APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-458/92-34

Operating License: NPF-47

Licensee: Gulf States Utilities
P.O. Box 220
St. Francisville, Louisiana 70775-0220

Facility Name: River Bend Station

Inspection At: St. Francisville, Louisiana

Inspection Conducted: November 8 through December 19, 1992

Inspectors: W. F. Smith, Senior Resident Inspector
D. P. Loveless, Resident Inspector
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Grand Gulf Nuclear Station, Region II
J. M. Keeton, Examiner, Operational Programs Section,
Division of Reactor Safety

Approved: _____ 1/6/93
J. E. Gagliardo, Chief, Project Section C Date

Inspection Summary

Areas Inspected: Routine, unannounced inspection of onsite response to events, operational safety verification, maintenance and surveillance observations, open item followup, and onsite review of a licensee event report.

Results:

- Overall, the licensee's responses to operational events during the report period were very good (paragraph 2.3).
- The operators' response to the motor trip on Chiller B was noteworthy. They entered the shutdown evolution in an expeditious manner and used good judgement in utilizing the available equipment to maintain the control room atmosphere (paragraph 2.1).
- The licensee's response to the November 24 reactor scram was very good, including the posttrip review and the facility review committee response (paragraph 2.2).

- Overall, the licensee operated the facility in a satisfactory manner (paragraph 3.6).

- The performance of the operators during the November 17, 1992, reactor shutdown and planned scram was very good (paragraph 3.1).

- In general, plant housekeeping, including radiological housekeeping, has improved over the inspection period. However, oil leaks, oil pooling and a jacket water leak identified on the Division I standby diesel generator were examples of poor housekeeping (paragraph 3.2).

- One violation was identified for failure to place the reactor core isolation cooling system in service prior to exceeding 150 psig reactor pressure as required by Technical Specification 3.0.4 (paragraph 3.3).

- The operators' performance during the December 6 shutdown was exemplary, with one exception. A second violation was identified for failure to follow the action statements of Technical Specifications 3.3.1 and 3.3.7.6 when the intermediate range monitors and the source range monitors, respectively, had not been properly tested to demonstrate operability following a plant shutdown (paragraph 3.4).

- A negative trend was identified which involved operators not heeding procedures and not complying with Technical Specification requirements (paragraph 3.5).

- Overall, the licensee's performance in maintenance activities observed during this inspection period was adequate (paragraph 4.3).

- One violation was identified for failure to establish measures to identify that the filter elements in a safety-related unit cooler had deteriorated and were breaking down and clogging the cooling coils (paragraph 4.1).

- The licensee's failure to promptly assess the status of five similar safety-related unit coolers, following the identification of preventive maintenance problems in Unit Cooler 1HVR*UC5, was considered a weakness (paragraph 4.1).

- Very good work controls were observed during the replacement of an environmentally qualified switch (paragraph 4.2).

- Overall, surveillance activities were performed in a commendable manner during this inspection period (paragraph 5.2).

- Operator knowledge and control of testing activities were good during the performance of surveillance testing of the Division I standby diesel generator (paragraph 5.1).

- The licensee evaluation of the certification of a test engineer and test practices was appropriate and reasonably supported (paragraph 6.1).

- The licensee adequately evaluated potential unmonitored release paths at River Bend Station (paragraph 6.2).

- Licensee Event Report 92-004 was a good quality report and the licensee's corrective actions appeared to be adequate to prevent recurrence (paragraph 7.1).

Summary of Inspection Findings:

- Violation 458/92034-1 was opened (paragraph 3.3).

- Violation 458/92034-2 was opened (paragraph 3.4).

- Violation 458/92034-3 was opened (paragraph 4.1).

- Licensee Event Report 458/92-004 was closed (paragraph 7.1).

Attachments:

- Attachment 1 - Persons Contacted and Meeting

DETAILS

1 PLANT STATUS

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

On November 10, 1992, a plant shutdown was initiated as required by Technical Specification 3.0.3 when the only operable control room ventilation chiller tripped. However, the shutdown was terminated at 76 percent power when the chiller was restarted, and full power operation was resumed on November 11.

