

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-458/92-08

Operating License: NPF-47

Docket: 50-458

Licensee: Gulf States Utilities
P.O. Box 220
St. Francisville, Louisiana 70775

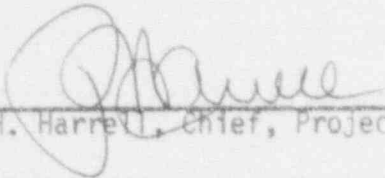
Facility Name: River Bend Station

Inspection At: St. Francisville, Louisiana

Inspection Conducted: March 1 through April 11, 1992

Inspectors: E. J. Ford, Senior Resident Inspector
D. P. Loveless, Resident Inspector

Approved: _____


P. H. Harrell, Chief, Project Section C

4-21-92
Date

Inspection Summary

Inspection Conducted March 1 through April 11, 1992 (Report 50-458/92-08)

Areas Inspected: Routine, unannounced inspection of corrective actions to a violation, followup of a previously identified item, followup of licensee event reports, onsite followup of events, operational safety verification, maintenance and surveillance observations, and the results of a visit to the local public document room.

Results:

- ° One violation was identified for the failure to properly establish and implement procedures for surveillance and refueling activities (paragraph 9).
- ° Conservative and proactive efforts by radiation protection personnel to control and retrieve the potentially contaminated debris from the damaged turbine building demonstrated an excellent regard for radiological safety (paragraph 6.a).
- ° One unresolved item was identified involving the failure of the licensee to control primary containment integrity during fuel movement operations inside the containment (paragraph 6.b).

- Mr. L. A. England, Director, Nuclear Licensing, committed to modify or disposition all safe shutdown required, motor-operated valves (MOV) to correct the design limitations identified in NRC Information Notice 92-18, involving the possibility of valve motor damage during a control room fire, prior to restart of the plant (paragraph 6.c).
- Housekeeping throughout this inspection period was observed to be good (paragraph 7.a).
- The licensee's management of shutdown risk was noteworthy as noted by control of redundant safety systems and their efforts to reflect systems required to be kept in service on their Level II schedule (paragraph 7.a).
- The security organization implemented effective controls and discharged its duties admirably under hazardous conditions during the March 5, 1992, severe weather event (paragraph 7.c).
- Maintenance activities observed were well performed. The maintenance performed as a result of the storm-induced damage was performed in an excellent manner (paragraph 8).

DETAILS1. Persons Contacted

E. M. Cargill, Director, Radiological Programs
 J. W. Cook, Technical Assistant
 T. C. Crouse, Manager, Administration
 W. L. Curran, Cajun Site Representative
 J. C. Deddens, Senior Vice President
 S. V. Desai, Principle Engineer, NSAG
 L. A. England, Director, Nuclear Licensing
 A. O. Fredieu, Supervisor, Operations
 P. D. Graham, Plant Manager
 J. R. Hamilton, Director, Design Engineering
 G. R. Kimmell, Director, Quality Assurance
 W. H. Odell, Manager, Oversight
 J. P. Schippert, Assistant Plant Manager - Operations, Radwaste and Chemistry
 K. E. Suhrke, General Manager, Engineering and Administration
 W. J. Trudell, Assistant Operations Supervisor

Denotes personnel who attended the exit interview conducted on April 16, 1992. In addition to the above personnel, the inspectors contacted other personnel during this inspection period.

2. Plant Status

At the beginning of this inspection period, the plant was operating at 100 percent power, steady-state operations.

On March 5, 1992, tornado strength winds caused an automatic reactor scram when a main transformer was damaged by panels torn loose from the turbine building. Repairs and recovery actions were essentially completed by March 8. However, the licensee's concerns regarding test results on the main generator and the isolated phase bus ducts prompted the licensee to commence their refueling outage on March 12. The original scheduled date was March 15.

At the end of this inspection period, the reactor was in refueling mode with the core partially offloaded.

