



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

January 15, 1992

NOTE TO: Jimmy D. Blanton
Document Control Branch
Office of Information Resources Management

FROM: Cherie Siegel
Office for Analysis and Evaluation
of Operational Data

SUBJECT: DOCUMENTATION FOR NUREG-1410

In accordance with our recent telephone conversation, I am herewith submitting all the documentation that was collected to support the Vogtle Incident Investigation Team's (IIT) report, NUREG-1410, "Loss of Vital AC Power and the Residual Heat Removal System During Mid-Loop Operations at Vogtle Unit 1 on March 20, 1990." The bibliography for the documents is also enclosed. Please note: all documents listed as "proprietary" are not included.

As you suggested, I spoke with Elizabeth Yeates at the PDR who advised me to send you one (1) copy of all documents. She explained that these documents would be microfiched for the local PDR and the central PDR and that the copy sent to you would be retained by the PDR.

For your information, the documents are contained in six (6) boxes. The numbering system used on the documents is as follows:

The first identifying number is 05. This indicates that this is the fifth IIT conducted by the agency. (The NUREG number had not been assigned at the time the documents were collected; and we needed to distinguish this IIT from previous ones.)

The next number identifies the chronological sequence of the document and corresponds with the number listed in the bibliography. (There may be additional numbers which serve as subsets of the numbered documents.)

The final number identifies the year of 1990 as the year in which the IIT was conducted.

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If you have any questions or need any further information, please do not hesitate to contact me on 49-24624.

Also, you should know that AEOD is retaining all documentation supporting the GE-Wilmington IIT (NUREG-1450) and the Nine Mile Point IIT (NUREG-1455). You will eventually be receiving these documents. I look forward to your continuing cooperation in this process.



Cherie Siegel
Management Analyst
Office for the Analysis and Evaluation
of Operational Data

Enclosures:
As stated

BIBLIOGRAPHY

1. Memorandum from J. Taylor to the Commission dated 3/23/90;
Subject: Investigation of March 20, 1990 Event at Vogtle
Nuclear Power Plant Involving loss of offsite Power on
Demand at Unit 1
2. Documents Collected and Provided by Augmented Inspection
Team (AIT)
 - 2-1 Instruction Manual For S & C Circuit Switches
(Outdoor 230kv)
 - 2-2 Instruction Manual For Westinghouse Type Co
Overcurrent Relays
 - 2-3 Instruction Manual For ASEA Type RADSE Transformer
Differential Protective Relays
 - 2-4 Instruction Manual For Brown Boveri Type AOT, AOK
& AOS High
Voltage Current Transformer
 - 2-5 Instruction Manual For General Electric Type PVD
Differential Voltage Relay
 - *2-6(124) Nuclear Plant Maintenance Work Order No. 28900466
 - *2-7(267) Bechtel Drawings 1X3D-AA-A01A (Main One Line -
Unit 1)
 - 2-8 Bechtel Drawings 2X3D-AA-A01A (Main One Line -
Unit 2)
 - 2-9 Bechtel Drawings AX3D-AA-A01A (Main One Line -
Common Units 1 & 2)
 - 2-10 Bechtel Drawings AX3DL060 (Switchyard General
Arrangement)
 - 2-11 Bechtel Drawings 1X3DH7A1 (Low Voltage Switchyard
Plan)
 - 2-12 Company Services/GPC Drawing AX3D-BA-L55A (230kv
Offsite Source No. 1 C.T. & P.T. Connecting -
Sheet 1)
 - 2-13 Bechtel Drawings 2X3D-BB-BOIL (Elementary Diagram
-Electrical System Generator Tripping)
 - 2-14 Southern Company Services/GPC Drawing AX3D-BA-
L57D (500kv PCB No. 161520 Close & Trip No. 1)
 - 2-15 Southern Company Services/GPC Drawing AX9D-AA-
L50T (500kv PCBs No. 161520/161620/161660 Single
Line)
 - 2-16 Southern Company Services/GPC Drawing AX3D-BA-
L55A (230kv Offsite Source No. 1 C.T. & P.T.
Connecting - Sheet 1)
 - 2-17 Southern Company Services/GPC Drawing AX3D-BA-
L55B (230kv Offsite Source No. 1 C.T. & P.T.
Connecting - Sheet 1)
 - 2-18 Southern Company Services/GPC Drawing AX3D-BA-
L55C (230 Offsite Source No. 1 Diff. & Backup
Relaying)

*Refer to document number in parentheses

2-19 Southern Company Services/GPC Drawing AX3D-AA-L50B (230kv Single Line For PCBs 161760/161860/161960)

2-20 Bechtel Drawings 2X3D-AA-B04A (Three Line Diagram - Unit 2 AC Generator)

2-21 Bechtel Drawings 2X3D-AA-B02A (One Line - Relays & Meters For RATs)

2-22 Bechtel Drawings 2X3D-AA-B01A (Relays & Meters - Generator, Main, & UAT)

2-23 Bechtel Drawings 1X3D-BH-B55B (Res. Aux. XFMR INXRB CKT Switcher)

2-24 Southern Company Services/GPC Drawing AX3D-AA-L50A (500kv & 230kv Sunstation Single Line Index Drawing)

2-25 Nuclear Plant Maintenance Work Order No. 18906364

2-26 Southern Company Services/GPC Drawing AX3D-BA-L52R

2-27 Southern Company Services/GPC Drawing AX3D-BA-L52N Elementary

2-28 Southern Company Services/GPC Drawing AX3D-BA-L52P Diagrams For 230kv PCB

2-29 Southern Company Services/GPC Drawing AX3D-BA-L52Q No. 161850

2-30 Southern Company Services/GPC Drawing AX3D-BA-L52S

2-31 Southern Company Services/GPC Drawing AX3D-BA-L52H

2-32 Southern Company Services/GPC Drawing AX3D-CA-L72K

2-33 Bechtel Drawing 1X3D-AA-D03B (4160 V Switchgear 1BA03)

*2-34 (2-40) Bechtel Drawing 1X3D-AA-D03A (4160 V Switchgear)

2-35 Bechtel Drawing 1X3D-AA-D02B (4160 V Switchgear 1AAC2)

2-36 Bechtel Drawing 1X3D-AA-D02A (4160 V Switchgear 1BA02)

2-37 Bechtel Drawing 1X3D-AA-D01A (4160 V Switchgear 1NA01)

2-38 Bechtel Drawing 1X3D-AA-D04A (4160 V Switchgear 1NA04)

2-39 Bechtel Drawing 1X3D-AA-D02A (4160 V Switchgear ANA02)

2-40 Bechtel Drawing 1X3D-AA-D03A (4160 V Switchgear ANA03)

2-41 Bechtel Drawing AX3D-BA-D02C (4160 V Breaker ANA0203)

2-42 Bechtel Drawing AX3D-BA-D03C (4160 V Breaker ANA0303)

2-43 Bechtel Drawing AX3D-BA-D03B (4160 V Breaker ANA0301)

2-44 Bechtel Drawing 1X3D-BA-D01J (4160 V Breaker 1NA0111)

*Refer to document number in parentheses

2-45 Bechtel Drawing 1X3D-BA-D04D (4160 V Breaker
 1NA0412)
 2-46 Bechtel Drawing 1X3D-BA-D02C (4160 V Swgr 1AA02
 INCM Brkr 1NXRB)
 2-47 Bechtel Drawing 1X3D-BA-D02B (4160 V Swgr 1AA02
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 2-48 Bechtel Drawing 1X3D-BA-D02D (4160 INCM Brkr 152-
 1AA0219 EDG)
 2-49 Bechtel Drawing 1X3D-BA-D01C (4160 Swgr 1NA01 INCM
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 2-50 GPC Procedure No. 13145-1 "Diesel Generators"
 2-51 GPC Procedure No. 24614-1 "Train B Sequencer ACOT
 & CAL"
 2-52 GPC Procedure No. 27563-C "Generator And Engine
 Control Panel Functional Test"
 2-53 Delaval Drawing 09-500-76021 Sh 1
 2-54 Delaval Drawing 09-500-76021 Sh 2
 2-55 Delaval Drawing 09-500-76021 Sh 3 Diesel
 Generator
 2-56 Delaval Drawing 09-500-76021 Sh 4 Engine Control
 2-57 Delaval Drawing 09-500-76021 Sh 5 Panel
 Schematics
 2-58 Delaval Drawing 09-500-76021 Sh 6
 2-59 Delaval Drawing 09-500-76021 Sh 7
 2-60 Delaval Drawing 09-500-76021 Sh 8
 2-61 Delaval Drawing 09-695-76021 "Engine Pneumatic
 Schematic"
 2-62 Prints
 1X3D-AA-A01A, Rev. 16
 1X3D-AA-F27A, Rev. 13
 1X3D-AA-F28A, Rev. 14
 1X3DDGC20, Rev. 15 w/FCR
 2-63 10 Mile EPZ Map
 2-64 NOUE ED Checklist Of 3/23/90
 2-65 EOF Personnel For 3/20/90
 2-66 Security Emergency Response Organization for
 3/20/90
 2-67 TSC Personnel 3/20/90
 2-68 CR Personnel 3/20/90
 2-69 OSC Personnel 3/20/90
 2-70 Training Records EOF
 2-71 Communicator Package Consisting Of:
 Course Completion & Attendance Records
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 2-72 Control Room Layouts
 Procedure 10003-C
 2-73 Previous Inspection Report:
 50-424,425 89-21 & 89-25 8/25-27/89 Exercise
 50-424/425 88-38 & 88-42 8/15-19/89 ERF
 Appraisal

