventilation, cooling, filtration, air intake and exhaust isolation during normal operation and following a design basis event. The system consists of an environmental control system and an air clean up system. The system components included in the scope of LR and requiring aging management review are identified in Table 2.3-19 of the application. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the boundary drawings. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

21. HVAC - Fuel Handling Building

This system provides ventilation and heat removal for the fuel handling building and filters exhaust air from the building. The system components included in the scope of LR and requiring aging management review are identified in Table 2.3-20 of the Application. The inspectors reviewed the system scoping and screening documents, design basis information, applicable UFSAR sections and the boundary drawings. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

22. Emergency Diesel Generator Room CARDOX System

This system is a high pressure carbon dioxide fire suppression system to extinguish a fire in the diesel generator rooms. The system is automatically actuated from heat sensors located in the rooms and is supplied from nineteen 75-pound CO₂ cylinders located outside the room. The system components included in the scope of LR and requiring aging management review are identified in Table 2.3-21 of the application. The inspectors reviewed the system scoping and screening documents, design basis information, and applicable UFSAR sections and observed the material condition of the equipment in the plant. The inspectors concluded that the applicant had performed scoping and screening for this system in accordance with the LRA and the Rule.

23. HVAC - Radwaste Facility

This system provides ventilation and heating for the radwaste facility. The inspectors reviewed the system description in the UFSAR, flow diagrams, and discussed the system function with the applicant staff. There were no functions of the system that met the criteria for LR scoping. The inspectors concluded that there was adequate basis for exclusion of this system from the LR scope.

24. HVAC - Turbine Building

This system provides air conditioned and filtered air to the enclosed utility spaces under the turbine concrete pedestal including the RCA access area which is located in the turbine building. The inspectors reviewed the system description in the UFSAR, flow diagrams, and discussed the system function with the applicant staff. The inspectors concluded that there was adequate basis for exclusion of this system from the LR scope.

B. Evaluation of Scoping and Screening of Electrical Systems

The inspectors observed that the scoping and screening of electrical systems employed significantly different methods than the mechanical or structural disciplines. During this

inspection the inspectors reviewed an Engineering Evaluation report RNP-L/LR-0120, Rev. 3, 3/12/03, Electrical Component Screening for License Renewal for H.B. Robinson - Unit 2. The procedure described how the applicant accomplished scoping and screening of electrical commodities to determine those needing an aging management review.

The method used to determine which electrical and I&C components are subject to an aging management review was organized based on component commodity groups. The primary difference in this method versus the one used for mechanical systems and structures is the order in which the component scoping and screening steps are performed. This method was selected for use with the electrical and I&C components since most electrical and I&C components are active, thus, the applicant concluded that this method provided the most efficient means for determining electrical and I&C components that require an aging management review. The method is consistent with the industry guidance documented in NEI 95-10.

Electrical/I&C component commodity groups associated with electrical, I&C, and mechanical systems within the scope of license renewal were identified. This step included a complete review of design drawings and electrical/I&C component commodity groups in the plant component database. A description and function for each of the electrical/I&C component commodity groups were identified. The electrical/I&C component commodity groups that perform an intended function without moving parts or without a change in configuration or properties [screening criterion of 10 CFR 54.21(a)(1)(i)] were identified. For the resulting passive electrical/I&C component commodity groups, component commodity groups that are not subject to replacement based on a qualified life or specified time period [screening criterion of 10 CFR 54.21(a)(1)(ii)] were identified as requiring an aging management review. Electrical and I&C component commodity groups included in the 10 CFR 50.49 Environmental Qualification (EQ) Program were considered to be subject to replacement based on qualified life, and thus eliminated from the list. Next certain passive, long-lived electrical/I&C component commodity groups that do not support license renewal system intended functions were eliminated. Finally the in-scope equipment identified as requiring an aging management review were compared to the NRC's Generic Aging Lessons Learned report to ensure that differences are valid and justified. The resulting list of electrical and I&C component commodity groups subject to an aging management review was:

- 1) Bus Duct - Isolated Phase (Iso-Phase), Non- segregated 4.16 KV and 480 V bus duct
- 2) Non-EQ Electrical / I&C penetration Assemblies - 28 total - all manufactured by Crouse-Hinds.
- 3) Non-EQ Insulated Cables and Connectors - All plant systems and structures - includes splices, fuse blocks, connectors and terminal blocks.
- 4) Passive Electrical Switchyard Commodities - Credited for restoration of offsite power when recovering from an SBO event - includes iso-phase bus duct, non-segregate 480 V bus duct, high voltage insulators, switchyard bus, and transmission conductors. The inspectors found the methodology and the conclusions reached by the applicant to be satisfactory.

