

**ENCLOSURE**

**U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV**

Docket No.: 50-416  
License No.: NPF-29  
Report No.: 50-416/99-19  
Licensee: Entergy Operations, Inc.  
Facility: Grand Gulf Nuclear Station  
Location: Waterloo Road  
Port Gibson, Mississippi 39150  
Dates: November 29 through December 9, 1999  
Inspectors: Jennifer L. Dixon-Herrity, Senior Resident Inspector  
Peter J. Alter, Resident Inspector  
Approved By: Joseph I. Tapia, Project Branch A  
Division of Reactor Projects

ATTACHMENT: Supplemental Information

EXECUTIVE SUMMARY  
Grand Gulf Nuclear Station  
NRC Inspection Report 50-416/99-19

This inspection was a follow up on the September 9, 1999, failure of high pressure core spray diesel generator Bearing B.

Operations

- An apparent violation of Technical Specification 3.8.1.b was identified regarding Division III diesel generator inoperability. As a result of lowering the level of the oil in generator Bearing B to below the level required in Drawing 3636-009, "Electric Products Co. No. 150 AC Synchronous Generator," Revision 5, the Division III diesel generator was inoperable for approximately 74 days. This apparent violation is in the licensee's corrective action program as Condition Report CR-GGN-1999-1054 (Section O1.1).
- The licensee's method of controlling the operator round sheets for monitoring equipment was ineffective in that the existing change process did not require updating the round sheets in response to changes in the plant (Section O3.1).
- An apparent violation of Technical Specification 5.4.1 was identified regarding the failure to include the diesel generator bearings as a potential cause for the "Generator RTD TEMP HI" Alarm in the applicable alarm response instruction. This apparent violation is in the licensee's corrective action program as Condition Report CR-GGN-1999-1054 (Section O3.2).

Maintenance

- The replacement of the Division III diesel generator was well conducted. The licensee did not meet the preventive maintenance guidance provided by the manufacturer for the storage of the generator in that the rotating element had not been rotated monthly. The licensee verified that no corrosion was found on the bearing and modified the preventive maintenance task for future storage (Section M1.1).
- An apparent violation of Technical Specification 5.4.1 was identified regarding the failure of the maintenance planner to adequately plan a work package to add the required amount of oil to the Division III diesel generator bearing and to adequately describe the scope and the effects of the work on the design basis in the impact statement. This apparent violation is in the licensee's corrective action program as Condition Report CR-GGN-1999-1889 (Section M4.1).
- Operators exhibited a lack of questioning attitude by hanging an information tag on the generator indicating that the oil level was in test and not questioning the impact of the test on operability. The failure of the planner to review the impact of the change and the lack of questioning attitude on the part of the operators were identified as potential failed barriers to preventing the failure of the Division III diesel generator bearing (Section M4.1).

### Engineering

- Two examples of an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, were identified regarding the failure to document nonconformances in condition reports. The nonconformances included a difference in oil requirements between the controlled drawing and the Division III generator bearing nameplate and the potential for bearing damage due to oil frothing. These examples of an apparent violation are in the licensee's corrective action program as Condition Report CR-GGN-1999-1054 (Section E4.1).
- The SERT report addressed the identified root and contributing causes, but was not self-critical or thorough. The report did not adequately address inappropriate actions and failed barriers not related to the identified root and contributing causes (Section E4.2).

## Report Details

### Summary of Plant Status

The plant operated at essentially 100 percent power the entire time that the diesel was inoperable.

## I. Operations

### **O1 Conduct of Operations**

#### **O1.1 Division III Diesel Generator Bearing Failure**

##### **a. Inspection Scope (93702)**

On September 9, 1999, operators reported the failure of the high pressure core spray (HPCS) or Division III diesel generator after Bearing B seized during the performance of a 24-hour load surveillance test. The inspectors reviewed the licensee's response to the failure.

##### **b. Observations and Findings**

On September 9, 1999, operators entered Technical Specification Action 3.5.1.B for the HPCS system and started a 24-hour load test of the Division III diesel generator, in accordance with Procedure 06-OP-1P81-R-0001, "HPCS Diesel Generator 18 Month Functional Test," Revision 104. At 11:24 a.m., after stabilizing temperatures, operators raised the load to 110 percent. At 11:45 a.m., local operators saw an unexplained "dip" in generator load and heard a strange noise. The "Generator RTD TEMP HI" alarm and all six stator temperature indicators came in on the local control panel and all but one cleared. The operator at the diesel tried to reset the alarm, but the alarm remained in. The system engineer observed sparks coming from the east end of the generator and had an operator trip the diesel using the emergency stop button at 11:48 a.m. The licensee initiated Condition Report CR-GGN-1999-1054 and assigned a significant event review team (SERT) to investigate the event and determine the root causes for what was determined to be a bearing failure. The generator was replaced with a spare generator. The Division III diesel generator and HPCS system were declared operable September 21, 1999.