3. Corrective Actions to a Violation (92702)

(Closed) Violation 458/9118-01: Failure to Establish Procedural Controls Governing the Erection of Temporary Scaffolding

This violation stated that the licensee did not have a written procedure that included provisions for the erection of temporary scaffolding in

areas that contain safety-related equipment. Therefore, no evaluation was being performed to determine if the scaffolding could affect the safety-related equipment during a seismic event.

Initially, the licensee searched the plant and removed inactive scaffolding and materials being stored in safety-related buildings. The licensee then implemented a tracking program to identify and status any scaffolds erected inside the protected area. Temporary guidelines controlling the erection of scaffolding were issued in a memorandum to maintenance personnel. Additionally, personnel involved in the planning and erection of scaffolding were trained on the temporary requirements.

On November 27, 1991, the licensee issued General Maintenance Procedure GMP-0101, "Scaffolding Installation." This procedure was in full compliance with the licensee's quality assurance directives and the licensee's commitments. The inspector reviewed this procedure and determined that it was appropriate.

In NRC Inspection Report 50-458/91-33, the inspector reviewed the use of scaffolding in the auxiliary building and found that the scaffolding check sheet provided improved controls and that engineering reviews were performed, as required. Throughout this inspection period, the inspector observed scaffolding installations in Seismic Category I buildings and found that the erections were in compliance with Procedure GMP-0101.

4. Followup of a Previously Identified Item (92701)

(Closed) Inspector Followup Item 458/9110-01: Track Corrective Actions for Rosemount Transmitters

Following the installation of Modification Request 88-0118 in April 1989, to correct panel grounding wiring discrepancies, the licensee continued to monitor spurious trips of the installed Rosemount trip units. The licensee's engineers have been maintaining a trending log for these trips, which has been periodically monitored by the inspector. The inspector reviewed Condition Report 90-0597, which identified Modification Request 91-0114 as corrective action. This modification will make improvements to the grounding system. The work is scheduled for the fifth refueling outage and is being tracked by the licensing group under the licensee's internal Commitment Number 9703.

5. Licensee Event Report (LER) Followup (92700)

a. (Closed) LER 91-015. Monthly Surveillance not Performed Within the Time Allowed by the Technical Specifications (TS)

This LER described an event in which a monthly surveillance test procedure on the reactor coolant system leakage detection equipment was not performed within the time limits required by TS 3.4.3.1. The licensee determined that the root cause was personnel error. The inspector determined that the licensee's surveillance program clearly

indicated that the test was due. Operations personnel discovered the error within 12 hours of the missed deadline. The equipment was then tested satisfactorily.

The licensee counseled the two foremen involved in the event on the importance of timely surveillance performance and the need for good communications during turnover. All maintenance and operations supervisors and foremen responsible for the surveillance program implementation were briefed on this event.

b. (Closed) LER 91-019: Failure to Perform Surveillance on Radiation Monitor within TS-Required Time Frame

This LER described the circumstances behind a failure to perform the surveillance requirement within the TS-required time frame. At the time the surveillance test was due, the subject gas activity monitor was out of service. A test exception was written to perform the test prior to putting the monitor back in service. However, the exception was never logged in the licensee's limiting conditions for operations log. Therefore, the monitor was declared operable without performing the appropriate surveillance test.

As corrective action, the licensee added a signoff line to the test exception, which required the senior reactor operator to initial that the test exception was logged prior to approval of the exception. Additionally, all plant staff personnel responsible for surveillance testing were briefed on this event and their specific responsibilities.

c. Generic Review of Events Involving Missed Surveillance Requirements

In addition to the events discussed in paragraphs 5.a and b above, the inspector reviewed three other events involving missed surveillance requirements to evaluate possible generic root causes. The events reviewed were documented in LERs 91-010, 91-011, and 91-020.