In a response to an NRC RAI concerning recovery from Station Blackout (SBO), the applicant stated that consistent with the NRC position, the additional structural components included in the scope of license renewal as meeting the scoping criteria of 10 CFR 54.4(a)(3) for restoration of offsite power are as follows:

Building 175: Switchyard Relay Building

Isolated phase bus duct yard support structures
Switchyard and transformer structures
4 KV non-segregated bus duct yard support

The inspector found that the proposed response to RAI 2.5.2-1 regarding fuse holders needed clarification and enhancement to reflect information contained in the applicant's Calculation No. RNP-L/LR-0390, Attachment S, Evaluation of fuse holders, Revision 1.

C. Evaluation of Scoping and Screening of Structural Components

1. Reactor Containment Building

The Reactor Containment Building is a seismic class I structures with a steel lined concrete vertical cylinder, a hemispherical dome, and a flat base mat which is supported on piles. The Reactor Containment Building houses the reactor vessel, reactor coolant system, and other safety related systems. The entire building was concluded to be within the scope of license renewal. Procedure EGR-NGGC-0502, "System/Structure Scoping for License Renewal," describes the scoping process. Calculation RPN-L/LR-0007, "System/Structure Scoping for License Renewal," performs the actual scoping for all systems and structures. Attachments to Calculation RPN-L/LR-007 are called System/Structure Scoping Worksheets which list the scoping results for all systems and structures. Attachment 166 lists the scoping results of the Reactor Containment Building.

Calculation RPN-L/LR-0104, "License Renewal Screening - Containment Structure Internal and External Structural Components," addresses the screening of the Reactor Containment Structure, Internal Structural Components, and the External Structural Components. Procedure EGR-NGGC-0506, "Civil/Structural Screening and Aging Management Review for License Renewal," describes the screening process. Attachment 1 to Calculation RPN-L/LR-0104 addresses the detailed screening of the commodities, namely the concrete, the steel, the pipe piles, the steel liner, the penetration assemblies, post tension system, liner insulation, cathodic protection system, and component supports. Attachments 1.1 and 1.2 list the components and structural commodity screening matrix, respectively. Only active and components or structures without a safety intended function are screened out. The inspectors agreed with this assessment.

2. Switchyard Relay Building, Switchyard and Transformer Structures

The Switchyard and Transformers together with the Switchyard Relay building were originally assessed to not be within the scope of license renewal by the applicant as contained in Table 2.2-2 of the LRA. In response to RAI 2.5.1-1, the applicant, due to SBO considerations, determined that these structures are within the scope of license renewal.

Attachments 145 and 146 to Calculation RPN-L/LR-0007 list the scoping results of the Switchyard Relay Building and the Switchyard and Transformer Structures, respectively. The Switchyard Relay Building is a prefabricated metal building with doors supported on a concrete slab. The Switchyard and Transformer Structures include those which support electrical equipment in the Switchyard and Transformer System. Civil structures include the concrete foundations and supporting steel structures for all electrical equipment, towers, poles, and the switchyard cable trenches. In addition, underground electrical conduit and yard electrical panels are also included.

Attachment 32 to Calculation RPN-L/LR-0103, "License Renewal Screening - Structures and Structural Components," describes that the Switchyard and Transformer Structures are outside of the plant but relied upon for restoration of offsite power to support SBO. The electrical equipment includes part of the 230KV and 115KV switchyards, the overhead lines to the plant, the main, start-up and unit auxiliary transformers. The civil/structural components include the concrete foundations to all the electrical equipment and the steel supports. Attachment 32.2 lists the structure commodity screening matrix.

Attachment 34 to Calculation RPN-L/LR-0103 describes the Switchyard Relay Building which houses and supports the batteries which provide 125V DC to equipment in the switchyard. Figure 34.1 depicts the locations of the structure and Attachment 34.2 lists the structure commodity screening matrix for the Switchyard Relay Building. The inspectors concurred with the assessment. The inspectors walked down the in scope portion of the switchyard structures and structural components and found they are in good material condition.

