

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-382/88-04

Operating License: NPF-38

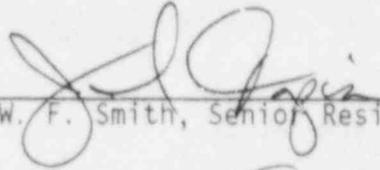
Docket: 50-382

Licensee: Louisiana Power & Light Company (LP&L)
142 Delaronde Street
New Orleans, Louisiana 70174

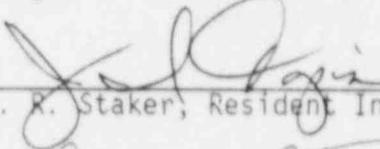
Facility Name: Waterford Steam Electric Station, Unit 3

Inspection At: Taft, Louisiana

Inspection Conducted: February 1 through March 15, 1988

Inspectors: 
for W. F. Smith, Senior Resident Inspector

3/29/88
Date


for T. R. Staker, Resident Inspector

3/29/88
Date

Approved: 
D. D. Chamberlain, Section Chief, Projects
Section A, Division of Reactor Projects

3/29/88
Date

Inspection Summary

Inspection Conducted February 1 through March 15, 1988 (Report 50-382/88-04)

Areas Inspected: Routine, unannounced inspection consisting of:
(1) operational safety verification, (2) monthly maintenance observation,
(3) onsite followup of events, (4) engineered safety feature (ESF) system
walkdown, (5) monthly surveillance observation, (6) followup of previously
identified items, (7) licensee event report followup, (8) cold weather
preparation, and (9) plant status.

Results: Within the areas inspected, one violation was identified. This
violation involved a failure to adhere to fire protection procedures
(paragraph 2).

DETAILS1. Persons ContactedPrincipal Licensee Employees

- J. G. Dewease, Senior Vice President, Nuclear Operations
- *R. P. Barkhurst, Vice President, Nuclear Operations
- *N. S. Carns, Plant Manager, Nuclear
- P. V. Prasankumar, Assistant Plant Manager, Technical Support
- D. P. Packer, Assistant Plant Manager, Operations and Maintenance
- J. J. Zabritski, Manager, Operations Quality Assurance (QA)
- L. W. Myers, Manager, Nuclear Operations Support and Assessments
- J. R. McGaha, Manager, Nuclear Operations Engineering
- W. T. Labonte, Radiation Protection Superintendent
- J. E. Baker, Manager, Events Analysis Reporting & Responses
- *G. E. Wuller, Onsite Licensing Coordinator
- D. W. Vinci, Maintenance Superintendent
- A. F. Burski, Acting Manager, Nuclear Safety and Regulatory Affairs
- R. S. Starkey, Operations Superintendent
- *C. R. Gaines, Events Analysis Supervisor

*Denotes those present at the exit interview.

In addition to the above personnel, the NRC inspectors held discussions with various operations, engineering, technical support, maintenance, and administrative members of the licensee's staff.

2. Operational Safety Verification

The objectives of this portion of the inspection were to ensure that this facility was being operated safely and in conformance with regulatory requirements, to ensure that the licensee's management controls were effectively discharging the licensee's responsibilities for continued safe operation, to assure that selected activities of the licensee's radiological protection programs were implemented in conformance with plant policies and procedures and in compliance with regulatory requirements, and to inspect the licensee's compliance with the approved physical security plan.

When onsite, the NRC inspector visited the control room daily. Control room staffing, access, operator behavior, and shift turnovers were observed. The NRC inspector reviewed operators' logs and control panels to verify compliance with technical specification (TS) limiting conditions for operation. No problems were identified.

Routine tours of accessible areas of the plant were performed in order to observe housekeeping and general equipment condition. Several observations on plant housekeeping are identified in paragraph 5. The NRC

inspector also observed that personnel used the proper dosimetry and anticontamination devices during access to, and performed required frisking during egress from, radiologically controlled areas.

The NRC inspector observed the operation of the secondary alarm station and the implementation of proper controls at the protected area access. During tours, the NRC inspector verified that security barriers appeared to be well maintained.

On February 9, 1988, during an engineered safety feature (ESF) system inspection, the NRC inspector observed two 5-gallon, flammable safety cans in the containment penetration room (wing area) on the -4 level of the reactor auxiliary building. The two containers were enclosed in poly bags, and health physics survey tags were attached indicating that the cans contained reactor coolant pump lubrication oil and had been surveyed on February 8, 1988. The NRC inspector observed that this was in conflict with Procedure FP-1-017, Revision 4, "Transient Combustibles and Hazardous Materials," which requires lubrication oils used by maintenance to be in safety cans and stored in flammable liquid lockers when not in use. Two previous failures to store combustible fluids in flammable liquids lockers were identified as NRC violations 382/8616-02 on August 19, 1986, and 382/8722-07 on October 6, 1987. Upon further investigation, the NRC inspector observed that Enclosure 7.7 of Procedure FP-1-017 included a list of transient combustibles storage areas in the plant. This list included a flammable liquid locker on the -4 level of the wing area. There was no storage locker in this area. The NRC inspector expressed concern to the licensee that corrective actions taken to prevent a recurrence of the previous similar violations were apparently inadequate and required more senior management attention. Failure to adhere to fire protection procedures is an apparent violation (382/8804-01).

