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Deo

April 6, 1988

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FILE HGS

Mr. A. Bert Davis
Regional Administrator
U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL. 60137

Subject: Braidwood Station Unit 1
Diesel Generator 1DG01KB Failure
NRC Docket No. 50-456

Reference (a): NUREG-1276, Technical Specification,
dated July, 1987

(b): October 5, 1987 S.C. Hunsader letter to
A.B. Davis

Dear Mr. Davis:

Section 4.8.1.1.3 of reference (a) requires that all diesel generator failures, valid or non-valid, be reported to the NRC pursuant to Specification 6.9.2. The enclosure provides the report that addresses one valid test failure experienced on diesel generator 1DG01KB.

Attachment A provides the summary of diesel generator 1DG01KA performance since the successful completion of pre-operational testing. Attachment B provides an update of the same report for diesel generator 1DG01KB.

Reference (b) is the most recent report addressing diesel generator failures, issued per Section 4.8.1.1.3.

Please direct any questions concerning this matter to this office.

Very truly yours,

8804120208 880406
PDR ADOCK 05000456
S PDR

S. C. Hunsader
S. C. Hunsader
Nuclear Licensing Administrator

/klj
cc: S. Sands-NRR
Braidwood Resident Inspector
NRC Document Control Desk

4470K

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APR 8 1988

1B D/G FAILURE REPORT

On January 27, 1988 at 0430, while performing the Load Sequencing portion of Tech Staff Surveillance 1BwVS 8.1.1.2.f-14 "1B Diesel Generator 24 Hour Load Test and ECCS Surveillance" the 1B D/G Failed to maintain steady state frequency at 60 ± 1.2 Hz as defined by Tech Spec 4.8.1.1.2f.6) b). The cause of this event has been attributed to high contact resistance across the 4EX3 "Emergency Mode Master Run Relay".

The 4EX3 relay was replaced. Following a troubleshooting run Tech Staff Surveillance 1BwVS 8.1.1.2.f-14 was successfully performed. Diesel Generator steady state frequency maintained at 60 ± 1.2 Hz during performance of that test.

Two similar 4EX3 related failures were previously identified in Deviation Investigation Report #20-1-87-284 and letter to U.S. NRC dated October 5, 1987, Subject: Braidwood Station Unit 1 Diesel Generator 1DG01KA Failure NRC Docket No. 50-456. As a result of this most recent failure, the Modification Request which was previously submitted and being tracked by A. #456-200-87-28401 is being expedited in an effort to prevent future re-occurrence of this event.

The 1B Diesel Generator was inoperable throughout this event. This was the ninth valid failure since completion of pre-operational testing.

The 1B Diesel Generator is currently being tested monthly in accordance with Technical Specification 4.8.1.1.2. The January 27, 1988 failure was the first valid failure in the last 31 valid tests.

Monthly testing of the 1B Diesel will continue in accordance with Table 4.8-1 of Technical Specifications.

Pursuant to Regulatory Guide 1.108 Regulatory Position C.3.b.7 Item (1) the 1A Diesel Generator has had four valid failures and the 1B Diesel Generator has had nine valid failures since the completion of pre-operational testing. Attachment "A" provides summary of the 1A Diesel Generator's performance since successful completion of pre-operational testing. Attachment "B" provides a summary of the 1B Diesel Generator's performance since successful completion of pre-operational testing.

The corrective actions taken to address the existing failures on the 1A and 1B Diesel Generators in general, have been successful. The previously submitted Modification Request to replace all 4EX3 relays with new relays having less contact resistance and more stable characteristics than relays currently installed is being expedited to prevent future re-occurrence of this type failure (AIR #456-200-87-28401).

The Diesel Generators are inspected during every operability run. Any problems that develop are corrected in a timely manner. Braidwood Station believes that this approach is appropriate to maintain proper Diesel Generator availability and operability. The 1A and 1B Diesel Generators have met all testing and operability requirements of position C.2 of Regulatory Guide 1.108.

Presently the 1A Diesel Generator is on a monthly surveillance schedule having successfully completed 19 valid tests without a failure.

ATTACHMENT A

Summary of the 1A Diesel Generator Starts

- 1) 9-3-86 Performed the 18 month 1A Diesel Generator (DG) Inspection Surveillance, 1BwOS 8.1.1.2.e-1. The 1A DG was run for 4 hours at approx. 5000kw.
Valid Test - Successful.
- 2) 9-4-86 Following air regulator adjustments, the 1A DG tripped during performance of a troubleshooting run.
Invalid Test - Failure (I).
- 3) 9-4-86 The 1A DG tripped during a troubleshooting run due to the misadjusted air regulators.
Invalid Test - Failure (II).
- 4) 9-4-86 The 1A DG was run for approx. 5 minutes, unloaded for a troubleshooting run.
Invalid Test - Successful.
- 5) 9-5-86 The 1A DG was run for 4 hours at full load for the performance of inspection surveillance, 1BwVS 8.1.1.2.e-1.
Valid Test - Successful.
- 6) 9-18-86 The 1A DG tripped on "Connecting Rod High Temp." This failure was originally classified as Valid. However, upon further review the failure was re-classified as Invalid per Reg. Guide 1.108 c.2.e.2.
Invalid Test - Failure (III).
- 7) 9-19-86 The 1A DG was run for 2 hours at varying loads.
Invalid Test - Successful.
- 8) 9-19-86 The 1A DG was run for 35 minutes at varying loads.
Invalid Test - Successful.
- 9) 9-20-86 Performed a 4 hour run at varying loads for the 1A DG Inspection Surveillance, 1BwVS 8.1.1.2.e-1. The 1A DG was run for greater than 1 hour at full load during this run.
Valid Test - Successful.
- 10) 9-20-86 Peak Firing Pressures were taken for the 1A DG Inspection Surveillance, 1BwVS 8.1.1.2.e-1.
Invalid Test - Successful.
- 11) 9-25-86 1A DG was started to adjust jacket water control valve. The DG tripped on several non-emergency trips due to a small air leak.
Invalid Test- Failure (IV).