On November 16, the licensee commenced a plant shutdown to Operational Condition 3 (hot shutdown) to facilitate planned Outage 92-03. On November 24, the plant was restarted, but the reactor scrammed from 96 percent power on high neutron flux caused by a main turbine electrohydraulic control system transient. The startup was resumed on November 25, and by November 27, the plant was operating at 100 percent power.

On December 6, the plant was shut down and cooled to ambient conditions for planned Outage 92-04 to replace a failed reactor recirculation pump seal. The plant was restarted on December 13 and resumed full power operation on December 16.

At the end of this inspection period, the plant was operating at 100 percent power.

2 ONSITE RESPONSE TO EVENTS (93702)

2.1 Inoperability of Both Control Room Ventilation Systems

At 12:58 p.m., on November 10, 1992, the Division II control room ventilation system Chiller 1B tripped on motor overload. At the time, the Division I system was inoperable because maintenance was being performed on the air handling unit heaters. In addition, Chiller D, the alternate Division II chiller, was inoperable because of an unresolved tripping problem that was identified on October 18.

At 1:45 p.m., a plant shutdown was initiated as required by Technical Specification 3.0.3. To maintain the control room atmosphere, Chiller D was placed in service, even though it was technically inoperable because of spurious trips. The motor on Chiller B was checked for grounds and short circuits, but no problems were found. Upon checking the motor control breaker, the electrician found a loose plug on the overcurrent trip device. When the plug was properly installed, the breaker performed as designed.

At 3:32 p.m., Chiller B was restored to service and the plant shutdown was terminated at about 76 percent power. By 2:27 a.m., on November 11, full power operation was resumed. The licensee reported the event at 2:02 p.m., on

November 10, as required by 10 CFR Part 50.72. They also initiated Condition Report 92-0898 to document the trip of Chiller B and the shutdown event.

The inspector examined a similar breaker and noted that the overcurrent trip device plug, when properly installed, snapped and locked in place. The inspector questioned how the plug could come loose, and the licensee's representative stated that the positive locking feature of the plug would prevent the plug from coming loose and that there was an independent verification signed off whenever the plug was installed. In this case, the installer apparently failed to snap the plug in place, and the independent verifier did not notice the error. The licensee informed the inspector that 44 similar safety-related breaker overcurrent trip device plugs were checked and they were all properly installed. Because this was the only time that this type of plug had come loose, and no others were found, the licensee considered this to be an isolated incident. The electricians that had previously installed the plug in the Chiller B controller were counselled on this event. No further corrective action was taken.

2.2 Reactor Scram

On November 24, 1992, the reactor scrammed on high neutron flux as indicated by the average power range monitors. A power ascension was in progress when the electrohydraulic control system pressure regulator automatically shifted from the manually selected Channel B to Channel A. A large deviation existed between the channels prior to the automatic transfer. Therefore, the transfer caused the main turbine control valves to change position from approximately 35 percent open to 23 percent open. The resulting pressure surge in the reactor vessel caused a momentary collapse of voids in the reactor, causing an indicated power increase to greater than the 118 percent high neutron flux scram setpoint. The inspector was notified and reported to the control room where he determined that the operators had brought the plant to a stable condition.

The licensee reviewed the event and determined that the pressure regulator circuit was designed to automatically transfer from one channel to the other in the event of a rapid failure of one channel. This function was not intended to provide a smooth automatic transfer when the channels were slowly drifting apart, as occurred during this event. The licensee found that the Channel A pressure amplifier card had been slowly drifting out of calibration. This card was replaced.

The inspector reviewed the posttrip review data package. All other plant systems were determined to have functioned properly. Several items were reviewed in depth by licensee personnel to verify their accuracy. The inspector observed the facility review committee meetings held to discuss the event and the readiness to restart the plant. The questions raised by the committee members were of high quality and were responded to prior to an authorization to restart. The overall licensee response to the scram was considered very good.

During the subsequent startup, the licensee monitored the channel outputs on the emergency response information system to observe any drift. The channels continued to drift apart during pressure increases. Each time the licensee adjusted the gain to bring the channels back together. During planned Outage 92-04, the licensee performed additional troubleshooting of the pressure regulator circuits. The technicians found that the Channel B pressure transmitter was not repeatable during calibration. This transmitter was replaced.