The licensee submitted Licensee Event Report 1999-004 on October 12, 1999. The report identified the apparent cause as inadequate lubrication as a result of the oil level being lowered to address frothing on July 9, 1999. The licensee planned to provide a supplemental report at a later date after the investigation was complete. The SERT had an independent laboratory perform a failure analysis of the generator bearing. Technical Report 9952-TR-001, Revision 0, found that the damage to the bearing was due to "exposure to temperatures in excess of 1350°F. The most likely cause of this high temperature breakdown of the bearing is a problem with the lubrication. Lack of lubrication would result in a rapid increase in localized bearing temperature." The SERT report identified the root cause of the bearing failure to be extended operation without sufficient lubrication. The root causes for this were the failure of the system

engineer to document questions about the appropriate oil levels and concerns about frothing in the corrective action program and the engineer not considering a change in oil level as a configuration change. The system engineer attempted to reduce oil frothing by lowering the oil level to that specified by an uncontrolled nameplate, rather than the controlled Drawing 3636-009, "Electric Products Co. No. 150 AC Synchronous Generator," Revision 5.

Technical Specification 3.8.1.b requires that three diesel generators be operable in Modes 1, 2, and 3. Technical Specification 1.1 defines operable as follows: "A system . . . shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) . . ." The Division III diesel generator's safety function is to provide an alternate safety-related electrical power source for the HPCS system in response to an event involving the loss of off-site power, for the duration of the event. The failure to maintain the Division III diesel generator operable consistent with Technical Specification requirements from July 9 to September 21, 1999, is an apparent violation of Technical Specification 3.8.1.b (50-416/9919-01).

The licensee identified the proper oil level and removed the oil volume information from the nameplate. Condition Report CR-GGN-1999-1083 was initiated to address the generic issue of configuration control and a configuration control team was assigned to address it. The licensee planned to establish programmatic controls over oil levels and volumes and to provide the controls to the training review group for inclusion in training.

c. Conclusions

An apparent violation of Technical Specification 3.8.1.b was identified regarding Division III diesel generator inoperability. As a result of lowering the level of the oil in generator Bearing B to below the level required in Drawing 3636-009, "Electric Products Co. No. 150 AC Synchronous Generator," Revision 5, the Division III diesel generator was inoperable for approximately 74 days. This apparent violation is in the licensee's corrective action program as Condition Report CR-GGN-1999-1054.

**O3 Operations Procedures and Documentation**

**O3.1 Response to Industry Report of Bearing Failure at Another Nuclear Facility**

a. Inspection Scope (37550)

The inspectors reviewed the corrective actions the licensee took in response to a similar bearing failure that occurred at another nuclear facility documented in Report OE-7264, "Bearing Failure and Motorizing of the Division III Diesel Generator."

b. Observations and Findings

On March 31, 1995, the Division III diesel generator inboard bearing discussed in Report OE-7264 failed during a 24-hour run surveillance test. The report identified the root cause as a lack of adequate lubrication. This was caused by a combination of

maintaining the bearing oil at an insufficient level and a chronic oil leak. Grand Gulf personnel reviewed this operating event notification and forwarded it to the operations department to incorporate lessons learned. The operations personnel revised the outside round sheets (Revision 68) to add a check of the Division III diesel generator bearing oil levels twice daily. The levels were verified to be greater than or equal to the lower mark on the sightglasses.

The SERT report documented that in Revision 90 the round sheets were changed to require that the oil level was "in the sightglass." This was changed to greater than or equal to the full mark in May 1998, then back to "in the sightglass" in Revision 96 (June 2, 1998). Operators identified that there were no marks on the sightglasses in June 1998 and requested that marks be added. On July 17, 1998, marks were added to the sightglass in accordance with controlled Drawing VPF-3636-009 using Work Order 210237. The operator round sheets were not revised to reflect the addition of the marks on the sightglass. The SERT report indicated that the basis for the changes were not documented. Condition Report CR-GGN-1999-1213 was initiated to resolve why the round sheets were changed inappropriately.

