



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

LOUISIANA POWER AND LIGHT COMPANY

DOCKET NO. 50-382

WATERFORD STEAM ELECTRIC STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34
License No. NPF-38

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Louisiana Power and Light Company (the licensee) dated December 10, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

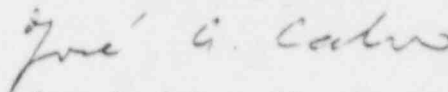
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-38 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 34 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Jose A. Calvo, Director
Project Directorate - IV
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 30, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 34
TO FACILITY OPERATING LICENSE NO. NPF-38
DOCKET NO. 50-382

Replace the following pages of the Appendix A Technical Specifications with the attached pages. The revised pages are identified by Amendment number and contain vertical lines indicating the areas of change. The corresponding overleaf pages are also provided to maintain document completeness.

<u>Remove</u>	<u>Insert</u>
IV	IV
3/4 5-3	3/4 5-3
3/4 5-8	3/4 5-8
B 3/4 5-1	B 3/4 5-1

INDEX

LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.2 POWER DISTRIBUTION LIMITS</u>	
3/4.2.1 LINEAR HEAT RATE.....	3/4 2-1
3/4.2.2 PLANAR RADIAL PEAKING FACTORS.....	3/4 2-3
3/4.2.3 AZIMUTHAL POWER TILT.....	3/4 2-4
3/4.2.4 DNBR MARGIN.....	3/4 2-6
3/4.2.5 RCS FLOW RATE.....	3/4 2-10
3/4.2.6 REACTOR COOLANT COLD LEG TEMPERATURE.....	3/4 2-11
3/4.2.7 AXIAL SHAPE INDEX.....	3/4 2-12
3/4.2.8 PRESSURIZER PRESSURE.....	3/4 2-13
<u>3/4.3 INSTRUMENTATION</u>	
3/4.3.1 REACTOR PROTECTIVE INSTRUMENTATION.....	3/4 3-1
3/4.3.2 ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-13
3/4.3.3 MONITORING INSTRUMENTATION	
RADIATION MONITORING INSTRUMENTATION.....	3/4 3-28
INCORE DETECTORS.....	3/4 3-34
SEISMIC INSTRUMENTATION.....	3/4 3-35
METEOROLOGICAL INSTRUMENTATION.....	3/4 3-38
REMOTE SHUTDOWN INSTRUMENTATION.....	3/4 3-41
ACCIDENT MONITORING INSTRUMENTATION.....	3/4 3-44
CHEMICAL DETECTION SYSTEMS.....	3/4 3-47
FIRE DETECTION INSTRUMENTATION.....	3/4 3-49
LOOSE-PART DETECTION INSTRUMENTATION.....	3/4 3-54
RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION.....	3/4 3-55
RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION.....	3/4 3-60
3/4.3.4 TURBINE OVERSPEED PROTECTION.....	3/4 3-68

INDEX

LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>	<u>PAGE</u>
<u>3/4.4 REACTOR COOLANT SYSTEM</u>	
3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION	
STARTUP AND POWER OPERATION.....	3/4 4-1
HOT STANDBY.....	3/4 4-2
HOT SHUTDOWN.....	3/4 4-3
COLD SHUTDOWN - LOOPS FILLED.....	3/4 4-5
COLD SHUTDOWN - LOOPS NOT FILLED.....	3/4 4-6
3/4.4.2 SAFETY VALVES	
SHUTDOWN.....	3/4 4-7
OPERATING.....	3/4 4-8
3/4.4.3 PRESSURIZER	
PRESSURIZER.....	3/4 4-9
AUXILIARY.....	3/4 4-9a
3/4.4.4 STEAM GENERATORS.....	3/4 4-10
3/4.4.5 REACTOR COOLANT SYSTEM LEAKAGE	
LEAKAGE DETECTION SYSTEMS.....	3/4 4-17
OPERATIONAL LEAKAGE.....	3/4 4-18
3/4.4.6 CHEMISTRY.....	3/4 4-21
3/4.4.7 SPECIFIC ACTIVITY.....	3/4 4-24
3/4.4.8 PRESSURE/TEMPERATURE LIMITS	
REACTOR COOLANT SYSTEM.....	3/4 4-28
PRESSURIZER HEATUP/COOLDOWN.....	3/4 4-33
OVERPRESSURE PROTECTION SYSTEMS.....	3/4 4-34
3/4.4.9 STRUCTURAL INTEGRITY.....	3/4 4-36
3/4.4.10 REACTOR COOLANT SYSTEM VENTS.....	3/4 4-37
 <u>3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)</u>	
3/4.5.1 SAFETY INJECTION TANKS.....	3/4 5-3
3/4.5.2 ECCS SUBSYSTEMS - Modes 1, 2, and 3	3/4 5-3
3/4.5.3 ECCS SUBSYSTEMS - Modes 3 and 4	3/4 5-8
3/4.5.4 REFUELING WATER STORAGE POOL.....	3/4 5-9

3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

BASES

3/4.5.1 SAFETY INJECTION TANKS

The OPERABILITY of each of the Reactor Coolant System (RCS) safety injection tanks ensures that a sufficient volume of borated water will be immediately forced into the reactor core through each of the cold legs in the event the RCS pressure falls below the pressure of the safety injection tanks. This initial surge of water into the core provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on safety injection tank volume, boron concentration, and pressure ensure that the assumptions used for safety injection tank injection in the safety analysis are met.