3. Reactor Auxiliary Building

The Reactor Auxiliary Building (RAB) is a reinforced concrete seismic class I structure supported on a piling foundation. It includes the control room, and the diesel generator room. The RAB also includes the RHR room, the radiation monitor room, and the waste evaporation enclosure. Attachment 211 of Calculation RPN-L/LR-0007 describes that the RAB has several intended safety functions and the entire building is within the scope of license renewal.

Attachment 01 of Calculation RPN-L/LR-0103 contains the screening process and results. The structural components screening matrix are listed in Attachment 1.1 and the structural commodity screening matrix appears in Attachment 1.2. Figure 1.1 through 1.4 depict the evaluation boundary of the RAB. The process screened out the station "C" battery enclosure, the elevator on the east side of the RAB, and the external stairways as not requiring an aging management review. The inspectors agreed with this decision.

4. Pipe Restraint Tower

Attachment 208 of Calculation RPN-L/LR-0007 describes the Pipe Restraint Tower as a structural steel frame supported by a reinforced concrete foundation. It provides access to components and pipe whip restraint in case of a high energy line break outside the containment for the main steam and feedwater lines. The Pipe Restraint Tower supports the main steam safety relief and

isolation valves and the feedwater isolation valves. The applicant determined that the entire Pipe Restraint Tower is within the scope of license renewal. The only commodities screened out are stairs and ladders, jet impingement barriers, and snubbers. The inspectors concurred with this assessment.

5. Plant Vent Stack

Attachment 224 of Calculation RPN-L/LR-0007 briefly describes that the plant Vent Stack is a 4'-6" diameter ventilation stack located at east quadrant of the Reactor Containment Building. The stack is supported on the Reactor Auxiliary Building roof and braced from the Reactor Containment Building by a structural steel frame at a higher elevation. Drawing CAR-2767G-211 depicts that the stack is made of 3/16" carbon steel (A36) and there is no safety related equipment located in the proximity of the stack. The failure of the stack will not damage any safety related structure or component. The stack itself is non-safety related and does not perform any license renewal intended function. The applicant correctly assesses that the Plant Vent Stack is not within the scope of license renewal. The inspectors walked down the vicinity of the Plant Vent Stack and agreed with the applicant's assessment.

6. Intake Structure

The Robinson Intake Structure is a seismic class I reinforced concrete structure. The structure consists of three separate bays and supports four safety related service water pumps, three non-safety related circulating water pumps, and three non-safety related fire pumps. There are three traveling screens in each bay to remove debris from the intake water. Stop logs, fine, and rough screens (trash racks) were designed but never were installed due to the cleanliness of the lake water. The lake water is acid in nature with average pH values varied from 4.6 to 6.4 (measured from 1985 to 1999) which makes it difficult to grow vegetation. The applicant assesses the Intake Structure, in Attachment 132 of Calculation RPN-L/LR-0007, to be within the scope of license renewal due to the fact that the structure performs several license renewal intended safety functions. In Attachment 4.2 of Calculation RPN-L/LR-0103, the applicant only screens out a few commodities that do not have to perform an intended safety function. The inspectors concurred in the assessment. The inspectors walked down the Intake Structure. Most of the structure is underwater. The above water portion of the structure looked very clean and is in good condition.

7. East Personnel Access Portal

The East Personnel Access Portal was used during construction. After the West Personnel Access Portal was established, the East Personnel Access Portal was closed and abandoned. The applicant determined that the East Personnel Access Portal is not within the scope of license renewal. The inspectors agreed with the assessment.

8. West Personnel Access Portal

The West Personnel Access Portal is a prefabricated metal structure with a reinforced concrete foundation. The West Personnel Access Portal is assessed to be within the scope of license renewal because it houses and supports electrical equipment which controls and operates the security lighting. A portion of the security lighting is credited for a fire protection function. Therefore, the entire structure is in scope and nothing is being screened out within the evaluation boundary of the structure. The inspectors concurred with this determination.

9. Security Emergency Diesel Generator Building

The Security Emergency Diesel Generator Building is a steel and concrete block structure on a reinforced concrete foundation. This structure was scoped into the rule for fire protection because the applicant received from the NRC an exemption from using 8-hour battery lighting based on the use of security lighting. The security lighting is backed by the security diesel generator, therefore the entire security lighting system and its supports are all within the scope of license renewal. Attachment 12.2 of Calculation RPN-L/LR-0103 lists the structural commodities that require an aging management review. The inspectors concurred with this decision.