2-74 QA Open Item OQA-87-292
 2-75 Safety Standard Handbook
 2-76 Emergency Director Log
 2-77 TSC Log
 2-78 Emergency Notification Messages:
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 2-79 EOF Manager Log
 2-80 Met Info
 2-81 Dictated From GEMA To VEGP (FAX 3/22/90)
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 2-82 Assorted News Dispatcher & Newspaper Articles
 2-83 Procedures:
 91001-C, Rev. 7
 91002-C, Rev. 15
 91102-C, Rev. 6
 91401-C, Rev. 5
 91704-C, Rev. 8
 2-84 GEK Training Student Handout
 2-85 Handbook For General Employee Badge Training
 2-86 3/2/90 Test "Data Sheet 4" Of 91204-C & Data Sheet
 7
 2-87 3/20/90 Notes "Emergency Response" - From Region
 II
 2-88 3/21/90 Notes 3 Pgs. Notes
 2-89 8 Hr Report Dated 3/20-90
 2-90 3/22 Results Sheet On Accountability & TSC
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 Offsite Interaction - Phone Call; 3/22 BUENN Notes
 2-91 3/22 Interview - Herb Whitener RII
 2-92 3/23 Notes CR Procedure Verification
 2-93 RII Plant Note On Capt. T. Nash
 2-94 Interview Pauline Jenkins - Communication
 2-95 Interview Theresa Jones - Communication
 2-96 Interview Jimmy Cash - Operations Supt.
 2-97 Interview William Burmeister - Plant Duty Manager
 2-98 Results Of Selected Sampling Of Employee In
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 2-99 E Plan Section H-3 "Activities And Staffing of
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 2-100 Interview John Hopkins - Shift Supt. Unit 1
 (Interview Incomplete)
 2-101 Interview Capt. William Johnson Accountability &
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2-102 Interview Lt. William Stewart Accountability
 2-103 Historical Classification of Emergency & Phone
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 Notes - Bob Trojanowski - RII GAO
 2-104 E Plan, Section B, "Onsite Emergency Organization"
 2-105 Results Of CR Walkdown Of Procedure File As Found
 2-106 Backup ENN Description
 2-107 Met Bldg. Inspection Notes
 2-108 Listing Of Onshift People For Inspection
 *2-109 Drug And Alcohol Screening Report On Donnie
 Willhite (Fuel Truck Driver)
 2-110 Inventory Of Fuel Truck
 2-111 Procedure 00656-C, Traffic And Parking Control,
 Rev. 0
 2-112 Procedure 90015-C, Vehicle Access, Rev. 8
 2-113 Procedure 00653-C, Protected Area Entry/Exit
 Control, Rev. 8
 2-114 Procedure 70030-C, Traffic And Parking Control,
 Rev. 2
 **2-115(2-112) Procedure 90015-C, Vehicle Access To The PA
 2-116 Procedure 00260-C, Hazardous Substance And Waste
 Control, Rev. 5
 2-117 Procedure 00261-C, Fuel Oil Handling And Safety ,
 Rev. 5
 2-118 The Alvin W. Vogtle Electric Generating Plant:
 Safety Standards
 2-119 Figure 16-1 "Offsite AC" (FSAR)
 **2-120(307) GPC - VEGP - Unit 1 Control Log - pp 5283-84
 (3/20/90)
 2-121 GPC - VEGP - Unit 2 Control Log - pp 2601-03
 (3/20/90)
 2-122 GPC - VEGP - Unit 1 SS Log - pp 5413-14 (3/20/90)
 2-123 GPC - VEGP - Unit 2 SS Log - pp 2875-77 (3/20/90)
 2-124 VEGP - Unit 2 Trip Report
 **2-125(33) Proteus Alarm Printout - Unit 2 (3/20/90)
 **2-126(32) Proteus Alarm Printout - Unit 1 (3/20/90)
 2-127 DC 1-90-0097 (1A D/G Sequencer Prob)
 2-128 Control Room Layouts
 2-129 Procedure 13145-1, Rev. 20 "Diesel Generators"
 2-130 Licensed Operator Training Materials For Loss Of
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 2-131 Licensed Operator Training Materials For Loss Of
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 2-132 Licensed Operator Training Materials For Emergency
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*PROPRIETARY--NOT AVAILABLE

**Refer to document number in parentheses

- 2-133 Outside Operator Training Material For Diesel Generator Operation
- 2-134 Procedure No. 12006-C Unit Cooldown to Cold Shutdown 3/8/90
- 2-135 Procedure No. 13005-1 Reactor Coolant System Draining 2-23-90
- 2-136 Procedure No. 13011-1 Residual Heat Removal System 3-26-90
- 2-137 Procedure No. VEGP 00052-C Procedure No. 12007-C Refueling Entry 3-26-90
- 2-138 Procedure No. 12007-C Refueling Entry 3/8/90
- 2-139 Procedure No. 12000-C Refueling Entry 3/8/90
- 2-140 Procedure No. 18019-C Abnormal Operating Procedure Loss of Residual Heat Removal 3/8/90
- 2-141 Procedure No. 19100-C Emergency Operating Procedure ECA-O.O Loss of All AC Power 3/16/90
- 2-142 Procedure No. 23985-1 RCS Temporary Water Level System Emergency Operating Procedure ECA - O>=O.O Loss of All AC Power 5/12/89
- 2-143 Procedure No. 54840-1 Installation and removal instructions for the RCS Temp. Level Indication Tygon Tube and the Defeat of the Residual Heat Removal Suction valve auto closure interlock
- 2-144 0950076021 pp. 9 of 9 Delaval Drawing Engine Control Panel
- 2-145 0968876021 pp. 1 of 3 Devalve Drawing Engine and Skid Ele. Schem
- 2-146 1X4DB111 Rev. 17 P&I Diagram Reactor Coolant System No. 1201
- 2-147 1X4DB112 Rev. 24 P&I Diagram Reactor Coolant System No. 1201
- 2-148 1X4DB114 Rev. 25 P&I Diagram Reactor Coolant System No. 1208
- 2-149 1X4DB115 Rev. 23 P&I Diagram Chemical & Valve No. 1208
- 2-150 1X4DB116-1 Rev. 23 P&I Diagram Chemical & Valve No. 1208
- 2-151 1X4DB116-2 Rev. 16 P&I Diagram Chemical & Valve No. 1208
- 2-152 1X4DB117 Rev. 19 P&I Diagram Chemical & Valve No. 1208
- 2-153 1X4DB118 Rev. 20 P&I Diagram Chemical & Valve No. 1208
- 2-154 1X4DB119 Rev. 21 P&I Diagram Safety Injection System No. 1204
- 2-155 1X4DB120 Rev. 15 P&I Diagram Safety Injection System No. 1204
- 2-156 1X4DB121 Rev. 25 P&I Diagram Safety Injection System No. 1204
- 2-157 1X4DB122 Rev. 27 P&I Diagram Residual Heat Removal System No.1205

- 2-158 Loss of All AC/4160V IE Power Lesson Plan
3. Briefing Book document for IIT Leader
- 3-1 Ltr to W. G. Harston, III fm S. D. Ebnetter dtd 3/23/90.
Subject: Confirmation of Action Letter
 - 3-2 PNO-II-90-16, Subject: Site Area Emergency at Vogtle
Unit 1 Loss Of Offsite Power (3/20/90)
 - 3-3 PNO-II-90-16A, Subject: Site Area Emergency at Vogtle
Unit 1 Loss Of Offsite Power (3/21/90)
 - 3-4 PNO-II-90-16B, Subject: Augmented Inspection Team is
Dispatched to Vogtle Unit 1 (3/22/90)
 - 3-5 EVENT NUMBER: 18024 (3/20/90)
 - 3-6 DRAFT: NRC Staff Dispatches Augmented Inspection Team
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 - 3-7 Meeting Purpose: NRC ENTRANCE (3/22/90)
 - 3-8 Status Summary 1: (3/20/90)
 - 3-9 Status Summary 2: (3/20/90)
 - 3-10 Article: Alert Declared at Vogtle after Truck Hits
Tower (3/21/90) (The Augusta Chronicle)
 - 3-11 Article: Outage at Vogtle Means Moment of Fear of Some
(3/21/90) (The Augusta Chronicle)
 - 3-12 Questions and Responses
 - 3-13 Electrical Distribution Schematic Charts
 - 3-14 VR-1 Update 1500 3/22, Site Area Emergency (3/20/90)
 - 3-15 VR-2 Update 1500 3/23, Site Area Emergency (3/20/90)
 - 3-16 Attention - Quarantine List and Licensee Restrict: as
 - 3-17 Charc - D/G Testing Unit 1 (3/24/90)
 - 3-18 1st Draft of GPC's Event Critique (uneventful). Event
Title: Loss of Offsite & Onsite AC Power (3/20/90)
 - 3-19 Power Level/Mode and Inoperable Equipment/Abnormal
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- 3-20 Interview Notes (3/20/90)
- 3-21 Interview List (3/23/90)
- 3-22 Miscellaneous Notes
- 3-23 Status of AIT Charter Item Assigned to Rick Kendall
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- 3-24 Discussion w/ Paul Kochery (10:30 a.m.) (3/25/90) notes
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- 3-25 Offsite Commendation 5a
- 3-26 Onsite Notification 5b
- 3-27 GPC, Vogtle Plant, Unit 1 Control Log (3/20/90)
- 3-28 GPC, Vogtle Plant, Unit 1 Shift Supervisor Log
(3/20/90)
- 3-29 GPC, Vogtle Plant, Unit 1 Control Building Operator Log
(3/20/90)
- 3-30 GPC, Vogtle Plant, Unit 1 Turbine Building Operating
Log (3/20/90)
- 3-31 GPC, Vogtle Plant, Unit 1 Auxiliary Building Operating
Log (3/20/90)
- 3-32 GPC, Vogtle Plant, Unit 1 Auxiliary Building Radwaste
Operator Log (3/20/90)
- 3-33 GPU, Vogtle Electric Generating Plant, Unit 1 Outside
Area Operating Log (3/20/90)
- 3-34 Preliminary Thermocouple Reading Charts for Unit 1
- 3-35 Interview Schedule (3/23/90)
- 3-36 Interview Schedule - AIT (3/24/90)
- 3-37 Warren Lyon - Status Report Notes for Item 1 (3/24/90)
- 3-38 Status Regarding AIT Charter Item No. 3, Charter Item
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- 3-39 Status Regarding Summer (#4) (3/24/90) (Testa)
- 3-40 Vogtle AIT Chart Item 7 (Trager)