The inspectors observed that the general round sheets for the operators were not part of the licensee's administrative procedures program. The round sheets were managed within the operations organization and the change process procedures did not ensure the round sheets were updated when the plant was changed. The operations representative on the SERT stated that operators tended to maintain the level between the lines on the sightglass once the marks were added (maintenance action items were issued to add oil), but that the round sheets had not been changed. Because of this ineffective control of the round sheets, there was an opportunity for the licensee to fail to recognize a loss of oil level in the event of an oil leak.

c. Conclusions

Licensee's method of controlling the operator round sheets for monitoring equipment was ineffective in that the existing change process did not require updating the round sheets in response to changes in the plant.

O3.2 "Generator RTD TEMP HI" Alarm Response Instruction

a. Inspection Scope (37550)

The inspectors reviewed Alarm Response Instruction 04-1-02-1H22-P118-1A-A3, "Generator RTD High Temp," Revision 15, and Condition Reports CR-GGN-1999-1054 and -1065.

b. Observations and Findings

The SERT identified that the alarm response instruction did not provide guidance to the operators for increased temperature in the generator bearings. The alarm point had eight inputs from the generator, six from stator temperature indicators and two from the generator bearings temperature sensors. There was no direct readout of generator

bearing temperature to indicate whether the alarm was due to high generator bearing temperatures. Instruction 04-1-02-1H22-P118-1A-A3 did not identify the generator bearing as a potential source of the alarm or direct operator actions to address high bearing temperatures.

Technical Specification 5.4.1.a. requires that written procedure be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water reactors," February 1978. Section 5 of Appendix A requires procedures for alarm conditions. The failure to address the bearing temperatures as a potential cause of the alarm is an example of an inadequate procedure to address alarm conditions and is an apparent violation of Technical Specification 5.4.1 (50-416/9919-02).

The SERT report identified this problem as a contributing cause. The alarm response instruction was revised to add the bearing temperature and an action to trip the diesel if the alarm came in for this reason. The licensee planned to conduct a 10 percent review of alarm response instructions that involve alarm panels supplied with plant equipment and correct the instructions as required. The licensee planned to increase the scope of the review as required.

During the investigation, the licensee found that the bearing housing probe well depth was greater than the probe length, inhibiting the function of the thermistor. The thermistor vendor indicated that the thermistor probe should be installed such that contact with the bearing surface was maintained. Engineers evaluated the concern and determined that the thermistor would provide accurate indication up to 3 inches from the metal surface of the bearing, but that the response time would be slow. The sensors on the replacement generator were installed as close to the bearing surface as possible and the licensee verified that the bearing temperatures were accurate during testing. The failed generator had been installed in October 1986 after repair from a Bearing A failure due to a low spot in the insulation under the bearing outer race. The licensee determined the probe on the failed bearing was originally installed by the manufacturer and was tested by instrument and controls personnel to verify that the temperature controller, 1P81N052B, functioned properly with the alarm circuit. No test was conducted onsite to verify the accuracy of the bearing temperature sensors after the generator was installed in 1986.

c. Conclusions

An apparent violation of Technical Specification 5.4.1 was identified regarding the failure to include the diesel generator bearings as a potential cause for the "Generator RTD TEMP HI" Alarm in the applicable alarm response instruction. This apparent violation is in the licensee's corrective action program as Condition Report CR-GGN-1999-1054.

## II. Maintenance

### **M1 Conduct of Maintenance**

#### **M1.1 Division III Diesel Generator Bearing Failure**

##### **a. Inspection Scope (62707)**

The inspectors reviewed the licensee's response to the failure of the Division III diesel generator.

##### **b. Observations and Findings**

The licensee removed the generator and replaced it with the spare generator. The inspectors observed portions of the replacement. This work was well conducted and in accordance with the procedures. The inspectors observed that air start Valve 1P81F040B was not closed as required by the system tagout. The inspectors found the misaligned valve immediately after the new generator was moved into place. The valve was located in a high activity area and could have easily been bumped during the work. The licensee immediately returned the valve to the required position and verified the remainder of the system tag out. No other valves were found mispositioned.

The inspectors reviewed the vendor technical manual for the diesel system and found that the storage requirements cited in the manual stated that "For Generators with roller or ball bearings, the generator shall be rotated one revolution plus 90 degrees on a monthly basis." The inspectors questioned the licensee to determine the frequency that the generator was rotated. The licensee found that the generator was rotated once a year and that the vendor manual for the generator also stated "Rotating elements should be turned over frequently in order to insure proper lubrication of the bearings." The licensee initiated Condition Report CR-GGN-1999-1081. The bearing manufacturer indicated that the lubrication was to prevent corrosion of the bearings. The licensee inspected the bearing and found no indication of corrosion. The generator had been stored inside with a heater to eliminate moisture. No indication of moisture was found in the oil removed from the bearing housing. The licensee changed the frequency of the repetitive task to monthly.