10. Fuel Handling Building

The Fuel Handling Building (FHB) is comprised of three adjacent buildings and a super structure, which supports the spent fuel cask handling machine. The three buildings are the Spent Fuel Pit Heat Exchanger Room, the Hot Machine Shop, and the Fuel Handling Building. The FHB performs many license renewal intended functions such as shelter and support for safety related and non-safety related systems and components. The entire FHB is concluded to be within the scope of license renewal. The only commodities being screened out are facilities associated with the new fuel handling and storage and active components as listed in Attachment 3.2 of Calculation RPN-L/LR-0103. The inspectors agreed with this assessment.

11. Electrical Manholes and Duct Banks

This group includes all yard electrical manholes and duct banks. Only three electrical manholes are scoped into the rule. They are manholes #35 and #36 and an unnumbered electrical manhole located west of the Unit 1 Administration Building. There are two manholes at the Intake Structure and they are considered as part of the Intake Structure. Electrical manholes and duct banks associated with the security lighting system are scoped and screened separately. The cables from manholes 35 and 36 are buried directly without duct banks. The manholes are constructed with reinforced concrete. Commodities associated with these three manholes all require aging management review. There are no duct banks associated with these structures. The inspectors concurred with this assessment.

12. Reservoir and Dam

The reservoir (Lake Robinson) is a 2200-acre impoundment which provides plant cooling for normal and emergency situations. It also supplies water for fire protection and is the ultimate heat sink for the plant. The earth dam has a vertical clay core and supporting shell of compacted sand. Rip rap protection is provided on the upstream side. There are a spillway, gates, and valves provided for down stream water release. The applicant determined that the dam and reservoir are within the scope of license renewal. Figure 13.1 of Attachment 13 to Calculation RPN-L/LR-0103 depicts the evaluation boundary of the dam and reservoir and Attachment 13.2 lists all the structural commodities that require aging management review. The inspectors concurred with this determination.

13. Tech Support Center/Emergency Operations Facility (TSC/EOF)

The TSC/EOF Training Building is a reinforced concrete structure used for training, offices, and is an emergency management facility during plant accidents but does not perform any license renewal intended safety functions. The applicant assessed that the TSC/EOF is not within the scope of license renewal. The inspectors agreed with this assessment.

14. Concrete Trenches

This structure is the reinforced concrete trench between the Turbine Building and the Condensate Storage Tank. The trench continues inside the Turbine Building concrete floor slab and this portion of the trench is reviewed together with the Turbine Building. The trench is within the scope of license renewal because it supports and protects safety related and non-safety related equipment. Figure 24.1 of Attachment 24 to Calculation RPN-L/LR-0103 shows the structure evaluation boundary. The inspectors concurred with the applicant's decision.

15. Tank Foundations

The foundations of the safety related Condensate Storage Tank (CST) and the Refueling Water Storage Tank (RWST) are reinforced concrete ring structures with a thickness of 3'-6" and a depth of 5'-0" as they are described in Attachments 128 and 126 of Calculation RPN-L/LR-0007, respectively. The applicant assessed that the tank foundations are within the scope of license renewal because they provide structural support to safety related equipment. The evaluation boundary for the CST foundation is shown in Figure 16.1 of Attachment 16 to Calculation RPN-L/LR-0103 and for the RWST foundation is in Figure 15.1 of Attachment 15. The screening results are listed in Attachments 16.2 and 15.2 of Calc. RPN-L/LR-0103 for the CST and RWST foundations, respectively. The inspectors walked down the CST foundation and found that the structure is in good material condition. The inspectors found that the applicant's assessment was acceptable.

D. Evaluation of Scoping and Screening of Fire Protection Systems

Fire protection features and commitments are described in detail in the Robinson UFSAR. The systems and structures at Robinson that support either fire protection design or safe shutdown following a fire are considered within the scope of license renewal. Those items providing fire suppression, fire detection, and electrical power supply to that equipment are classified Quality class B-03 in the EDB. So any system with components classified as B-03 was considered in scope. Also, safe shutdown components credited in analyses to comply with 10 CFR 50, Appendix R, are included in the Appendix R Component Database. This database was also used to identify systems in scope for license renewal. In addition, structures credited in the definition of fire areas and zones were considered in scope.