The River Bend Station Updated Safety Analysis Report, Chapter 15.2, "Increase in Reactor Pressure," postulates a failure of the pressure regulator. This event is referred to as an "anticipated operational transient." Therefore, the safety significance of this failure was low. The licensee was continuing to investigate the problem and work with the vendor at the end of this inspection period. The corrective actions will be reviewed further with the issuance of the licensee event report.

2.3 Conclusions

- Overall, the licensee's response to operational events during the report period was very good.

- The operators' response to the motor trip on Chiller B was noteworthy. They entered the shutdown evolution in an expeditious manner and used good judgement in utilizing the available equipment to maintain the control room atmosphere.

- The licensee's response to the November 24 reactor scram was very good, including the posttrip review and the facility review committee's evaluation.

3 OPERATIONAL SAFETY VERIFICATION (71707)

The objectives of this inspection were to ensure that this facility was being operated safely and in conformance with regulatory requirements and to ensure that the licensee's management controls were effectively discharging the licensee's responsibilities for continued safe operation.

3.1 Control Room Observations

On November 17, the inspectors monitored portions of control room operations during the shutdown of the plant for planned Outage 92-03. The primary purpose of the outage was to repair the drywell pedestal sump pumps. The licensee discovered both pumps were not functional when unidentified leakage began to fill the sump. Details on the issue were documented in paragraph 2.4 of NRC Inspection Report 50-458/92-32.

The reactor was manually scrammed from 29.5 percent power, as delineated in the normal shutdown procedure. The operators executed the appropriate actions

in response to the scram. The applicable emergency operating procedure was entered when reactor vessel water level shrank to Level 3, but in recovering level, manipulation of the feedwater controls resulted in slightly overfeeding the reactor, which caused a high level trip of the operating feedwater pump. The feedwater pump was promptly restored to service, and the shutdown was completed without incident.

The licensee explained that, although the reactor vessel level was optimized just prior to the scram, compensation for normal shrink and preventing the feedwater system from overfeeding has been difficult for some of the less experienced operators. The licensee had just issued a change to System Operating Procedure SOP-0009, "Reactor Feedwater System," on November 11, providing specific guidance for the operators during this type of feedwater transient and has been in the process of training the operators on feedwater transient response during routine requalification training.

Overall, operator performance during the shutdown was very good.

3.2 Plant Tours

On December 1, 1992, the inspector toured the diesel generator building. The inspector noted that the Division I diesel had a lubricating oil leak on the strainer. Although this leak had been previously identified by the licensee, oil had flowed through the absorbent cloths that had been laid down and was flowing across the frame and over other equipment. This appeared to be a fire hazard and could have affected the long-term operability of other equipment if left uncorrected. The licensee was informed and this situation was corrected.

On December 2, the inspector observed a small jacket water leak coming from the turbocharger. The leak had accumulated into a white buildup. The licensee wrote a maintenance work order to repair the leak and the buildup was removed to prevent any corrosion problems.

Throughout this inspection period the housekeeping in the plant continued to improve. The above examples were indicative of weaknesses in isolated areas.

3.3 Reactor Startup with Safety System Inoperable

On November 25, 1992, the licensee exceeded 150 psig reactor pressure with the reactor core isolation cooling (RCIC) system out of service. Technical Specification 3.7.3 states that the RCIC system shall be operable with an operable flow path capable of automatically taking suction from the suppression pool and transferring the water to the reactor pressure vessel. This specification is applicable in Operational Conditions 1, 2, and 3, with reactor steam dome pressure greater than 150 psig. The associated action statement requires that the operator restore the system to operable status within 14 days or be in at least hot shutdown within the next 12 hours.

Technical Specification 3.0.4 states that entry into an operational condition or other specified condition shall not be made when the conditions for the

Limiting Condition for Operation are not met and the associated action requires a shutdown if they are not met within a specified time interval.

On November 25, the operators were in the process of starting up the reactor. Earlier in the day, the RCIC system had been isolated because of low reactor pressure. Following criticality, the reactor operators began to warm up the RCIC system steam lines prior to placing the system in standby lineup. At 8:59 p.m., the reactor steam dome pressure was taken above 150 psig, entering the specified condition for Technical Specification 3.7.3. The RCIC steam lines remained isolated because they were not completely warmed. Therefore, the shift supervisor advised the control operating foreman to log the RCIC system as inoperable and enter the associated Technical Specification action statement. This action was in violation of Technical Specification 3.0.4 (Violation 458/92034-01).