##### **c. Conclusions**

The replacement of the Division III diesel generator was well conducted. The licensee did not meet the preventive maintenance guidance provided by the manufacturer for the storage of the replacement generator in that the rotating element had not been rotated monthly. The licensee verified that no corrosion was found on the bearing and modified the preventive maintenance task for future storage.

#### **M4 Maintenance Staff Knowledge and Performance**

##### **M4.1 Maintenance Package Used to Change Level**

###### **a. Inspection Scope (62707)**

The inspectors reviewed Maintenance Action Item (MAI) 219074, "A' Bearing Temperature Switch Chattering," which was used to change the oil level in both generator bearings.

###### **b. Observations and Findings**

On July 9, 1999, technicians working under MAI 219074, drained the oil from Bearing B of the Division III diesel generator and refilled the bearing with 3.75 gallons of oil. The MAI was written to troubleshoot a chattering temperature switch on generator Bearing A. The drain and refill of Bearing B was performed using steps added to the MAI at the request of the system engineer on July 8, 1999. When asked, the system engineer stated that he had the oil level lowered to reduce the "foaming/frothing" of the bearing oil and that 3.75 gallons was identified on the nameplate on the bearing housing.

Both the component database, a computer database which documented the controlled documents and drawings for the component, and Repetitive Task 4025 required that the oil level be maintained in accordance with controlled Drawing 3636-009. The repetitive task referenced Procedure 07-S-12-43. Procedure 07-S-12-43, "Lubrication of Rotating Electrical Equipment," Revision 4, step 7.3.5.e, required that the new lubricant, as specified on the work authorization document, be added until indicated level in the sightglass is reached. The work package was inadequate in that the directions added to change the oil level did not meet the requirement in the controlled drawing. The directions required adding 3.75 gallons (15 quarts) as opposed to meeting the required level etched on the sightglass (18 quarts).

Procedure 01-S-18-4, "Planning Guideline," Revision 0, step 6.1.7.j, required that the scope and effects on the design basis be described in the impact statement. The package was originally written to troubleshoot a chattering temperature switch on Bearing A. Changing the oil level in Bearing B was unrelated to the work on the switch. The impact statement at the beginning of the package only addressed the original work on Bearing A and did not address the effect on the design basis of lowering the oil level in Bearing B.

Technical Specification 5.4.1.a requires that written procedure be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Appendix A. Appendix A, Section 9, requires procedures for performing maintenance. The failure of the maintenance planner to adequately plan a work package to add the required amount of oil and to describe the scope of the work and the effects on the design basis in the impact statement as required by Procedure 01-S-18-4 was an apparent violation of Technical Specification 5.4.1 (50-416/9919-03).

The SERT discussed the revised work package and the fact that it had not been reviewed during planning meetings, but determined that these were not root or contributing causes. The system engineer's input caused the planner to add the steps. Planning management acknowledged that the planner was expected to question package revision requests and initiated Condition Report CR-GGN-1999-1889. The corrective actions planned included reviewing the practice of allowing unrelated work on two different components on the same skid to be completed in the same work package, reviewing industry practices in this area, revising the maintenance planning procedures if necessary, and providing training to the planning staff addressing management expectations that changes to work packages be challenged.

The maintenance technicians who performed the MAI questioned the system engineer about the oil level and suggested that operations personnel be informed to prevent the level from being raised. The system engineer provided the plant supervisor in the control room with an information tag to be hung on the Division III diesel generator Bearing B sightglass. The text of information Tag 99-227 read, "Div. 3 [HPCS] diesel generator "B" [east end] generator bearing oil level in sightglass is purposefully below the red band. Oil level is under test. This level represents 3.75 gallons of oil as specified by nameplate on bearing housing. Ref[erence] MAI 219074."