The inspectors examined boundary diagrams which show the evaluation boundaries for the portions of fire protection systems that the applicant concluded are within the scope of license renewal. The inspectors found no significant discrepancies in the fire protection equipment highlighted as being in LR scope on the boundary drawings. The inspectors did observe that the fire protection boundary drawings HBR2-8255LR series sheets 1 through 6 contained a minor error. The reference to the fire protection screening calculation should have been RNP-L/LR-0139 instead of RNP-L/LR-0129 which appears on the drawings. The applicant included this issue in AR 89349 for corrective action.

E. Visual Observations of Plant Equipment in Containment

NRC performed visual inspections of the interior of the Robinson containment on October 24, 2002 during a refueling outage. This included observation of accessible portions of plant SSCs and electrical cable inside the containment to observe material condition and inspect for aging conditions that might not have been previously recognized and addressed in the LRA. The following is a partial list of equipment observed:

- FW system piping
- personnel and equipment hatches
- SGs "B" and "C", including supports
- CS spray headers and piping
- ventilation ducting
- electrical cable
- "B" and "C" reactor coolant pump cubicles/loop rooms
- reactor coolant system piping
- CC system piping and valves
- containment electrical penetrations
- excess letdown heat exchanger

- reactor vessel head
- reactor coolant drain collection tank and piping
- pressurizer relief tank
- pressurizer surge line and whip restraint
- containment pipe penetration area
- containment sump area
- containment HVAC units

The observations of general material conditions included: inspection of piping components for evidence of leaks or corrosion, inspection of coatings (piping, tanks, and structural components), and inspection of electrical cable for indications of deterioration. The material condition of the Robinson containment was good and no significant aging management issues were identified.

The inspectors could not inspect the steel containment liner due to the unique design of the Robinson containment. Specifically most of the liner is covered by insulation panels.

Exit Meeting Summary

The results of this inspection were discussed on April 4, 2003, with members of the CPL staff in an exit meeting open for public observation at the Hartsville Memorial Library. The applicant acknowledged the findings presented and presented no dissenting comments.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Applicant

C. Baucom, Supervisor Licensing
C. Burton, Director Site Operations
T. Cleary, Plant General Manager
T. Clements, Manager Licens Renewal
M. Heath, Supervisor License Renewal
D. McNeill, Supervisor Communications
J. Fletcher, Manager Nuclear Support Services
J. Moyer, Robinson Site Vice President
R. Stewart, Supervisor License Renewal
S. Tally, Mechanical Engineer

NRC

C. Casto, Director Division of Reactor Safety
M. Cora, Project Manager
B. Desai, Senior Resident Inspector
D. Jones, Resident Inspector
S. Mitra, Project Manager

Public

M. Gandy, South Carolina Department of Health
and Environmental Control

LIST OF DOCUMENTS REVIEWED

License Renewal Boundary Drawings

5379-1971LR, Reactor Coolant System Flow Diagram, Sheet 1 Rev. 0, Sheet 2 Rev. 1

HBR2-9067LR, Reactor Vessel Level Indicator Switches Flow Diagram, Rev. 0

G-190204CLR, Chemical Feed System Flow Diagram, Rev. 1

G-190234LR, Steam Generator Blowdown and Wet Layup System Flow Diagram, Rev. 1

5379-685LR, Chemical and Volume Control System Purification and Make-Up Flow Diagram, Sheets 1 & 2 Rev. 1

5379-1485LR, Spent Fuel Pit Cooling System Flow Diagram, Rev. 1

5379-1484LR, Residual Heat Removal System Flow Diagram, Rev. 1

HBR2-8606LR, Sheet 2, Nitrogen Supply System Flow Diagram, Rev. 15

HBR-7063LR, Sheet 1, Flow Diagram Legend, Rev. 13

HBR2-6490LR, Sheet 1, Containment Vapor and Pressure Sampling System Flow Diagram, Rev. 13