4. Evaluation of Potential Explosion in the Vogtle Switchyard
 - 4-1 Event Evaluation #1 (3/24/90)
 - 4-2 Event Evaluation #2 (4/10/90)
 - 4-3 Event Evaluation #2 (4/12/90)
5. Entrance Presentation by Georgia Power Company 3/26/90
6. PNO-IIT-90-02 3/26/90 Subject: IIT arrive at Vogtle Site
7. Agreements signed by (3) industry representatives on Waiver of Compensation, Conflict of Interest and release of Investigation Information for industry participating in IIT
8. Bulletin Board Notice
9. Letter to Document control desk, USNRC from W. G. Hairston III, Sr. V.P., Nuclear Operation, Georgia Power Co., dated 11/30/89. Subject Vogtle Electric Generating Plant Hardware Modifications pursuant to generic Letter 88-17
10. Letter to document control desk, USNRC from W. G. Hairston III, GPC, dated 2/2/89. Subject: Plant Vogtle - Units 1 and 2, NRC docket 50-424, 50-425, Operating License NPF-68, Construction Permit CPPR-109 Response to Generic Letter 88-17
11. Letter to document control desk, USNRC W. G. Hairston, III, GPC, dated 12/29/88; Subject: same as #10
12. Sequence of Events Chronology of Site Area Emergency 3/20/90 (Received 3/27/90) from license
13. Letter to W. G. Hairston, III, GPC, from A. R. Herdt, NRC, dated 7/31/89. Subject: Notice of Violation (Inspection Report Nos. 50-424/89-19 and 50-425/89-23)
14. Local newspaper coverage - March 27, 1990
15. Interoffice Memo from G. Bockhold, Jr., Plant Manager, to Vogtle Site Personnel dated 3/27/90. Subject: Vehicles in Perimeter Area
16. Entrance Meeting with Licensee and Personnel Statements (3/26/90)
 - 16-1 Entrance Meeting Notes
 - 16-2 J. Hopkins - SS
 - 16-3 R. B. Snyder - SS
 - 16-4 P. Vannier - RO
 - 16-5 K. Jones - CRO
17. Order to quarantine

18. Letter to C. C. Miller, Mgr. of Engineering, Vogtle, from W. C. Ramsey, Jr., dated 2/16/90. Subject: Vogtle, Units 1 & 1, Final Response to Request for Engineering Assistance. Attachment: Loss of Decay Heat removal Analytical Studies for Vogtle 1 & 2, A response to GL 88-17
19. Training Student Handout No. GE-HO-88002-00-001-C Continuing Training--RHR Mid-Loop Oper.
20. Training Lesson Plans:
 - 20-A Continuing Training--RHR Mid-Loop Oper. No. GE-LP-88002-00-C
 - 20-B Emergency Diesel Generator Auxiliaries Fuel Oil System No. NL-LP-11202-01-C
 - 20-C Emergency Diesel Generator General Overview No. NL-LP-11201-00-C
 - 20-D Emergency Diesel Generator Auxiliaries No. NL-LP-11203-02-C
21. EOP No. 19100-C, Revision 4, ECA-0.0 Loss of All AC Power
22. 4160V AC 1E Electrical Distribution, Procedure No. 13427-2, Revision 5
23. Loss of Class 1E Electrical System, AO Procedure No. 19031-C, Revision 6
24. Boron Injection Flow Path Verification - Shutdown, Procedure No. 14406-1, Revision 3
25. Generator and Engine Control Panel Functional Test Procedure No. 27563-C, Revision 2
26. T-ENG-90-11, Rev. 1, "A-TRAIN UNDERVOLTAGE TEST" Expiration Date: 4/8/90
27. Temporary Procedure No. T-ENG-90-12, B-Train Undervoltage Test
28. Temporary Procedure No. T-ENG-90-13, Sequencer Operability Check
29. Temporary Procedure No. T-ENG-90-14, Unit One Train B DCP 88-VIN0070 Sequencer Functional Test
30. T-ENG-90-15, Unit One Train A, DCP 88-VIN0070 Sequencer Functional Test

- 31. Maintenance Work Order (MWO) 19001576, 3/28/90 (D/G 1A)
- *?2. Proteus Alarm Printout (U2) *(33)
- 33. Proteus Alarm Printout (U2)
- 34. List of Quarantined Equipment (Revised 3/29/90 Rev. 2)
- 35. Personnel Interviews
 - 35-1 K. Pope - SS
 - 35-2 W. Burmeister - Unit Superintendent
 - 35-3 N. Dewbre, P. Jenkins, T. Jones - Shift Clerks
 - 35-4 F. Thompson - EGS; R.Moye - ESS
 - 35-5 G. Bockhold - PM
 - 35-6 D. Vineyard - SS
 - 35-7 W. F. Kitchens - Ass't. PM
 - 35-8 D. Hines, D. Daughetee, E. Pickett, J. Stanley
 - 35-9 J. P. Cash - OS
 - 35-10 T. C. Eckert - Oper. Dept.
- 36. List of quarantined equipment (Revised 3/29/90 Rev. 3)
- 37. Personnel interviews
 - **37-1 W. Johnson, W. Stewart - Security
 - 37-2 M. Lackey - Outage Planning Mgr.
 - 37-3 M. Lackey, R. Barlow, J. D'Amico - Scheduling
 - 37-4 J. Roberts - EP
 - 37-5 H. Handfinger - Maintenance Mgr.
 - 37-6 G. Brenenberg, I. Kochery
- 38. PNO-IIT-90-02A
- 39. Training Lesson Plan No. NL-11204-OOC Emergency Diesel Generator-Engine Control and Protection 5/11/89
- 40. Procedure No. 13415-1, Rev. 6, Reserve Auxiliary Transformers, 6/30/89
- 41. Training Lesson Plan No. LO-LP-28201-09-C Sequence Operation, 7/26/89
- 42. EOP No. 19101-C, ECA-0.1 Loss of all AC Power Recovery without SI Required
- 43. Training Lesson Plan No. NL-11205-01C, Emergency Diesel Generator Control and Protection, 8/29/89

*Refer to document number in parentheses

**PROPRIETARY--NOT AVAILABLE

44. Training Lesson Plan No. LO-LP-11102-05-C
Emergency Diesel Generator Auxiliaries Air
Start System, 12/8/89
45. Training Lesson Plan No. LO-LP-11001-06-C,
Emergency Diesel Generator Introduction and
Overview, 12/11/89
46. Personnel Interviews
 - 46-1 E. Dannemiller, D. Huyck - Security
 - 46-2 J. D. Jiles - Safety Specialist
 - 46-3 R. Berry - Security
 - 46-4 S. Chestnut -Training
 - 46-5 K. Stokes - Sr. Plant Eng.
47. Procedure No. 13426-C, 4160V AC Common
Non IE Electrical Distribution System, 1/26/90
48. Training Lesson Plan No. LO-LP-11103-06-C
Emergency Diesel Generator Auxiliaries:
Combustion air and exhaust, 2/28/90
49. Training Lesson Plan No. LO-LP-11104-C,
Emergency Diesel Generator Auxiliaries Lube Oil
and Crank Case Ventilation, 12/8/89
50. Training Lesson Plan No. LO-LP-11105-08-C,
Emergency Diesel Generator Auxiliaries Jacket
water cooling system, 12/8/89
51. Training Lesson Plan No. LO-LP-11101-07-C
Diesel Generator Auxiliaries Fuel Oil System
12/8/89
52. Letter to J. P. Kane, GPC, from W.C. Ramsey
(unsigned and undated). Subject: Response to REA
VG-9010, Loss of decay heat removal
53. Emergency Response Facilities Input
List, Revision 07.05, 12/11/86
54. Procedure No. 14406-1, Revision 3,
Boron Injection Flow Path Verification-
Shutdown, 2/6/89
55. VEGP Standing Order No. 1-90-05,
Emergency Boration Flow Path, 3/1/90
56. Memorandum for A. Chaffee from S. Ebnetter,
undated (received 3/30/90). Subject: Designated
Regional Point of Contact

57. Procedure No. 17038-1, Rev.7, Annunciator Response Procedures for ALB 38 on EAB Panel, 3/11/90
58. Procedure No. 13011-1, Rev.18, RHR System, 3/11/90
59. Vehicle Access Request, 3/20/90
60. (AOP) Procedure No. 18019-C, Rev.7, Loss of RHR, 3/16/90
61. PRB Comment Review Sheet (PRB-90-44) for Temporary Procedure No. T-ENG-90-14
62. GPC VEGP Handbook for General Employee Badge Training, GE-HO-00101-001-C, Rev. 5, 10/23/89 w/record of training dates for D. Willhite
63. Event Report No. 1-90-003, Additional Support Items
64. SPDS Checklist
65. Items on Fuel Truck 3/2-30/90
66. Photographs