- 12) 9-25-86 Following adjustment to DG air regulator, the 1A DG tripped again from a troubleshooting run on the previous failure.
Invalid Test - Failure (V).
- 13) 9-25-86 During a troubleshooting run, the 1A DG tripped again on several non-emergency trips.
Invalid Test - Failure (VI)
- 14) 9-25-86 1A (DG) was run for approx. 5 minutes and shut down due to lack of field flash. DG potential fuses were removed.
Invalid Test - Failure (VII).
- 15) 9-25-86 Performed Load Reject Surveillance, 1BwVS 8.1.1.2.f-11. 1A DG was run at full load for 1 hour.
Valid Test - Successful.
- 16) 9-26-86 Performed the 1A DG start on an SI signal surveillance, 1BwVS 8.1.1.2.f-7. The 1A DG was run for 15 minutes, unloaded.
Invalid Test - Successful.
- 17) 9-16-86 1A DG run to test the installation of new jacket water controller valve. The DG was run for approx. 30 minutes.
Invalid Test - Successful.
- 18) 9-26-86 Performed the 1A DG Bypass of Automatic Trips Surveillance, 1BwVS 8.1.1.2.f-9. The 1A DG was run for greater than one hour, unloaded.
Invalid Test - Successful.
- 19) 9-27-86 Started the 1A DG for the SI Override of the Test Mode Surveillance, 1BwVS 8.1.1.2.f-19. The 1A SX pp brkr malfunctioned in the equipment test position. The 1A DG was run for 30 minutes unloaded.
Invalid Test - Successful.
- 20) 9-27-86 Performed the 1A DG SI Override of the Test Mode Surveillance, 1BwVS 8.1.1.2.f-19. The 1A DG was run for approx. 45 minutes unloaded.
Invalid Test - Successful.
- 21) 9-29-86 The 1A DG was run at 1500 kw for approx. 15 minutes.
Invalid Test - Successful.
- 22) 10-1-86 Performed the Semi-Annual Operability Surveillance, 1BwOS 8.1.1.2.a-3. The operator inadvertently overloaded the DG and the engine was emergency stopped.
Invalid Test - Failure (VIII)

- 23) 10-2-86 Re-performed the Semi-Annual Operability Surveillance, 1BwOS 8.1.1.2.a-3. The 1A DG was run for 1 hour at full load.
Valid Test - Successful.
- 24) 10-11-86 Ran the 1A DG for 15 minutes, unloaded, to test strip chart recorders to be used in the 1A DG 24 hour load test and ECCS surveillance, 1BwVS 8.1.1.2.f-13.
Invalid Test - Successful.
- 25) 10-11-86 Performed the 24 hour full load test for 1BwVS 8.1.1.2.f-13.
Valid Test - Successful.
- 26) 10-13-86 1A DG was started on a Safety Injection and Undervoltage signal per 1BwVS 8.1.1.2.f-13. The DG was run for 40 minutes at varying loads.
Invalid Test - Successful.
- 27) 10-13-86 1A DG was started on an undervoltage signal for the Loss of ESF Bus Voltage with no SI signal, 1BwVS 8.1.1.2.f-15. The 1A DG was run at varying loads for approx. 30 minutes.
Invalid Test - Successful.
- 28) 10-23-86 Performed the Monthly 1A DG Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 29) 11-2-86 Performed the Monthly 1A DG Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 30) 12-3-86 Performed the Quarterly ESF Actuation surveillance 1BwOS 3.2.1-806. The 1A DG started on a safety injection signal and was run for 10 minutes, unloaded.
Invalid Test - Successful.
- 31) 12-3-86 Performed the Monthly 1A DG Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 32) 1-16-87 Following a maintenance outage the 1A DG was run for a troubleshooting run. The DG was run at full load for approx. 45 minutes.
Invalid Test - Successful.
- 33) 1-16-87 The 1A DG was run for a modification test. The engine was run for one hour at varying loads.
Invalid Test - Successful.

- 34) 1-16-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 35) 1-23-87 Following conduit repair, an operability test of the 1A DG was performed. The DG was run for 45 minutes to test the repaired conduit.
Invalid Test - Successful.
- 36) 2-5-87 The damaged cable described in the previous run was replaced. A 1A DG test was performed to test the cable's operability. The 1A DG was run for 40 minutes.
Invalid Test - Successful.
- 37) 2-6-87 The 1A DG was started for the Quarterly ESF actuation surveillance. 1BwOS 3.2.1-806. The 1A DG was run, unloaded, for 20 minutes.
Invalid Test - Successful.
- 38) 2-16-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for one hour.
Valid Test - Successful.
- 39) 3-3-87 Following a maintenance outage, the 1A DG was run for 35 minutes at full load during a troubleshooting test.
Invalid Test - Successful.
- 40) 3-3-87 The 1A DG was run for approx. 80 hours at full load as
3-6-87 part of the cumulative 100 hour run to prove rocker arm durability.
Valid Test - Successful.
- 41) 3-7-87 Performed a troubleshooting run following the repair of a fuel line leak. The 1A DG was run for 20 minutes and shutdown after the leak reappeared.
Invalid Test - Successful.
- 42) 3-7-87 Performed a troubleshooting run to inspect repair of fuel leak. 1A DG was run for 40 minutes and shut down after the fuel leak recurred.
Invalid Test - Successful.
- 43) 3-7-87 Performed a troubleshooting run following the replacement of leaking fuel injector. The 1A DG was run at full load for approx. 30 minutes.
Invalid Test - Successful.
- 44) 3-7-87 Ran the 1A DG for greater than 20 hours at full load for rocker arm test.
Valid Test - Successful.