LER 91-010 described a missed surveillance requirement that was caused by an omission during initial procedure development. Although LER 91-020 also documents a discrepancy that occurred during initial procedure development, it was caused by a misinterpretation of the requirement and not by an oversight. In contrast, LER 91-011 was unique because the surveillance requirement was conditional. Therefore, it does not reflect on the licensee's implementation of a periodic surveillance program.

The inspector concluded that, although related, each event was isolated in root cause and that no generic problem was identified with the licensee's surveillance program. Each of the specific events have been or will be reviewed for appropriate licensee corrective actions.

6. Onsite Followup of Events (93702)

a. Plant Trip and Turbine Building Damage Caused by High Winds

(1) Plant Trip

On March 5, 1991, at 2:03 a.m., due to high winds in the area of the site, corrugated sheet metal panels were blown off the turbine building. One panel landed in the main switchyard, causing a fault on the main transformer and resulted in a turbine trip and reactor trip. The plant responded normally and, except for two minor problems, was stabilized in the hot standby condition. The two minor problems involved a feedwater regulating valve not functioning properly and rod motion was indicated prior to the reactor trip. The licensee subsequently addressed these problems.

At 3:50 a.m., the licensee declared a Notice of Unusual Event because the damage was caused by tornado strength winds. No tornadoes were actually sighted in the area by operations personnel. The notice was secured at 4:23 a.m.

Later, as a result of plant personnel reporting to work, traffic around the plant had backed up and the licensee requested assistance from the local law enforcement agencies for assistance with traffic control. Restrictions on plant personnel entering the plant due to traffic concerns were subsequently lifted.

(2) Radiological Impact

The panels that blew off the turbine building resulted in a hole in the southeast wall of the building measuring approximately 50 by 50 feet. The panels had fiberglass insulation attached to them and some initial surveys indicated the insulation had slight contamination due to short-lived isotopes. Due to the high winds, the insulation had been blown into the areas surrounding the protected area. Insulation had been found outside the protected area but was not found outside the owner-controlled area. The winds that damaged the southeast wall of the turbine building scattered approximately 2730 square feet of 1.5-inch thick fiberglass insulation onto the buildings and grounds within the protected area and into the parking lots, roadways, and grounds outside and north of the protected area. Initial gamma isotopic analyses of the insulation indicated that it was slightly contaminated with fission products and Cobalt 60.

To address this, the licensee established security road blocks at all owner-controlled property access points to prevent vehicle and/or personnel entry, except for operations and health

physics personnel. Vehicles leaving the site were inspected for insulation. Any insulation found was removed and monitored with a Geiger-Muller detector. Vehicles of those personnel returning to work in the afternoon and evening of March 5 were similarly inspected.

The licensee took samples around the site to determine if contamination was present. The licensee mobilized cleanup crews to pick up the insulation and performed an aerial search of the owner-controlled area and areas outside the owner-controlled area, at an approximately 3-mile radius, to determine if insulation had been deposited outside the owner-controlled area. Less than 1 gram was found offsite and no detectable contamination was identified. The building roofs and normal travel paths inside the protected area fence were cleared of insulation by the afternoon of March 7.

The inspectors were assisted by two NRC health physics inspectors who were at the site with the Region IV mobile laboratory, performing a routine inspection. These inspectors actively participated in the NRC response to the event and independently verified the licensee's results when determining contamination levels early in the event.

The licensee performed an isotopic analysis of the insulation to determine the level of contamination and to determine which isotopes were present. Several samples of runoff water, into and from the storm sewer collection system, were performed and no radioactivity other than natural background levels was measured.

The amount of insulation retrieved from the area outside the protected area fence was measured and compared to the total amount of insulation removed from the turbine building. The licensee determined that approximately 10 percent of the total amount of insulation removed from the turbine building was carried outside the protected area fence. An assessment of the radioactive contamination of the insulation indicated that the amount of radioactivity temporarily released to the area outside the protected area fence was less than the 10 CFR Part 20, Appendix C, limits for the respective isotopes. The assessment of radioactive contamination also showed that the total amount of radioactivity of each isotope contained in the entire 2730 square feet of insulation, with the exception of Iodine 133, did not exceed the Part 20, Appendix C, limits. The total Iodine 133 activity was 1.09 microcurie. The Appendix C limit for this isotope is 1 microcurie.

