

September 24, 2002

MEMORANDUM TO: Pao-Tsin Kuo, Program Director  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Caudle A. Julian, Inspection Team Leader  
Division of Reactor Safety  
Region II

FROM: Cynthia A. Carpenter, Chief  
Inspection Program Branch  
Division of Inspection Program Management  
Office of Nuclear Reactor Regulation

Harold O. Christensen, Deputy Director  
Division of Reactor Safety  
Region II

SUBJECT: ST. LUCIE LICENSE RENEWAL INSPECTIONS

Attached is the final version of the St. Lucie Nuclear Plant License Renewal Inspection Plan. The plan, which was developed jointly by NRR and Region II, is hereby approved. You are directed to use this plan to prepare and conduct the license renewal inspections at St. Lucie.

Original signed  
Cynthia A. Carpenter, Chief  
Inspection Program Branch  
Division of Inspection Program Management  
Office of Nuclear Reactor Regulation

Date: 9/24/02

Original signed by Pao-Tsin Kuo for  
Harold O. Christensen, Deputy Director  
Division of Reactor Safety  
Region II

Date: 9/19/02

Attachment: St. Lucie License Renewal Inspection Plan

cc: See next page

MEMORANDUM TO: Pao-Tsin Kuo, Program Director  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Caudle A. Julian, Inspection Team Leader  
Division of Reactor Safety  
Region II

FROM: Cynthia A. Carpenter, Chief  
Inspection Program Branch  
Division of Inspection Program Management  
Office of Nuclear Reactor Regulation

Harold O. Christensen, Deputy Director  
Division of Reactor Safety  
Region II

SUBJECT: ST. LUCIE LICENSE RENEWAL INSPECTIONS

Attached is the final version of the St. Lucie Nuclear Plant License Renewal Inspection Plan. The plan, which was developed jointly by NRR and Region II, is hereby approved. You are directed to use this plan to prepare and conduct the license renewal inspections at St. Lucie.

Original signed  
Cynthia A. Carpenter, Chief  
Inspection Program Branch  
Division of Inspection Program Management  
Office of Nuclear Reactor Regulation

Date: 9/24/02

Original signed by Pao-Tsin Kuo for  
Harold O. Christensen, Deputy Director  
Division of Reactor Safety  
Region II

Date: 9/19/02

Attachment: St. Lucie License Renewal Inspection Plan

cc: See next page

Distribution: See next page

\*See previous concurrence

**Package: ML022690126**

DOCUMENT NAME: G:\Rlep\Wang\St. Lucie INSPECTION PLAN.wpd

|        |              |                          |                      |
|--------|--------------|--------------------------|----------------------|
| OFFICE | LA           | PM:RLEP:DRIP             | TL:RII               |
| NAME   | HBerilla     | HB Wang                  | C Julian (HWang for) |
| DATE   | 9/12/02      | 09/12 /02                | 09/18/02             |
| OFFICE | SC:RLEP:DRIP | D:DRS:RII                | BC:IIPB:DIPM         |
| NAME   | S Lee        | HOChristensen(HWang for) | CCarpenter           |
| DATE   | 09/ 18 /02   | 09/17 /02                | 09/24 /02            |

OFFICIAL RECORD COPY

DISTRIBUTION: Memo to PT Kuo Re: St. Lucie License Renewal Inspections, Dated:  
September 24, 2002, Package: ML022690126

**HARD COPY**

RLEP RF

H. Berilla

H. Wang

**E-MAIL:**

PUBLIC

J. Johnson

W. Borchardt

D. Matthews

F. Gillespie

RidsNrrDe

R. Barrett

E. Imbro

G. Bagchi

K. Manoly

W. Bateman

J. Calvo

C. Holden

P. Shemanski

H. Nieh

G. Holahan

H. Walker

S. Black

B. Boger

D. Thatcher

G. Galletti

C. Li

J. Moore

R. Weisman

M. Mayfield

A. Murphy

W. McDowell

S. Smith (Srs3)

T. Kobetz

C. Munson

RLEP Staff

-----

C. Julian

# **ST. LUCIE NUCLEAR PLANT LICENSE RENEWAL INSPECTION PLAN**

## **I PURPOSE**

This inspection plan specifies methods for implementing Manual Chapter 2516 requirements for activities relating to 10 CFR Part 54 (herein after referred to as “the rule”) and the St. Lucie Nuclear Plant (STL) license renewal inspection program. This plan defines the scope of the inspections planned to verify that STL’s license renewal program is in compliance with the requirements of the rule and is consistent with Florida Power and Light Company’s (FPL) license renewal application (LRA) and the staff’s safety evaluation of FPL’s LRA. The plan also provides guidance for inspection scheduling, inspector training, inspection activities, and resource requirements.