- 45) 3-9-87 Following a maintenance outage to inspect crosshead clearances, a troubleshooting run was performed. The 1A DG was run for 30 minutes at full load.
Invalid Test - Successful.
- 46) 3-9-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 47) 3-15-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 48) 3-27-87 The 1A DG was run for approx. 10 minutes, unloaded, to satisfy 1B DG inoperability LCOAR requirements.
Invalid Test - Successful.
- 49) 4-15-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 50) 4-24-87 The 1A DG was run at 2300 kw for approx. 30 minutes during an Aux. Power Test.
Invalid Test - Successful.
- 51) 4-24-87 The 1A DG was started as part of Unit 2 pre-operational testing support. The DG was run for 30 minutes at varying loads.
Invalid Test - Successful.
- 52) 4-24-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 53) 5-4-87 The 1A DG was started to satisfy 1B DG inoperability LCOAR requirements. The 1A DG was run for approx. 10 minutes, unloaded.
Invalid Test - Successful.
- 54) 6-4-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 55) 6-18-87 The 1A DG was run for 45 minutes at full load following a maintenance outage as a troubleshooting test.
Invalid Test - Successful.

- 56) 6-18-87 Performed the 1A DG Monthly Operability Surveillance, 1BWOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 57) 6-19-87 Started the 1A DG for the Quarterly ESF Surveillance 1BWOS 3.2.1-806. The 1A DG was run for 10 minutes, unloaded.
Invalid Test - Successful.
- 58) 7-4-87 The Performed the 1A DG Monthly Operability Surveillance, 1BWOS 8.1.1.2.a-1. The 1A DG was run at full load for over one hour.
Valid Test - Successful.
- 59) 7-18-87 The 1A DG was started to satisfy 1B DG inoperability LCOAR requirements. The 1A DG was run for approx. 10 minutes, unloaded.
Invalid Test - Successful.
- 60) 7-19-87 Performed the 1A DG Semi-Annual Operability Surveillance, 1BWOS 8.1.1.2.a-1. The 1A DG was run at full load for one hour.
Valid Test - Successful.
- 61) 7-25-87 The 1A DG was run for 20 minutes, unloaded, to satisfy 1B DG inoperability LCOAR requirements.
Invalid Test - Successful.
- 62) 8-7-87 The 1A DG Monthly Operability surveillance was stopped after approx. 5 minutes due to operator error in recording the start time.
Invalid Test - Successful.
- 63) 8-7-87 The 1A DG Monthly Operability surveillance was stopped after approx. 5 minutes due to operator error in recording the start time.
Invalid Test - Successful.
- 64) 8-7-87 The 1A DG was shutdown while loading during the performance of the 1A DG monthly Operability Surveillance due to a fuel oil leak.
Valid Test - Failure (1)
- 65) 8-7-87 Performed the 1A DG Monthly Operability Surveillance, 1BWOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 66) 8-15-87 Performed the 1A DG Monthly Operability Surveillance, 1BWOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.

- 67) 8-16-87 The 1A DG was run for approx. 15 minutes to troubleshoot an annunciator power supply panel replacement.
Invalid Test - Successful.
- 68) 8-16-87 The 1A DG was run for 1.5 hours at varying loads to support start-up testing (AP-30).
Invalid Test - Successful.
- 69) 8-18-87 The 1A DG was started for the second performance of AP-30. The engine dropped in rpm and began recovering. The engine then tripped on Incomplete Sequence.
Valid Test - Failure (2).
- 70) 8-19-87 A troubleshooting run was performed to investigate the previous failure. The DG started and ran for approx. 20 minutes. No abnormalities found.
Invalid Test - Successful.
- 71) 8-19-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 72) 8-19-87 Partial retest of startup test AP-30 was performed the 1A DG was run at varying loads for approx. 40 minutes.
Invalid Test - Successful.
- 73) 8-20-87 Partial retest of startup test AP-30 was performed the 1A DG was run at varying loads for approx. 40 minutes.
Invalid Test - Successful.
- 74) 8-26-87 Performed the Monthly 1A DG Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was run at full load for greater than one hour.
Valid Test - Successful.
- 75) 9-2-87 Performed the Monthly 1A DG Operability Surveillance 1BwOS 8.1.1.2.a-1. A large load oscillation was experienced approx. 30 minutes into the full load run. No other problems were experienced during the 130 minute run. The 1A DG was run at full for greater than 1 hour.
Valid Test - Successful.
- 76) 9-2-87 Ran the 1A DG for 11 minutes unloaded to troubleshoot emergency relay.
Invalid Test - Successful.

- 77) 9-2-87 Performed a troubleshooting run following replacement of an emergency master run relay. The 1A DG was run at full load for over one hour. Invalid Test - Successful.
- 78) 9-2-87 Started the 1A DG for the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1. Unstable frequency response was experienced in both the emergency and non-emergency modes. Valid Test - Failure (3)
- 79) 9-3-87 Installed another replacement emergency master run relay and performed a troubleshooting run. The 1A DG tripped on "Incomplete Sequence" due to leads on the emergency run relay being loose. Invalid Test - Failure (IX).
- 80) 9-3-87 Started the 1A DG for a troubleshooting run. The DG was run unloaded for 40 minutes in both emergency and non-emergency modes. Unstable frequency response was observed in the non-emergency mode. Invalid Test - Successful.
- 81) 9-3-87 Performed a troubleshooting run on the 1A DG following relay cleaning and relay socket replacement. The 1A DG was run for 1.5 hours at varying loads in the emergency and non-emergency modes. Invalid Test - Successful.
- 82) 9-3-87 Performed the 1A DG Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1 and the Quarterly Auto-Start Surveillance 1BwOS 3.2.1-805. The 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 83) 9-4-87 The 1A DG was run for approx. 90 minutes of varying loads to support the performance of start-up test AP-30, Loss of Offsite Power. Invalid Test - Successful.
- 84) 9-10-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 85) 9-19-87 1A DG was started for a troubleshooting run following rocker arm replacements. The 1A DG was run at full load for approx. 45 minutes. Invalid Test - Successful.
- 86) 9-20-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.