G-190199LR, Sheet 1, Service & Cooling Water System Flow Diagram, Rev. 63

G-190199LR, Sheet 2, Service & Cooling Water System Flow Diagram, Rev. 62

5379-376LR, Sheet 1, Component Cooling Water system Flow Diagram, Rev. 34

5379-376LR, Sheet 3, Component Cooling Water system Flow Diagram, Rev. 22

5379-376LR, Sheet 4, Component Cooling Water system Flow Diagram, Rev. 31

G-190261LR, Sheet 1, Penetration Pressurization Flow Diagram, Rev. 26

G-190261LR, Sheet 4, Penetration Pressurization Flow Diagram, Rev. 31

G-190304LR, HVAC - Turb. Fuel , Aux., Reactor & Radwaste Bldgs., sheets 1, 2, 3 & 4, Rev. 1

G-190197LR, Feedwater, Condensate & Air Evacuation System Flow Diagram, sheets 1,3, & 4, Rev. 1

G-190202LR, Primary & Make-Up Water System Flow Diagram, sheet 3 of 7, Rev. 0

HBR2-6933LR, Post Accident containment Venting and H2 Recombiner System Flow Diagram, Rev. 1

5379-920LR, Liquid Waste Disposal System Flow Diagram, sheet 3 of 8, Rev. 0

G-190200LR, Instrument and Station Air System Flow Diagram, sheets 2,3, 5,and 9, Rev. 1

5379-353LR, Primary Sampling System Flow Diagram, Rev. 1

HBR2-8261LR, Post Accident Sample Station Flow Diagram, sheet 1 of 2, Rev. 1

G-190204ALR, Emergency Diesel Generator System Flow Diagram, Sh. 1-3, Rev. 1

G-190204DLR, Fuel Oil System Flow Diagram, Sh. 1-3, Rev. 2, 1, 1

5379-1082LR, Safety Injection System Flow Diagram, Sh. 1-5, Rev. 1, 2, 1, 0, 0

HBR2-8679LR, Dedicated Shutdown Emergency Diesel Generator System Flow Diagram, Sh. 1-2, Rev. 1, 1

HBR2-8255LR, Fire Protection System, Sh. 1-6

Plant Drawings

HBR2-11390, Appendix R and Station Blackout Safe-Shutdown Analysis Flowpath/Boundary Diagram, Sheet 1 Rev. 3 and Sheet 3 and 12 Rev. 2

A-190301, Sheet 3A (TYP), Main Steam Isolation Valve V1-3A, Rev. 6

HBR2-10618, Sheets 141, 142, Inservice Inspection Drawing Component Coolant System, Rev 3

G-190190, General arrangement Reactor Auxiliary Building - Plans, Rev. 23

G-190272, Reactor Component Cooling Water System Piping Plan, Rev. 11

CAR-2762G-211, Reactor Auxiliary Building Vent Stack Modification, Rev 0

HBR2-9800, Plot Plan, Rev 7

License Renewal Calculations

RNP-L/LR-0003, Fire Protection System/Structure Scoping for License Renewal, Rev. 1

RNP-L/LR-0004, Station Blackout (SBO) System/Structure Scoping for License Renewal, Rev. 3

RNP-L/LR-0006, Non-Safety-Related Equipment Affecting Safety-Related Equipment - License Renewal System/Structure Scoping, Rev. 2

RNP-L/LR-0007, System/Structure Scoping for License Renewal, Rev. 3

RNP-L/LR-0396, Screening and Aging Management Review Criterion 2 Piping, Rev. 2

RNP-L/LR-0144, System Screening-Reactor Coolant System, Rev. 1

RNP-L/LR-0154, System Screening-Reactor Vessel and Internals, Rev. 0

RNP-L/LR-0153, System Screening-Reactor Vessel Level Indicator Switches, Rev. 0

RNP-L/LR-0155, System Screening-Steam Generator, Rev. 0

RNP-L/LR-0138, System Screening-Steam Generator Blowdown System, Rev. 1

RNP-L/LR-0130, System Screening-Chemical and Volume Control System, Rev. 2

RNP-L/LR-0105, System Screening-Spent Fuel Pool Cooling System, Rev. 0

RNP-L/LR-0112, System Screening-Residual Heat Removal System, Rev. 0

RNP-L/LR-0113, System Screening - Safety Injection System, Rev. 2

RNP-L/LR-0116, System Screening - Diesel Generator System, Rev. 1

RNP-L/LR-0115, System Screening - Dedicated Shutdown Diesel System

RNP-L/LR-0117, System Screening - Fuel Oil System, Rev. 1

RNP-L/LR-0143, System Screening - EOF/TSC Security Emergency Diesel Generator, Rev. 0