FPL’s LRA identified the systems and structures that FPL determined were within the scope of the rule. Attachment 1 lists the systems and structures selected for this inspection. The inspection team chose the items, after reviewing the scoping results provided in STL’s LRA, on the basis of their risk significance, uniqueness to STL, and current issues. The scope and depth of inspections of these systems and structures may vary.

## **II OBJECTIVES**

The overall objective of this plan is to provide guidance for inspecting the implementation and effectiveness of the programs and activities associated with FPL’s license renewal program. The inspection will verify that there is reasonable assurance that the effects of aging will be adequately managed so that the intended function(s) of structures and components (SCs), for which an aging management review is required, will be maintained consistent with the current licensing basis (CLB) during the period of extended operation. Region II will implement the license renewal inspection plan (LRIP) at STL before NRR approves FPL’s LRA to verify that FPL meets the requirements of the rule and has implemented license renewal programs and activities consistent with the rule, the LRA, and the staff’s safety evaluation report (SER) on the LRA.

## **III INSPECTION ACTIVITIES**

Each inspector will receive basic LRIP training. The inspectors will receive additional training on the STL LRA and the staff’s safety evaluation of the LRA. The training will be given before the inspections.

Inspection Procedure (IP) 71002, “License Renewal Inspections,” will be the primary procedure used to inspect FPL’s implementation of the requirements of the rule. IP 71002 is included for ready reference as Attachment 2.

1. The systems and structures groups to be inspected are identified in Attachment 1 of this plan. The selection of these systems and structures is based on risk significance and the importance of the safety function performed. The inspection team will verify that FPL has implemented the scoping methodology consistent with the rule and FPL’s

methodology, as described in the LRA submitted by letter, dated November 29, 2001. The inspection team will also inspect a sample of the systems and structures listed in Attachment 1 (systems and structures that FPL concluded were not within the scope of the rule) in order to verify that there is reasonable assurance that all systems and structures within the scope of 10 CFR 54.4 have been identified.

2. The implementation of the screening activities required under 10 CFR 54.21(a)(1) will be inspected by reviewing system boundaries on plant drawings, intended functions, and the active/passive and short-/long-lived characteristics of the structures and components within the scope of FPL's aging management review for the systems, structures, and commodity groups listed in Attachment 1.
3. The inspection team will also walk down accessible portions of the systems and structures to identify any observable inconsistencies in the scoping and screening activities and any aging effects on the systems and structures that are not covered in the LRA. Aging effects identified by FPL will be reviewed and evaluated during the NRR technical review. The inspection team will perform a sample audit of related maintenance records of the systems and structures listed in Attachment 1 to attempt to identify any previously unrecognized aging.
4. The inspection team will inspect the aging management programs for approximately half of the aging effects in each of the systems and structures listed in Attachment 1. The inspection team will examine records for existing aging management programs to evaluate the programs' effectiveness and will review plans for new aging management programs. The inspection team will then document its findings on the effectiveness of the aging management programs to maintain a system's intended function(s) consistent with the CLB for the period of extended operation.

#### IV INSPECTION SCOPE

The STL license renewal inspection activities will be implemented through three site inspections.

1. The first inspection will last for one week or longer, if necessary, and focus on the scoping and screening processes to verify that they have been implemented consistent with the rule, FPL's methodology, and the staff's safety evaluation of FPL's methodology. This inspection should be performed after the staff has completed its safety evaluation of the scoping and screening methodology, but before the SER is issued. The inspection will verify that there is reasonable assurance that FPL's scoping and screening processes have identified all of the systems, structures, and components for which an aging management review is required, consistent with the requirements of the rule.
2. In the second inspection, the team will spend one week at the site; return to the region for one week to review documents, begin to write the inspection report, and adjust the inspection plan if needed; and return to the site for another week. This inspection will examine aging management reviews and demonstration activities. To support the NRR review process, the second inspection will be performed just before the "SER with open items" (currently scheduled for February 2003) is issued.

3. If the regional administrator decides that the open inspection items from the first two inspections warrant a third inspection, the team will follow-up on previous inspection activities and inspect FPL actions on any SER open items. This inspection will also focus on any portion of the LRA updated by the applicant as a result of recent plant modifications. The third inspection report will document the need for any future follow-up inspections.

## V INSPECTION RESOURCES

The inspection will need the following inspection resources:

### 1. Inspectors

- One team leader
- Three inspectors from the region
- One consultant with site-specific knowledge (preferably the resident inspector)
- One or more support staff from the program office

### 2. Skills

The inspection team needs a cross-section of skills, including mechanical, material, civil, and electrical engineering skills.

The scope of the third inspection (and, thus, the resources) will depend on how many open issues remain from the previous inspection activities.