- 87) 9-28-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 88) 10-3-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 89) 10-10-87 The 1A DG was started for the performance of the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-1. The 1A DG was shutdown after running at full load for 5 minutes due to a fuel oil leak. Valid Test - Failure (4).
- 90) 10-10-87 The 1A DG was run for a troubleshooting run following pair of the fuel oil leak. The 1A DG was run at varying loads for 30 minutes. Invalid Test - Successful.
- 91) 10-10-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 92) 10-16-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 93) 10-19-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 94) 10-23-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 95) 10-26-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 96) 11-02-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 97) 11-9-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 98) 11-16-87 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.

- 99) 11-23-87 Performed a troubleshooting run on the 1A DG following replacement of the 4R Intake Rocker Arm and repair of a minor fuel oil leak on 7R fuel injector. The 7R fuel injector continued to leak. Invalid Test - Successful.
- 100) 11-23-87 Performed a troubleshooting run on the 1A DG following repair of the minor fuel oil leak on 7R fuel injector. The 7R fuel injector continued to leak. Invalid Test - Successful.
- 101) 11-23-87 Performed a troubleshooting run on the 1A DG following replacement of the 7R fuel injector. The 1A DG was run at full load for approx one half hour. Invalid Test - Successful.
- 102) 11-23-87 Performed the 1A DG Monthly Operability Surveillance 1BWOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 103) 11-30-87 Performed the 1A DG Monthly Operability Surveillance 1BWOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 104) 12-7-87 The 1ADG was started per 1BWOS 3.2.1-806. The 1A DG was run unloaded for 13 minutes. Invalid Test - Successful.
- 105) 12-7-87 Performed the 1A DG Monthly Operability Surveillance 1BWOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 106) 12-14-87 Performed the 1A DG Monthly Operability Surveillance 1BWOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 107) 12-21-87 Performed the 1A DG Monthly Operability Surveillance 1BWOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 108) 12-28-87 Performed the 1A DG Monthly Operability Surveillance 1BWOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 109) 1-10-88 The 1A DG was started and run at full load for approximately 2 1/2 hours to monitor cylinder peak firing pressures. Valid Test - Successful.
- 110) 1-12-88 Ran the 1A DG for a troubleshooting run following engine timing inspection. The 1A DG was run for 20 minutes at full load. Invalid Test - Successful.

- 111) 1-12-88 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 112) 1-18-88 The 1A DG was started to cross-tie busses 241 and 141. The 1A DG was run for approximately one half hour with a max load of 2500kw Invalid Test - Successful.
- 113) 2-1-88 The 1A DG was started and run at full load for 1 hour and 40 minutes to monitor cylinder peak firing pressures following cam timing adjustment. Invalid Test - Successful.
- 114) 2-4-88 The 1A DG was started to check operability of installed chart recorders prior to performance of load sequencing test. Invalid Test - Successful.
- 115) 2-4-88 The 1A DG was inadvertently started during performance of 1BwVS 8.1.1.2.f-13 on an SI signal due to operator mis-communication. The 1A DG ran for 15 minutes unloaded. Invalid Test - Successful.
- 116) 2-4-88 The 1A DG was started on a UV and SI signal for performance of 1BwVS 8.1.1.2.f-13 Load Sequence Surveillance. The 1A DG ran for 48 minutes at various loads. Invalid Test - Successful.
- 117) 2-4-88 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.
- 118) 2-7-88 The 1A DG was started for performance of 1BwOS 3.2.1.1.a-1. The 1A DG ran for 1 hour and 4 minutes at an average load of 3050kw. Valid Test - Successful.
- 119) 2-9-88 The 1A DG was started for surveillance 1BwOS 8.1.1.1.B-1. The 1A DG was run at various loads for 47 minutes. Invalid Test - Successful.
- 120) 2-14-88 Performed the 1A DG Monthly Operability Surveillance 1BwOS 8.1.1.2.a-1, the 1A DG was run at full load for greater than one hour. Valid Test - Successful.

1,2,3..... = Valid Failures
I,II,III... = Invalid Failures

ATTACHMENT B

Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
1) 8-10-86	Performed Load Reject Surveillance, 1BwVS 8.1.1.2.f-12. Strip chart recorder did not trace. Invalid Test - Successful
2) 8-10-86	Performed Load Reject Surveillance, 1BwVS 8.1.1.2.f-12. Engine loaded to 5500 kw for < 1 hour. Invalid Test - Successful
3) 8-11-86	Performed 18 month diesel generator inspection, 1BwVS 8.1.2.e-2 to check peak firing and compression pressures. Run at 5500 kw for 7 hours. Valid Test - Successful
4) 9-10-86	Attempted to complete 18 month diesel generator inspection, 1BwVS 8.1.1.2.e-2. Diesel generator tripped on "Incomplete Sequence". Cause was improper fuel priming. Valid Test - Failure (1)
5) 9-10-86	Engine was started and tripped on "Incomplete Sequence". Troubleshooting Run - Invalid Test - Failure (1)
6) 9-13-86	Ran diesel generator unloaded for 5 minutes. Troubleshooting Run - Invalid Test - Successful
7) 9-13-86	Ran diesel generator unloaded for 8 minutes. Troubleshooting Run - Invalid Test - Successful
8) 9-21-86	Ran diesel generator to complete 18 month inspection, 1BwVS 8.1.1.2.e-2. Ran diesel generator 5500 kw for 4.5 hours. Valid Test - Successful
9) 9-22-86	Attempted Auto-Start Surveillance of diesel generator 1BwVS 8.1.1.2.f-8. Diesel generator tripped on "Incomplete Sequence". Loss of fuel prime problem. Valid Test - Failure (2)
10) 9-29-86	Diesel generator run to check repairs on fuel system. Troubleshooting Run - Invalid Test - Successful