The licensee reviewed this event and determined that the Shift Supervisor had incorrectly interpreted the Technical Specifications. Technical Specification 3.7.3 notes that the provisions of Technical Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after the reactor steam pressure is adequate to perform the test. The licensee stated that the operators involved in this event were aware that this exception had been utilized during previous startups and did not fully explore the differences between an allowed surveillance testing exception and the system not being operable.

The inspector noted that General Operating Procedure GOP-0001, "Plant Startup," requires the operator to place the RCIC system in the standby mode prior to exceeding 150 psig. The licensee stated that the control operating foreman did not challenge the Shift Supervisor on having the system in standby alignment, even though he read it in GOP-0001.

3.4 Review of Reactor Shutdown Activities

On December 6, the inspector observed portions of the control room operations during the shutdown of the plant for planned Outage 92-04. The first stage of the Reactor Recirculation Pump B shaft seal was failing as indicated by abnormal staging pressures. The second stage seal was preventing reactor coolant system leakage, but the licensee decided to obtain the required parts, shutdown and replace the seal. The inspector observed the briefing held by the Shift Supervisor just prior to the planned scram. This Shift Supervisor made specific assignments for each operator, stressed clear communications, and covered areas requiring special attention, including feedwater controls. Subsequently, the scram was executed from 25 percent power. The operators responded in a deliberate and orderly manner. The operators' actions to control feedwater were excellent. The operators responded to the level shrink and stabilized the level at about 30 inches without receiving a high level feedwater pump trip. Overall, the operators' performance was exemplary, with one exception as discussed below.

On December 7, with the plant in cold shutdown, the Shift Supervisor realized that the functional test surveillances for all channels of the intermediate range and source range monitors were not current at the time the plant was placed in hot shutdown at 5:29 p.m., on December 6. With these monitors being inoperable, Technical Specifications 3.3.1 and 3.3.7.6 required the reactor mode switch to be locked in the shutdown position and all insertable control rods verified inserted into the core within 1 hour of the scram. While the reactor operator did immediately verify that all rods had been inserted into the core after the scram, as witnessed by the inspector, the mode switch, which was in the shutdown position, was not locked until the Shift Supervisor noticed the error at approximately 6:30 a.m., on December 7. The licensee identified the error on Condition Report 92-0937. Immediate corrective actions were to verify all rods in, lock the mode switch in shutdown, and implement the required surveillance tests.

Failure to comply with the action requirements of Technical Specifications 3.3.1 and 3.3.7.6 is a violation (Violation 458/92034-2).

The surveillance tests for the intermediate range monitors were completed at 2 p.m., on December 7, and then the source range monitors were tested at 9:12 p.m. The inspector questioned why the source range monitors were tested last because, at the time the error was discovered, the reactor was in the source range. Although the actions were in compliance with Technical Specifications, the reactivity in the reactor core could have been better monitored with the source range instruments. The licensee agreed to consider this as a safer practice in the future.

3.5 Negative Trend in Operator Performance

In view of the two violations addressed in paragraphs 3.3 and 3.4 of this report, and considering two additional Technical Specification violations cited in NRC Inspection Report 50-458/92-32, the inspectors expressed concern that an unacceptable trend was developing. The licensee had recognized the negative trend, and initiated corrective actions, including the following:

- On December 15, plant management held a meeting with all shift supervisors to discuss the unsatisfactory performance trend, emphasizing professionalism in operations, good communications between watch standers, self-checking, and the oversight roles of the shift supervisors and shift technical advisors.

- The licensee implemented a case study on the RCIC issue, discussed in paragraph 3.3, to present to all operators.

- The licensee committed to discuss all of the recent procedure/Technical Specification violations with all operations watch sections.

- Where appropriate, operating procedure revisions were initiated to clarify the specific requirements and prompt the operators as an enhancement.

The inspectors will continue to monitor these corrective actions and will document the findings during the closure review of the associated licensee event reports.