Samples of the soil taken from the protected area grounds at locations where rain soaked insulation laid showed no presence of fission products and only trace amounts of Cobalt 60. An

isotopic analysis of insulation collected from outside the protected area showed fission product concentrations at approximately the same magnitude as samples of insulation removed from the turbine building wall. It appeared that the radioactivity in the insulation was relatively fixed and that the collection of the insulation was an appropriate decontamination method. Additional sampling of insulation and offsite vegetation, soil, and surface water was being performed to confirm the licensee's conclusions.

The licensee determined that the source of contamination was a communication of turbine building air with the annulus area of the turbine building outer wall. The insulation acts as a filter, removing and concentrating contaminants. Turbine building air apparently enters and exits the wall through gaps in the inner wall located at the junctions of the inner wall panels. Although circulation of air within the wall occurs, the turbine building is maintained at a negative pressure relative to outside pressure and there is no unmonitored release of radioactivity.

The licensee concluded that the amount of radioactivity released to the area outside the protected area posed no threat to the public or plant personnel and that the radioactive material released had been retrieved. No radioactivity, detectable by normal detection methods, was carried beyond the owner-controlled area of River Bend Station by the high winds that occurred on March 5. The independent evaluations and verifications performed by the inspectors did not provide reason to disagree with these conclusions.

(3) Turbine Building Repairs

The turbine building is a nonsafety-related structure and is separated from safety-related buildings by 3-hour fire rated walls. The structure is tornado unprotected; above the operating floor it is constructed of a structural steel rigid bent system braced by a vertical and horizontal bracing system up to roof level and enclosed by metal siding. The metal siding is designed to withstand 100-mph winds and the mounting rivets to fail at 70 pounds per square foot. The metal siding and roof decking are assumed to blow away during a tornado strike event; however, the main structural steel members, such as columns, beams, and bracing members, are designed to stay in place.

The licensee concluded, from the above, that the siding in question performed as intended by releasing due to the high pressure loading from strong winds.

Due to material availability, the damaged side of the turbine building could not be restored to the original configuration in

a timely fashion. In the interim, plywood sheathing was applied in accordance with Prompt Modification Request 92-0007. Technical justification for the repair was provided in the 10 CFR Part 50.59 evaluation accompanying the modification request.

The licensee completed temporary repairs of the turbine building by replacing the missing sheet metal panels with plywood sheathing. The licensee performed destructive testing of the plywood sheathing and verified that the plywood would provide sufficient structural strength to comply with the requirements stated in the Updated Safety Analysis Report. The inspector discussed various aspects of the temporary repair with the licensee and was satisfied that air infiltration, fire protection, and design break-away factors for the temporary wall had been properly considered.

The licensee performed electrical checks on the main transformer and isophase bus duct to ensure that no electrical problems existed. After completion of this effort, the licensee made a decision to enter the scheduled outage early due to the inconclusive results of the testing. The inspector noted that this was a conservative decision by plant management to not place the transformer back in service without definitive test results.

b. Loss of Containment Integrity During Fuel Handling

On April 1, 1992, the licensee moved fuel inside primary containment after a containment piping penetration had been cut, leaving an opening in containment of approximately 78 square inches. TS 3.6.1.2 requires that primary containment integrity be maintained when handling irradiated fuel in the primary containment.

On March 30, a senior reactor operator had released Modification Request 91-0008 for work. This modification included the cutting of the 10-inch, Division II, service water return header, between the containment wall and Inboard Isolation Valve ISWP*MOV5B, to install a flanged spool piece. Containment integrity was not required at the time.