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Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
11) 9-30-86	Performed diesel generator auto-start on SI signal surveillance, 1BwVS 8.1.1.2.f-8. Diesel was run for less than 1 hour. Invalid Test - Successful
12) 9-30-86	Diesel generator run for less than 1 hour to check fuel prime. Invalid Test - Successful
13) 10-01-86	Diesel generator run for less than 1 hour to check fuel prime. Invalid Test - Successful
14) 10-02-86	Performed Trip Bypass Surveillance, 1BwVS 8.1.1.2.f-10. Diesel generator was not loaded. Invalid Test - Successful
15) 10-02-86	Performed final section of Trip Bypass Surveillance, 1BwVS 8.1.1.2.f-10. Diesel generator was run for less than 1 hour unloaded. Invalid Test - Successful
16) 10-02-86	Performed Alternate AC Power Surveillance, 1BwOS 8.1.1.1.b-1. Diesel generator was run at 500 kw for less than 1 hour. Invalid Test - Successful
17) 10-02-86	Diesel generator run for 12 minutes unloaded to check frequency. Invalid Test - Successful
18) 10-04-86	Operating attempted to run operability surveillance, 1BwOS 8.1.1.2.a-4. Diesel generator did not start. Valid Test - Failure (3)
19) 10-05-86	Ran SI signal override of Test Mode Surveillance, 1BwVS 8.1.1.2.f-20. Diesel generator was run for less than one hour. Invalid Test - Successful
20) 10-05-86	Operating performed the semi-annual operability surveillance, 1BwOS 8.1.1.2.a-4. Valid Test - Successful
21) 10-06-86	Ran SI signal override of Test Mode Surveillance, 1BwVS 8.1.1.2.f-20. Invalid Test - Successful
22) 10-14-86	Start diesel for 24 hour loaded run per 1BwVS 8.1.1.2.f-14. Stopped diesel after 2 hours loaded due to cylinder noise. Valid Test - Successful

ATTACHMENT B

Summary of 1B Diesel Generator Starts Activity

	<u>Date</u>	<u>Activity</u>
23)	10-14-86	Started diesel for 24 hour loaded run per 1BwVS 8.1.1.2.f-14. Valid Test - Successful
24)	10-15-86	Diesel generator was started on an undervoltage and SI signal following the 24 hour run per 1BwVS 8.1.1.2.f-14. Governor response to loads was unsatisfactory. Diesel was shutdown. Governor adjustments made. Valid Test - Failure (4)
25)	10-12-86	Started the 1B diesel generator for speed servo governor adjustment. Troubleshooting Run - Invalid Test - Successful
26)	10-17-86	Started the diesel generator on an SI signal to adjust governor in the Emergency Mode. Troubleshooting Run - Invalid Test - Successful
27)	10-17-86	Started and loaded the diesel generator to 5500 kw for 2 hours for the auto-actuation portion of 1BwVS 8.1.1.2.f-14. Invalid Test - Successful
28)	10-17-86	Diesel generator emergency started for surveillance 1BwVS 8.1.1.2.f-14. Invalid Test - Successful
29)	10-19-86	Diesel generator was started on an undervoltage signal for surveillance 1BwVS 8.1.1.2.f-16. Engine was run for 7 minutes and stopped. One strip chart channel did not record. Invalid Test - Successful
30)	10-19-86	Diesel generator was auto started on undervoltage signal per 1BwVS 8.1.1.2.f-16. Diesel generator was run for less than one hour. Invalid Test - Successful
31)	10-19-86	Operating performed Alternate AC Power Supply Surveillance. The diesel generator was run for less than one hour. Invalid Test - Successful
32)	10-24-86	Operating performed the monthly operability surveillance, 1BwOS 8.1.1.2.a-2. The operator recorded an 11 second start with a stopwatch. Valid Test - Failure (5)

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Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
33) 10-31-86	Diesel generator was started to troubleshoot start time. Strip chart connections were loose causing erroneous diesel engine indication. DG was stopped. Troubleshooting Run - Invalid Test - Failure. (II)
34) 11-01-86	Diesel generator was started to check strip chart connection problem. DG was run for less than 1 hour. Troubleshooting Run - Invalid test - Successful
35) 11-01-86	Diesel generator was started for Monthly Operability Surveillance, 1BWOS 8.1.1.2.a-2. Valid Test - Successful
36) 11-07-86	Operating performed the Monthly Operability Surveillance, 1BWOS 8.1.1.2.a-2. Operator recorded a 13.2 second start with a stopwatch. Valid Test - Failure (6)
37) 11-08-86	Monthly Operability Surveillance 1BWOS 8.1.1.2.a-2 was performed with strip chart recorder to investigate start time. Diesel generator started within limits and was run for greater than 1 hour at 5500 kw. Valid Test - Successful
38) 11-11-86	Performed Operability Surveillance 1BWOS 8.1.1.2.a-2. Diesel generator ran for greater than 1 hour at 5500 kw. Valid Test - Successful
39) 11-21-86	Diesel generator was started after tightening air start valves and adjusting timing. Diesel generator tripped on Incomplete Sequence. Troubleshooting Run - Invalid Test - Failure (III)
40) 11-23-86	Diesel generator was run to investigate incomplete sequence trip. Diesel generator tripped on Incomplete Sequence. Troubleshooting Run - Invalid Test - Failure (IV)
41) 11-23-86	Diesel generator was run to investigate Incomplete Sequence Trip. Diesel generator tripped on Incomplete Sequence. Troubleshooting Run - Invalid Test - Failure (V)