RNP-L/LR-0121, License Renewal Mechanical Systems Evaluation Boundaries, Rev. 5

RNP-L/LR-0107, Instrument Air System Screening Calculation, Rev. 0

RNP-L/LR-0132, Component Cooling Water System Screening Calculation, Rev. 2

RNP-L/LR-0137, Service Water System Screening Calculation, Rev. 0
 RNP-L/LR-0145, System Screening - Containment Pressure Relief System, Rev. 1
 RNP-L/LR-0146, Containment Vacuum Breaker System Screening Calculation, Rev. 0
 RNP-L/LR-0148, System Screening - Containment Purge System, Rev. 0
 RNP-L/LR-0136, System Screening - Primary and Demineralized Water Make-up System, Rev. 1
 RNP-L/LR-0129, System Screening - AFW System, Rev. 2
 RNP-L/LR-0126, System Screening - Post Accident Sampling System, Rev. 0
 RNP-L/LR-0128, System Screening - Primary Sampling System, Rev. 1
 RNP-L/LR-0140, System Screening - EDG CARDOX System, Rev. 1
 RPN-L/LR-0124, License Renewal - Identification of Civil Commodity Types and Bulk Screening Criteria, Rev. 3
 RPN-L/LR-0103, License Renewal Screening - Structures and Structural Components, Rev. 2
 RPN-L/LR-0104, License Renewal Screening - Containment, Rev. 1
 RNP-L/LR-0120, Electrical Component Screening for License Renewal for H.B. Robinson - Unit 2 Rev. 3
 RNP-L/LR-0390, Evaluation of fuse holders, Rev. 1

License Renewal Procedures

EGR-NGGC-0501, Nuclear Plant License Renewal Program, Rev. 5
 EGR-NGGC-0502, System/Structure Scoping for License Renewal, Rev. 3
 EGR-NGGC-0503, Mechanical Component Screening for License Renewal, Rev. 5
 EGR-NGGC-0506, Civil/Structural Screening and Aging Management Review for License Renewal, Rev. 3

System Descriptions

SD-002, Safety Injection System, Rev. 10
 SD-005, Emergency Diesel Generators, Rev. 7
 SD-056, Dedicated Shutdown System and TSC/EOF/PAP Diesel Generator System, Rev. 2
 DBD/R87038/SD32, Design Base Document - Auxiliary Feedwater System, Rev. 6
 SD-043, System Description - Diesel Generator Fire Suppression System, Rev.1
 SD-015, System Description - Sampling System, Rev. 4
 SD-019, System Description - Radiation Monitoring System Rev. 4
 DBD/R87038/SD36. Design Base Document - Post Accident HVAC Systems, Rev. 6

SD-023, Waste Disposal System, Rev. 3

SD-037, Containment HVAC, Rev.5

Plant Procedures

OP-909, Fuel Oil System, Rev. 30

Support References

Robinson Nuclear Plant License Renewal Application, 6/17/02

H. B. Robinson Updated Final Safety Analysis Report

Technical Specifications Bases Section B 3.8.3, Diesel Fuel Oil and Starting Air

Generic Interface Document GID/90-181/00/RCI, Appendix A "Individual Penetration Evaluations",
Revision 2

ATTACHMENT 2**H. B. Robinson****LICENSE RENEWAL INSPECTION PLAN****LICENSE RENEWAL SCOPING RESULTS
FOR MECHANICAL SYSTEMS**

System Name	System in License Renewal Scope?
Auxiliary Feedwater (AFW)	Yes
Chemical and Volume Control System	Yes
Component/Closed Cooling Water System	Yes
Containment Pressure Relief System (CVPRS)	Yes
Containment Purge System (CV PUR)	Yes
Containment Spray	Yes
Containment Vacuum Breaker System (CV VBS)	Yes
Containment Vapor and Pressure Sampling System	Yes
Dedicated Shutdown Diesel Generator (DSD)	Yes
Diesel Generator System (DIESEL)	Yes
Emergency Diesel Generator Car Dox System (CARDOX)	Yes
EOF/TSC Security Emergency Diesel Gen. (EOF DG)	Yes
Fire Protection CO ₂ System (CO ₂)	Yes
Fuel Oil System (FO)	Yes
Halon Supply System (HALON)	Yes
HVAC Auxiliary Building (HVAC)	Yes
HVAC Containment Building System (HVAC)	Yes
HVAC Control Room Area (HVAC)	Yes
HVAC Fuel Handling Building (HVAC)	Yes
HVAC Radwaste Building (HVAC)	No
HVAC Turbine Building (HVAC)	No
Instrument Air System (IA)	Yes
Isolation Valve Seal Water System (IVSW)	Yes
Liquid Waste Processing System (WDS)	Yes