66-1 Roll 1 - (3/24/90)

- | | |
|----------|---|
| 66-1-1 | Voltmeters |
| 66-1-2 | Auto XFML No. 2 |
| 66-1-3 | Auto XFMRs Nos. 1 & 2 |
| 66-1-4 | Electrical Panel |
| 66-1-5 | Annunciators and Electrical Panel |
| 66-1-6 | Electrical Panel and Annunciator |
| 66-1-7,8 | Letdown/Chg. Flow and Bit Press |
| 66-1-9 | Accumulator Pressure Tanks 1 and 2 |
| 66-1-10 | Accumulator pressure, Tanks 3 and 4 |
| 66-1-11 | PROTEUS Computer Display |
| 66-1-12 | RWST Reset Switches (2) and RHR Suct Vent Line TRN-B |
| 66-1-13 | RHR to HL, RHR Suct Vent Line TRN-A, RWST Reset |
| 66-1-14 | RHR X Train A & B Outlet and Bypass |
| 66-1-15 | RHR Pump Pressure Trains A & B |
| 66-1-16 | Incore TC |
| 66-1-17 | Operator Aid for mid-loop on RCS Loop 1 Hot Leg NR Level, and RCS Loop 4 Hot Leg WK Level |
| 66-1-18 | SI Pump Disch Trains A & B |

66-2 Roll 2 - (3/24/90)

- | | |
|----------|--|
| 66-2-1,2 | Plant Safety Monitoring System |
| 66-2-3 | Control Rod Position |
| 66-2-4 | RCS Flow Trip Alarms |
| 66-2-5 | PRZR Pressurizer, PRZK Spray, PRZK LVL |

66-2-6 RCS Press, RCS HL Temp
 66-2-7 RCS CL Temp OP delta T, OT Delta T, Delta T
 66-2-8 Chg. Flow, RCS Loops 1-4, Delta T
 66-2-9 Press, LTDN Flow, RCS Loop 4, RCS Temp Loop
 3, Delta T
 66-2-10 RCS Loop 4, RCS Temp Loop 2, Delta T
 66-2-11 Safety A, RCS Loop 1 HL Press, RCS Temp Loop
 1, Delta T
 66-2-12 RCS Loop 4 (Delta T, OP Delta T, OT Delta T,
 T-AVG & RC Flow Loop 4)
 66-2-13 RCS Loop 4, & RCS Flow Loop 4
 66-2-14 RCS Loop 2, & RCS Flow Loop 2
 66-2-15 RCS Loop 1, & RCS Flow Loop 1
 66-2-16 RCS Loop 1 HL Press, RCS Temp Loop 1, Delta T
 66-2-17 PRZR Relief Temp, RCS Loop 1
 66-2-18 In Core TC
 66-2-19-23 Electrical Panel and Annunciators

66-3 Roll 3 - (3/25/90) - Truck

66-3-1,2 Rear View
 66-3-3-6 Blind Spot Assessment (180 to 195 feet)
 66-3-7 Left View
 66-3-8 Fuel Can
 66-3-9 Closeup of event-related damaged area 1
 66-3-10 Closeup of event-related damaged area 2
 66-3-11,12 Closeup of event-related damaged area 1
 66-3-13 Closeup of event-related damaged area 2
 66-3-14 Fire Extinguisher
 66-3-15 Fire Extinguisher
 66-3-16,17 Front View
 66-3-18 Inside Cab (Driver's Doc: Open)
 66-3-19 Front Windshield (from inside)
 66-3-20-23 Blind Spot Assessment through left and right
 mirrors
 66-3-24 Left side view

67. Personnel Interview of G. Lee, J. Aufdenkampe, W. F. Kitchen, W. Burmeister & D. West
68. Diesel Generator Failure Analysis
69. Personnel Interview: D. DeLoach, J. Jackson, and S. Whitman
70. Photographs

70-1 Roll 4 - (3/24/90)

70-1-1 Operator Aid - RCS Loop 1 HL NR Level, and
 RCS Loop 4 HL WK Level

70-1-2 SI Sump Disch Trains A & B, and Containment
Press
70-1-3 Letdown/Chg. Flow, BIT Press
70-1-4,5 Proteus Computer: In Core TC
70-1-6 Accumulator Level
70-1-7 RHR Pump Pressure

70-2 Roll 5 - Photos provide by Licensee (3/30/90) - The
Welder

70-2-1-3 Side View
70-2-1-4,5 Front View

71. Meeting Attendance Record

71-1 IIT Entrance (3/26/90)
71-2 Diesel Generator (3/28/90)
71-3 Diesel Generator (3/30/90)

72. Access Record History, 3/20/90

73. Badge Record - 3/30/90

74. Evaluations of Initial Plant Conditions - J. D'Amico

75. Procedure No. PTDB-1 Tab 8.0, Rev. 2 - Pictorial Aids: RCS
Elevations and Mid Loop Level Instrumentation (3/2/90)

76. Procedure No. 18015-C, Rev. 5, Loss of Instrument Air

77. Procedure No. 12000-C, Rev. 16, Refueling Recovery 3/8/90

78. Procedure No. 12006-C, Rev. 15, Unit Cooldown to Cold
Shutdown 3/8/90

79. Procedure No. 12007-C, Rev. 14, Refueling Entry (Mode 5 to
Mode 6), 3/8/90

80. Procedure No. 13005-1, Rev. 10, Reactor Coolant System
Draining, 2/23/90

81. Procedure No. 17006-1, Rev. 11, Annunciator Response
Procedure for ALB 06 on Panel 1A2 on MCB, 3/6/90

82. Bechtel Drawings

1X3D-AA-G02 C, Rev. 6, Vital Instr. Distr. Pnls.
AX3D-AA-A01A, Rev. 13, Main One Line 1 & 2
AX3D-AA-F19A, Rev. 10, 480V Motor Control Center
1X3D-AA-G05B, Rev. 14, 120V AC Non-Class IE key Instr.
AX3D-AA-H01A, Rev. 9, TSC 125V DC/120V AC Non-Class IE
Distr. Panels

AX3D-AA-A01A, Rev. 16, Main One Line Unit 1
AX3D-AA-G02B, Rev. Main One Line Non-Class IE 125V DC & 120V
Ess. AC System

83. MWO 18906587, SG#4, Unit 1, 12/23/89
84. Procedure No. 25270-C, REV.6, SG Nozzle Dam Checkout, Installation and Removal 12/16/88
85. Procedure No. 18004-C, Rev. 6, AOP RCS Leakage, 12/./90
86. (AOP) Procedure No. 18006-C, Rev. 2, Fuel Handling Event, 8/4/88
87. (AOP) Procedure No. 18020-C, Rev.3, Loss of Component Cooling Water, 2/14/90
88. (AOP) Procedure No. 18021-C, Rev. 4, Loss of Nuclear Service Cooling Water System, 3/16/90
89. Procedure No. 18034-1, Rev. 1, Loss of Class IE 125V DC Power, 9/12/89
90. (AOP) Procedure No. 18028-C, Rev. 7, Loss of Instrument Air, 3/16/90
91. (AOP) Procedure No. 18038-1, Rev. 10, Operation from Remote Shutdown Panels, 8/29/89
92. Radiation Monitors Status
93. Relief Request 7 and 11 (with accompanying documents) Safety Injection System No. 1204
94. Procedure No. 00350-C, Rev.19, Work Request Program (12/27/89)
- 95-1. MWO #18807746 3/31/90
- 95-2. MWO #19001339 3/31/90
96. Section 6.0, Administrative Controls (Vogtle 1 & 2)
97. Information on Critical Safety Function Status Frees on SPDS (on EXF computer)
98. Training Records: A. L. Blalock, F. Redivannz, W. Hennessey, J. D. Williams, W. P. Stephens, W. M. Watkins, D. 'ille, J. W. Covington, R. LeGrand, G. J. Durrence
99. Information on Maintenance Personnel Training on Mid-Loop Ops

100. Procedure No. 00400-C, Rev. 11, Plant Design Control, 2/24/90
101. Request for Engineering Review (Procedure No. 00400-C) of System 500 kv
102. Relaying Data Sheet - Gen. No. 2 Main Bk. Primary
103. Sequence of Events w/source of information
104. 2.0 Hardware Configuration
105. Vendor Document Status Sheet-Manual Change No. 76021-9, 9/9/86
106. Security Department Report No. 3941-90
107. Joint News Release - 3/20/90
108. MWO (continued) No. 19001576
109. T-ENG-90-11, Rev. 1, A-Train under voltage Test w/related MWO's
110. 1A Diesel Generator Reference Material
111. 3/20/90 Logs: Unit 1 & 2 Shift Supervisor; 1 & 2 Control
112. Memo to G. Bockhold from G. R. Fredrick, dated 9/27/89. Subject: VEGP-1 and 2 QA Audit finding Report 350
113. Release #1 and # 2 - 3/20/90
114. OSC Log
115. MWO 18906328, 3/27/90
116. Attendance Roster - Diesel Generator Mtg. (3/31/90)
117. Personnel Interviews:
 - 117-1 K. Exly
 - 117-2 P. Humphrey
 - 117-3 J. Williams, D. Gustafson, G. McCarley
118. Operational Journals, 3/20, w/Situation Chart
119. MWO No. 19001684, (3/31/90) Diesel Generator - To Verify Timing of Two Trips During LOSP