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Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
42) 11-23-86	Diesel generator was run to investigate Incomplete Sequence Trip. Engine was run for 7 minutes with a jumper installed. Troubleshooting Run - Invalid Test - Successful
43) 11-25-86	Diesel generator was run to investigate Incomplete Sequence Trip. Diesel generator tripped on incomplete sequence. Troubleshooting Run - Invalid Test - Failure (VI)
44) 11-25-86	Diesel generator was run to investigate Incomplete Sequence Trip. Diesel generator tripped on incomplete sequence. Troubleshooting Run - Invalid Test - Failure (VII)
45) 11-26-86	Diesel generator was run to investigate Incomplete Sequence trip. Engine was run for 10 minutes with a jumper installed. Troubleshooting Run - Invalid Test - Successful
46) 11-26-86	Diesel generator was run to investigate Incomplete Sequence trip. DG was run for greater than 1 hour at 5500 kw. Troubleshooting Run - Invalid Test - Successful
47) 11-26-86	Operating performed the Monthly Operability Surveillance 1BWOS 8.1.1.2.a-2. Diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
48) 12-02-86	Operating performed the Monthly Operating Surveillance 1BWOS 8.1.1.2.a-2. Diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
49) 12-09-86	Diesel generator was started on a quarterly slave relay surveillance. Diesel Generator was run for less than 1 hour. Invalid Test - Successful
50) 12-09-86	Operating performed the Monthly Operability Surveillance. The diesel generator output breaker did not close. Valid Test - Failure (7)

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Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
51) 12-10-86	Diesel generator started to troubleshoot output breaker. Breaker functioned properly. Diesel generator was run for less than one hour. Troubleshooting Run - Invalid Test - Successful
52) 12-10-86	Diesel generator was started on a quarterly slave relay surveillance. Diesel generator was run for less than 1 hour. Invalid Test - Successful
53) 12-10-86	Operating performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
54) 12-17-86	Operating performed monthly operability surveillance 1BwOS 8.1.1.2.a-2. Diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
55) 12-29-86	Performed a maintenance troubleshooting run. The diesel generator tripped on Incomplete Sequence. Troubleshooting Run - Invalid Test - Failure (VIII)
56) 12-30-86	Performed a troubleshooting run on the Incomplete Sequence trip. The diesel generator tripped on incomplete sequence. Troubleshooting Run - Invalid Test - Failure (IX)
57) 1-02-87	Performed a maintenance, troubleshooting run. Troubleshooting Run - Invalid Test - Successful
58) 1-02-87	Operating performed Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel Generator was run for greater than 1 hour of 5500 kw. Valid Test - Successful
59) 1-08-87	Operating performed Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel Generator was run for greater than 1 hour of 5500 kw. Valid Test - Successful
60) 1-16-87	Operating performed Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel Generator was run for greater than 1 hour of 5500 kw. Valid Test - Successful

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Summary of 1B Diesel Generator Starts Activity

	<u>Date</u>	<u>Activity</u>
61)	1-28-87	Performed a maintenance, troubleshooting test following a maintenance outage. The diesel generator tripped on "Main and Conn. Rod Brg. Temp. Hi". Invalid Test - Failure (X)
62)	1-28-87	Performed a maintenance, troubleshooting test. The diesel generator was run for 5 minutes and stopped to investigate strip chart recorders. Invalid Test - Successful
63)	1-29-87	Performed a maintenance, troubleshooting test. The diesel generator was run for 10 minutes and stopped to investigate strip chart recorder ground. Invalid Test - Successful
64)	1-29-87	Performed a maintenance, troubleshooting test. The diesel generator was run for 15 minutes and stopped after determined strip chart recorders functioned correctly. Invalid Test - Successful
65)	1-29-87	Performed diesel generator modification test M20-1-86-003-1. The diesel generator was run at approximately 1000 kw for 2 hours and 45 minutes. Invalid Test - Successful
66)	1-29-87	Operating performed Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel Generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
67)	1-31-87	Diesel Generator was run for 5 minutes to verify proper field flash indication. Invalid Test - Successful
68)	2-05-87	Operating performed Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel Generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
69)	2-12-87	Operating performed Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. Diesel Generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
70)	2-13-87	The diesel generator was auto-started on a simulated SI signal for surveillance testing and run for 20 minutes unloaded. Invalid Test - Successful

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Summary of 1B Diesel Generator Starts Activity

	<u>Date</u>	<u>Activity</u>
71)	2-19-87	The diesel generator was started for Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was shutdown after 25 minutes when a Kiene indicating cock valve failed. Valid Test - Failure (8)
72)	2-20-87	Performed a maintenance, troubleshooting test after replacement of the failed indicating valve. The diesel generator was run for 50 minutes at 5500 kw. Invalid Test - Successful
73)	2-20-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
74)	2-27-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
75)	3-02-87	Performed a maintenance, troubleshooting run after the replacement of the 8L cylinder fuel line. The diesel generator was run for 30 minutes at 5500 kw. Invalid Test - Successful
76)	3-02-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
77)	3-10-87	Performed a Maintenance, Troubleshooting run after replacement of all Kiene indicating valves. The diesel generator was run for 30 minutes at 5500 kw. Invalid Test - Successful.
78)	3-10-87 3-11-87	Diesel Generator was run for 23 hours at full load as part of the 100 hour cumulative run. The 1B diesel generator was shutdown to repair minor fuel injector leaks on 3 cylinders. Valid Test - Successful.
79)	3-11-87	Attempted to run diesel generator for maintenance, troubleshooting run following fuel injector line repairs. Diesel generator tripped on "Incomplete Sequence" after approximately 1 minute. Invalid Test - Failure (XI)