Post Accident Hydrogen System	Yes
Post Accident Sampling System	Yes
Process/Area Radiation Monitoring System (RMS)	Yes
Reactor Coolant System (RC)	Yes
Reactor Vessel and Internals System	Yes
Residual Heat Removal System (RHR)	Yes
Rx Vessel Level Instrumentation / ICCM System	Yes
Safety Injection System	Yes
Service Water System (SW)	Yes
Site Fire Protection System (SFPS)	Yes
Spent Fuel Pool Cooling System (SFPCS)	Yes
Steam Generator	Yes

H. B. Robinson
LICENSE RENEWAL INSPECTION PLAN

LICENSE RENEWAL SCOPING RESULTS
FOR STRUCTURES

Structure Name	Structure in License Renewal Scope?
Bldg 175: Switchyard Relay Building	No
Bldg 200: Reactor Containment Building	Yes
Bldg 205: Reactor Auxiliary Building	Yes
Bldg 300: West Personnel Access Portal (PAP)	Yes
Bldg 310: EOF/TSC Security Emergency Diesel Generator Building	Yes
Bldg 355: East Personnel Access Portal (PAP)	No
Bldg 410: Tech Support Center/Emergency Operations Facility (TSC/EOF)	No
Bldg N/A: Intake Structure	Yes
Bldg N/A: Plant Vent Stack	No
Bldg 215, 220, and 225: Fuel Handling Building	Yes
Concrete Trenches	Yes
Electrical Manholes and Duct Banks	Yes
Pipe Restraint Tower	Yes
Reservoir and Dam	Yes
Switchyard and Transformers	No
Tank Foundation: Condensate Storage	Yes
Tank Foundation: Refueling Water Storage Tank	Yes

H. B. Robinson
LICENSE RENEWAL INSPECTION PLAN

LICENSE RENEWAL SCOPING RESULTS FOR
ELECTRICAL/I&C SYSTEMS

System Name	System in License Renewal Scope?
125 V DC Battery/Charger/Distribution System	Yes
208/120 VAC Distribution System	Yes
4 KV AC Distribution System (4KV)	Yes
480 V AC Distribution System (480 VAC)	Yes
Dedicated Shutdown System (DSS)	Yes
Emergency Communications System	No
FCC Licensed Portable Radios (P RAD)	Yes
Fire Alarm Console Computer (FAC)	Yes
Post Accident Monitoring System	Yes
Site Fire Detection System (SFDS)	Yes
Site Grounding System (S GND)	No
Switchyard and Transformer System (SWTR)	No

ATTACHMENT 3
LIST OF ACRONYMS USED

AC	Alternating Current
AFW	Auxiliary Feedwater System
AMR	Aging Management Review
AR	Action Request
CCW	Component Cooling Water System
CPL	Carolina Power and Light Company
CS	Containment Spray System
CST	Condensate Storage Tank
CVCS	Chemical and Volume Control System
DG	Diesel Generator
DSDG	Dedicated Shutdown Diesel Generator
ECCS	Emergency Core Cooling Systems
EDB	Equipment Data Base
EQ	Environmental Qualification Program
FHB	Fuel Handling Building
FO	Fuel Oil System
FW	Feedwater System
HVAC	Heating Ventilation and Air Conditioning
IA	Instrument Air
ICCM	Inadequate Core Cooling Monitor System
LR	License Renewal
LRA	License Renewal Application
NSR	Non Safety Related
NRR	NRC Office of Nuclear Reactor Regulation
RAB	Reactor Auxiliary Building
RAI	Request for Additional Information
RCS	Reactor Coolant System
RV	Reactor Vessel
RWST	Refueling Water Storage Tank
SBO	Station Blackout Event

SFPC	Spent Fuel Pool Cooling System
SA	Service Air System
SG	Steam Generator
SI	Safety Injection
SR	Safety Related
SSC	Systems, Structures, and Components
SW	Service Water System
UFSAR	Updated Final Safety Analysis Report