No other violations or deviations were identified.

3. Monthly Maintenance Observation

The below listed station maintenance activities affecting safety-related systems and components were observed and documentation reviewed to ascertain that the activities were conducted in accordance with approved procedures, TSs, and appropriate industry codes or standards:

- a. Work Authorization 01007788 - The NRC inspector observed the limit switch adjustment and verification during the performance of preventive maintenance tasks on control room emergency filtration unit "A" north outside air intake upstream isolation valve HVR-201A. Work was performed per Procedure ME-7-008, Revision 6, "Motor Operated Valve." The NRC inspector observed that during retesting, the valve stroke time met the acceptance criteria of Procedure OP-903-032, Revision 5, "Quarterly ISI Valve Tests." The NRC inspector identified the following deficiencies in Procedure ME-7-008, Revision 6:

- (1) Step 8.1.5.1 and the preceding note reference "Figure J" to illustrate proper torque switch settings. There is no such figure in the procedure.
- (2) Step 8.2.7 incorrectly references Step 4.1.4. Step 4.1.3 should be referenced.
- (3) Step 8.3.1.4.a references "Figure G." The procedure contains no such figure.
- (4) Step 8.3.1.4.b incorrectly references Step 8.3.1. Step 8.3.1.1 should be referenced.
- (5) Step 8.4.8.3 states "disengage operator lever." This step should state "depress declutch lever."

In addition to the above, the procedure includes steps to clean electrical controls and contacts, check electrical terminations, inspect and adjust limit and torque switches, and install and remove a temporary switch in series with control power. The steps for establishing a safety clearance in order to perform these tasks safely are required only if applicable, and no clearance was established. Instead, a power supply breaker was operated by operations as requested by the technicians performing the procedure. The NRC inspector observed that the procedure did not include steps to control the operation of this breaker in order to perform these tasks in a safe manner when not using a safety clearance. This was identified to the licensee and change No. 5 to the procedure was promptly issued to include these controls. The NRC inspector observed that the change was incomplete because the power supply breaker must be opened to perform Section 8.1 and Steps 8.3.1.1 and 8.4.12 in a safe manner. This was not included in the change. Followup of the licensee's correction of the above procedure deficiencies is an open item (382/8804-02).

- b. Work Authorizations 01007687 and 1009300 - In response to NRC violation 382/8725-01, the licensee contacted the component cooling water dry cooling tower fan vendor (Hudson Products Corporation) to discuss fan failures due to the loosening of fan blade hub bolts. It was determined that a modification to add lock washers to these bolts would reduce the probability of future fan failures. The NRC inspector observed the implementation of this modification on dry cooling tower fan 8A. The NRC inspector also observed preventive maintenance tasks being performed on the fan and motor. The pitch of the fan blades (13 degrees) was measured and found to be acceptable. The fan drive box lube oil was changed out. Vibration readings were taken on the fan motor and drive box. No problems were noted.

No violations or deviations were identified.

4. Onsite Followup of Events

On February 12, 1988, during review of a Plant Engineering Information Request, the licensee observed that the suction strainers on all three essential services chilled water pumps were not in conformance with the design documentation. Since the installed strainer body, pipe nipple, and attached blowdown valve were found not to be ASME Section III, Class 3, certified as required, an engineering evaluation was performed, and it was determined that the installed strainers would withstand postulated transients. The licensee performed a safety evaluation per 10 CFR Part 50.59 and decided to continue operating while expediting strainer replacement. All three suction strainers were replaced by February 15, 1988.

No violations or deviations were identified.

5. ESF System Walkdown

The NRC inspector conducted a walkdown of the accessible portions of the Controlled Area Ventilation System to independently verify the operability of the system. A review was performed to confirm that the licensee's system operating procedure matched plant drawings and the as-built configuration. Equipment condition, valve and breaker position, housekeeping, labeling, permanent instrument indication, and apparent operability of support systems essential to actuation of the ESF system were all noted as appropriate. The NRC inspector found no significant problems that would preclude the system from performing its intended safety functions.

The NRC inspector identified the following items to licensee management for correction:

- a. The control circuit light on controlled ventilation area system heater control panel "B," HVR-ECP-4651, was out.
- b. Instrument root valve HVR-331A was not labeled.
- c. Scaffolding installed in shutdown heat exchanger room "A" had an installation tag which indicated that it would be removed by October 28, 1987.
- d. A ladder was found stored in the safeguards room "B" resting on seismic qualified piping.
- e. Condition Identification Tag No. 250706 was found resting on a contaminated floor drain in the "A" shutdown heat exchanger room. The listed component was Valve SI-408A. The NRC inspector could not determine whether the tag was supposed to be attached to the valve or discarded (condition cleared).

- f. A condition identification tag dated February 5, 1986, was found installed on the "B" shutdown cooling heat exchanger stating "Leaking boron on floor through gasket." No evidence of leakage was observed.
- g. The piping to the oil bubbler installed on high pressure safety injection pump "A/B" was wrapped with several layers of masking tape.
- h. A speaker in the corridor on the -4 elevation of the reactor auxiliary building was observed to be muffled by installation of what appeared to be a cloth sack.

Correction of the above items shall be tracked under an open item (382/8804-03).

No violations or deviations were identified.

6. Monthly Surveillance Observation

The NRC inspector observed surveillance testing listed below of safety-related systems and components to verify that the activity was being performed in accordance with the TSs. The applicable procedures were reviewed for adequacy, test instrumentation was verified to be in calibration, and test data was reviewed for accuracy and completeness. The inspectors ascertained that any deficiencies identified were properly reviewed and resolved.

- a. Procedure MI-3-126, Revision 6, "Core Protection Calculator Functional Test," was performed on core protection calculator channel "A." On February 23, 1988, the NRC inspector observed performance of the operating system and integrated diagnostic test, power supply check, cabinet condition abnormal and temperature high checks, analog meter comparison check, DNBR/LPD trip test, power fail test, and addressable constant comparison. The NRC inspector noted that the addressable constants were identified as correct, and all procedural acceptance criteria were met.
- b. Procedure OP-903-068, Revision 3, "Emergency Diesel Generator Operability Verification." On March 8, 1988, the NRC inspector witnessed performance of a manual remote start of Emergency Diesel Generator (EDG) "A" to verify that the EDG would start and reach design voltage and frequency within the 10 seconds required by the TSs. The NRC inspector noted that the EDG met the acceptance criteria, but within about 20 seconds, the EDG tripped due to low turbocharger lubricating oil pressure. This was a spurious trip caused by a feature normally bypassed when in the emergency mode and has been previously identified as a problem with the trip feature rather than a lack of lubricating oil. The licensee has plans to correct this condition during the refueling outage scheduled for early April 1988. The trip was reset, and then the EDG was successfully started on the next attempt within 10 seconds and fully loaded within 176 seconds as required by the procedure. The licensee

will report the trip to the NRC as a nonvalid failure in accordance with TS 4.8.1.1.3. No other problems were identified. All acceptance criteria were met, and the EDG operated smoothly under full load without further incident.

No violations or deviations were identified.

7. Followup of Previously Identified Items

(Closed) Open Item 382/8725-03: Followup of the licensee's implementation of controls for field copies of QA procedures. The NRC inspector verified that the licensee issued Revision 7 to Procedure QAP-002, "Preparation and Revision of Quality Assurance Group Procedures," to require these controls. The procedure now requires field copies of quality control procedures to be controlled in accordance with UNT-4-009, "Control, Distribution, Handling, and Use of POM Procedures," to ensure that the latest revision is used.

No violations or deviations were identified.

8. Licensee Event Report (LER) Followup

The following LERs were reviewed and closed. The NRC inspector verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, generic applicability had been considered, and that the LER forms were complete. The NRC inspector confirmed that unreviewed safety questions and violations of TSs, license conditions, or other regulatory requirements had been adequately described.

(Closed) LER 382/87-10, "Isolation Valve Retest Not Performed Due to Personnel Error."

(Closed) LER 382/87-28, "Reactor Trip Due to a Failed Solenoid Valve During Main Steam Isolation Valve Testing."

No violations or deviations were identified.

9. Cold Weather Preparation

The NRC inspector observed that Procedure OP-2-007, Revision 3, "Freeze Protection," was entered on February 11, 1988, at 7:06 p.m., as required by local ambient temperature. The NRC inspector noted that required actions including the establishment of a trend from the primary meteorological tower temperature instrument was initiated. The freeze panel annunciators were observed to be clear. Procedure OP-2-007 was exited at 12:51 p.m. on February 12, 1988.

10. Plant Status

At the beginning of the inspection period, the plant was at full power and continued to operate until February 13, 1988, when power was reduced to 86 percent. This reduction was accomplished in order to comply with the more restrictive operating limits in effect when the core operating limit supervisory system became inoperable. The system was returned to service on February 14, 1988, and the plant was returned to full power.

At 8:47 a.m. on February 15, 1988, the turbine tripped, and the reactor power cutback system actuated after a test lever was allowed to momentarily move out of the test position during performance of Procedure OP-904-003, Revision 2, "Main Turbine Protection Devices Trip Tests." Reactor power was stabilized at 47 percent with regulating rod groups five and six fully inserted. Later that day, the reactor was restored to full power.

Power was reduced to 90 percent on March 5, 1988. The licensee decided to reduce power because the "X" channel of pressurizer pressure failed high causing a permissive in the steam bypass control system logic. On March 7, 1988, after repairs to the pressurizer pressure instrument, the plant was returned to 100 percent power on March 7, 1988.

No violations or deviations were identified.

11. Exit Interview

The inspection scope and findings were summarized on March 12, 1988, with those persons indicated in paragraph 1 above. The licensee acknowledged the NRC inspectors' findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the NRC inspectors during this inspection.