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Summary of 1B Diesel Generator Starts Activity

	<u>Date</u>	<u>Activity</u>
80)	3-11-87	Attempted to run the diesel generator for a maintenance, troubleshooting test. The diesel generator tripped on "Incomplete Sequence" after approximately 1 minute. Invalid Test - Failure (XII)
81)	3-11-87	Attempted to run the diesel generator for a maintenance, troubleshooting test. The diesel generator tripped on "Incomplete Sequence" after approximately 1 minute. Invalid Test - Failure (XIII)
82)	3-12-87	Started the diesel generator for maintenance, troubleshooting after correcting instrument valve line-up. The diesel generator was run for 10 minutes at 5500 kw. Invalid Test - Successful
83)	3-12-87 to 3-15-87	The diesel generator was run for approximately 77 hours at 5500 kw to complete the 100 hour cumulative run. Valid Test - Successful
84)	3-16-87	Performed a maintenance, troubleshooting run after rocker arm inspections and relay replacement. The diesel generator tripped on "Generator Reverse Power" after running for 45 minutes at 5500 kw. Invalid Test - Failure (XIV)
85)	3-17-87	Performed a maintenance, troubleshooting run to investigate load fluctuations. The diesel generator was run for 2 hours at varying loads. Invalid Test - Successful
86)	3-17-87	Performed a maintenance, troubleshooting run to investigate load fluctuations. The diesel generator was run for 1 hour at varying loads. Invalid Test - Successful.
87)	3-17-87	Performed a maintenance, troubleshooting run following the isochronous mode relay replacement. The diesel generator was run for 45 minutes at 5500 kw. Invalid Test - Successful
88)	3-17-87	Performed the Monthly Operability Surveillance 1BWOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful

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Summary of 1B Diesel Generator Starts Activity

	<u>Date</u>	<u>Activity</u>
89)	3-24-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
90)	3-28-87	Performed a maintenance, troubleshooting following valve tappet adjustments. The diesel generator was run for 45 minutes at 5500 kw. Invalid Test - Successful
91)	3-28-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
92)	3-29-87	Diesel Generator was run for 20 minutes to check leakage on fuel oil relief valve. Invalid Test - Successful
93)	3-29-87	Diesel Generator was run for 15 minutes to check leakage on fuel oil relief valve. Invalid Test - Successful
94)	4-03-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
95)	4-04-87	Performed a maintenance, troubleshooting run following replacement of the 7L fuel injector due to minor leakage. The diesel generator was run for 30 minutes at 5500 kw. Invalid Test - Successful
96)	4-05-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
97)	4-05-87	Perform a maintenance, troubleshooting start following calibration of the vibration shutdown press switch. The diesel was run for 15 minutes unloaded. Invalid Test - Successful
98)	4-10-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful

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Summary of 1B Diesel Generator Starts Activity

	<u>Date</u>	<u>Activity</u>
99)	4-28-87	1B diesel generator was used to crosstie Bus 142 to Bus 242 for a temporary auxiliary power procedure. The 1B diesel generator tripped on "Reverse Power" after synchronization. Invalid Test - Failure (XV)
100)	4-28-87	1B diesel generator was started and used to transfer Bus 142 loads back to Unit 1 System Auxiliary Transformer. Invalid Test - Successful
101)	5-06-87	Performed a maintenance, troubleshooting run following the installation of modifications to add isolation valves and replacement of the isochronous mode relay. The 1B diesel generator was operated for greater than 1 hour at varying loads. Invalid Test - Successful
102)	5-06-87	Performed a maintenance, troubleshooting run following installation of modifications. The 1B diesel generator was operated for greater than 1 hour at varying loads. Valid Test - Successful
103)	5-06-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The diesel generator was run for greater than 1 hour at 5500 kw. Valid Test - Successful
104)	5-18-87	Performed a maintenance, troubleshooting run to monitor load fluctuations using several strip chart connections. The diesel generator was run for greater than 1 hour at varying loads. Invalid Test - Successful
105)	5-18-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The diesel generator was run greater than 1 hour at 5500 kw. Valid Test - Successful
106)	6-16-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The diesel generator was run greater than 1 hour at 5500 kw. Valid Test - Successful.
107)	7-17-87	Ran 1BwOS 8.1.1.2a-2 for Operability run. The DG was shut down before 60 minutes greater than 5500 kw was achieved. The surveillance was unsuccessful due to load swings taking load below 5500 kw. Valid Test - Successful.
108)	7-17-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at varying loads for approx. 2 hours. Invalid Test - Successful.

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Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
109) 7-18-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at varying loads for approx. 2 hours. Invalid Test - Successful.
110) 7-18-82	Performed a troubleshooting run to investigate load swings. The 1B DG was run unloaded for 16 minutes. Invalid Test - Successful.
111) 7-18-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at full load for approx. 1 hr. Invalid Test - Successful.
112) 7-20-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at approx. full load for 1.5 hours. Invalid Test - Successful.
113) 7-20-87	Performed a troubleshooting run to investigate load swings 1B DG was run at varying loads for approx. 2 hours. Invalid Test - Successful.
114) 7-20-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at full load for 20 minutes. Invalid Test - Successful.
115) 7-21-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at varying loads for 80 minutes. Invalid Test - Successful.
116) 7-21-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run for approx. 45 minutes at full load. Invalid Test - Successful.
117) 7-21-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run for 1 hour at full load. Invalid Test - Successful.
118) 7-22-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run for approx. 1.5 hours at full load. Invalid Test - Successful.
119) 7-22-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run for greater than 1 hour at full load. Invalid Test - Successful.
120) 7-22-87	Performed 1BwOS 8.1.1.2.a-2 to demonstrate 1B DG Operability. The 1B DG was run greater than 1 hour at 5500kw. Valid Test - Successful.