The senior reactor operator did not enter Modification Request 91-0008 on a tracking limiting condition for operation, as a reminder to verify the integrity of the penetration prior to establishing containment integrity. This is recommended by Administrative Procedure ADM-022, "Conduct of Operations."

On March 31, at approximately 10 a.m., the craftsmen requested that the tagging official open Outboard Isolation Valve ISWP*MOV81B to allow the draining of the piping prior to making the cut. The tagging official discussed the evolution with the craftsmen and

determined that the craftsmen were located in the auxiliary building. The tagging official assumed incorrectly that the pipe cut was going to be in the auxiliary building. With Valve 1SWP*MOV5B closed, any work in the auxiliary building would not affect primary containment integrity; therefore, the tagging official opened Valve 1SWP*MOV81B.

At 8:57 p.m., the operators set primary containment integrity in anticipation of the start of core alterations. Approximately 2 hours later, craftsmen cut into Line 1SWP-010-547-2, between the containment wall and Valve 1SWP*MOV5B. This left a 78.5-square-inch hole in the containment while Valve 1SWP*MOV81B was open. At this time, the Division II service water system was out of service for chemical cleaning and system upgrades. Therefore, the system downstream of the outboard isolation valve was drained and vented with numerous vent and drain valves open.

On April 1, the licensee moved fuel for a total time of approximately 11 hours. This movement involved the removal of two peripheral fuel bundles from the reactor core and transport to the inclined fuel transfer system. After this time, fuel movement was suspended because of fuel handling equipment problems.

On April 2, a pipefitter in the standby service water cooling tower informed the reactor building operator that a large amount of air was coming from a drain line that he had opened. The operator inspected the system lineup and noted that air was being drawn into the cut in Line 1SWP-010-547-2 and exiting containment through open Valve 1SWP*MOV81B.

The initial operator response was to close Valve 1SWP*MOV81B and reestablish containment integrity. The licensee then reperformed a walkdown of Surveillance Test Procedure STP-000-0702, "Primary Containment Integrity - Fuel Handling Verification." In addition, the licensee reviewed all other work progress on specific local leak rate tests and tagged closed all four service water isolation valves in Division II. This verified the reestablishment of primary containment integrity.

The licensee initiated Condition Report 92-0201 to investigate the event and document corrective action. The licensee investigation was continuing and the results will be documented in the 30-day LER. The inspector verified that primary containment integrity had been established prior to continuation of fuel movement.

This event is still being reviewed and is considered unresolved pending completion of an evaluation of the licensee's corrective actions and the determination of safety significance by the NRC (458/9208-01).

c. Remote Shutdown Capability

APRC Information Notice 92-18 identified the potential to lose remote shutdown capability during a control room fire. The notice discussed that the control circuit design for certain MOVs needed to shut down the plant could suffer a hot short, which would power the motor while bypassing the valve limit and torque switch protection. It was postulated that the motor could stall and fail before the control room operators had time to transfer control of the MOV to the remote shutdown panel, thus prohibiting electrical repositioning of the valve.

On March 27, 1992, the licensee reported that many of the safe alternate shutdown MOVs at the River Bend Station were susceptible to the same design limitations. The systems affected include the residual heat removal, reactor core isolation cooling, and service water systems. River Bend Station is currently shut down for its fourth refueling outage. Should the postulated events described above occur, operators could manually reposition the valve. The inspector determined that all valves under review were physically and radiologically accessible to the operators while the plant is shutdown.

The licensee is continuing to investigate the extent of the problem and the impact it will have on plant operations. Mr. L. A. England, Director, Nuclear Licensing, committed to modify or disposition the affected valves prior to the restart of the unit. The inspectors will review the event further upon licensee issuance of the 30-day LER.

Conclusions

The health physics department, in conjunction with plant management, displayed conservative and proactive efforts to control and retrieve the potentially contaminated debris from the damaged turbine building and to minimize the spread of that debris in the aftermath of the damage. This demonstrated an excellent regard for public health and safety.