The SERT identified that the information tag was used inappropriately in Condition Report CR-GGN-1999-1103. The inspectors reviewed Procedure 01-S-06-1, "Protective Tagging System," Revision 41. The directions stated that an information tag was to be used to provide information regarding the operational status of equipment to operations personnel and was not to be used to provide protection for personnel or equipment. The licensee's investigation found that the shift had followed the directions provided by the system engineer and that there was potentially a lack of questioning attitude on the part of the operators and that it was not a human performance event. The inspectors questioned whether a barrier had failed in that the operators did not question whether a test was being conducted. The corrective actions manager acknowledged that operators were expected to question work at this level and that this could have affected the outcome of the event. The manager determined that the human performance question was to be reevaluated and that the failure could be considered a failed barrier. The planned corrective actions included completing a 100 percent audit of information tags in the field and revising the procedure to more clearly describe how information tags were to be used.

c. Conclusions

An apparent violation of Technical Specification 5.4.1 was identified regarding the failure of the maintenance planner to adequately plan a work package to add the required amount of oil and to describe the scope and the effects of the work on the design basis in the impact statement. This apparent violation is in the licensee's corrective action program as Condition Report CR-GGN-1999-1889. Operators exhibited a lack of questioning attitude by hanging an information tag on the generator indicating that the oil level was in test and not questioning the impact of the test on operability. The failure of the planner to review the impact of the change and the lack of questioning attitude on

the part of the operators were identified as potential failed barriers to preventing the failure of the Division III diesel generator bearing.

### **III. Engineering**

#### **E4 Engineering Staff Knowledge and Performance**

##### **E4.1 Events Prior to the Failure**

###### **a. Inspection Scope (37550)**

The inspectors reviewed the timeline of events in the SERT report and conducted interviews with the personnel involved.

###### **b. Observations and Findings**

Work Order 210237 was generated in response to an operations department request that acceptable bands be established on the Division III diesel generator bearing oil level sightglasses. On July 17, 1998, technicians added marks to indicate the level in accordance with Drawing VPF 3636-009 and the work order. The system engineer's notes on the work order explained that 17+ quarts of oil were drained from the bearing housing, a level band was established on the sightglass in accordance with the controlled vendor drawing, 18 quarts of oil were added to fill the bearing housing to this band, and a nameplate mounted near the sightglass indicated that the proper bearing oil volume was 3.75 gallons (15 quarts). The system engineer contacted the diesel generator vendor, but was unable to get definitive information on correct bearing oil level. After the bearing failure, as part of the recovery process, a system engineering supervisor contacted the bearing manufacturer and received information confirming the recommended oil levels shown on Drawing 3636-009.

On October 6, 1998, the system engineer documented in the System Engineering Logbook (a computer based database) that the bearing housing nameplate volume did not match the drawing sightglass level markings. No condition report was written to document this conflicting information.

10 CFR Part 50, Appendix B, Criterion V, requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances. Step 6.1.1 of Procedure 01-S-03-10, "GGNS Condition Report," Revision 3, states that an individual "shall initiate a condition report whenever a nonconformance, material nonconformance, or potential reportable event is discovered." A nonconformance was described in Definition 5.25 of Procedure 01-S-03-10 as a "deficiency in characteristic, documentation, or procedure which renders the quality of an item unacceptable or indeterminate." The failure to document the differences between the controlled drawing and the nameplate is identified as an example of an apparent violation of 10 CFR Part 50, Appendix B, Criterion V (50-416/9919-04).

The failure to document the deficiency in a condition report was identified as a root cause in the SERT report. The corrective actions included establishing guidance to utilize collaboration with peers and supervisors to determine the conservative action when faced with competing alternatives. This issue was to be reviewed with all engineering personnel during a separate all-hands meeting and the root cause report was to be forwarded to the training review group for addition to training for engineering, operations, and maintenance personnel. In addition, the lessons learned from the event were to be covered in a site all-hands meeting.

On April 25, 1999, during performance on the monthly surveillance run of the Division III diesel generator, oil "foaming/frothing" was noted in the generator Bearing B sightglass. This was reported to the system engineer by the local operator and the resident inspector. No condition report was written to document this situation. This was not in accordance with Step 6.1.1 of Procedure 01-S-03-10. The failure to document the oil frothing and the potential for bearing damage in a condition report is a second example of an apparent violation of 10 CFR Part 50, Appendix B, Criterion V (50-416/9919-04).