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Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
121) 7-23-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. Load swings were experienced. the DG was run for approx. 3 hours including 1 hour at full load. Valid Test - Successful.
122) 7-24-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at varying loads for approx. 2.5 hours. Invalid Test - Successful.
123) 7-25-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at varying loads for 1.5 hours. Invalid Test - Successful.
124) 7-26-87	Performed a troubleshooting run to investigate load swings. The 1B DG was run at full load for 1 hour. Invalid Test - Successful.
125) 7-26-87	Performed the Monthly Operability Surveillance 1BwOS 8.1.1.2.a-2 and Quarterly Auto Start Surveillance, 1BwOS 3.2.1-816. The 1B DG was run for greater than 1 hour at full load. Valid Test - Successful.
126) 7-27-87	Performed the Monthly Operability Surveillance. 1BwOS 8.1.1.2.a-2. the 1B DG was run for greater than 1 hour at full load. Valid Test - Successful.
127) 7-28-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run for greater than 1 hour at full load. Valid Test - Successful.
128) 7-29-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run for greater than 1 hour at full load. Valid Test - Successful.
129) 8-8-87	Performed a maintenance, troubleshooting run following the installation of new rocker arms and valve tappet adjustments. The 1B DG was run at full load for approx. 45 minutes. Invalid Test - Successful.
130) 8-8-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run for greater than 1 hour at full load. Valid Test - Successful.

ATTACHMENT B

Summary of 1B Diesel Generator Starts Activity

<u>Date</u>	<u>Activity</u>
131) 8-16-87	1B DG started on an undervoltage signal for startup test AP-30. The DG accepted load satisfactorily. The 1B DG was run for 2 hours at varying loads. Invalid Test - Successful.
132) 8-21-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. the 1B DG was run greater than 1 hour at full load. Valid Test - Successful.
133) 9-3-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. the 1B DG was run greater than 1 hour at full load. Valid Test - Successful.
134) 9-18-87	The 1B DG was run for 35 minutes unloaded for completion of an operating test. Invalid Test - Successful.
135) 9-21-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run greater than 1 hour at full load. Valid Test - Successful.
136) 10-19-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run greater than 1 hour at full load. Valid Test - Successful.
137) 10-24-87	The 1B Diesel Generator was run for 5 minutes at 1500kw to ensure operability of output breaker following VA-11 Testing. Invalid Test - Successful.
138) 11-19-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run greater than 1 hour at full load. Valid Test - Successful.
139) 11-23-87	The 1B DG was started and run unloaded for 10 minutes to satisfy the requirements of LCOAR 1BwOS 8.1.1-1A. Invalid Test - Successful.
140) 12-20-87	Performed the Monthly Operability Surveillance, 1BwOS 8.1.1.2.a-2. The 1B DG was run greater than 1 hour at full load. Valid Test - Successful.
141) 1-6-88	The 1B DG was started and run at varying loads for approximately 7 1/2 hours to perform engine analysis and monitor cylinder peak firing pressures. Valid Test - Successful.

- 142) 1-13-88 The 1B DG was started to cross-tie busses 142 and 242. The 1B DG was run for 14 minutes at varying power levels. Invalid Test - Successful.
- 143) 1-22-88 The 1B DG was started and run 2 hours and 40 minutes at full load to monitor cylinder peak firing pressures following cam timing adjustments. Invalid Test - Successful.
- 144) 1-25-88 The 1BDG was started and run for approximately 20 minutes at full load to monitor cylinder peak firing pressures following shimming of several fuel oil pumps. Minor fuel oil leaks developed on the 4R and 8R high pressure fuel oil injection lines. Invalid Test - Successful.
- 145) 1-26-88 Performed a trouble shooting run on the 1B DG following repair of the minor fuel oil leaks on 4R and 8R cylinders. The high pressure fuel oil line continued to leak. The 1B DG ran for 35 minutes at full load. Invalid Test - Successful.
- 146) 1-26-88 Performed a trouble shooting run on the 1B DG following replacement of the 8 cylinder fuel pump. In addition, cylinder peak firing pressures were monitored. The 1B DG ran for 2 hours and 32 minutes at full rated load. Invalid Test - Successful.
- 147) 1-27-88 1B DG was started on a UV and SI signal per 1BWVS 8.1.1.2.f-14. DG frequency response did not meet the acceptance criteria as defined in 1BWVS 8.1.1.2.f-14. Valid Test - Failure (9)
- 148) 1-27-88 Started the 1B DG for a troubleshooting run. The 1B DG was run for 2 hours at various power levels in both the emergency and non-emergency modes following Emergency Mode Master Run Relay replacement (4EX3). Invalid Test - Successful.
- 149) 1-27-88 1B DG was started on a UV and SI signal per 1BWVS 8.1.1.2.f-14. All DG measured parameters indicated proper during the load sequencing and subsequent steady state operation. The 1B DG was run for approximately 30 minutes. Invalid Test - Successful.
- 150) 1-28-88 1B DG was started to perform "Override of Test Mode Surveillance" 1BWVS 8.1.1.2.f-20. Invalid Test - Successful.
- 151) 1-28-88 Performed the Semi-Annual Operability Surveillance, 1BWOS 8.1.1.2.a-2 in conjunction with 1BWOS 3.2.1-816. The 1B DG was run for greater than one hour at full load. Valid Test - Successful.
- 152) 2-8-88 1B DG was started for performance of 1BWOS 3.2.1.1.a-2 and 1BWOS 8.1.1.1.b-1. The 1B DG was run for > 1 hour at various loads. Invalid Test - Successful.