120. Personnel Interviews:

120-1 G. Schnieder (EP) and S. Threatt (BRH-EPC)
120-2 R. Dorman - Training
120-3 M. Cagle - Maintenance
120-4 S. Driver - Training
120-5 D. Willhite - Truck Driver
120-6 E. J. Kozinsky - SS
120-7 S. Young - PFS

121. Design Change Request No. 88-VIN0070 w/Design Change Package Closure - Train A & B Sequencer Panels

122. Operation and Maintenance Instructions (SFSS) w/drawings

123. Vogtle Operating Records - VPO401GP

124. MWO 19001684 - 3/31/90

MWO 19001576 - 3/31/90

MWO 28900466 - 3/31/90

125. PROPRIETARY DOCUMENTS: W FIELD SERVICE PROCEDURES*

125-1 MRS 2.2.2 GPC-1, Post Activity Sign-Off for Area Cleanliness

125-2 MRS 2.2.2 GPC-21 Rev. 0, Nozzle Dam Hydrotest

125-3 MRS 2.2.2 GPC-22 Rev. 0, Nozzle Dam

125-4 MRS 2.2.2 GPC-23 Rev. 0, Nozzle Dam Manual

125-5 MRS 2.2.2 GPC-24 Rev. 0, Nozzle Dam, Leak Detection Manual

126. Procedure No. 29536-C, Outage Management Program (3/4/88)

127. Procedure No. 27505-C, Rev. 2, Opening and Closing Containment Equipment Hatch (7/18/88)

128. Procedure No. 10013-C, Rev. 6, Writing EOPs from the Westinghouse Emergency Response Guidelines (9/22/88)

129. Procedure No. 29537-C, Rev. 1, Outage Scheduling (4/11/89)

130. Procedure No. 01000-C, Rev. 1, Management of Outages (6/9/89)

131. Procedure No. 10011-C, Rev. 13, Operations Procedure Preparation and Review Guidelines (7/5/89)

132. Procedure No. 10018-C, Rev. 11, Annunciator Control (9/26/89)

*PROPRIETARY--NOT AVAILABLE

133. Procedure No. 10000-C, Rev. 16, Conduct of Operations
(3/23/90)
134. Procedure No. 11011-1, Rev. 7, RHR Removal System Alignment
(4/18/89)
135. Temporary Change to Procedure Form (TCP) No. 13001-1-12-90-
1, RCS Filling and Venting (Expiration Date: 4/6/90)
136. Procedure No. 14230-1, Rev. 4, AC Source Verification
(7/27/88)
137. Procedure No. 91403-C, Rev. 4, Site Evacuation (12/6/88)
138. (EOP) Procedure No. 19101-C, Rev. 2, ECA-0.1 Loss of All AC
Power Recovery Without SI Required (7/26/89)
139. Procedure No. 19111-C, Rev. 8, ECA-1.1 Loss of Emergency
Coolant Recirculation (7/26/89)
140. Procedure No. 13001-1, Rev. 12, Reactor Coolant System
Filling and Venting (10/10/89)
141. System Block Diagrams - SFSS
142. Bechtel Drawings:

1X4DB113, RTD BY-PASS REACTOR COOLANT SYSTEM NO. 1201
1X4DB100, P & ID'S AND FLOW DIAGRAM LEGEND
AX3AEC3-9-10, ELECTRICAL SCHEMATIC
ZX3AEC3-10-10, ELECTRICAL SCHEMATIC
143. Unit 1 D/G Trip Sensor History w/Licensee's Draft Analysis
of 1A Diesel Shutdown
144. PNO-IIT-90-02B - 4/2/90
145. Transcript: Briefing Meeting - 3/28/90
146. Personnel Interviews

1 - J. Acree - SS
2 - J. Aufdenkampe - Tech Support
3 - F. Pope - EO
4 - S. Owyong
5 - J. Ealick
6 - M. Cagle
7 - M. Lackey (3/30/90)
147. Transcript: Meeting - IIT and Licensee Personnel re Diesel
Malfunction (3/30/90)

148. Transcript: Meeting w/ Event Critique Team - 3/31/90
149. Personnel Interview - D. Hines - PE
150. Transcript: Discussion re Results of Testing on A-Diesel Performed on 3/30/90
151. Memo for A. Chaffee from G. Zech, dated 4/3/90. Subject: Lessons Learned: Vogtle Site Area Emergency
152. Memo from M. S. Briney to C. Bockhold, Jr., dated 4/3/90. Subject: Calcon Temperature Switches
153. PROPRIETARY DOCUMENTS (INPO)*

Operating Experience Close Out Packages for the following:

- SOER 85-01
- SER 17-88
- SER 73-83
- SER 42-84
- O&MR 272
- SOER 85-04
- O&MR 365
- SOER 88-03
- SER 5-89
- SER 26-89
- SER 36-88
- SER 2-87
- SER 35-86
- SER 31-86
- SER 23-86
- SER 17-86

154. Calcon Switch Information
155. Quarantined Equipment List, Rev. 4 - 4/2/90
156. Meeting Attendance Record - Diesel Generator and IIT Exit - 4/2/90
157. Procedure 14980-1, Rev. 18 - Diesel Generator Operability Test (2/5/90)
158. Letter to Director, I&E, NRC, from B. C. Guntrum, Mgr., QA, IMO. Subject: Notification of a Potential Defect in a component of a DSR or DSRV Standby D/G (4/29/88)

*PROPRIETARY--NOT AVAILABLE

159. VHS Video Tape Recording: RHR Mid-Loop OPS

160. Photographs

160-1 Roll 6 - (3/31/90)

160-1-1,2	TSC
160-1-3-7	D/G 1A CK Control Panel
160-1-8,9	D/G 1A CK Annunciator Panel
160-1-10	PSMS Codes
160-1-11	Plasma Display and Keyboard of PSMS
160-1-12,13	Proteus Computer
160-1-14-16	NSCW, CCW
160-1-17,18	NSCW: Return Temp, Basin Lvl. & Hdr. Press.
160-1-19	NSCW A Flow: Supply and Return
160-1-20,21	Misc. Status Lights for NSCW
160-1-22,23	CCW PMP-1, 3
160-1-24,25	Rx MW Wtr. to CCW
160-1-26,27	CCW Train A Surge Tank
160-1-28,29	CCW Cnmt. Spray, & SI Panels
160-1-30,31	RHR & CVCS, & Accum. Panels
160-1-32-33	RWST Level
160-1-34	Page 1 of D/G Procedure (13145-1)

160-2 Roll 7 - (3/31/90)

160-2-1-5	Jacket Water Pressure Sensor
160-2-6-9	Pressure Sensor
160-2-10,11	Lube Oil Pressure Sensors (3)
160-2-12-14	Lube Oil Temperature Sensor
160-2-15-25	Jacket Water Temperature Sensors (3)
160-2-26-31	Turbo Lube Oil Sensor
160-2-32-34	Emergency Break Glass Start
160-2-35	Break Glass Hammer vs Flashlight Size

161. List of Vogtle 1 Event Headquarters Operations Center Participants

162. History of Quarantined Items

163. Quarantine Sign

164. Unit 1 Second Refueling Outage Charts:

164-1	Electrical System Work
164-2	IR-1 Target vs. Actual Critical Path

164-3 First Drain to Mid-loop
 164-4 IR-2 Target vs. Actual Critical Path
 164-5 D/G Activities/TRN B
 134-6 D/G Activities/TRN A

165. Unit 1 First Refueling Outage Charts:

165-1 Mid-loop Work and Support
 165-2 Electrical System Work
 165-3 D/G Activities/TRN B
 165-4 D/G Activities/TRN A

166. Photographs

166-1 Roll #8 - (3/31/90)

166-1-1 D/G Control Panel
 166-1-2 D/G Control & Annunciator Panels
 166-1-3,4 D/G Annunciator Panel
 166-1-5 SI Signal
 166-1-6,7 Emergency Start
 166-1-8 Procedure Sec. 4.4.3.1
 166-1-9 Procedure Sec. 4.4.3
 166-1-10 Jacket Water Lv. In.
 166-1-11,12 Jacket Water In
 166-1-13,14 Generator Bearing Temp.
 166-1-15-17 Day Tank Level
 166-1-18 D/G Control Panel
 166-1-19-21 Local Remote Control Switch
 166-1-22-25 D/G Back Panel (Inside)
 166-1-26 Gaitronics Phone
 166-1-27 Commercial Phone
 166-1-28,29 Sound-Powered Phone
 166-1-30 P. 1 of Procedure 13145-1
 166-1-31 Lube Oil Press

166-2 Roll #9 - (3/30/90)

166-2-1-7 Sensor Points on Blackboard. in Large
 Conference Rm (LCR)
 166-2-8-10 Electrical Configuration of Vogtle Plant
 166-2-11 Blackboard Note to IIT
 166-2-12-19 Sensor Points on Blackboard in LCR
 166-2-20-34 Sensor Points on Blackboard in LCR
 showing steps to de-energize Sequencer
 on Panel

166-3 Roll #10 - (3/26/90)

166-3-1,2 New Restricted Area Sign and Rope
166-3-3,4 D/G Panel
166-3-5 D/G Annunciator Panel

167. Procedure No. 00053-C D/G 1A - Temperature Monitoring and Recording (4/4/90)

168. Meeting Transcripts:

168-1 Telecon between IIT, Licensee Personnel, and RII Personnel.
168-2 D/G Meeting (4/2/90)