The management decision to not reenergize the main transformers, without conclusive test results, also supports a view of conservative operating philosophy.

One unresolved item was identified involving the failure of the licensee to control primary containment integrity during fuel movement operations inside the containment.

The licensee committed to resolving an open generic issue involving the possibility of valve damage during a control room fire, prior to restart of the plant.

7. Operational Safety Verification (71707)

a. Refueling Outage Scope

Refueling Outage 4 is scheduled for 156 days. Major nonroutine work to be accomplished includes the service water project, chemical cleaning and partial pipe replacement in the reactor water cleanup and recirculation systems, and replacement of the Feedwater Nozzle N4A safe end.

The service water project consists of: (1) the construction and testing of the new closed service water system, (2) pipe and valve replacement (primarily small and medium sizes), and (3) the chemical cleaning of the standby and the balance of the plant service water systems. Chemical cleaning of the recirculation and reactor water cleanup systems is intended to reduce radiation buildup in these pipes and, thereby, reduce the overall radiation dose rate, especially in the lower part of the drywell. Related to the project is replacement of the pipe used to provide the reactor water cleanup pump suction flow path from both reactor recirculation loops and the bottom of the reactor vessel. The safe end of the feedwater nozzle had an indication of a crack detected several outages ago and confirmed last fall. The licensee will have completed full mockup testing prior to the actual work in the drywell on this nozzle. The recirculation system pump shafts will be replaced with shafts of improved design. Both recirculation pumps, motors, and discharge valves will be removed for maintenance.

Working schedules of 50 hours per week are planned for most departments. The licensee has stated that because of the length of this outage, and the need to adhere to the outage budget, overtime beyond the assigned 50 or 60 hours will not be assigned, except for those subtasks on the critical path and behind schedule. Normal vacation schedules will be followed.

The licensee is managing outage risk through the safeguarding and control of redundant safety systems. The systems are electrical power supplies, both onsite and offsite, decay heat removal, containment, and makeup water capability. The licensee's Level II schedule will show systems required to be kept in service, as well as those out of service.

b. Plant tours

The inspector toured all elevations of the auxiliary building and all except the top elevation of the fuel building. On March 4, the inspector toured the emergency diesel generator spaces and the Division I and II vital electrical boards. On March 8, the inspector toured all elevations of the turbine building and observed the repaired sections of the southeast corner of the building with the supervisor of civil/structural engineering. No discrepancies were

noted on this tour. The inspector also toured various portions of these same buildings and other spaces around the site throughout this inspection period.

During these tours, the inspector noted that housekeeping was good, accessible portions of the emergency core cooling system were properly lined up, high radiation doors required to be locked were verified locked, and radiological controls were appropriately implemented.

On March 7, the inspector accompanied the licensee on an aerial survey of the environs surrounding the site, to approximately a 3-mile radius, to inspect for debris potentially deposited as a result of the apparent tornado strike on the turbine building on the morning of March 5. The search pattern was conducted for about 1 hour, at an altitude of between 250 and 400 feet and at a nominal speed of 100 knots with good local visibility. No debris was discovered.

c. Security Observations

The inspector noted, upon arrival at the site on the morning of March 5, 1992, that security had established excellent control of the site. The road to the lower elevations was physically cordoned off by flag barriers and controlled and attended by officers to prevent vehicle passage. The officers at Gate 5 were providing information and redirecting traffic to ensure that vehicles would not be exposed to potential contamination. Officers were also stationed at other points to aid in site control necessitated by the storm-induced damage. The inspector noted that this was accomplished despite a very severe lightning storm, which was still in progress.

Conclusions

The licensee's management of shutdown risk is noteworthy in its efforts to reflect systems required to be kept in service on its Level II schedule. The security organization appeared to respond to the March 5 event in a timely and effective manner and discharged its duties admirably under hazardous conditions. Housekeeping was good throughout the period.