The safety injection tank power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1.1, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these safety injection tank isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The limits for operation with a safety injection tank inoperable for any reason except an isolation valve closed minimizes the time exposure of the plant to a LOCA event occurring concurrent with failure of an additional safety injection tank which may result in unacceptable peak cladding temperatures. If a closed isolation valve cannot be immediately opened, the full capability of one safety injection tank is not available and prompt action is required to place the reactor in a mode where this capability is not required.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two separate and independent ECCS subsystems ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the safety injection tanks is capable of supplying sufficient core cooling to limit the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double-ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long-term core cooling capability in the recirculation mode during the accident recovery period.

When in mode 3 and with RCS temperature 500°F two OPERABLE ECCS subsystems are required to ensure sufficient emergency core cooling capability is available to prevent the core from becoming critical during an uncontrolled cooldown (i.e., a steam line break) from greater than 500°F.

EMERGENCY CORE COOLING SYSTEMS

BASES

ECCS SUBSYSTEMS (Continued)

With the RCS temperature below 350°F, one OPERABLE ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

The trisodium phosphate dodecahydrate (TSP) stored in dissolving baskets located in the containment basement is provided to minimize the possibility of corrosion cracking of certain metal components during operation of the ECCS following a LOCA. The TSP provides this protection by dissolving in the sump water and causing its final pH to be raised to greater than or equal to 7.0.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensure that at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses. The requirement to dissolve a representative sample of TSP in a sample of water borated within RWSP boron concentration limits provides assurance that the stored TSP will dissolve in borated water at the postulated post-LOCA temperatures.

The requirement to verify the minimum pump discharge pressure on recirculation flow ensures that the pump performance curve has not degraded below that used to show that the pump exceeds the design flow condition assumed in the safety analysis and is consistent with the requirements of ASME Section XI.

3/4.5.4 REFUELING WATER STORAGE POOL (RWSP)

The OPERABILITY of the refueling water storage pool (RWSP) as part of the ECCS also ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWSP minimum volume and boron concentration ensure that (1) sufficient water is available within containment to permit recirculation cooling flow to the core, and (2) the reactor will remain subcritical in the cold condition following mixing of the RWSP and the RCS water volumes with all CEAs inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analyses.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.2 ECCS SUBSYSTEMS - MODES 1, 2, AND 3

LIMITING CONDITION FOR OPERATION

3.5.2 Two independent emergency core cooling system (ECCS) subsystems shall be OPERABLE with each subsystem comprised of:

- a. One OPERABLE high-pressure safety injection pump,
- b. One OPERABLE low-pressure safety injection pump, and
- c. An independent OPERABLE flow path capable of taking suction from the refueling water storage pool on a safety injection actuation signal and automatically transferring suction to the safety injection system sump on a recirculation actuation signal.

APPLICABILITY: MODES 1, 2, and 3*#.

ACTION:

- a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

*With pressurizer pressure greater than or equal to 1750 psia.

#With RCS average temperature greater than or equal to 500°F.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS

4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

- a. At least once per 12 hours by verifying that the following valves are in the indicated positions with the valves key-locked shut:

<u>Valve Number</u>	<u>Valve Function</u>	<u>Valve Position</u>
a. 2SI-V1556 (SI-506A)	a. Hot Leg Injection	a. SHUT
b. 2SI-V1557 (SI-502A)	b. Hot Leg Injection	b. SHUT
c. 2SI-V1558 (SI-502B)	c. Hot Leg Injection	c. SHUT
d. 2SI-V1559 (SI-506B)	d. Hot Leg Injection	d. SHUT

- b. At least once per 31 days by verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.
- c. By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the safety injection system sump and cause restriction of the pump suction during LOCA conditions. This visual inspection shall be performed:
1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and
 2. Of the areas affected within containment at the completion of containment entry when CONTAINMENT INTEGRITY is established.
- d. At least once per 18 months by:
1. Verifying automatic isolation and interlock action of the shutdown cooling system from the Reactor Coolant System when the Reactor Coolant System pressure (actual or simulated) is 700 ± 20 psia.

EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- i. Each time HPSI Pump A/B is placed in or taken out of service in place of HPSI Pump A or B, the pump being placed in service shall be demonstrated OPERABLE by:
 - 1. Verifying that each valve in the flow path is in its correct position; and
 - 2. Verifying the pump starts manually and upon receipt of a SIAS test signal; and
 - 3. Performing Surveillance Requirement 4.5.2f.1., if not previously accomplished within the required frequency.

- j. Following any maintenance which drains portions of the system, by venting the ECCS pump casings and discharge piping high points.

EMERGENCY CORE COOLING SYSTEMS

3/4.5.3 ECCS SUBSYSTEMS - MODES 3 AND 4

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

- a. One OPERABLE high pressure safety injection pump, and
- b. An OPERABLE flow path capable of taking suction from the refueling water storage pool on a safety injection actuation signal and automatically transferring suction to the safety injection system sump on a recirculation actuation signal.

APPLICABILITY: MODES 3* and 4.

ACTION:

- a. With no ECCS subsystem OPERABLE, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.
- b. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected safety injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

SURVEILLANCE REQUIREMENTS

4.5.3 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

*With pressurizer pressure less than 1750 psia and the RCS average temperature less than 500°F.