169. Technical Specifications - Vogtle Unit 1 - Sections 1-5

170. 1985 Maintenance Work Orders (MWOs) - History, Unit 1, D/G-Sensor Switches

171. 1986 MWOs - History, Unit 1, D/G-Sensor Switches

172. 1987 MWOs - History, Unit 1, D/G-Sensor Switches

173. 1988 MWOs - History, Unit 1, D/G-Sensor Switches

174. 1989 MWOs - History, Unit 1, D/G-Sensor Switches

175. 1990 MWOs - History, Unit 1, D/G-Sensor Switches

176. 1988 MWOs - History, Unit 2, D/G-Sensor Switches

177. ERF Computer Points

178. D/G Temperature Switch Calibration Data Received from Licensee - 4/6/90

179. PROPRIETARY DOCUMENTS - WESTINGHOUSE*

179-1 Core Map - Instrument Locations
179-2 Reference Loading Pattern

180. D/G (1A/1B) Start Logs

181. Ltr to R. Newton, WOG, fm A. Thadani, NRC, dtd 12/11/89.
Subject: Loss of RHRS Cooling While the RCS is Partially Filled, WCAP-11916, July 1988, and Other Related WOG Activities

*PROPRIETARY--NOT AVAILABLE

182. IE Bulletins

182-1 No. 80-12 (5/9/80)
182-2 No. 86.01 (5/23/86)

183. Information Notices

183-1 No. 80-20
183-2 No. 80-41
183-3 No. 81-09
183-4 No. 81-10
183-5 No. 86-39
183-6 No. 86-74
183-7 No. 86-101
183-8 No. 87-01
183-9 No. 87-23
183-10 No. 87-59
183-11 No. 89-41
183-12 No. 89-67

184. Memorandum for T. Murley, NRC, and E. Beckjord, NRC, fm E. Jordan, NRC, dtd 5/18/87. Subject: Loss of Decay Heat Removal Function at Pressurized Water Reactors with Partially Drained RCSS

185. NUREG/CR-5015; BNL-NUREG-52121, Improved Reliability of Residual Heat Removal Capability in PWRs as Related to Resolution of GI-99

186. Case Study Report AEOD/C503, Decay Heat Removal Problems at U.S. PWRs, 12/80

187. Documentation of Special Test of RHR Lineup to be Used with Path to Loops 1&2 only

188. MWOs on S/G Manway and Nozzle Dams

188-1 No. 18906589
188-2 No. 18906581
188-3 No. 18906579
188-4 No. 18906580
188-5 No. 18906582
188-6 No. 18906588
188-7 No. 18906590
188-8 No. 18906587

189. Operator Aids - Local Control Stations

190. Ltr to USNRC Document Control Desk fm W. G. Hairston, III, GPC, dtd 8/15/89. SUBJECT: VEGP LER 50-425/1989-023
191. Selected Licensed Operator RHR Training Material
192. Selected Licensed Operator Annunciator Training Material
193. Selected PEO, D/G Training Material; Lessons Plans & Response to Annunciators
194. Procedure No. 13431-1, Rev. 4, 120V AC IE Vital Instrument Distribution System (4/20/90)
195. Presentation to Region II NRC on Vogtle Site Area Emergency, March 20, 1990 (4/9/90 - by Licensee)
196. Generic Letters
 - 196-1 No. 87-12, Loss of RHR While the RCS is Partially Filled (7/9/87)
 - 196-2 No. 88-17, Loss of Decay Heat Removal (10/17/88)
197. Memo for J. P. Stohr, NRC, fm A. T. Boland, NRC, dtd 4/3/90, Subject: Critique of RII's Response to the Vogtle Incident
198. Appendix A to NRC TI 2575/103, Supplemental Information, Containment Closure and Reactor Coolant System Level Instrumentation (2/26/90)
199. Letter to R. C. Jones, NRC, from L. A. Walsh, WOG, dated 4/6/90; Subject: WOG Transmittal of Information Copy for Loss of RHR While Operating at Mid-Loop Conditions Guideline and Background Documentation
200. Transcript: Telephone Conversation w/IIT, Licensee, R-II (4/5/90)
201. NRC Personnel Interviews: 4/5/90
 - 201-1 A. Thadani, NRR
 - 201-2 W. Lyon, NRR
202. Unit 1A Train D/G - Air Receiver Dew Point Measurements
203. Transcript: Telephone Conference w/IIT, Licensee, R-II (4/6/90)

204. Personnel Interviews: 4/6/90
- 204-1 L. Walsh, Seabrook (telecon)
 - 204-2 D. Marksberry, NRC/AEOD
 - 204-3 J. MacKinnon, NRC/AEOD
 - 204-4 P. Ray, NRC/AEOD
 - 204-5 D. Ross, NRC/AEOD
205. Transcript: Telephone Conference w/IIT, Licensee, R-II (4/7/90)
206. Transcript: Telephone Conference w/IIT, Licensee (4/9/90)
207. NRC Personnel Interviews: 4/9/90
- 207-1 W. Hodges, R-I
 - 207-2 G. Zech, AEOD
208. IE Information Notices
- 208-1 No. 83-56
 - 208-2 No. 84-42
209. Preliminary D/G Instrument Test Outline (4/11/90)
210. Failures of Calcon Temperature & Pressure Sensors at Vogtle 1 & 2
211. NRC Information Notice No. 88-36
212. Transcript: Telephone Conference w/IIT, Licensee, R-II (4/10/90)
213. NRC Personnel Interviews: 4/10/90
- 213-1 R. Jones, DST
 - 213-2 R. Eckenrode, HFAB
 - 213-3 D. Tondi, ESB
214. Graph: Times To Core Uncovery Following Loss of RHR - During Mid-Loop Operations (4 loop W Plants Including Vogtle) - H. Ornstein (3/29/90)
215. Memorandum for M. W. Hodges, NRR, From J. E. Rosenthal, AEOD, dated 6/29/87; Subject: Additional Information on Loss of DHR at PWRs with Partially Drained RCSs
216. Memorandum for K. K... RES, From J. E. Rosenthal, AEOD, dated 8/28/87; Subject: BNLS 8/18/87 Presentation of the Results of Draft Report "Improved Reliability of RHR Capability in PWRs as Related to Resolution of GI-99"

- 217. Memorandum for T. E. Murley, NRR, from E. S. Beckjord, RES, dated 4/4/88; Subject: GI-99 Risk Assessment Results
- 218. Event Report #1-90-003, Loss of Off-Site and On-Site AC Power (1E); Date of Event: 3/20/90
- 219. Data Sheets - MWO 19000092
- 220. Data Sheets - MWO 19000093
- 221. Commitments and Commitment Change Reports for D/G Preventive Maintenance: Report Nos. 9023, 9034 through 9038, 9052, 9082, 9086, and 13764
- 222. Data Sheets - MWO 19000094
- 223. Data Sheets - MWO 19000095
- 224. Letter to Director, IE/NRC, from L. R. Block, QA Engineer, IMO, dated 5/12/88; Subject: Additional Information to Supplement Letter of 4/29/88
- 225. Operation and Maintenance Manual, Appendix VII, Alarms and Safety Shutdowns (pp. 8-8, 8-8A)
- 226. Procedure No. 29101-C, Rev. 1, Emergency Lighting Surveillance (FSAR Fire Protection Surveillance), 12/5/89
- 227. Procedure No. 00414-C, Rev. 7, Operating Experience Program, 11/29/89
- 228. Procedure No. 11885-C, Rev. 10, D/G Operating Log, 5/11/89
 - 228-1 Data Sheets, DG1A - 3/20/90
 - 228-2 Data Sheet, DG1B - 3/23/90
- 229. Videocassettes - GPC, Vogtle, March 1990 D/G Tests
- 230. Bechtel Drawings:
 - 230-1 Lube Oil Piping Schematic 1X4AK01-27-11
 - 230-2 Starting Air Piping Schematic 1X4AK01-29-12
 - 230-3 Jacket Water Piping Schematic 1X4AK01-26-11
 - 230-4 4160V INCM.BRKR 152-1BA0319 (DG 1B) 1X3D-BA-D03D
 - 230-5 4160V INCM.BRKR 152-1AA0219 (DG 1A) 1X3D-BA-D02D

231. Operating Experience Close-Out Packages for the following:

IN 88-36
IN 86-101
IN 87-23
IN 80-20
IN 84-42
IN 89-64
GL 87-12
IN 89-67
IE Bulletin No. 80-12

232. PROPRIETARY DOCUMENTS (INPO):*

SER 60-83
SER 79-84
SER 51-83
O&MR 171

233. Transcript: Telephone Conference w/IIT, Licensee (4/11/90)

234. NRC Personnel Interviews: 4/11/90

234-1 S. Shankman, NRR
234-2 C. McCracken, NRR
234-3 H. Ornstein, AEOD

235. Maintenance Work Request (MWO 19001563) indicating when malfunction (communication failure) was recognized

236. Procedure to Test Annunciator Including First-Out (VEGP-1,1-3KJ,03,Rev.1)

237. VEGP Plant Review Board Meeting Minutes Which Include Discussion of Plant Condition on 3/20/90

238. Note to A. Chaffee, IIT, from R. Jones, RSB, dated 4/11/90;
Subject: Documents Requested by IIT

239. MWO No. 19000909 (Data Concentrator) 2/22/90

240. Drawings:

240-1 Field Change Requests; Reference Drawing Numbers:

2X4AK01-369 R/8 - Eng. Cont. Pnl. Schm.
2X4AK01-498 R/8 - Elec. Schm.
2X4AK01-361 R/8
2X4AK01-369 R/8

*PROPRIETARY--NOT AVAILABLE

- 240-2 VEGP Procedure No. 50009-C, As Built Notice No. 89-V1MO70A001 (1/18/90)
- 240-3 Bechtel Drawings:
 - 1X4AK01-42-11 Engine Control Panel Installation
 - 1X4AK01-52-9 Engine Control Panel Schematic
 - 1X4AK01-357-9 A.C. Schematic
 - 1X4AK01-358-8 Control Schematic
 - 1X4AK01-443-4 Engine Pneumatic Schematic
 - 1X4AK01-458-7 Instrument Identification Schedule
 - 2X4AK01-367-8 Engine Control Panel Schematics (2)
 - 2X4AK01-428-5 Engine Pneumatic Schematic
 - 2X4AK01-459-6 Instrument Identification Schedule
- 241. Receiver Air Pressures Observed by Plant Personnel on 3/30/90
- 242. History (Unit 1 - From First RHR During Second Refueling Outage to Initiation of 3/20/90 Event) Defining "Windows" of Operational Configurations Potentially Affecting the NSSS, Containment, and Supporting Systems
- 243. Licensing Document Change Request Pkg. No. FS 88-99-Rev. 1
- 244. Description of Electronic Data Reading ERF, Proteus and Fault Recorder
- 245. Transcript: Telephone Conference w/IIT, Licensee, R-II (4/12/90)
- 246. NRC Personnel Interviews: 4/12/90
 - 246-1 K. Brockman, R-II
 - 246-2 S. Ebnetter, R-II
 - 246-3 F. Rosa, NRR
- 247. Outage Scheduling Information
- 248. RAT Scheduling Information
- 249. PRT, RCS, RWST, SG, TS Information
- 250. Letter to C. K. McCoy, GPC, from J. L. Tain, Westinghouse, dated 3/16/90, w/RHR B Pump Vibration Data
- 251. MWO No. 19001432, 3/20/90 (D/G 1B)

252. MWO No. 19001433, 3/20/90 (D/G 1A)
253. MWO No. 19001537, 3/25/90 (D/G 1B)
254. MWO No. 19001576, 3/28/90 (D/G 1A)
255. MWO No. 19001684, 3/31/90 (D/G)
256. D/G Function Checkout Data
257. Transcript (unmonitored tape recording): Teleconference w/IIT, Licensee, R-II (4/3/90)
258. Transcript: Telephone Conference w/IIT, Licensee, R-II (4/13/90)
259. Transcript: Telephone Conference w/IIT, Licensee, R-II (4/16/90)
260. GPC Personnel Interview: R. Odom, G. McCarley, M. Sheibani (4/17/90)
261. VHS Audiocassette: Calibration Tests on Temperature Sensor for D/G (4/18/90)
262. Meeting Attendance Records: IIT Entrance Briefing (4/17/90); IIT Exit (4/18/90)
263. MWOS:
 - 263-1 No. 18906592 - Containment Equipment Hatch (12/23/89)
 - 263-2 No. 18906593 - Personnel Hatch (12/23/90)
264. Caution Temperature Switch Response Test on 4/4/90
265. Note to D. Gustafson and K. Burr from R. Jones (GPC), 4/13/90; Subject: Vibration Readings on Temperature Switch Piping - 1A Diesel
266. Drawings: As Built Notices
 - No. 00517
 - No. 00121
 - No. 00122

267. Bechtel Drawings: One Line Diagrams

1X3D-AA-E17A, Rev. 6 - 480V Switchgear 1BB16
1X3D-AA-E07A, Rev. 7 - 480V Switchgear 1BB07
1X3D-AA-E06A, Rev. 6 - 480V Switchgear 1BB06
1X3D-AA-E10A, Rev. 9 - 480V Switchgear 1NB10
1X3D-AA-D03B, Rev. 9 - 4160V Switchgear 1BA03
1X3D-AA-D03A, Rev. 8 - 4160V Switchgear 1BA03
1X3D-AA-E01A, Rev. 11 - 480V Switchgear 1NB01
1X3D-AA-E04A, Rev. 6 - 480V Switchgear 1AB04
1X3D-AA-E05A, Rev. 8 - 480V Switchgear 1AB05
1X3D-AA-D02B, Rev. 6 - 4160V Switchgear 1AA02
1X3D-AA-D02A, Rev. 8 - 4160V Switchgear 1AA02
1X3D-AA-E16A, Rev. 5 - 480V Switchgear 1AB15
1X3D-AA-A01A, Rev. 16 - Unit 1

268. Deficiency Tracking System

269. Containment Penetration Control Package (Procedures and Surveillance Task Sheets)

270. Letter to All Holders of RO and SRO Licences for PWRs from T. E. Murley, NRC/NRR, dated 11/3/88; Subject: Operator Diligence While in Shutdown Conditions

271. Letter to H. P. Allen, Southern California Edison Co., from T. E. Murley, NRC/NRR, dated 12/2/88; Subject: Loss of Decay Heat Removal

272. Calibration Data Sheets for Pressure Switch

273. Annunciator Response Procedures for ALB-09

273-1 Panel 1C1 on MCB
273-2 Panel 2C1 on MCB

274. ERF Computer Points (continued)

275. Training Student Handout - RHR System

276. Annunciator Response Procedures for ALB 36 on EAB Panel

277. Conoseal Status and Description at Time of Site Area Emergency on 3/20/90 (Note: Drawing No. 1X6AB02-288-1 contains proprietary data*)

278. Procedure No. 00260-C, Rev. 5 - Hazardous Substance and Waste Control (10/24/89)

*PROPRIETARY--NOT AVAILABLE

27. Containment Building Penetrations Verification - Refueling
- 279-1 Procedure No. 14210-1, Rev. 4
 279-2 Procedure No. 14210-2, Rev. 2
280. Bechtel Drawings: Containment Building Piping Areas
281. Westinghouse Drawing: Safeguard Actuation System - PROPRIETARY*
282. Drawings: Electrical, Control Systems, Mechanical, Nuclear
 Pressurizer Press Control
 Steam Dump Control
 Rod Controls
 Steam Generator Trip Signals
283. Security Vehicle Log -3/20/90
284. NRC Personnel Interview: J. Calvo, NRR
285. MWOS:
- 285-1 No. 19001482 - D/G 1B
 285-2 No. 19001542 - D/G B
 285-3 No. 19001677 - D/G A
286. Deficiency Cards:
- 286-1 No. 1-88-3016 - D/G A
 286-2 No. 1-88-3083 - D/G B
 286-3 No. 1-88-3453 - D/G 1A
 286-4 No. 1-90-0182 - D/G 1A
287. Information Notice No. 90-25: Loss of Vital AC Power with Subsequent RCS Heat-Up
288. Interoffice Memorandum to C. K. McCoy, GPC, from M. J. Ajluni, GPC, dated 10/16/89; Subject: Vogtle's Operations Experience Program Assessment
289. INPO Database KEYWORD; DIESEL
290. Vogtle Status of NRC and INPO Operating Experience Document Reviews as of 4/18/90
291. Bechtel Drawings Related to Lighting
- *PROPRIETARY--NOT AVAILABLE

292. Bechtel One-Line Diagrams:

Non-Class 1E Distr. Panels
480V Motor Control Center

293. Bechtel Drawings:

1K4-1208-486-01, Reactor Head Vent
1K4-1201-064-02, RCS
2X6AB02-66-4, Reactor Vessel General Arrangements

294. VHS Audiocassette Tape: D/G Local, Control Room, Sequencer,
TSC Local; Counter Nos.:

0000-363 Procedural Steps to Reset Sequencer (3/29/90)
0364-969 DG1A Sensors (3/31/90) - Lube Oil High Temperature
Switch, Lube Oil Low Pressure Switches, Jacket
Water Temperature Switches, Turbo Oil Pressure
Switch, Jacket Water Pressure Sensor and Governor
0970-1004 Back of DG1A Control Station
1005-1380 Tested Emergency Lighting
1381-1507 Scanned DG1A Control Panel
-1508 Headset and Extension Cord
-1536 Normal and Emergency Jacks for Cord
1550-1614 Overview of DG1A Room
1615-1668 Inside of DG1A Control Panel Showing Sensor Lines
1669-1810 Front of DG1A Control Panel Showing Emergency
Start Button Using Break Glass Instrument (or
Unscrew Glass)
1811-2207 Walkthrough of Emergency Start Procedure, SOP No.
13145-1, Section 4.4.3
(2043) Operator Aid Needed: Trips on Front
Panel
2208-2837 First Out Walkthrough, Noting Annunciator Trips
Provided
(2289) Operator Aid: Stand for Procedures
(2423) Required by ARP to Log First Out and
Report to Control Room
(2544) Tested Annunciators Using Annunciator
Response Control Buttons
(2740) Must Report All Major Functions and
Malfunctions (DG Trips, First Out
According to Admin. 10000 Procedure;
also 13145, 14980); If Tripped, Logged
and Reported to Engineering

2838-2925 Front of DG1A Panel; Magnetized Procedure Book; Ties on First Out Discussed (Two Valid Trips Simultaneously); one Reactor Trip is Eliminated or Might Not Work

2926-2993 Communication Phones: Gaitronics, Commercial Headphones, Sound Powered, and Extension Cords (25 feet)