Attachments: 1. List of Systems and Structures to be reviewed during the inspections  
2. IP 71002

# ST. LUCIE NUCLEAR PLANT LICENSE RENEWAL INSPECTION PLAN

## LICENSE RENEWAL SCOPING RESULTS FOR MECHANICAL SYSTEMS

| System Name   | System in License<br>Renewal Scope? |
|---|-------------------------------------|
| Air Blower  | No                                  |
| Auxiliary Feedwater and Condensate                          | Yes                                 |
| Cathodic Protection   | No                                  |
| Chemical and Volume Control                                 | Yes                                 |
| Component Cooling Water                                     | Yes                                 |
| Containment Airborne Radioactivity<br>Removal (Unit 1 only) | No                                  |
| Containment Cooling   | Yes                                 |
| Containment Isolation                                       | Yes                                 |
| Containment Post Accident Monitoring                        | Yes                                 |
| Containment Spray   | Yes                                 |
| Demineralized Makeup Water                                  | Yes (Unit 2 only) Note1             |
| Diesel Generators and Support Systems                       | Yes                                 |
| Emergency Cooling Canal                                     | Yes                                 |
| Extraction Steam  | No Note 2                           |
| Fire Protection   | Yes                                 |
| Fuel Pool Cooling   | Yes                                 |
| Instrument Air  | Yes                                 |
| Intake Cooling Water  | Yes                                 |
| Main Feedwater and Steam<br>Generator Blowdown              | Yes                                 |
| Meteorological Monitoring                                   | No                                  |
| Primary Makeup Water  | Yes Note 1                          |
| Reactor Coolant   | Yes                                 |
| Safety Injection  | Yes                                 |
| Sampling  | Yes Note 1                          |
| Service Water   | Yes Note 1                          |
| Turbine Cooling Water                                       | Yes (Unit 1 only) Note 1            |
| Ventilation   | Yes                                 |
| Waste Management  | Yes Note 1                          |

- NOTES: 1. Although this system is not evaluated in the GALL Report, it was determined to perform a system intended function that satisfies the scoping criteria of 10 CFR 54.4(a).
2. Although this system is evaluated in the GALL Report, it was determined to not perform a system intended function that satisfies the scoping criteria of 10 CFR 54.4(a) and, thus, is not within the scope of license renewal.

# **ST. LUCIE NUCLEAR PLANT LICENSE RENEWAL INSPECTION PLAN**

## **LICENSE RENEWAL SCOPING RESULTS FOR STRUCTURES**

| <b>System Name</b>                                 | <b>System in License<br/>Renewal Scope?</b> |
|--|---|
| Component Cooling Water Areas                      | Yes   |
| Condensate Storage Tank Enclosures                 | Yes   |
| Containments                                       | Yes   |
| Diesel Oil Equipment Enclosures                    | Yes   |
| Emergency Diesel Generator Buildings               | Yes   |
| Fire House   | No  |
| Fire Rated Assemblies                              | Yes   |
| Fuel Handling Buildings                            | Yes   |
| Fuel Handling Equipment                            | Yes   |
| Intake and Discharge Pipelines                     | No  |
| Intake, Discharge, and Emergency<br>Cooling Canals | Yes   |
| Intake Structures                                  | Yes   |
| Intake Velocity Caps                               | No  |
| Reactor Auxiliary Buildings                        | Yes   |
| St. Lucie and Hutchinson Island Substations        | No  |
| Steam Trestle Areas                                | Yes   |
| Switchyard   | No  |
| Turbine Buildings                                  | Yes   |
| Ultimate Heat Sink Dam                             | Yes   |
| Yard Structures                                    | Yes   |



# ST. LUCIE NUCLEAR PLANT LICENSE RENEWAL INSPECTION PLAN

## LICENSE RENEWAL SCOPING RESULTS FOR ELECTRICAL/I&C SYSTEMS

| System Name  | System in License<br>Renewal Scope? |
|--|-------------------------------------|
| 120/208V Electrical  | Yes                                 |
| 120V Vital AC  | Yes                                 |
| 125V DC  | Yes                                 |
| 4.16kV Electrical  | Yes                                 |
| 480V Electrical  | Yes                                 |
| 6.9kV Electrical   | Yes                                 |
| Communications   | Yes                                 |
| Computer Process and Reactivity  | No                                  |
| Containment Electrical Penetrations<br>(conductor, non-metallic,<br>and non-pressure boundary portions)    | Yes                                 |
| Data Acquisition Remote Terminal Unit  | Yes                                 |
| Generation and Distribution<br>(includes Main, Auxiliary, and Start-up<br>Transformers and the Switchyard) | No                                  |
| Miscellaneous (includes EQ commodities)  | Yes                                 |
| Nuclear Instrumentation  | Yes                                 |
| Reactor Protection   | Yes                                 |
| Safeguards Panels  | Yes                                 |
| Station Grounding  | Yes                                 |