8. Maintenance Observation (62703)

Throughout this inspection period, the inspectors observed maintenance work practices in the plant as the licensee performed normal maintenance and corrective maintenance resulting from the high-wind induced damage to the turbine building, the main transformers, and other outside equipment. No deficiencies were noted.

On March 6, the inspector observed portions of the megger-testing work on Main Generator 1MTX-XM2 isolated phase bus ducts being performed under Maintenance Work Order R153226. This work order covered the severe damage

to the transformer, insulators, wires, and disconnect switches. It required the repair and replacement of parts, as necessary. It also required the performance of a thorough inspection and test of the main transformer.

The inspector noted that the mechanics were following the work plan, clearance order tags were properly hung, work order briefing and training matrix verification sheets were properly signed off, and equipment removal tags required by Maintenance Section Procedure MSP-0021, "Equipment Removal/Disassembly Identification Tag." The electricians were knowledgeable and appeared well versed in the required safety practices.

Conclusion

The normal maintenance activities were observed to be well performed during this inspection period. The maintenance performed, as a result of the storm-induced damage, was performed in an excellent manner and in compliance with the licensee's administrative controls.

9. Surveillance Observations (61726)

a. Fuel Pool Platform Hoist Testing

On March 28, 1992, the inspector observed portions of the performance of Surveillance Test Procedure STP-055-0705, "Fuel Handling Platform Operability Test." The inspector reviewed the procedure and questioned how it met the requirement of TS 4.9.6.2.d. This TS requires that the licensee demonstrate the operability of the fuel handling platform by demonstrating operation of the normal up travel stop interlock of the main hoist to maintain at least 8 feet 2 inches of water coverage above the top of the active irradiated fuel.

The inspector noted that Step 7.4.3 of the procedure only tested the actuation of the normal up-travel stop limit switch and stated that the switch was permanently set for greater than or equal to 8 feet 2 inches of water over the top of the active fuel. The inspector determined that a permanent setting would require both a nonadjustable limit switch and a required minimum water level be maintained in the pool.

The licensee stated that minimum pool level required to meet the TS was the low level alarm setpoint plus 1 3/4 inches to account for possible instrument drift. In a TS change request, dated August 12, 1988, the licensee stated that the originally intended plant design was to monitor the spent fuel pool level from the control room during refueling operations. This would be accomplished by monitoring the annunciators for high and low levels. The inspector interviewed several operators and, when questioned, they indicated that they did not know of a requirement to stop fuel movement if the spent fuel pool low level alarm annunciated. However, the operators did indicate that a low level alarm would be investigated and corrected.

The licensee added a step in the Annunciator Response Procedure ARP-870-56, "P870-56 Alarm Response," to clarify the actions to be taken by the operators when a spent fuel pool level alarm was reached. This procedure now requires the operator to immediately stop fuel or control rod movement if a low level is determined to exist. Additionally, the inspector verified that the annunciators had been calibrated within the designated frequency.

Upon review of the associated equipment drawings, interviews with personnel, and visual inspection of the refueling equipment, the inspector determined that the limit switch setpoint could be adjusted over a narrow range by either rotating the position of the actuation level or moving the mounting plate along elongated mounting bolt holes.

Prior to this review, neither the limit switch setpoint, nor the minimum pool water level, was permanently set as stated in the surveillance test procedure. Therefore, the procedure is in violation of TS 6.8.1, which requires adequate surveillance procedures be implemented (458/9208-02).

The licensee informed the inspector that Maintenance Lifting Procedure MLP-7504, "Fuel Handling Platform," provided for the measurement of the TS-required water level. Step 5 of this procedure requires the performer to raise the grapple until upward movement is stopped automatically and verify that the grapple head is at least 8 feet 2 inches under water. The inspector noted that Procedure MLP-7504 did not require that the upward movement be at full speed, which would produce the largest overtravel, nor did it specify the required water level. Therefore, this procedure did not verify that a minimum water level above the fuel would be maintained. Additionally, Procedure STP-055-0705 did not require that Procedure MLP-7504 be performed.