2994-3311 Technical Support Center

3312-3430 DG1A Annunciator and Control Panels
 (3329) Sticker on C-9 for MWO and Another Sticker
 (3400) First Out on Reactor Trip Shown
 (3429) First Out Response Control Buttons for Reactor System

3431-3500 Safety Parameter Display System (SPDS)
 -3505 PROTEUS
 -3517 ERF

3526-3804 Walkthrough of Control Boards
 (3535) Plant Status Monitoring System (RVLIS, Incores, etc.) on Plasma Screen
 (3621) Relevant Indications
 (3636) Reactor Vessel Level and RVLIS, Scanned
 (3680) NCSW System
 (3703) CCW System
 (3732) RHR System
 (3800) Tower Platform in Control Room

3805-3844 Jacket Water Temperature Sensor in I/C Shop

3845-4179 Unit 1 Control Room (4/2/90)
 (3855) Description of Response Control Buttons in Control Room for DG1A: ACK, RESET, TEST, Including Contrast of What Happens at DG1A Local Control Station
 (4130) Reactor Trip; First Out Described and Shown

4180-4322 Turbine Trip (on Back Panel); First Out Explained, Including Response Button Controls; Electrical Hydraulic Control Cabinet Shown
 (4290) First Hit and Electrical Malfunction Reset Explained

4440-4934 DG1A Control Station
 (4625) How to Clear F6 (Switch Not in Auto); Clears Itself

4680-4878 Summary of What Operator Has to Do to Clear Audible Response Condition; Alarm Goes Solid (If in series, Silence, Acknowledge, Reset)
 (4878) How Operator Knows Condition is Cleared

4934 END

- 295. Spare Temperature Sensor Calibration Data
- 296. Test Procedure No. 17133
- 297. Security Access Printout for M. Lackey and S. Chessnut (3/20/90)
- 298. Letter to C. K. McCoy, GPC, from J. L. Tain, Westinghouse, dated 4/20/90; Subject: Vogtle, Unit 1, Vent Rate Through Reactor Vessel Head, Thermocouple Assemblies
- 299. Calcon Temperature and Pressure Switch Data (3 Volumes)
- 300. Letters to NRC Document Control Desk from W. G. Hairston, III, GPC, dated 4/19/90; Subjects:
 - 300-1 VEGP LER, Loss of Offsite Power Leads to Site Area Emergency
 - 300-2 VEGP LER, Unit 2 Reactor Trip from Unit 1 Reserve Auxiliary Transformer Feeder Line Fault
- 301. Security Logs for Entering and Exiting Control Room, Containment, D/G Room (3/20/90)
- 302. PROPRIETARY DOCUMENTS (INPO)*

Operating Experience Closeout Packages for the Following:

- IN-81-09
- SER-5-83
- SER-38-83
- SER-76-84
- SER-36-87
- SER-5-89
- SER-74-81
- SER-78-81
- SER-87-8
- O&MR-295
- SER-15-87
- SER-26-89

- 303. Wyle Laboratories Test Results - Temperature Sensors (submitted 4/26/90)
- 304. Response to Questions Regarding Containment LCO Logging, RCS Level, Gravity Feed

*PROPRIETARY--NOT AVAILABLE

- 305. Event Data Collection System - Equipment Locations Sketch
- 306. Wyle Laboratories Test Results - Temperature Sensors
(submitted 4/27/90)
- 307. Unit 1 Control Log for 3/19/90 through 3/21/90 (pp. 5281-5287)
- 308. VEGP Plant Review Board Meeting Minutes Prior to the Event
(3/2/90 through 3/19/90)
- 309. Wyle Laboratories Test Results - Temperature Sensors
(submitted 4/30/90)
- 310. MWO for Head Removal/Replacement
- 311. Core-Exit Thermocouple Channel Calibration
- 312. Steam Generator Drawing
- 313. RHR Pump B Modification Data
- 314. Wyle Laboratories Test Results - Temperature Sensors
(submitted 5/1/90)
- 315. Test Procedure for As-Received Testing and Calibration of
Seven Calcon Model A3500-W3 Temperature Sensors (4/30/90) -
by Wyle Laboratories for GPC
- 316. VEGP Procedure No. 93240-C, Rev. 8T, Reactor Vessel
Assembly/Disassembly Instructions
- 317. MWO No. 18905286 - #036 Check Valve
- 318. Letter to GPC, Attn. K. S.Burr, from Wyle Laboratories,
dated 5/2/90; Subject: Reliability Evaluation Testing of
Calcon Model A3500-W3 Temperature Sensors
- 319. Information Notices
 - 319-1 No. 82-20
 - 319-2 No. 86-09
 - 319-3 No. 83-17
 - 319-4 No. 83-51
 - 319-5 No. 85-28
 - 319-6 No. 85-73
 - 319-7 No. 85-91
 - 319-8 No. 84-69
 - 319-9 No. 84-69, Supplement 1

319-10 No. 86-73
319-11 No. 88-75
319-12 No. 89-87

- 320. IE Bulletin 77-01, Pneumatic Time Delay Relay Setpoint Drift
- 321. IE Circular 77-16, Emergency Diesel Generator Electrical Trip Lock-out Features
- 322. MWO for Accumulator Isolation Valve
- 323. Note to W. Lyon, IIT, from J. F. D'Amico, GPC, dated 5/2/90;
Re: Information on Seal Table
- 324. Pressurizer Detail Drawing
- 325. MWO for Charging Line Check Valve 036 and 035
- 326. Wyle Laboratories Test Results - Temperature Sensors
(submitted 5/4/90)
- 327. Bechtel Drawings of Accumulator Isolation Valve
- 328. Clearance Sheet for Reactor Head Vent
- 329. Instruction & Operating Manual Series X12 & X16 Models Solid State Annunciator Systems
- 330. PROPRIETARY DOCUMENTS (INPO)*

Operating Experience Closeout Packages for the Following:

SOER 83-01
SOER 81-10
SOER 83-06
O&MR 97
O&MR 110
O&MR 334
SER 82-78
SER 82-079
SER 09-85
SER 25-85
SOER 86-003
SER 89-028
SOER 85-001 (also includes 82-008 and 84-007)
SER 84-72
SER 88-031

*PROPRIETARY--NOT AVAILABLE

331. Operating Experience Closeout Packages for the Following:

- IN 77-01
- IN 80-41
- IN 82-20
- IN 83-17
- IN 83-51
- IN 84-69 (and Supplement 1)
- IN 85-28
- IN 85-73
- IN 85-91
- IN 86-70
- IN 86-73
- IN 88-75
- IN 89-87

- 332. Wyle Laboratories Test Results - Temperature Sensors (submitted 5/7/90)
- 333. Operating Experience Closeout Package for IMO Report
- 334. Deficiency Card No. 1900125 - S/G Manway
- 335. Bechtel Drawings: Swing Check Valve 3-C88; Motor Op. Gate Valve Mod. 10001GM99FNH010
- 336. Draft "Corrective Actions for Site Area Emergency" and Unit 1 Status Report from 3-18 to 4-1-90 (submitted by licensee)
- 337. Memorandum to H. Wyckoff, EPRI, from J. O'Brien, EPRI, dated 5/11/90; Subject: Nuclear Plant Worker Capabilities Under Extreme Environmental Conditions
- 338. Letter to NRC Document Control Desk, from W. G. Hairston, III, GPC, dated 5/14/90; Subject: Vogtle Electric Generating Plant Corrective Actions for Site Area Emergency
- 339. Cooper Industries Test Results - Pressure Sensors and Shutdown Logic Board (submitted 5/15/90)
- 340. Motor Control Center Load Lists for 1NBS, 1NBI, and 1ABA to 1ABF
- 341. Wyle Laboratories Test Report (Preliminary), dated 5/12/90, "Reliability Evaluation Testing of Ten Calcon Model A3500-W3 Temperature Sensors"
- 342. List of Personnel On Site on March 20, 1990

- 343. Procedure No. 00150-C, Rev. 10, Deficiency Control (5/10/90)
- 344. Photographs - Switchyard Where Incident Occurred (Affected Pole, Fuel Truck, Failed Insulator)
- 345. D/G 1B Troubleshooting Plan; Procedure 22981-C, Calcon Pneumatic Temperature Sensor Calibration (telecopy received 5/24/90)
- 346. Unit One "B" D/G Sensor Testing Sequence of Events - Preliminary (telecopy received 5/24/90)
- 347. Unit One "B" D/G Sequence of Events (telecopy received 5/29/90)
- 348. Telephone Conversations at NRC Headquarters Operations Center on March 20, 1990
 - 348-1 Unmonitored Transcript
 - 348-2 Memorandum from E. Weiss, AEOD to C. Siegel, IIT, dated May 31, 1990; Subject: Transcript of Telephone Conversations Relevant to the Vogtle Event
- 349. GPC Interoffice Correspondence from J. E. Swartzwelder to Department Heads dated 1/13/89; Re: Deficiency Control and QA Audit and Surveillance Finding Trend Report for Vogtle Unit 1
- 350. Test Report No. 17133-1, "Reliability Evaluation Testing of Ten Calcon Model A3500-W3 Temperature Sensors," by Wyle Laboratories for GPC (May 12, 1990)
- 351. Letter to M. W. Hodges, NRC, from R. A. Newton, WOG, dated November 21, 1988, with enclosure, WCAP-11916
- 352. NRC Inspection Manual, Temporary Instruction 2515/101, "Loss of Decay Heat Removal" (GL 88-17)
- 353. NRC Inspection Manual, Temporary Instruction 2515/103, "Loss of Decay Heat Removal" (GL 88-17) "Programmed Enhancements (Long Term) Review"