3.6 Conclusions

- Overall, the licensee operated the facility in a satisfactory manner.
- The performance of the operators during the November 17, 1992, reactor shutdown and planned scram was very good.
- Overall, plant housekeeping, including radiological housekeeping, has improved over the inspection period. However, oil leaks, oil pooling and a jacket water leak identified on the Division I standby diesel generator were examples of poor housekeeping.
- One violation was identified for failure to place the RCIC system in service prior to exceeding 150 psig reactor pressure as required by Technical Specification 3.0.4.
- A second violation was identified for failure to follow the action statements of Technical Specifications 3.3.1 and 3.3.7.6, when the intermediate range monitors and the source range monitors, respectively, had not been properly tested following a plant shutdown.
- Overall, the operators' performance during the December 6 shutdown was exemplary.
- A negative trend was identified which involved operators not heeding procedures and not complying with Technical Specification requirements.

4 MONTHLY MAINTENANCE OBSERVATIONS (62703)

The station maintenance activities addressed below were observed and documentation reviewed to ascertain that the activities were conducted in accordance with the licensee's approved maintenance programs, the Technical Specifications, and NRC Regulations.

4.1 Lack of Maintenance on High Pressure Core Spray Pump Room Cooler Filter

On December 2, 1992, during an NRC management tour, the inspector noted a buildup of foreign material on the discharge screen from Auxiliary Building Unit Cooler 1HVR*UC5. This unit cooler provides cooling air to the high pressure core spray pump room. Approximately one-third of the discharge

screen was blocked. This condition was reported to the main control room. The Shift Supervisor issued Condition Report 92-0930 to document the problem.

The licensee initiated Preventive Maintenance Work Order P562428 to evaluate and clean the unit cooler. The technicians inspected the internal filters and found that they had collapsed onto the cooling coils and that the filter media had disintegrated and had been drawn into the coils. The filters and filter media were removed. The coils were cleaned, and a determination was made that further cleaning was not necessary. New filters were installed. The filter media was bagged and transferred to radioactive waste storage in accordance with the instructions of the radiation protection technicians.

The licensee reviewed the maintenance history of Unit Cooler 1HVR*UC5. Initially, preventive maintenance on all plant unit coolers provided for the replacement of filters on a routine basis. During Refueling Outage 2, the licensee determined that this was excessive. Therefore, the preventive maintenance tasks were scheduled to be performed only when the operators requested them. This was an acceptable solution for most of the unit coolers, because they had external filters that could be readily observed and evaluated to determine when they required changing. However, Unit Cooler 1HVR*UC5 had filters internal to the unit cooler casing. Therefore, the operators could not routinely observe the filters and did not request preventive maintenance to be performed.

The inspector noted that the filters were last changed on April 15, 1991. As of the end of this inspection period, the licensee was reviewing maintenance records to better understand the basis for changing the filters on April 15 and why the inaccessibility of the filters had not been identified at that time. Filters collapsing and clogging the flowpath in safety-related unit coolers is a condition adverse to quality. The licensee's failure to provide measures to identify and correct this condition adverse to quality in Unit Cooler 1HVR*UC5 is a violation of 10 CFR Part 50, Appendix B, Criterion XVI (Violation 458/92034-3).

The licensee developed a list of five other safety-related unit coolers which had internal filters. Although the problem with preventive maintenance scheduling was identified on December 3, no action was taken to assess the extent of the degradation on the other unit coolers until after a plant shutdown on December 6. The licensee continued to run the plant in Operational Condition 1 from December 3 through 6 without evaluating the operability of the other unit coolers with internal filters.

The inspector questioned the licensee on the potential impact of the other unit coolers. The licensee inspected and replaced each of the filters prior to restarting from planned Outage 92-04 conducted from December 6-11, 1992. However, the failure to assess the generic aspects of the other unit coolers in a timely manner was considered a weakness.

At the end of this inspection period, the licensee was in the process of reviewing the preventive maintenance tasks which were scheduled only as needed to determine if they were being properly monitored and performed.

4.2 Preventive Maintenance on Environmentally Qualified (EQ) Components

On December 18, 1992, the inspector observed the replacement of one of several EQ pressure switches in accordance with Maintenance Work Order E558245. This work was scheduled based on the expiration of the EQ service life of Switch 1LSV*PS49B. The inspector reviewed the work documentation package and found it to be in order and well written. The technicians were qualified to perform the work. The equipment clearance was properly implemented. The lifting and reconnection of leads were properly verified and documented to prevent wiring errors. A quality control inspector was present and observed the work. The overall performance of this maintenance item was very good.