The failure to address the frothing and potential for bearing damage in a condition report was identified as a root cause in the SERT report. The corrective actions that specifically addressed this failure included establishing engineering guidance for reporting and evaluating oil foaming in the oil analysis program, using oil analysis to predict bearing failures, and establishing how to document anomalies identified in the field. The information was to be forwarded to the training review group to facilitate training of engineering, operations, and maintenance personnel. The oil sampling task frequency for the Division III diesel generator was to be evaluated. Engineering was to evaluate the oil aeration in the Division III generator bearing sightglasses. The issue was to be reviewed with engineering personnel during an all-hands meeting.

c. Conclusion

Two examples of an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, were identified regarding the failure to document nonconformances in condition reports. The nonconformances included a difference in oil requirements between the controlled drawing and the Division III generator bearing nameplate and the potential for bearing damage due to oil frothing. These examples of an apparent violation are in the licensee's corrective action program as Condition Report CR-GGN-1999-1054.

E4.2 SERT Report

a. Inspection Scope (37550)

The inspectors reviewed the licensee's SERT report on the event and conducted interviews with the personnel involved.

b. Observations and Findings

The SERT report addressed the identified root and contributing causes, but did not address other barriers that could have prevented the event. Procedure 01-S-03-11,

"Significant Event Response Team," Revision 0, step 6.1.5, states that identification of all root causes, causal factors, inappropriate actions, and inadequate/failed barriers were aspects that needed to be addressed as part of the SERT process. The report brought out some problems beyond the root and contributing factors, however, the report did not clearly identify that barriers had failed if they were not directly related to the root cause. The SERT explained that the report was intended to identify root and contributing causes and that, if issues were identified that did not affect the failure, they did not discuss them further.

The inspectors identified two examples of failed barriers that were not addressed in the SERT report. The first was the last minute revision of a work package for troubleshooting one component to change the oil level in a separate component. The second was the operators allowing the tag indicating that a test was in progress to be placed on the generator bearing sightglass. The SERT explained that the planner revised the package and fully understood the change after a detailed discussion with the system engineer. For this reason, it was a similar problem to the system engineer not understanding that the level change was a configuration change. The inspectors noted that a procedure violation (discussed in Section M4.1) had occurred and that it was management's expectation that the planners be a barrier to prevent work outside the scope of the work package from being added without a review to determine what effect the work had on the plant. The SERT initiated a condition report for the second example, but did not identify it as a failed barrier for similar reasons.

c. Conclusions

The SERT report addressed the identified root and contributing causes, but was not self-critical or thorough. The report did not adequately address inappropriate actions and failed barriers not related to the identified root and contributing causes.

**E8 Miscellaneous Engineering Issues (37550)**

E8.1 (Closed) Licensee Event Report 50-416/99-004-00 and -01: HPCS system declared inoperable because of a generator shaft bearing failure. This report documented the failure of the Division III diesel generator shaft bearing. The inspectors reviewed the report and the supplement to the report as part of this special inspection.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspectors presented the inspection results to members of licensee management at the conclusion of the inspection on December 10, 1999. The licensee acknowledged the findings presented.

The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

C. Bottemiller, Manager, Plant Licensing  
B. Edwards, Manager, Planning and Scheduling  
C. Ellsaesser, Manager, Corrective Action and Assessment  
R. Moomaw, Manager, Plant Maintenance and Modifications  
L. Patterson, Technical Assistant, General Manager  
C. Stafford, Operations Assistant, Plant Operations  
J. Venable, General Manager, Plant Operations

INSPECTION PROCEDURES USED

37550            Engineering  
62707            Maintenance Observation  
93702            Onsite Response to Events

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

|                |     |  |
|----------------|-----|--|
| 50-416/9919-01 | EEI | An apparent violation of Technical Specification 3.8.1.b was identified regarding Division III diesel generator inoperability (Section O1.1).  |
| 50-416/9919-02 | EEI | An apparent violation of Technical Specification 5.4.1 was identified regarding the failure to include the diesel generator bearings as a potential cause for the "Generator RTD TEMP HI" Alarm in the applicable alarm instruction (Section O3.2).  |
| 50-416/9919-03 | EEI | An apparent violation of Technical Specification 5.4.1 was identified regarding the failure of the maintenance planner to adequately plan a work package and to describe the scope and the effects of the work on the design basis in the impact statement (Section M4.1).   |
| 50-416/9919-04 | EEI | Two examples of an apparent violation of 10 CFR Part 50, Appendix B, Criterion V, were identified regarding the failure to document nonconformances in condition reports. The nonconformances included a difference in bearing oil level requirements between the controlled drawing and the Division III generator bearing nameplate and the potential for bearing damage due to oil frothing (Section E4.1). |

Closed

50-416/99-004-00 LER HPCS system declared inoperable because of a generator shaft  
and -01 bearing failure (Section E8.1).