The inspector reviewed the licensee's drawings and level diagrams and determined that the maximum water level that could be achieved above the top of the grapple head was 7 feet 3 1/16 inches. It should be noted that the TS limit can still be met because the top of the active fuel is 1 foot 6 3/4 inches below the fuel bail handle. This indicated a flaw in Procedure MLP-7504. However, the licensee's contractor had already performed this procedure and signed Step 5 as being completed. The contractor making an incorrect measurement during the performance of Procedure MLP-7504 is another example of the violation of TS 6.8.1 (458/9208-02).

In Change Notice 92-0483 to Procedure STP-055-0705, the licensee added Prerequisite 6.7, which required that the appropriate sections of Procedure MLP-7504 be completed prior to performing the surveillance test procedure. The licensee then issued Change Notice 92-0480 to correct Procedure MLP-7504. The procedure now requires technicians to measure the distance from the grapple head to

the existing surface of the water and then from the surface of the water to the high level mark. A calculation is then performed to verify that the top of active fuel will remain at least 8 feet 2 inches under the minimum water level.

The licensee discussed the new measurement techniques with the contractor personnel and stressed the importance of valid, accurate measurements. The measurement required by Procedure MLP-7504 was then retaken and found to be satisfactory.

b. Refueling Platform Hoist Testing

On March 29, 1992, the inspector observed the performance of STP-055-0702, "Refuel Platform Hoist Operability," on the main platform hoist. This procedure was written, in part, to comply with TS 4.9.6.1.c, which is the corollary requirement to TS 4.9.6.2.d, on the spent fuel pool platform discussed in paragraph 7.a above. Although the procedure was performed as written, it contained the same flaws as discussed above for Procedure STP-055-0705.

This procedure also relied on a permanently set interlock, which is inappropriate. In addition, Procedure MLP-7506, "Refueling Platform Inspection and Operations," requires the verification of 8 feet 2 inches of water above the grapple head. As before, this step was signed off as completed and, again, the measurement could not have been taken appropriately. Therefore, this performance was an additional example of the TS 6.8.1 violation (458/9208-02). The licensee corrective actions for these procedures were identical and were performed concurrently with those discussed in paragraph 7.a.

Conclusion

One violation is identified for the failure to properly establish and implement procedures for surveillance and refueling activities.

10. Visit to the Local Public Document Room (94600)

On March 17, 1992, the inspector visited the NRC Local Public Document Room at the main library of Louisiana State University. The inspector discussed the room's contents, filing systems, equipment, and general condition with the acting head of the business administration/documents department. The inspector found the physical condition of the room to be good and well lighted, and its files appeared to be well maintained. It was noted that, aside from the attentions of the librarians, there was a graduate student assigned to file and maintain the documents for 5 hours a week. The room contained an NRC computer and printer. The inspector and the acting department head examined the NRC microfiche reader using a sample of microfiche randomly selected from the files. The reader appeared to be of a quality superior to those of the library that were nearby and generally displayed a good image. However, a number of the fiche in the sample examined were marginal or poor reproductions.

11. Summary of Open Items

The following is a synopsis of the status of all open items generated and closed in this inspection report. The following items were opened:

- ° Unresolved Item 458/9208-01: Failure to maintain primary containment integrity during refueling operations inside containment
- ° Violation 458/9208-02: Failure to properly establish and implement procedures covering surveillance testing and refueling activities

The following items were closed:

- ° Violation 458/9119-01
- ° Inspector Followup Item 458/9110-01
- ° LERs 91-015 and 90-019

12. Exit Interview

An exit interview was conducted with licensee representatives identified in paragraph 1 on April 16, 1992. During this interview, the inspectors reviewed the scope and findings of the report. The licensee committed to modify or disposition as operable the safe shutdown MOVs prior to reactor restart. The licensee did not identify as proprietary, any information provided to, or reviewed by, the inspectors.