4.3 Conclusions

- Overall, the licensee's performance in maintenance activities observed during this inspection period was adequate.
- One violation was identified for failure to identify that the filter elements in a safety-related unit cooler had collapsed onto the cooling coils, clogging the air flow channels.
- The licensee's failure to promptly assess the status of five similar safety-related unit coolers, following the identification of preventive maintenance problems in Unit Cooler 1HVR*UC5, was considered a weakness.
- Work controls observed were very good during the replacement of an environmentally qualified switch. The individuals performing the task were properly qualified.

5 BIMONTHLY SURVEILLANCE OBSERVATIONS (61726)

The inspectors observed the surveillance testing of safety-related systems and components addressed below to verify that the activities were being performed in accordance with the licensee's approved programs and the Technical Specifications.

5.1 Diesel Generator Operability Test

On December 4, 1992, the inspector observed portions of the performance of Surveillance Test Procedure STP-309-0201, "Diesel Generator Division I Operability Test." The inspector reviewed the procedure and determined that it implemented the requirements of Technical Specification 4.8.1.1.2.a.1 through 4.8.1.1.2.a.7, and that it had been performed within its required time frame. The test was properly signed out for performance in the Surveillance Test Procedure Progress Log and was approved by the control operating foreman.

The inspector observed the control room operator and determined that he was aware of the procedural requirements. Continuous communications had been established, as required, between the control room and the diesel generator building. As the generator was unloaded, the operator insured that the reactive load was maintained within the acceptable region. Good attention was paid to all adjustments and the operator was observed following the operations self-checking policy.

The inspector observed operators in the diesel generator building performing operator rounds in support of the surveillance test. The operators were familiar with the parameters being observed and what the expected values were. All required data taken was compared with the published acceptance criteria. The inspector independently verified the fuel oil levels and pressures, starting air pressures, and the material condition of the diesel engine.

5.2 Conclusions

- Overall, surveillance activities were performed in a commendable manner during this inspection period.

- Operator knowledge and control of testing activities were very good during the performance of surveillance testing of the Division 1 standby diesel generator.

6 OPEN ITEM FOLLOWUP (92701)

6.1 Test Engineer Certification and Test Practices

The inspector reviewed the licensee's documentation of an evaluation completed on October 23, 1992, addressing the adequacy of the certification of a pipefitter to a test engineer and addressing the possibility that workers were being directed to beat on valves to make sure that they had seated to pass the test. The licensee concluded that there were no safety issues and that no immediate corrective actions were warranted.

On December 7-8, the inspector reviewed the licensee's documentation. The documents showed that the pipefitter in question was qualified and certified as a test engineer in accordance with Procedure TSP-0001, Revision 7, "System Engineering Personnel Training and Qualifications." The inspector also reviewed the individual's resume and the completed personnel qualification matrix. The information met or exceeded the qualification criteria delineated in Procedure TSP-0001. The individual's background, experience, and education appeared to be adequate for him to perform the function of a Level II test engineer. The inspector noted that, during previous outages, the individual was certified and performed the duties of a Level I test engineer and subsequently met the requirements of ANSI/ASME-N45.2.6 - 1978, "Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel," for Level II.

With regard to the second concern, the licensee's quality assurance staff informed the inspector that they had discussed the issue with a few workers, the licensee's Mechanical Process System Supervisor, and the contractor's lead test engineer. The consensus was that, once a test was deemed unacceptable, valves have been perturbed during the course of troubleshooting, but never with the objective of obtaining satisfactory test results. The licensee did not identify any evidence that indicated the test engineer had directed anyone to strike a valve to seat with the objective of obtaining satisfactory test results. The inspector concluded that the licensee's review was reasonable.

6.2 Potential Unmonitored Release Paths

The inspector reviewed an engineering evaluation performed by the licensee addressing: (1) potential unmonitored radiological releases from the turbine building via the lubricating oil reservoir, and (2) the potential of the instrument air system being contaminated and distributing contamination to the control room, technical support center, and operations support center during an accident.

The licensee explained that radioactive steam leakage into the turbine bearing lubricating oil would be precluded by the design of the turbine seals, bearings, and gland sealing system. In order for the lubricating oil reservoir to become contaminated, four barriers would have to fail and the steam leakage rate would have to be significant. This would attract the attention of the operators, who could take action such as shutting down the turbine. In addition, there was not a pathway by which the air in the reservoir could be discharged into the turbine building, based on Flow Diagram 12210-FSK-16-3B.

The engineering evaluation approached the instrument air issues from a normal operation and an accident perspective. During normal operation, contamination was not a problem because of the delay time involved in any radionuclides traveling from the air compressor intakes to the points of release.

During design basis accident conditions, the worst case being a main steamline break in the steam tunnel and assuming that the instrument air compressors picked up all of the activity, the highest exposure would be 6 Rem for the 30-day thyroid iodine dose. The evaluation concluded that if 100 percent of the radioactive material followed the rupture disk pathway to the control room intakes, the 30-day thyroid iodine dose would be 15.3 Rem to the operators, with 23 Rem to the technical support center personnel. The operations support center could be evacuated, as delineated in the emergency implementation procedures. These values were within the 30 Rem allowable dose stated in 10 CFR Part 100.

The inspector concluded that the licensee's evaluation adequately addressed the potential release paths.

6.3 Conclusions

- The licensee evaluation of the certification of a test engineer and test practices was appropriate and reasonably supported.

- The licensee adequately evaluated potential unmonitored release paths at River Bend Station.

7 ONSITE REVIEW OF A LICENSEE EVENT REPORTS (92700)

7.1 (Closed) Licensee Event Report 458/92-004: Increased Surveillance (Per Technical Specification 4.0.5) Missed for Standby Service Water Pumps due to Procedural Deficiency

This licensee event report involved five instances where the licensee failed to test one control building chilled water pump and three standby service water pumps at an increased frequency as required by Technical Specification 4.0.5, and ASME Code, Section XI, IWP-3230(a). Each pump was determined to be in the alert range as defined in the ASME Code. The licensee demonstrated that each of the pumps were capable of performing their intended safety functions. Therefore, there was minimal safety significance to this issue.

The root cause was determined to be an ambiguity which existed on the licensee's Surveillance Test Scheduling Completion/Exception Form. When a pump was tested and found to be in the alert range, and it was already on an increased frequency schedule, the form required the user to indicate that no frequency change was required. This was misconstrued by the scheduling personnel to mean the normal frequency and, as a result, the next test was scheduled at the normal frequency instead of at an increased frequency.

The licensee changed the above referenced form to explicitly state whether or not the components were in the alert range, leaving no doubt what the next text frequency should be. The inspectors reviewed the change to the form, which was Enclosure 3 to Administrative Procedure ADM-0015, Revision 13, "Station Surveillance Test Program." The change appeared adequate to prevent future problems of this nature.

7.2 Conclusions

- Licensee Event Report 92-004 was a good quality report and the licensee's corrective actions appeared to be adequate to prevent recurrence.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

D. L. Andrews, Director, Quality Assurance
R. E. Barnes, Supervisor, Maintenance Engineering
P. E. Cole, Supervisor, Control Process Systems
J. W. Cook, Senior Technical Specialist
T. C. Crouse, Manager, Administration
W. L. Curran, Cajun Site Representative
P. E. Freehill, Assistant Plant Manager - Outage Management
E. L. Glass, Supervisor, Instrument & Control
W. C. Hardy, Radiation Protection, Supervisor
V. F. Klco, Principal Engineer - NSAG
I. M. Malik, Supervisor, Operations Quality Assurance
C. R. Maxson, Senior Compliance Analyst
C. L. Miller, Supervisor, Maintenance Support
W. H. Odell, Manager, Oversight
S. R. Radebaugh, APM - Maintenance
B. R. Smith, Mechanical Maintenance Supervisor
M. A. Stein, Director, Design Engineering
W. J. Trudell, Assistant Operations Supervisor

1.2 Other Personnel Contacted

The personnel listed above attended the exit meeting. In addition to the personnel listed above, the inspectors contacted other personnel during this inspection period.

2 EXIT MEETING

An exit meeting was conducted on December 22, 1992. During this meeting, the inspectors reviewed the scope and findings of the report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspectors.