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May 1, 1990

the southern electric system

W. G. Hairston, III
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ELV-01557
0347

Docket Nos. 50-424
50-425

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

VOGTLE ELECTRIC GENERATING PLANT
1989 ANNUAL REPORT - PART 2

In accordance with the applicable regulatory requirements, Georgia Power Company hereby submits Part 2 of the 1989 Annual Report of operating information. It includes the remainder of the 1989 reports not previously submitted.

Sincerely,

W. G. Hairston, III

WGH,III/JLL/gm

Enclosure: Annual Report - Part 2

xc: Georgia Power Company
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VOGTLE ELECTRIC GENERATING PLANT

GEORGIA POWER COMPANY

PLANT VOGTLE UNITS 1 & 2

1989

ANNUAL REPORT

- PART 2 -

DOCKET NUMBERS 50 - 424/425
LICENSE NUMBERS NPF-68/81

GEORGIA POWER COMPANY

VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2

NRC DOCKET NOS. 50-424 AND 50-425

FACILITY OPERATING LICENSE NOS. NPF-68 AND NPF-81

1989 ANNUAL REPORT - PART 2

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VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 & 2

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INTRODUCTION

The Vogtle Electric Generating Plant Units 1 and 2 are powered by pressurized water reactors, each rated at 3411 megawatts thermal. It is located on the Savannah River in Burke County Georgia, at a site 34 miles southeast of Augusta. The Unit 1 initial operating license was received on January 16, 1987 and commercial operation started on May 31, 1987. Unit 1 completed its second fuel cycle on February 23, 1990. Unit 2 received its initial operating license on February 9, 1989, and began commercial operation on May 20, 1989. Unit 2 is operating in its first fuel cycle.

II

GEORGIA POWER COMPANY

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1 AND UNIT 2

NRC DOCKET NOS. 50-424 AND 50-425

FACILITY OPERATING LICENSE NOS. NPF-68 AND NPF-81

PLANT MODIFICATIONS AND TEST OR EXPERIMENTS

1989 ANNUAL REPORT - PART 2

10 CFR50.59(b)

PLANT MODIFICATIONS

87-V1E0019

This Design Change added baffle plates inside the 1561 (Piping Penetration Filtration System) duct work at eight locations to reduce airflows to within design tolerance or to within the effective modulation range of other air balance devices.

1. Addition of the baffle plates inside the duct affects no other equipment and does not increase the probability or consequences of an accident or malfunction with the duct itself, the duct is Seismic Category 1, as cited in FSAR section 9.4.3.2.3.c.

2. The DCP merely adds internal duct baffles for flow control (in addition to the registers and dampers already existing) which do not affect the seismic qualification of the duct, reference FSAR section 9.4.3.2.3.c and do not create a different malfunction opportunity not addressed in FSAR section 15.

3. Addition of these baffle plates within the 1561 duct reduces no margin of safety and has no effect on the bases defined for the applicable Tech Spec. sections 3/4.7.7.

87-VCE0024

Remove timer from the start circuit of the electric fire pump and replace the handswitch which controls this pump. The timer in the start circuit of the electric pump allows the fire pumps to start out of sequence because of the associated time delay. By removing it and replacing the handswitch, the overall diesel/electric fire pump starting sequence will return to the original design intent.

1. This change involves removing a timer in the start circuit of the electric fire pump to return the start sequence to the original design intent which does not increase the probability of occurrence or consequences of an accident or any equipment/component malfunction. FSAR sections 9.5.1 and 15.0 were reviewed and require no change.

2. This change does not increase the probability of any accident or equipment malfunction. No new possibilities or unanalyzed scenarios are created. This is based on a review of FSAR section 9.5.1 and 15.0.

3. The safety limits and settings discussed in sections 2.0, 3.0, and 4.0 of the Tech Spec. do not deal with fire protection. Therefore, there is no decrease in the Tech Spec. margin of safety.

87-V1E0032

A. This DCP adds PABX telephone to Turbine Bldg Chemistry Lab.

B. Adds PABX telephone to Turbine Bldg Operator's Office.

1. These phones are being installed in non-safety related areas of the Turbine Bldg. The PABX system is a non-safety system and modifications to it do not affect any analysis in the FSAR. The probability of occurence or consequences of an accident or equipment malfunction is not increased. The detailed description of the PAXB system in Section 9.5.2.2.2 is not altered. The PABX riser diagram will be updated during the annual update to reflect the new phones.

2. The PABX modification will provide additional phones. The function of the system will not change. The addition of phones does not create the possibility of an accident. It may decrease such possibility by providing enhanced communication abilities.

3. The PABX is not described in the basis for Technical Specifications.

87-V1E0074

Remove Video Tape Recorders from the alarm station operation sequence of Alarm events.

1. FSAR sections 3.0 to 12.5 and the Accident Analysis section 15 were previewed. It was then determined that the removal of the Tape Recorders would not impact these FSAR requirments.

Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. The Accident analysis section 15 of the FSAR was reviewed, it was then determined that the FSAR would not be affected by the removal of these tape recorders.

3. Sections 2,0, 3.0 and 4.0 were reviewed in the Technical Specification to determine that the removal of the tape recorders would have no affect on the margin of safety as described in the Tech. Spec.

87-V1E0103 This modification involves a piping change to system 2301, project class 629 and adds a 12"x12"x12" tee and a 12" gate valve to fire water yard loop piping C-2301-515-12", adjacent to hydrant 927. The gate valve will be fitted with a ground level valve box assembly, and operated with a key wrench. This arrangement basically amounts to an isolatable tee off the main fire water yard loop.

1. This change involves addition of a isolatable tee off the main fire water yard loop which does not increase the probability of occurrence or consequences of an accident or any equipment/ component malfunction.

2. This change does not increase the probability of any accident or equipment malfunction. No new possibilities or unanalyzed scenarios are created. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in sections 2.0, 3.0 and 4.0 of the VEGP Tech Spec. do not deal with Fire Protection. Therefore, there is no decrease in the Tech Spec margin of safety.

87-V1E0143

Replacement of servo-valve mounting plates on Atmospheric Relief Valve actuators with an upgraded plate supplied by Paul Monroe. The originally supplied plates do not allow sufficient o-ring compression. The new plates have a shallower o-ring groove allowing for better o-ring compression to alleviate leakage.

1. This modification improves the reliability of the Atmospheric Relief Valves and in no way increases the probability or consequences of an accident. Failure of a relief valve has previously been evaluated in FSAR section 15.1.14 "Inadvertent Opening of a Steam Generator Relief or Safety Valve".

2. Inadvertent opening of a Steam Generator Relief Valve has been previously addressed in FSAR section 15.1.4. Also, the probability of inadvertent closure or a "stuck" closed valve is not increased by this change. The reliability of the ARV's will be enhanced by reducing hydraulic leakage.

3. This modification improves the reliability of the Atmospheric Relief Valves and therefore, does not decrease the margin of safety in Tech Specs. sections 3/4.3 and 3/4.7.1 were reviewed.

87-VCE0151

Attached a dynamic absorber to the Fire Protection pump, C-2301-P4-003, due to vibrations during operations which exceeded the vendors recommendations for long term operation. Test performed on 6-12-87 with a temporarily installed dynamic absorber showed that vibrations were within the acceptable range.

1. The change involved adding a dynamic absorber to the Fire Pump which does not increase the probability of occurrences or consequences of an accident described in the FSAR. FSAR sections 9.5.1 and 15.0 were reviewed and require no change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not increase the probability of any accident or equipment malfunction. No new possibilities or unanalyzed scenerios are created. This is based on FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in section 2.0, 3.0 and 4.0 of the Tech Specs. do not deal with Fire Protection. Therefore, there is no decrease in the Tech Specs. margin of safety.

87-V1E0152

Existing radiation shielding for the Post Accident Sampling System (PASS) skid does not allow for easy access to the rear of the PASS panel. This change will modify the shield door to allow easier access to the rear of the PASS panel, but still keep radiation ALARA. Access to the rear of the panel is necessary for both normal and emergency maintenance. The PASS skid is located on Level A of the Fuel Handling Building.

1. The change is needed for maintenance purposes and does not increase the probability of occurrence or consequences of an accident described in section 15 of the FSAR.

2. This modification does not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR. Chapter 15 of the FSAR was reviewed for impact.

3. The margin of safety, as defined in the bases for Tech. Specs, does not include any specification applicable to this change. There are no safety limits, limiting safety system settings, limiting conditions for operations, or surveillance requirements involved. The bases for Tech. Specs. Section 2.0, 3.0 and 4.0 were reviewed for impact.

87-V1E0162

This change provided battery backup power to Local Zone Indicating Panel A-1813-Q3-F61.

1. This change conforms to criteria stated in FSAR 9.5.1.2.3.1-B which requires a 24 hour battery backup system at the river intake fire detection panel (A-1813-Q3-F61). No increase in the probability of occurrence or consequences of an accident or malfunction exists due to this change.

2. This change complies with the original design intent of either providing a uninterruptable power source for fire panels or a battery backup power source. No unanalyzed accident or malfunction can occur.

3. The fire protection system does not involve Technical Specifications.

87-V1E0165 This change describes core drills on the Unit 1 and Unit 2 boundary and the corresponding penetration seals necessary to restore fire boundary integrity.

1. This change does not involve any equipment or component. Penetrations will be made and sealed in such a manner that no degradation in the ability of the facilities' walls and slabs to meet their design requirements will occur. This change will not increase the probability of occurence or consequences of an accident as described in FSAR section 15 (Accident Analysis). There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. The change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1E0169 The Video Amplifiers in the Security system are no longer manufactured, therefore require upgrading or replacing.

1. Sections 3.0 to 12.5 were reviewed and it was determined that this design change will not increase the possibility of, or the occurrence, or consequences of an accident or malfunction as described in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. The accident analysis section 15 of the FSAR was reviewed in determining that the possibility of an accident or malfunction would not be increased by the installation of this DCP.

3. The LCO Bases in sections 2.0, 3.0, and 4.0 of the Tech Spec. were reviewed. As a result we found the margin of safety would not be reduced by the installation of this DCP.

87-V1E0173 Modify Seven Operator Interface Modules (OIM) to replace Linear Scales with thermocouple Type T non-Linear Scales. Install new dual flex meters and revise legend Plates. Modify one OIM - (LIC-4415) as above except replace present scale with a scale of correct span. Modifications are associated with the following temperature controls. TI-4130, 4131 indicate temperature of the outlet Heater #5A and 5B. TI-7079 indicates temperature of Generator Hydrogen Cold gas passage. TI-5498 indicates temperature of SGFP A Bearing oil coolers. TI-7116 indicates temp. of Main Turbine Lube oil. LI-4415 indicates level in Condenser Hotwell "C" and is used to control valve LV-4415.

1. These Operator Interface Modules (OIM) and the associated instruments are not safety related and have no effect on any equipment or components that are safety related and analyzed in the FSAR Section 15 Accident Analysis.

2. This design change which modifies seven Operator Interface Modules (OIM) and one scale with a correct span. Meter scale changes that provide for correct readings will not create an accident or malfunction not evaluated in the FSAR.

3. These non-safety related Operator Interface Modules (OIM) scale changes have no effect on the margin of safety per review of Technical Specifications Sections 2.1,2.2, 3/4.3 (Instrument) and 3/4.7 (Turbine cycle).

87-V1E0174

This modification is non-safety related. It adds an in-line thermostat to monitor the line temperature of Heat Tracing lines supplying eye wash and shower units.

1. The modification does not affect the accident analysis of FSAR chapter 15, nor affect any system required to function or mitigate the effects of any postulated accident. The modification only adds an in-line thermostat to monitor the line temperature of Heat Tracing lines supplying eye wash and shower units to ensure the water doesn't get too hot.

2. The proposed change does not create the possibility of an accident or malfunction not analyzed in the FSAR nor is a change to FSAR Chapter 15 analysis required.

3. There is no change to the margin of safety or basis of the Tech Spec. This includes a review of the bases for Tech Spec. 3/4.7.

87-V1E0182

Add a new 6" vent from the Crud Tank (1-1224-T4-001) to the Waste Holdup Tank (1-1901-T6-002) and route a 2" vent line from the new 6" vent line to the Auxiliary Bldg. exhaust. The existing 2" vent line is abandoned in place. This change will minimize the pressurization of the Crud Tank during backflushing and allow better level monitoring while maintaining a monitored vent path to the Auxiliary Building exhaust.

1. This change does not affect the probability of occurrence or consequences of an accident described nor the malfunction of any equipment assumed to function in FSAR Chapter 15, sections 11.2 and 11.4, and Table 3.2.2-1, sheet 18.

2. This modification does not impact any accident or equipment malfunction not described or implied in FSAR sections 11.2 and 11.4, and Chapter 15. This change has no system response changes other than to allow more effective backflushing.

3. This change does not impact the Tech Spec. bases B 3/4.11 and B 3/4.12 and therefore does not affect the margin of safety.

87-V1E0238

This DCP adds a security Alarm to a door in the PESB, and removes access to the restroom in the PESB Entry Vestibule.

1. The Accident Analysis section of the FSAR (section 15) was reviewed to determine that the implementation of this DCP would not increase the probability of, or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements. Section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of Section 15 of the Vogtle FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the Bases in Sections 2.0, 3.0 and 4.0 of the Vogtle Technical Specification was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Tech Specs.

87-V1E0244

This modification added restraint plates to support lines 1201-178-1" and 2402-004-1" in the Fuel Handling and Aux Buildings. The supports are located inside the sleeves of Containment penetrations #62 and #42, on the vendor supplied portion of the flued head assemblies outside the containment pressure boundary.

1. In order to support the process piping portion of the penetration assembly in the vertical and lateral directions the vendor required a restraint plate be installed in the containment sleeve. Therefore, the addition of these restraint plates does not increase the probability of occurrence or the consequence of an accident or malfunction of equipment important to safety, but ensures that they meet the design previously evaluated in the FSAR. FSAR section 15 was reviewed.

2. No new postulated accident is created as a result of adding the restraint plates. FSAR sections 3.6, 3.7, 3.9, 6.2 and 15 reviewed.

3. The margin of safety described in the Tech Specs. bases is not reduced as a result of adding the restraint plates. Sections 3/4.4 and 3/4.6 reviewed.

87-V1E0246 Provided design details to seal various penetrations in the Control Building between rooms R-304/R-325, R-307/R-308 and R-305/R-259. These penetration seals are for Unit 2 conduit and are addressed on deficiency cards 1-87-1179, 1087-1181 and 1-87-1182. Penetration seals were performed per procedure 00432-C (Penetration Seal Control). These seals meet all hazards and fire protection design criteria.

1. These penetration seals meet the design requirements for the facility where installed. The change meets the requirements as described or implied in FSAR sections 3.4, 3.8.4, 6.4, 9.4.1 and 9.5.1 with Appendixes 9A & 9B. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

   This change does not involve any equipment or component. The hazard analysis is not affected by this change. The change provides the penetration seals required by the plant Fire Protection Program. There is no change to the fire hazard analysis of section 9 or Accident Analysis of section 15. No increase in the probability of occurrence or the consequences of an accident will occur.

2. This change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. The material used meets the fire protection requirements of FSAR section 9.5.1.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1E0248

A. This DCP replaces the existing 50 Amp Breakers 1NBE71, 1NBF65, 1ABE52, 1NBR43 & 1NBS53 with 40 amp Breakers.

B. Disconnects power supply to EHC cabinet from the Distribution Panel 1NYE1 and spare Breaker 1NYE136.

C. Adds a 480/120V transformer with a 15 amp circuit breaker at the MCC 1NBE64 to provide power to the EHC Cabinet. This modification is required to meet Reg. Guide 1.63 Electrical Penetration Conductor overcurrent Protection Requirements.

1. The proposed changes 1) replaces one class 1E breaker with a class 1E breaker of same type, Quality and dimensions and it does not impact any safety either directly or indirectly 2) meets original design intent and specification and does not degrade the reliability of any system component or structure 3) Assuming a malfunction of class 1E equipment (Such as distribution Panel feeder breakers) the proposed changes would improve the overall operability of the system therefore the proposed changes does not cause any malfunction to any equipment or component assumed to function in accidents analyzed in the FSAR. (This includes FSAR Chapter 15).

2. Per Reg Guide 1.63 and FSAR Section 1.9.63 an electrical penetration conductor shall be protected by a backup device when the primary protective device fails. #10 AWG penetration conductors used for 120V AC power circuit fed from 120V AC distribution panels are not protected by back-up device.

   With the change, regulatory guide and FSAR requirements are met, where backup protective device operates if the primary protective device fails to operate as shown in revised calculations (X3CM01) dated 7/14/87. The change does not add any new design changes and does not create any failure modes which have not been analyzed previously.

3. Technical Specification Section 3/4.8.4 and the bases for the Technical Specifications have been reviewed and the changes do not decrease the margin of safety defined by the bases for the Technical Specifications. The changes are made in order to meet the intent of design Technical Specifications and FSAR requirements etc.

87-V1E0256

De-rate two walls located in the Radwaste Transfer Tunnel (Area 1-RB-1A), one of which separates the Radwaste Transfer Tunnel from the Radwaste Transfer Bldg and the other which separates the Radwaste Transfer Tunnel from the Radwaste Solidification Bldg. Also combines area 1-RB-1A-A into area 1-RTB-L1-A.

1. This change involves de-rating fire boundaries in areas where no safe shutdown equipment or components exit. This change will not increase the probability of occurrence or consequences of an accident described in the FSAR. Section 9.5.1 and 15.0 were reviewed and require no change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not increase the possibility of any accident or equipment malfunction. No new possibilities or unanalyzed scenarios are created. This is based on review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in sections 2.0, 3.0 and 4.0 of the Tech Specs. do not deal with fire protection. Therefore, there is no decrease in the Tech Specs. margin of safety.

87-V1E0274

This DCP modified the lock configuration on several security system access doors.

1. The Accident Analysis section of the FSAR (section 15) was reviewed to determine that the implementation of this DCP would not increase the probability or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6

details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of Section 15 of the Vogtle FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the Bases in Sections 2.0, 3.0 and 4.0 of the Vogtle Technical Specification was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Tech Specs.

87-VCE0324

This change adds a non-Q class 480/208V, 30 KVA transformer, and 1 conduit(exposed), with an associated disconnect switch in the hot machine shop. And revises the existing disconnect switch sizes in this room to agree with equipment requirements. In addition, the breakers feeding this equipment from MCC ANBH (Aux Bldg, Level A Room 54) are the wrong amperages, and must be replaced.

1. This change will not involve any safety-related components, and will not cause any equipment assumed to function in an accident to malfunction. Reference FSAR Section 15.2.6.

2. This change involves no safety-related components or equipment, and is designed/installed per the requirements. Therefore, no accidents or equipment malfunctions will result from this change that is not described in the FSAR. Reference FSAR section 8.2.

3. Adding a 208V AC power source to the hot machine shop will not effect the margin of safety as defined in Technical Specifications 3/4.8.1.

87-V1E0329

Provide lube oil sample point on each of the emergency diesel generators in Unit #1 keep warm skids. The sample point will be installed off the vendor supplied tubing located between the suction and discharge of the lube oil keep warm pumps. This modification provides chemistry personnel a safe and precise means of obtaining the required monthly sample.

1. The installation of the lube oil sample points will be done per the project class 212 requirements. This change will not increase the probability of occurrence or consequences of the malfunction of any equipment or component assumed to function in accidents analyzed in FSAR section 15.0, 9.5.5 and 9.5.7.

2. The installation of the lube oil sample points will be done per the project class 212 requirements; therefore, it does not create the possibility of an accident or equipment/component malfunction not described and analyzed in FSAR sections 15.0, 9.5.0 and 9.5.7.

3. The proposed change does not decrease the margin of safety defined by the bases of the Technical Specification 3/4.8.1.

87-V1N0338

The resistors for indicating lights on the 1-1604-Q5-PCP were replaced with higher wattage resistors. This was done to reduce the failure rate and the operating temperature of these resistors.

1. The changes were to non-safety related resistors in a non-safety related area of the panel and will not affect any safety related equipment.

2. The resistors are located in their original locations which is in a metal control cabinet separated from any 1E circuits. The heat load for this panel remained unchanged.

3. The modification increases safety by reducing failures and the temperature of these non-safety related resistors.

87-V1E0348

Design Change 87-V1E0348 installed, verified and validated (V&V) software in the Plant Safety Monitoring System (PSMS), Neutron Flux Monitoring System (NFMS) and the Alternate Shutdown Indicating System (ASIS). The V&V software provides an additional level of confidence that the micro-processors will meet their functional requirements in a highly reliable manner. Additionally, the modification provided a hand held terminal for use with the NFMS as a maintenance tool.

1. The modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report. The modification installed V&V software, in the form of "Burned-In" eproms, which provide an additional level of confidence that the micro-processors will perform their design functions. Therefore, since the systems' software has under gone a V&V process the probability of malfunction is decreased, the above conclusion is based on review of FSAR Chapters 7.5, 15, and 7.4.3.3. The hand held terminal is a non-safety related maintenance tool. It does not affect qualification margin, safe plant operation or safe plant shutdown.

2. The modification does not create the possibility for an accident or malfunction of a different type than previously evaluated in the safety analysis report. The modification installed V&V burned-in EPROMS which provide an additional level of confidence that the systems will meet its functional requirements in a highly reliable manner. This resolution is based on review of FSAR Chapters 7.4.3.3, 7.5 and 15.

3. The modification to the PSMS, NFMS, and ASIS does not reduce the margin of safety as defined in the bases for Technical Specification Sections 2, 3/4.3.3.5, 3/4.3.3.6, 3/4.3.1.

87-V1E0364 Added core drills and penetration seals to Unit 1 Control Building walls between rooms R125/R128 and R125/R131 as required for the installation of Unit 2 electrical conduit inside the Unit 1 protected area.

1. The permanent penetration seals were installed per this DCP and provided a hazard rating equal to or greater than required for the walls penetrated. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

   This change does not involve any equipment or component. The building's hazard anaylsis and structural design are not affected by this change. Penetrations will be made and sealed in such a manner that no degradation in the ability of the facility's walls to meet their design requirements will occur. Change will not increase the probability of occurrence or consequences of an accident as described in FSAR section 15 (Accident Analysis). No changes to FSAR Hazard Analysis is required.

2. The change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. Change does not involve any equipment or component. The structural design and hazard analysis are not affected by this change.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1N0367 At "KA8" relay board inside Local Zone Indicating Panel "1NCPFP48" (1-1813-Q3-F48), remove two jumpers run between contact "2A" and "3A".

1. The change does not directly or indirectly affect any safety related equipment described in an accident in the FSAR nor does it impact any equipment required to mitigate an accident. Therefore, the change does not increase the probability of occurrence or consequences of an accident described in the FSAR. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

The change does not affect the probability of occurrence or consequences of a malfunction of any safety related equipment or component assumed to function in accidents analyzed in the FSAR because the proposed change reflects the design described in FSAR Chapters 9A.1.33, 9A.1.113, and Spec. X4AX03.

2. The change does not create the possibility of an accident or equipment/component malfunction not described and analyzed in the FSAR because a fire in fire zone 141B will not propagate to zone 141A. Fire detection capability in zone 141B is still available to the control room operators.

3. This change will maintain the safety margin defined in the Technical Specification bases for systems and components associated with the affected fire zones because the proposed modification does not change the operability and design of these systems and components.

87-V1N0379

Selected portions of the Containment purge supply (1505) and exhaust (1506) ductwork were upgraded to piping for overpressurization protection. In addition a by-pass line and orifice were added on minipurge exhaust line to allow reduction of pressure below 10" w.g. when venting Containment from higher pressures.

1. Review of FSAR sections 6.2.4 and 9.4.6 reveals this DCP does not involve any aspect of the Safety Design Bases. Therefore, this DCP will not increase the probability of occurrence or consequences of an accident described in the FSAR. This review also included section 15.

2. This DCP does not affect any valve associated with Containment isolation. Based on a review of FSAR sections 6.2.4, 9.4.6 and 15 this DCP does not create the possibility of an accident or equipment/component malfunction not already described and analyzed in the FSAR.

3. Review of Tech Spec. section 2.0 and sections 3.6.1.4 and 3.6.1.7 reveals this DCP does not decrease the margin of safety as defined by the bases of the Tech Spec.

87-V1N0386

This change adds manual isolation valves upstream and downstream of existing air operated isolation valves for the Seal Injection backflush filters. The affected lines are 1-1208-22-2", 1-1208-22-3", 1-1208-23-2", and 1-1208-150-2". The valves are project class 212 for pressure boundary reasons and are added to allow isolation of existing air operated isolation valves during maintenance or problems with existing isolation valves.

Reach rods are used for accessibility and ALARA concerns.

1. These valves are class 212 and are qualified for the pressure boundary conditions. This change impacts no accidents or equipment analyzed in FSAR section 9.3.4, and chapter 11 and 15.

2. This change does not create additional malfunctions or accidents that could impact a system required for an analyzed accident in FSAR section 9.3 and chapter 15.

3. The addition of these normally open valves do not impact any equipment in the Tech Spec. including bases B 3/4.4.

87-V1E0387

This design change adds approximately 1.5 inches of ceramic fiber insulation over existing calcium silicate insulation on Steam Generator Blowdown inlet piping, condensate piping and the blowdown heat exchanger located in Aux. Building rooms C-106 and C-108. This insulation is added to line numbers 1-1407-001-3", 1-1407-002-3", 1-1407-003-3", 1-1407-004-3", 1-1304-061-3", 1-1304-062-3", 1-1407-063-3", 1-1304-064-3" and 1-1304-061-6". The insulation is added to reduce high ambient room temperature in the Aux. Building room C-106 to prevent electrical circuit card failures which are located in Steam Generator Blowdown Control Panel.

1. Additional insulation does not affect any safety related system. There is no affect on accident Analysis of FSAR Chapter 15. This design modification affects Steam Generator Blowdown piping outside the Containment which is not required for safe shutdown or assumed to function during accident.

2. This design modification to add extra insulation over the existing insulation on the Steam Generator and condensate piping and the Heat Exchanger does not create any accident or does not affect any components which are assumed to function during accidents. This includes a review of FSAR Sections 3.6, 10.4.8, and 9.4.3.

3. Insulation on Steam Generator Blowdown System or condensate piping at the Heat Exchanger room C-106 located in Aux. Building are not addressed or assumed in the margin of safety of the Technical Specification. This include a review of Sections 3/4.7.1 and 3/4.7.13 and 3/4.3 subsection 3.3.3.11 of the Technical Specification.

87-V1N0388

This change adds 3/8 inch SS sample tubing assembly (up to a maximum length of 24 inches) to local liquid sample points, where required in the plant. This tubing assembly shall not be connected to Seismic Category 1 piping/components. At present, most of the sample connections are horizontal and it is difficult to take the samples inside the sample bottles without splashing the contaminated liquid. Adding the sample tubing assembly will facilitate obtaining grab samples and decrease the potential for contamination of personnel, equipment and areas.

1. The change reduces contamination of personnel, equipment and areas. The change does not affect any equipment involved in accidents postulated in the FSAR or equipment assumed to mitigate any accident described in the FSAR. This includes a review of all chapter 15 accidents. Therefore, it does not change any accident probabilities or consequences.

2. This change does not create the possibility of an accident or malfunction not already described in the FSAR because the sample assembly is Seismic Category 2 and less than 10 pounds in weight. In accordance with paragraph 3.5 of Design Criteria DC-1005, seismic 2 over 1 analysis is not required for piping or components weighing less than 10 pounds because failure will not adversely affect Seismic Category 1 piping or components.

3. The sample connections do not affect the safe operation of the plant. Therefore, the margin of safety defined in the Technical Specification will not be decreased by the proposed change.

87-V1E0391

The change requires the drilling of holes in the Turbine Building Unit 1/Unit 2 boundary wall and water analysis lab roof inside the Unit 1 Protected Area. These holes were added to provide for the installation of Unit 2 Electrical Conduit inside the Unit 1 Protected Area. The permanent penetration seals were installed per the DCP and meet or exceed fire barrier rating.

1. Penetrations were made and sealed in such a manner that no degradation in the ability of the facility's wall/slab to meet design requirements will occur. This change will not increase the probability of occurrence or consequences of an accident as described in FSAR section 15 (Accident Analysis). No changes to FSAR hazard analysis is required. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

   This change does not involve any equipment or component. The building's hazard anaylsis and structural design are not affected by this change.

2. The change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR.

This change does not involve any equipment or component. The structural design and hazard analysis are not affected by this change.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1E0394
Rev 1

Replace the existing ITT Barton pressure transmitter. Disconnect the tubing for 1PT-405 from the existing tap located on the RHR system recirculation line. Route new instrument tubing to the RCS hot leg tap associated with the RVLIS instrumentation 1LX-1320.

1. The design change does not increase the probability of occurrence or consequences of the malfunction of any equipment or component assumed to function in accidents analyzed in FSAR sections 15.0, 5.1, 5.2, 7.2, 7.5 and 7.6.

2. The design change replaces the existing ITT Barton pressure transmitter 1PT-405 with a Tobar pressure transmitter. The Tobar pressure transmitter is fully qualified and is better suited to this application. The relocation of the instrument sensing line from the RHR system recirculation line to the RCS hot leg loop 4 will improve the instrument accuracy and reliability. The instrument will no longer be subject to the pressure surges present in the RHR system recirculation line which is impacting its readings and reliability. The rerouting of the instrument sensing line is supported by the revised tubing fabrication iso and the supporting stress calculation. The design change does not create the possibility of an accident or equipment/component malfunction not described and analyzed in FSAR section 15.0.

3. The design change does not decrease the margin of safety defined by the bases of Technical Specification section 3/4.4.9.

87-V1N0414
87-V1N0415
87-V1N0416

These DCPs involve changes to various pipe supports (such as deleting/replacing snubbers and/or physical modifications to pipe support steel) in the 1301 system. There are no changes to the system piping or components.

1. This change does not affect system function or operation and therefore does not affect the accident analysis, probability or consequences of a Main Steam accident described in Sections 15.1 and 15.2.

2. This change does not affect any system, equipment or component's function or operation and therefore does not affect the accident analysis, probability or consequences described in Section 15.1 and 15.2.

3. This change does not affect the Main Steam system/ equipment function or operation and therefore does not affect the safety margin defined by Tech Sepc. 3/4.7.8. There is no change in the bases of Tech Spec 3/4.7.8. The list of individual snubbers referred to the bases of Tech Spec. 3/4/7.8 will change, but the margin of safety is not affected.

87-V1N0436 Revise the high alarm and low alarm/pump trip setpoints for the following tanks in the Liquid Waste Processing System (system 1901): The Floor Drain Tank (equipment tag no. 1-1901-T6-008), the Waste Holdup Tank (1-1901-T6-002), the Laundry and Hot Shower Tank (A-1901-T6-007), the Waste Evaporator Condensate Tank (1-190-T6-003), the Waste Monitor Tanks (1-2901-T6-009 and 1-1901-T6-010) and the Chemical Drain Tank (A-1901-T6-005). These components are non-safety related and their failure will not compromise a safety-related system or affect the safe shutdown of the plant. All tanks are project class 417 and 427.

1. This Liquid Waste Processing system is a non-safety related system. Failure of the components of this system will not affect the ability of the plant to accomplish a safe shutdown, nor will it compromise a safety-related system. This is based on a review of FSAR sections 15.0 and 11.2. There is no affect on the consequences of a radioactive liquid waste system leak as described in FSAR section 15.7.2.

2. The changes are to components of the Liquid Waste Processing system (system 1901). This system is non-safety related and not required to function in an accident as described in FSAR chapter 15.0.

Implementation of these changes does not increase the possibility of an accident or malfunction. This includes a review of FSAR sections 11.2 and 15.7.2.

3. Based on a review of the Tech Specs. basis, including section B 3/4.11, this modification will not decrease the margin of safety.

87-V1N0440 Nitrogen supply header line 1-1224-012 will be cut and a blind flange/spool piece will be added to separate one header branch from the other to prevent contamination from high pressure process leakage into the Nitrogen header and other process filter sections. A tee with a pressure indicator (PI-41310) will be added (along with the PI isolation valve) downstream of valve 1-1224-U4-015 to monitor the Nitrogen header for process backleakage. A nameplate will be added to the Backflush Filter Control Panel identifying PDI-41304 as crud tank pressure.

1. This change does not impact any equipment/accident important to safety. This review included FSAR sections 9.3, 11.2, 11.4 and chapter 15.

2. The equipment associated with this change is non safety-related and does not impact any safety related equipment. There is no new malfunction created by this change. This was determined by review of FSAR sections 9.3, 11.2, 11.4 and chapter 15.

3. There are no applicable Tech Spec. bases associated with this change. This included review of bases B 3/4.4., and B 3/4.7.

87-V1N0454 This modification added personnel access control turnstiles to the PESB Bldg.

1. The Accident Analysis section of the FSAR was reviewed. It was then determined that the installation of the security turnstiles to the PESB does not effect the areas of the FSAR discussed in section 15. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. The installation of Security turnstiles in the PESB does not increase the possibility of an accident as described in the FSAR, specifically section 15 "Accident Analysis".

3. The LCO Bases were reviewed in sections, 2.0, 3.0 and 4.0 of the Tech. Spec. It was then determined that the addition of these Security turnstiles will not reduce the margin of safety as described in the Tech. Spec.

87-V1N0455 Core Drill Requests 2330 and 2331 required pen seals to Unit 1 Control Bldg. walls between Rooms R180/R185, R131/RA63, and RA63/RB38 for installation of Unit 2 electrical conduit inside the Unit 1 protected area.

1. Penetrations will be made and sealed in such a manner that no degradation in the ability of the facility's floors/walls to meet their design requirements will occur. This change will not increase the probability of occurrence or consequences of an accident as described in FSAR section 15. No changes to FSAR hazard Analysis is required. This change does not involve any equipment or component. The building's hazard analysis and structural design are not affected by this change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. The change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. Change does not involve any equipment or component. The structural design and hazard analysis are not affected by this change.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the bases in Sections 2.0, 3.0, and 4.0.

87-V1N0458 The design change adds a time relay in parallel with the starter interposing relays on Service Air compressors 1-2401-LC-501, 502, 503 and 504. This addition will allow the start circuit to be maintained until the residual bus transfer is complete and the selected compressor/compressors have auto restarted. This eliminates the need for operators to manually restart compressors following a transfer to restore instrument air system header pressure.

1. The design change allows for auto start capability of air compressors following a residual bus transfer. This allows for system restoration without manual operator actions. The system is required for plant startup and normal operations; however pneumatically operated valves essential for safe shutdown and accident mitigation are designed to assume fail-safe position upon loss of air pressure. Therefore, the compressed air system is not required for safe shutdown or following a design bases event. Therefore, this modification does not increase the probability of occurrence or the consequences of an accident or malfunction previously evaluated. This response included a review of FSAR Section 9.3.1.1.1 and 9.3.1.3 and Chapter 15.

2. All valves that require instrument air for operation that are essential for safe shutdown and accident mitigation are designed to assume a fail safe position following a loss of air pressure. The auto restart capability does not affect normal system operation. It will allow system restoration to be accomplished without operator action. This addition does not create any new malfunctions not previously evaluated. This response follows a review of FSAR sections 9.3.1.1.1 and 9.3.1.3.

3. Plant design is such that no plant equipment relies upon the compressed air system to perform its safety function; thus there is no safety design basis for the system per FSAR section 9.3.1.1.1. The compressed air system is not addressed in the basis for any Technical Specification. This included a review of the basis for Tech Spec. section 3/4.7.

87-VCN0460

This modification made changes in Normal Chiller Circuitry (1591) such that the chiller will automatically reset after a loss of control power.

1. The normal chillers (1591) are not considered in any section 15 FSAR accident and are not important to safety.

2. The normal chilled water system described in FSAR 9.2.9.2 has no safety design bases.

3. The normal chilled water system is not a part of any Tech Specs. bases.

87-V1N0465

This change involves the assignment of penetration seal numbers and selection of appropriate seal details for existing unsealed conduit penetrations.

1. The proposed change does not increase the probability of occurrence or consequences of the malfunction of any equipment or component assumed to function in accidents analyzed in the FSAR. The change involves the assignment of penetration seal numbers. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change involves the assignment of penetration seal numbers. This modification does not create the possibility of any accident or malfunction of a different type than previously evaluated in the FSAR.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1N0466

The change required the drilling of holes in the Unit 1 Aux. Bldg. floor between rooms UC-C07/R-C49 and Control Bldg Walls between rooms R-128/R-132, R-132/Unit 2 R-117-E & R-307/R-308. These holes were added to provide for the installation of Unit 2 electrical conduit inside the Unit 1 protected area. The permanent penetration seals were installed per this DCP and provided a hazard rating equal to or greater than required for the walls penetrated.

1. Penetrations will be made & sealed in such a manner that no degradation in the ability of the facility's floor/walls to meet their design requirements will occur. This change will not increase the probability of occurrence or consequences of an accident as described in FSAR section 15. No changes to FSAR hazard analysis is required. This change does not involve any equipment or components. The building's hazard analysis and structural design are not affected by this change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. Change does not involve any equipment or components. The structural design and hazard analysis are not affected by this change.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1N0468

The change required the drilling of holes in the Unit 1 Control Building walls between Rooms R-126/R-122, R-199/R-160 & R-164/R-128. These holes were added to provide for the installation of Unit 2 electrical conduit inside the Unit 1 protected area. The permanent penetration seals were installed per this DCP and provided a hazard rating equal to or greater than required for the walls penetrated.

1. Penetrations were made and sealed in such a manner that no degradation in the ability of the facility's walls to meet their design requirements will occur. This change will not increase the probability of occurence or consequences of an accident as described in FSAR section 15 (Accident Analysis). No changes to FSAR hazard analysis is required. This change does not involve any equipment or components. The building's hazard analysis and structural design are not affected by this change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. Change does not involve any equipment or components.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

87-V1E0469 Added breaches and penetrations seals to Control Building, plaster walls between rooms R-325/R-325, R-117/R-117 and R-120/R-119 Aux. Bldg. Plaster walls between rooms UC-D06/UC-D06 and Turbine Bldg concrete block wall between Units 1 & 2. These breaches were required for installation of Unit 2 conduit inside the Unit 1 protected area.

1. Penetrations were made and sealed in such a manner that no degradation in the ability of the facilities' walls to meet their design requirements will occur. This change will not increase the probability of occurence or consequences of an accident as described in FSAR section 15. No changes to FSAR hazard analysis is required. This change does not involve any equipment or components. The building's hazard analysis and structural design are not affected by this change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. Change does not involve any equipment or components. The structural design and hazard analysis are not affected by this change.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

88-V1N0002 This modification replaces the existing ATI power supply located in the ESF sequencer panels (1-1821-U3-001,002) with a more reliable

power supply by the recommended vendor (Eaton: Consolidated Controls), as a result of previous failures. The sequencer panels are safety-related class- 1E and are located in the Control Building in a mild environment. The change affects internal wiring only. The replacement power supply is qualified as class- 1E.

1. As shown in FSAR Table 15.0.8-1 the emergency power system is assumed to function in accidents in FSAR 15.6. Also per FSAR 15.0.8 the Diesel Generator is assumed to start in 12 seconds upon an L.O.P. The accidents described in FSAR 15.6 (based upon the assumptions of Table 15.0.12-1) state that no single active failure will prevent the reactor protection system from functioning properly. Therefore, this change does not increase the probability of malfunction of required equipment.

2. Accidents described in FSAR 15 do not discuss the malfunction of the ESF sequencer or standby power system. Worst case assumptions (Table 15.0.12-1) consider the failure of entire protection trains. A single failure of the sequencer would not adversely affect the consequences of an accident due to redundancy. This change does not affect the function of the sequencer and therefore does not increase the probability of an accident.

3. Tech Spec. bases 3/4.3.2, 3/4.8.1 and 3/4.8.3 imply the requirements of the sequencer in relation to AC sources and ESF components actuated by ESFAS. This change does not adversely affect the sequencer function and therefore does not decrease the margin of safety per the Tech Spec.

88-V1N0003 Backdraft dampers 1-1593-D7-101 thru 108 which are located in the Auxiliary Feedwater Pumphouse have the blades. The blades were removed from the backdraft dampers in response to deficiency 1-87-3440 which identified the dampers as not in

the open position as required by note 5 on P&ID 1X4DB227. The openings in which these backdraft dampers are located provide for a natural circulation airflow path for the accident mode of ventilation of the turbine driven Auxiliary Feedwater pump room and the normal/emergency mode of the motor driven Auxiliary Feedwater pump rooms. The backdraft dampers are intended to prevent excessive inflow of air and are not required to prevent normal infiltration since the original design required the damper blades to remain normally open for natural circulation. This DCP will make the changes provided by Temporary Modification 1-87-481 permanent.

1. The removal of blades from the subject backdraft dampers will not affect the safety function of the Auxiliary Feedwater Pumphouse HVAC system or increase the probability of a malfunction of any equipment assumed to function in accidents analyzed in the FSAR. The design temperature will not be affected by removal of the damper blades and thus, will not prevent the Auxiliary Feedwater Pumphouse HVAC system from performing its intended safety function. This includes a review of FSAR Sections 2, 3, 9.4.8 and 15.

2. Removal of the blades will assist the natural circulation within the Auxiliary Feedwater Pump House. This will further assure the maximum room temp is not exceeded. All current HVAC design parameters will be maintained with the backdraft damper blades removed.

3. This change will not decrease the margin of safety as defined in the Tech Spec. bases for the Auxiliary Feedwater system (TS 3/4.7.1.2) and the Auxiliary Feedwater Pumphouse ESF HVAC system (TS 3/4.4.7.13). The Tech Spec. bases for the Auxiliary Feedwater Pumphouse ESF HVAC system requires that the system maintain an ambient air temperature which does not exceed the allowable temperature for continuous duty rating for equipment served by the HVAC system. Removal of the backdraft damper blades will not affect the ability of the ESF HVAC system to perform its intended safety function.

88-V1N0010 Relocation of the line supervision components in the security system.

1. The Accident Analysis section of the FSAR (Section 15) was reviewed to determine that the implementation of this DCP would not increase the probability of, or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of Section 15 of the Vogtle FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the Bases in Sections 2.0, 3.0 and 4.0 of the Vogtle Technical Specification was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Technical Specification.

88-V1N0013 This modification eliminates the automatic runback of turbine power to 50 percent on a trip of one circulating water pump.

1. The change does not involve safety related equipment and only effects safety related equipment to the extent that the possibility of a reactor trip due to a secondary plant transient is changed. This change is being performed to minimize the magnitude of the transient which would result from a circ water pump trip, since under most atmospheric conditions operation could continue at much more than 50 percent power. Accordingly, the probability of a reactor trip is decreased.

2. Any sequence of events remains bounded by a turbine trip, which is analyzed in Chapter 15. If turbine load is not manually reduced by a sufficient amount, a turbine trip will occur on high condenser pressure.

3. Turbine load control is not discussed in the Tech Specs. or basis. No turbine or reactor protective trips are being changed.

88-V1N0019

This DCP added access control and alarm annunciation capabilities to Diesel Fuel Oil Storage Tank Door D-101.

1. The Accident Analysis section of the FSAR was reviewed to determine that the implementation of this DCP would not increase the probability of, or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of section 15 of the FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the Bases in section 2.0, 3.0 and 4.0 of the Tech Specs. was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Tech Specs.

88-V1E0027

Added Core drills and penetration seals to Control Building walls between rooms R-C06/R-C07, R0164/Exterior, R-185/Exterior and R-A44/R-A23 and Auxiliary Building floor between rooms UC-D07/R-D53, these penetrations are required for the installation of Unit 2 electrical conduit inside the Unit 1 protected area. The permanent penetration seals were installed per this DCP and provided a hazard rating equal to or greater than required for the walls penetrated.

1. This change does not involve any equipment or components. Penetrations were made and sealed in such a manner that no degradation in the ability of the facilities' walls/slab to meet their design requirements will occur. This change will not increase the probability of occurence or consequences of an accident as described in FSAR section 3.5 and 15 (accident analysis). The building's hazard analysis and structural design are not affected by this change. This included review of FSAR sections 3 and 15.

There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not involve any equipment or components. The building's hazard analysis and structural design are not affected by this change. This included review of FSAR sections 3 and 15.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

88-VCE0029

Four (4) of the Unit 2 ERF Computer CRT Displays (UMMI) were deleted and four (4) of the Unit 1 ERF Computer UMMIS were made common to both units. This was accomplished by installing a manual A-B Coax switch A-HS-6277, in the Technical Support Center (TSC) Computer Room. The Coax switch allows the four (4) common UMMIS to be connected to either the Unit 1 or Unit 2 ERF Computer via the communication ports (Linkports) LP-2A and LP-2B.

1. This modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. This modification does not affect any component/equipment that mitigates the effect of any accident described in the FSAR Section 15. This modification does not increase the probability of occurence or consequences of the malfunction of any component/equipment assumed to function in accidents analyzed in Section 15 of the FSAR. Though the ERF Computer System is assumed to be operational in all modes of operations, including accident and post accident conditions (Emergency Plan Section H and FSAR Section 7.5) ANU is designed to be highly reliable and qualitatively comparable (with regards to accuracy) with class 1E systems it is non-Q, 62J, and performs no safety-related functions.

2. This modification to the ERF Computer System does not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR Section 15.

3. This modification to the ERF Computer System does not reduce the margin of safety as defined in the basis for any Technical Specification. The ERF Computer System is not addressed in the Technical Specifications. This included a review of Tech Spec. 3/4.3

88-VCN0032 This change added early warning fire detection (one ionization smoke detector) to Water Treatment Building storage room 105.

1. This change involves adding an additional smoke detector in the Water Treatment Building, which does not increase the probability of occurrence or consequences of an accident described in the FSAR. FSAR section 15.0 was reviewed and requires no change. This change involves adding an additional smoke detector in the Water Treatment Building, which does not increase the probability of occurrence or consequences of any equipment/ component malfunction. This included review of FSAR chapter 9 and 15.

2. This change does not increase the probability of any accident or equipment malfunction. No new possibilities or unanalyzed scenarios are created. This included review of FSAR chapter 9 and 15.

3. The safety limits and settings discussed in section 2.0, 3.0, and 4.0 of the Tech Specs. do not deal with Fire Protection. Therefore, there is no decrease in the Tech Specs. margin of safety.

88-V1E0038 Reroute fire protection line 2-2301-L4-211-2 1/2" which supplies fire hose station 2-2301-R4-159 to allow sufficient clearance away from main steam line 2-1301-L4-005-26", Aux R159 south MSIV room.

1. This change involves rerouting a fire protection line that supplies a Unit 2 fire hose station, which does not increase the probability of occurrence or consequences of an accident described in the FSAR. FSAR sections 9.5.1 and 15.0 were reviewed and require no change.

2. This change does not increase the probability of any accident or equipment malfunction. No new

possibilities or unanalyzed scenarios are created. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in section 2.0, 3.0, and 4.0 of the Tech Spec. do not deal with Fire Protection. Therefore, there is no decrease in the Tech Spec. margin of safety.

88-V1E0039

This Design Change added tie-ins to the Unit 1 scoped service air headers for Unit 2 users in the Unit 2 Control Building. The change involved a tie-in from a service air header in the Unit 1 Control Building to a service air header in the Unit 2 Control Building. The loads that are being supplied by this tie-in are for supervision of fire protection pre-action valves in sprinkler systems in the Unit 2 Control Building.

1. The service air system supplies compressed, filtered, dry and oil free air to outlets throughout the plant for the operation of pneumatic tools and other service air requirements. The service air system is not required for the safe shutdown of the plant. The probability of occurrence or consequences of an accident or malfunction is not changed. This portion of the service air system is not assumed to function in accidents analyzed in the FSAR. This included a review of FSAR section 9.3.1.1.1 and Chapter 15.

2. The plant is designed such that no plant equipment relies upon the service air system to perform its safety function. This tie-in effects only supervision of fire protection pre-action valves in sprinkler systems. The design change does not create the possibility of any accident or malfunction of a different type previously evaluated. This is based on a review of FSAR section 9.3.1 and Chapter 15.

3. This modification does not involve any change to the Technical Specifications. The service air system does not have a safety design basis as it is not expected to operate during accident conditions. This is based on a review of FSAR section 9.3.1.1.1 and a review of the bases for Tech Spec. 3/4.3.

88-V1N0047

Modify fire suppression sprinkler system 058 and 102 to remedy spray pattern obstructions. System 098 will also be modified to add an inspector's test connection. These fire suppression systems are non-safety related Project Class 629.

1. This change involves the modifications of sprinkler systems due to obstructions which presently block spray patterns and impact coverage. This change will not increase the probability of occurrence or consequences of an accident described in the FSAR. Sections 9.5.1 and 15.0 were reviewed and require no change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not increase the possibilities or unanalyzed scenarios. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in section 2.0, 3.0, and 4.0 of the VEGP Tech Specs. do not deal with fire protection. Therefore, there is no decrease in the Tech Specs. margin of safety.

88-V1N0050

This DCP provided details for installing penetration seals in the north east wall of the Turbine Building Level A area that leads into the Service Bldg. communications cunnel. This provided a 3 hr fire separation barrier between the Service and Turbine Bldgs as required by Nuclear Mutual Limited Insurance.

1. The change does not increase the probability of occurrence or consequences of an accident described in the FSAR. This included a review of sections 15 and 9. The change does not increase the probability of occurrence, or consequences of the malfunction of any equipment or component assumed to function in accidents analyzed in the FSAR. This included a review of sections 15 and 9.

2. The change does not create the possibility of an accident or equipment/component malfunction not described and analyzed in the FSAR. This is based on review of sections 9 and 15.

3. The change does not decrease the margin of safety defined by the bases of the Technical Specifications. This is based on review of the basis of Tech Specs. 3/4.

88-V1N0051

This modification is part of the human factors evaluation to eliminate selected annunciator windows which appear on other auxiliary panels and display the same basic information found on other Control Room sources or have been determined to be a nuisance to the operating staff. Additionally various setpoint changes were made to decrease the rate of alarm incidence.

1. The modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. This conclusion is based on review of chapter 15 of the FSAR and other sections.

2. The modification does not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR. This conclusion is based on review of chapter 15 of the FSAR and other sections.

3. The modification does not reduce the margin of safety as defined in the bases for Technical Specifications sections 2.0, 3/4.2, 3/4.3 and 3/4.7.

88-V1N0059

The modification was implemented to prevent the possibility of tripping the Steam Generator Feed Pump Turbines when bulbs were replaced on the trip solenoid valve status indicator for the turbines. Previously, if an incandescent light bulb was inadvertently used instead of the neon bulbs, full voltage would be applied across the trip solenoid and a turbine trip would occur. The change adds a time delay relay and resistor so that incandescent bulbs will be used in the future. This will eliminate the trip possibility associated with changing a light bulb.

1. The modification changes the type of light bulb used for the SGFPT trip solenoid status lights. The addition of the resistor and time delay does not impact the purpose of the status light. The SGFP is assumed to fail in section 15.2.7 of the FSAR. This change does not change the probability of any equipment malfunction considered in FSAR chapter 15 or 10.4.7.

2. The addition of this modification does not affect normal system operation. The function of the status light circuit does not change. Based on a review of FSAR chapter 15 and 10.4.7, this change does not create the possibility of an accident or malfunction not already described in the FSAR.

3. Tech Spec. bases for 3/4.4 and 3/4.7 does not address the type of lighting required and as the system function or operation has not changed, the margin of safety as defined in the bases for Tech Specs. is not affected.

88-V1E0060 Lower Fire Protection isolation valve 2-2301-U4-191 from elevation 208'-0" to elevation 203'-0". In addition, correct associated line and valve numbers which were erroneously designated. This change allows practical installation and accessibility of isolation valve 2-2301-U4-191 and sprinkler system 068 preaction valve. This change also corrects inconsistencies in line/valve numbers.

1. This change involves changing the elevation of a fire protection isolation valve which does not increase the probability of occurrence of consequences of an accident or any equipment/ component malfunction. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This change does not increase the probability of any accident or equipment malfunction. No new possibilities or unanalyzed scenarios are created. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in sections 2.0, 3.0 and 4.0 of the VEGP Tech Spec. do not deal with fire protection. Therefore, there is no decrease in the Tech Spec. margin of safety.

88-VCE0061
Rev 1

This modification provides a second shielded vault for a second set of demineralizer vessels, relocation of process radiation shields, and removal of an existing hydraulic pedestal crane from the Alternate Radwaste Building (ARB).

1. This change does not change the operability of the liquid radwaste process system and will not increase the probability of occurrence or consequence of an accident described in the FSAR. Addition of the second demineralizer vault does not effect the heavy load analysis of Chapter 9. There is no change to the other accidents postulated in the FSAR Chapter 15.

2. A review of Chapter 15 shows that this change does not effect the possibility of an accident or equipment/component malfunction not presently described and analyzed in the FSAR.

3. This change does not decrease the margin of safety defined in the bases of Technical Specification section 3/4.11.

88-V1N0063
Rev 1

This change involves modifications to the Circulating Water Chemical Injection system (1410), Utility Water system (2419), NSCW Chemical Injection system (1413) and Turbine Plant Sampling system (1311). Specifically,

A. Add a Chemical injection station to Circulating Water system.

B. Add biocide, dispersant and anti-corrosive injection capability to Nuclear Service Cooling Water system.

C. Replace Turbine Plant Sampling system corrosion coupon rack.

D. Addition of safety shower and eyewash to Circulating Water chemical injection skid.

1. This change does not affect the results of the toxic gas evaluation of FSAR Section 2.2. This change has no effect on the design performance of requirements of the NSCW system. For these reasons, this change has no effect on the consequences or probability of any accident described in FSAR section 2.2. or 15.

2. The change does not create a new component malfunction that effects any system required to mitigate the effects of any accident analyzed in FSAR Chapter 15.

3. There is no change to the margin of safety as defined in the basis of Technical Specification 3/4.7.

88-VCE0067

Three Catalytic Hydrogen Recombiners are provided for Units 1 and 2. One recombiner per unit is used in each main process loop to remove hydrogen from the hydrogen-nitrogen fission gas mixtures by oxidation to water vapor which is removed by condensation. The third recombiner is available on a standby basis. The units are self-contained and are designed for continuous operation. The existing circuitry currently provides a permissive for 1HV-0115 and 2PV-0115 if the third recombiner is in use. This condition could lead to an explosion because the unit recombiner, if it trips, will continue to receive hydrogen. Installing a "Unit 1/off/Unit 2" selector switch on Recombiner No. 3 control panel (A-1902-P5-CHC) will give a permissive to HV-0115 for the particular unit which the recombiner unit (A-1902-D6-002) is servicing.

1. The proposed change does not increase the probability of occurrence or consequences of any accident as analysed in the FSAR Chapter 15.

2 The change does not create the possibility of any malfunction not already analyzed in the FSAR. This design change will give a permissive to HV-0115 for the particular unit which the Catalytic Hydrogen Recombiner unit (A-1902-D6-002) is servicing. This is based on review of FSAR section 11.3 and 15.

3. There is no change in the margin of safety as defined by the bases of the Tech Specs. sections 3.3.10, 3/4.3.3 and Tables 3.3-10, 4.3-6.

88-VCE0071

This change revises air flows to certain areas/ Unit 1 rooms in the 1539 system (Startup designator GK-05) to meet the heat loads per the Project Calculations X4C2111V01 Rev. 6 and X4C2111V02 Rev. 3. The work scope will involve adjusting the fan speed and balancing dampers; removing temporary duct caps and opening of fire dampers.

1. This change in the air flows does not increase the probability of occurrence or consequences of an accident or equipment/component malfunction as analyzed in FSAR section 9.4.1. The changes are very minor in nature and are being made to meet the requirements of dual unit operation per the flow diagrams.

2. This design change in flow rates does not create the possibility of an accident or equipment malfunction not already analyzed in section 9.4.1 of the FSAR. System performance is not impacted.

3. This change does not decrease the margin of safety as defined by the bases of Technical Specification section 3/4.7.

88-VCE0072

This change involves revision of the air flow diagram to redistribute conditioned air to serve both Unit 1 and Unit 2 Control Rooms for normal and emergency modes of operation. This will involve adjustments to fans and volume dampers to achieve design air flow. This change is in accordance with the original design concept of a dual unit control room operation. The physical boundary wall erected to separate Unit 1 operation is removed to reconfigure the area as a dual unit combined control room during the normal and emergency modes of operation.

1. This change to redistribute conditioned air for a dual unit combined control room does not increase the probability of occurrence or consequences of an accident or equipment/component malfunction. This is based on a review of control room ventilation isolation system described in section 7.3.6 of the FSAR and the HVAC FEMA of FSAR table 6.4.4-1.

2. This design change does not create the possibility of an accident or equipment malfunction not already analyzed in the FSAR. This is based on review of FSAR sections 6.4, 7.3, 9.4 and 15.

3. There is no change to the margin of safety defined in the basis of Technical Specification 3/4.7.6. The Technical Specification change to section 3/4.7.6 has been accepted by the NRC in amendment 9 to the operating license.

88-VCE0073

This change revises air flows (Flow diagrams AX4DB254-1 and AX4DB256-1) to certain areas/ Unit 1 rooms in the 1533, 1535, and 1537 systems to meet the heat loads per the project calculations X4C2111V01 Rev. 6 and X4C2111V02 Rev 3 to provide consistency between the documents i.e. the project calculations and the air flow diagrams.

1. The change in the air flows does not increase the probability of occurrence or consequences of an accident or equipment/component malfunction analyzed in section 9.4.1, 6.4 and 15 of the FSAR. The changes are very minor in nature and are being made to meet the requirements of dual Unit operation.

2. The change in the flow rates does not create the possibility of an accident or equipment malfunction not described or analyzed in section 9.4.1 of the FSAR. Overall system performance is not impacted.

3. This change does not decrease the margin of safety defined by the bases of Technical Specification section 3/4.7.

88-V1N0074

Remove support V1-1214-028-H001 from Containment and Aux. Building Drains - Radioactive System. The support is in the Aux. Bldg, area 3G of Level A. Due to a stress reanalysis the support is no longer required.

1. This change does not affect system function or operation and therefore does not increase the probability of occurrence or the consequences of any accident described in sections 9.3 or 15.0. Stress analysis indicates that pipe stresses are within code allowables.

2. This change does not affect any system, equipment or component's function or operation and based on a review of FSAR sections 9.3 and 15.0, would not create the possibility of an unanalyzed or undescribed accident or equipment/component malfunction.

3. This change does not affect any system/equipment function or operation and therefore does not affect the safety margin defined in Tech Specs. section 3/4.11.

88-V1N0082

This is a non-safety related change to relocate settlement markers to areas of easier access. The new markers will be installed using the standard details shown of drawing AX2D94V001. The original markers will remain in place and will be available if any future correlations are needed. FSAR section 2.5.4.13.2 details the monitoring requirements for settlement of the power block structures. Many of the markers are located within vital areas and radiation control zones. This change relocates markers outside of these areas, thereby reducing the need for assistance from Security and Health Physics, and reducing surveyor man-hour requirements for each monitoring period.

1. There are no changes to any equipment or components assumed to function in any accident analyzed in the FSAR. This is based on a review of FSAR section 15.

2. The design change does not create the possibility of any component malfunction not already analyzed in the FSAR. This change does not alter any equipment or system components. This is based on review of FSAR section 15. There is no effect on the settlement program discussed in FSAR section 2.5 and SER section 2.5.4.4.3.

3. This change has no effect on the Tech Spec. There is no decrease in the margin of safety as defined in basis of Tech Spec. 3/4.6. The settlement markers will not alter any equipment included in the Tech Spec.

88-V1N0084

A. This DCP relocates two ladders in the Auxiliary Building to provide better access from room R108 to RA06. The upper ladder is to be installed as removable.

B. Removes part of the monorail, and two supporting beams in RA06 of the Auxiliary Building. During normal operations these beams and monorail will be stored on the floor of room RA06 and will be reinstalled whenever the hoist for the Letdown Heat Exchanger needs to be operated.

Relocating the ladders will provide improved access to RA06 from R108. Part of the monorail and two supporting beams have to be removed to relocate the ladders.

1. This change will not increase the probability of occurrence or consequences of an accident as described in FSAR section 15 and section 6. All materials meet fire protection and Seismic Category 1 requirements. There is no change to the heavy loads analysis of 9.1.5.

2. This change does not involve any equipment or components required to function after an accident. The hazards analysis is not affected by this change. The proposed change will improve access to room RA06. There is no change required to the accident or hazard analysis of FSAR sections 9.1.5 and 15.

3. This change has no effect on the basis for the Technical Specification. The ladders and monorail have no effect on equipment operation. This is based on review of Technical Specification 3/4.7.

88-V1E0099

The Hot Machine Shop and surrounding area was served with ventilation by the Fuel Handling Building HVAC system with temporary duct during Unit 2 construction. This DCP permanently connected the Hot Machine Shop to the Unit 2 Auxiliary Bldg. HVAC system. Some of the design flows were also increased to reduce the maximum normal temp from 100°F to 94°F.

1. Since this change reconfigures the HVAC system for the referenced areas to be in accordance with the original HVAC system design, this proposed change does not increase the probability of occurrence or consequences of an accident described in the FSAR, sections 9.4.2 and chapter 15.0. The proposed change will only rework non seismic HVAC ductwork in a non seismic area. Thus, the proposed change does not increase the probability of occurence or consequences of the malfunction of any equipment or component assumed to function in accidents analyzed in the FSAR, section 9.4.2 or chapter 15.0.

2. The proposed change reconfigures the referenced areas to be in accordance with the original HVAC system design and thus this change does not create the possibility of an accident or equipment/ component malfunction described and analyzed in the FSAR section 9.4.2 or chapter 15.0.

3. The proposed change restores the HVAC system for the Hot Machine Shop and its adjacent areas to be in accordance with the original HVAC system design. Thus, this change does not decrease the margin of safety defined by the bases of the Technical Specification 3/4.7 and 3/4.9.12.

88-VCE0104 This DCP modified several of the Unit 2 CCTV camera towers.

1. The accident analysis section of the FSAR (section 15) was reviewed to determine that the implementation of this DCP would not increase the probability of or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements. Section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of Section 15 of the Vogtle FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the Bases in Sections 2.0, 3.0 and 4.0 of the Vogtle Technical Specification was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Technical Specification.

88-V1N0111 This DCP installed a security barrier on Unit 1.

1. The accident analysis section of the FSAR (section 15) was reviewed to determine that the implementation of this DCP would not increase the probability of or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of section 15 of the Vogtle FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the Bases in Sections 2.0, 3.0 and 4.0 of the Vogtle Technical Specification was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Technical Specification.

88-VCE0112

This DCP removed temporary ductwork and caps, installed duct sections between the units, and capped temporary openings, as required to sever the temporary connections between the Unit 1 and Unit 2 Auxiliary Building HVAC systems (1551 Supply and 1553 Exhaust) and complete the Unit 2 system for operation in its permanent configuration. This work was performed in conjunction with the removal of the Unit 1/Unit 2 temporary security barriers per DCP 88-VCE0100.

1. This change brings the duct system to the permanent configuration assumed in section 9.4.3 and in the section 15 accident analyses of the FSAR.

2. This DCP permits completion of the system in its normal permanent configuration for which the evaluation of FSAR sections 9.4.3 and 15 were performed.

3. This DCP has no effect on the margin of safety defined in the Tech Spec. section 3/4.7 bases.

88-V1E0113

Fire protection line 2-2301-L4-205-2 1/2" will be routed to allow movement of main feedwater line 2-1305-L4-057-16" without interference. The fire protection line is non-safety related project class 629 and supplies water to Fire Hose Station (FHS) 2-2301-R4-123. This modification will not impact the operation or response of either the fire protection or main feedwater system, and does not require a Tech Spec or FSAR change.

1. This change involves rerouting a fire protection line that supplies a Unit 2 FHS which does not increase the probability of occurrence or consequences of an accident or equipment/ component malfunction described in the FSAR. FSAR sections 9.5.1 and 15.0 were reviewed and require no change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This modification creates no new possibilities or unanalyzed scenarios. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in section 2.0, 3.0 and 4.0 of the VEGP Tech Specs. do not deal with fire protection. Therefore, there is no decrease in the Tech Specs. margin of safety.

88-V1E0116

This change provided design details to seal various penetrations in the Fuel Handling Building Room R-C05, Auxiliary Building Room UC-A06 and Control Building Rooms R-121 and R-128. These penetrations were addressed on Deficiency Cards 1-88-3074, 1-88-3129, 1-88-3512 and 1-88-3880. These seals meet all hazards and Fire Protection design criteria.

1. This change will not increase the probability of occurence or consequences of an accident as described in FSAR section 15 and section 6. All materials used meet the Fire Protection Requirements. This change does not involve any equipment or component. The hazard analysis is not affected by this change. The change provides the penetration seals required by the plant Fire Protection program. There is no change to the Fire Hazard analysis of chapter 9 or Accident Analysis of chapter 15.

2. This change does not create the possibility for any accident or equipment malfunction not previously described and analyzed in the FSAR. The material used meets the Fire Protection requirements of FSAR section 9.5.1.

3. This design change meets the margin of safety defined by the Bases for the Vogtle Technical Specification. This is based on a review of the Bases in Sections 2.0, 3.0, and 4.0.

89-V1N0001

Two lateral restraints added to line 1-1201-068-3/4" to prevent excessive vibration. This line is the drain line for the pressure relief valve loop seal.

1. The design change does not affect the probability or consequences of any accident described in the FSAR. There is no change to the pipe break analysis of section 3.6 since the pressurizer loop seal stress analysis(hence break analysis) does not change and the 3/4" drain line is less than the minimum size (1") considered for the HELBA. The addition of the two pipe supports does not affect the accident analysis of chapter 15.

2. There is no change to the HELBA analysis of chapter 3.6. Since addition of the pipe supports does not affect operation of the pressurizer, PORV or pressure instrumentation, there is no new component malfunction created that is not already analyzed in the FSAR.

3. There is no change to the margin of safety as defined in basis of Tech Specs. 3/4.4.3, 3.4.9.2, 3/4.4.6 and 3/4.7.8.

89-V2E0004

A. Three (3) welds on ISO 2J4-1201-068-01 are to be built up and ground to conform to ASME Sec. III NC-3673.2 (b) - 3 sketch d, to reduce SIF @ weld from 2.1. to 1.3.

B. Modify spring support at D.P. 20, V2-1201-068-H609 to rigid vertical restraint, to make system more rigid.

C. Modify lateral support @ D.P. 30 to include a new vertical support @ 30A.

1. This change does not affect the occurrence or consquences of any failure or equipment assumed to function in the FSAR accident analysis.

There is no change to the pipe break analysis of Section 3.6. The grinding of 3 welds or modification of supports does not effect operation of the pressurizer (chap 5), power operated relief valve, or pressurizer instrumentation (chap 7). Therefore, there is no effect on the accident analysis of Chapter 15.

2. There is no change to the HELBA analysis of chapter 3.6. Since grinding welds or modification of supports does not effect operation of the pressurizer, PORV or pressurizer instrumentation, there is no new component malfunction created that is not already analyzed in the FSAR.

3. There is no change to the margin of safety as defined in basis of Tech Specs. 3/4.4.3, 3.4.9.2, 3/4.4.6 and 3.4.7.8.

89-V2E0005 Changes were made to several mating surfaces in the Unit 2 heater drain pumps to reduce the potential for steam leaks from the shell of the pump to atmosphere.

1. The operation of the pumps is not affected. There is no impact on any Chapter 15 accident analysis.

2. The change only effects non-safety related equipment and does not change its operation or transient response. Accordingly, no new accidents or malfunctions are created.

3. The heater drain pumps are not included in the basis for any Technical Specification.

89-V2E0006 Replacement of original steam dump drain pot instrument trees with a conductivity level detection system.

1. This change does not affect any safety related equipment nor does it increase the probability or consequences of an accident. The steam dump system is not safety related and as such is not relied upon in any accident analysis. FSAR sections 15 and 10.4.4 reviewed.

2. This modification improves reliability of the steam dump system. It does not increase the possibility of an accident other than previously addressed in FSAR. New materials installed meet specifications stated in section 10.3.6 "Steam and Feedwater System Materials". There is also no increase chance of flooding per review of section 3.4.

3. This modification will not reduce the margin of safety as defined in Tech Spec. sections 2.0 (bases), 3/4.3.4 (Turbine Overspeed Protection) and 3/4.7.1 (Turbine Cycle) reviewed.

89-V2E0008

Change setpoint of 2FSL-12045 from 510 mV ("9000cfm) to 590 mv ("4800cfm). This will allow the flowswitch to actuate during the alloted 30 seconds following an autostart of the Control Room Emergency HVAC system. 2FSL-12045 is located in Control Bldg. R-B18.

1. This change affects the setpoint of 2FSL-12045 only and does not affect its other design requirements for postulated accidents and therefore does not increase the probability of occurrence or consequences of an accident or equipment/component malfunction described in the FSAR. FSAR sections 6.4, 7.3 and 15 were reviewed and require no change.

2. This change does not create the possibility of an accident or equipment malfunction. No new possibilities or unanalyzed scenarios are created. This is based on review of FSAR sections 6.4, 7.3 and 15.

3. Based on review of the basis for Combined Technical Specifications, section 3/4.7.6, there is no change to the margin of safety.

89-V2E0009

This DCP removed the Harmonic Vibration Dampeners from the NSCW Transfer Pump Motors 2-1202-P4-007 & 008 and reinstalled the shorter motor head bolts. For each transfer pump additional supports were installed for the pump driver stand. These supports consisted of (2) horizontal members from the pump house walls to a ring around the pump driver stand.

1. The NSCW transfer pumps are assumed to function in accidents as described in FSAR sections 9.2.1 and 9.2.5. This design change is made to enhance the reliability of the pumps and has no effect on any equipment or component other than the transfer pump. The modifications were vendor approved and have been analyzed and found not to adversely affect the seismic qualification of the pumps.

2. The design change affects only the operating vibration characteristics of the NSCW Transfer pump/motor assemblies. The change is enveloped by the existing descriptions and analysis in FSAR section 9.2.1, 9.2.5, and 15, and no new accident possibilities or malfunctions are created. The modifications are designed so there are not 2/1 possibilities.

3. Based on review of bases section 3/4.7.5, this change does not decrease the margin of safety as defined by the Tech. Specs.

89-V2E0010 Reroute non-safety related nitrogen supply lines 2-1224-109-2" to 2-1224-110-2" to seal injection backflushable filter system to facilitate the removal of bonnets on valves 2HV-41232B and 2HV-41326B respectively. The backflushable filter system is not given credit for operation in the FSAR accident analysis. The reroute of the piping did not affect the seismic integrity of these class 212 lines.

1. By providing adequate maintenance access, this change enhances equipment reliability and decreases the probability of equipment/component malfunction and occurrence or consequences of an accident analyzed in FSAR chapter 15 and sections 11.2, 11.4 and 9.3.

2. This change only reroutes existing piping. No new malfunction or accident can be created by this change. Pipe supports are unaffected. These lines are class 212 for seismic and pressure boundary reasons. This included review of FSAR sections 9.3, 11.2, adn 11.4 and chapter 15.

3. No credit is given to the backflushable filter system for any accident analyzed in the FSAR. The Tech Spec. bases of B 3/4.4 and B 3/4.7 are not impacted for this change.

89-V2E0012 Changing the setpoint valve from 120°F to 135°F on the BQP Rack Switches - (Plant Tag Nos - Description)

2TSH-15212G - Isolates 2HV-15212C SGB/D
2TSH-15212L - Annunciator Blowdown
2TSH-15216L - Annunciator Blowdown

2TSH-15214L - Annunciator CVCS
2TSH-15215L - Annunciator CVCS

Switch setpoints were changed due to temperatures experienced in the room being close to 120°F in normal plant operations. This proximity to setpoint of switch to room environment temperatures had led to unnecessary isolation and nuisance alarms. Remainder of associated switches had been changed under Field Change YFCRB-7473 and 7474 during construction/startup activities.

1. Raising the steam generator blowdown and CVCS letdown isolation temperature switch setpoints do not effect the consequences of any accident analyzed in FSAR Section 3.6, App. 3F and Chapter 15 as listed in the safety analysis report.

2. Changing the setpoint of the temperature switch within its design range does not create any potential for a component malfunction not previously reviewed in FSAR Section 3.6, App 3f or Section 15 as stated in the safety analysis report.

3. Since there has not been any change in the safety channels or equipment qualificiation, there is no decrease in the margin of safety for Technical Specification 3.3.3.11.

89-V2E0020

The two existing porous snubbers are on the main high and low legs of flow instruments in the Stator Water Cooling Panel 2-1326-P5-HSC. The porous snubbers are to be added between the branch line of each instrument and the 3-way manifold valve.

This is to facilitate calibration of instruments without affecting the pressure drop to others.

1. This change does not affect any safety related component nor does it increase the probability or consequence of failure of such components as described in FSAR section 15.0 and 3.5.1.3.

2. This change does not create new accident or equipment/component malfunction possibilities. This change does not affect any turbine trip functions of pressure switches or turbine over-speed protective functions. FSAR sections reveiwed

3.5.1.3, 10.2 and 15.

3. This change does not affect Tech Spec. bases 3/4.3.4 or 3/4.7.1.

89-V2E0025
Rev 1

This DCP changes the control circuitry for 13.8 KV breaker 2NAA09 (2-1825-S3-0AA, feeder to Field Support Building transformer 2NAA09X) in the following manner: (1) the breaker auxiliary contacts for RCPs #1,#3 are removed from the breaker trip circuit (2) the time delays for reclosure permissives are changed to delay reclosing (3) the actuation circuit for TD relay 262-1 is modified to prevent inadvertant reclosure.

1. The accidents analyzed in FSAR 15.2.6 and 15.3 consider the loss of the non-1E 13.8 KV system. This DCP has no detrimental impact upon the 13.8 KV or related systems and actually improves reliability. Therefore, this change does not increase the probability of occurrence or consequences of the malfunction of any equipment assumed to function in FSAR accidents.

2. This DCP improves the reliability of the 13.8 KV system and the automatic bus transfer scheme and therefore does not create the possibility of non-analyzed accident or equipment malfunction.

3. The non-1E 13.8 KV system is not discussed in the Tech Spec. therefore, this change does not decrease any margin of safety defined therein.

89-V2E0026

Route and support 1-1/2" drain lines from the Turbine Plant Sample Coolers (equipment tag nos. 2-1311-P5-CRA and 2-1311-P5-CRB) collection trays directly to the Turbine Building drain system.

1. Routing and supporting non-safety related drain lines to the floor drain in the Turbine Building does not increase the probability or consequences of an accident described in the FSAR, based on a review of section 15.0. The ability of the plant to accomplish a safe shutdown will not be affected by this modification.

2. It does not appear that this modification in any way will increase the possibility of an accident or malfunction occurring that will lead to an unsafe

condition. This is based on a review of FSAR section 15.0.

3. Based on a review of the Tech Spec basis, including section B 3/4.7, there is no applicable margin of safety for these non-safety related piping changes.

89-VCE0033

This change involves an addition of a "free field" strong motion accelerograph near the River Intake Structure. The instrument will be located approximately 2000 ft. northeast of the Unit 1 Containment. A small concrete retaining wall and pad is required. An enclosure box and a heater/thermostat are provided to protect the instrument and a battery charger and power source is provided for power. This design change allows for direct free field measurements of a seismic occurrence for use in comparing observed seismic response of particular structures to the design response.

1. This change has no impact on accident analyses or equipment important to safety. This includes a review of FSAR sections 3.7, 8.3, and chapter 15.

2. This change has no impact on any accident analyzed or not analyzed. The added instrument has no control functions and is a "stand alone" non-safety related unit. This review included FSAR sections 3.7, 8.3 and chapter 15.

3. This modification increases the confidence level for the system data and has no safety function role. Therefore, the change does not impact the margin of safety defined in the Tech Spec bases B 3/4.3.3.3.

89-VCN0037
Rev 1

This modification involved the removal of the secondary locking device (mechanical comb lock) from the Burnable Poison Rod Assembly (BPRA) Handling Tool for both Units. The secondary locking devices were removed in accordance with Westinghouse comb lock removal procedure FCN GAEO-40514 and GBEO-40502.

The old design configuration had two locking features used to hold the Burnable Poison Rods in proper alignment. The primary locking feature is accomplished by the pull down forces associated with existing magnets. The secondary locking device feature was accomplished by use of a mechanical comb lock.

1. The probability of occurrence or consequences of accidents previously evaluated in the FSAR will not increase since no mitigating credit is taken in the accident analyses for the BPRA tool. The BPRA handling tool is not relied upon to perform a safety function nor does it effect any equipment relied upon to perform a safety function.

   This included a review of FSAR section 9.1 and all Chapter 15 accidents.

2. Since the tool will be used for the same intended design function and its performance will not be degraded, there is no possibility of creating a new accident other than previously evaluated in the FSAR.

3. There is no Technical Specification which has its bases for the margin of safety determinate on the BPRA handling tool. This included a review of Technical Specification 3/4.9.6 and 3/4.9.7.

89-V2N0055 Provide reinforcing sleeves on 1-1/2" discharge pipes of the EHC pumps 2-1615-S4-501-P1 & -P2. Add horizontal restraints for EHC tubing 2-1615-537-1-1/2" and 2-1615-541-1-1/2".

1. These proposed changes do not modify the design or operation of any equipment assumed to function in accidents analyzed in the FSAR, Chapter 15. Therefore, these changes do not increase the probability or consequences of a malfunction of any equipment assumed to function in accidents analyzed in the FSAR. This was based on review of FSAR section 3.5.1.

2. These changes do not add any new equipment or change the operation of any equipment that would create the possibility of a new type of accident or an equipment malfunction not described and analyzed in FSAR section 10.2.2 and chapter 15.

3. The margin of safety described in Technical Specification bases 3/4.7 and 3/4.3.4 are not affected by these changes.

89-V2E0056
Rev 1

Feedwater Heaters 4A & 4B high level switches, Plant Tag Nos. 2LSH-4341 and 2LSH-4342 were raised to actuate at 12 inches below centerline of heater instead of orginal design point of 26 inches below heater centerline. This modification was done because Unit 1 normal level at 100% power in these htrs is at 22" below centerline. Making the high level 10" above the "normal" level will eliminate nuisance alarms and heater isolation while providing proper heater protection.

1. The feedwater heater setpoint change does not impact the heater protection provide and does not impact any accident analysis performed in FSAR section 15.

2. The feedwater heater setpoint change does not impact the switches' function to isolate the heaters' inlet valves, nor does it create the possibility of an accident not analyzed in the FSAR section 10 and 15 by a failure of these non-safety related components.

3. Tech Specs. margin are not effected as described in Section 3/4.3 and 3/4.7. Heaters are not required. This change can not effect any item or component required for safe shutdown of the plant.

89-V2E0065

Modification of pipe support V2-1301-176-H001 to prevent binding and allow free axial pipe movement.

1. The piping stresses due to the proposed change are still within code allowables. VEGP Design Criteria DC-1017 Rev. 5 specified "g" values

for valves are not exceeded. Therefore, the modification of this pipe support does not increase the probability of occurrence or consequence of an accident described the FSAR Section 15.

2. The proposed change does not modify the design or operation of any equipment assumed to function in accidents analyzed in the FSAR and there is no impact on the failure mode and effects analysis described in FSAR Section 10.3. Therefore, this change does not increase the probability or consequences of a malfunction of any equipment assumed to function in accidents analyzed in the FSAR Section 15.0.

3. Technical Specifications 3/4.7.1.5 and 3/4.7.8 do not define any applicable margin of safety for this pipe support change.

89-V2E0068

Add rigid supports to line nos. 2-1303-007-2" and 2-1303-008-2" to alleviate excessive pipe vibration when valves 2HV-4302B & 2HV-4303B are open.

Pipe support tag numbers: 2J1-1303-007-03-N03
2J1-1303-007-02-N07
2J1-1303-008-03-N03
2J1-1303-008-02-N08

1. The piping stresses due to the proposed change are still within code allowables. The proposed change is to non-safety related equipment. Therefore, addition of pipe support does not increase the probability of occurrence or consequence of an accident described in FSAR Chapter 15.

2. The proposed change does not modify the design or operation of any equipment assumed to function in accidents analyzed in the FSAR. Therefore, this change does not increase the probability or consequences of a malfunction of any equipment assumed to function in accidents analyzed in FSAR Chapter 15.

3. Technical Specification 3/4.7 does not define any applicable margin of safety for this pipe support modification.

89-V2E0073 Modification of pipe support V2-1305-081-H013 to prevent binding and allow fire pipe movement by increasing the gap between the pipe and support steel.

1. The piping stresses due to the proposed change are still within code allowables. The proposed change is to non-safety related equipment. Therefore, modification of pipe support does not increase the probability of occurrence or consequence of an accident described in FSAR Chapter 15 and Section 3.6.

2. The proposed change does not modify the design or operation of any equipment assumed to function in accidents analyzed in the FSAR and there is no impact on the failure mode and effects analysis described in FSAR Section 10.4.7. Therefore, this change does not increase the probability or consequences of a malfunction of any equipment assumed to function in accidents analyzed in FSAR Chapter 15 and Section 3.6.

3. Tech Spec. 3/4.7 does not define any applicable margin of safety for this pipe support modification.

89-V2E0076 Pressure test point valves 21301X4874 and 21301X4941 upstream of the main turbine steam valves were deleted and the connection on the steam line plugged. Vibration of these valves had caused a steam leak.

1. This change has no effect whatsoever on plant operation or transient response. The test connection is not discussed in FSAR section 10.2.

2. This change does not involve any safety related equipment. It does not present any new accident possibilities; based on a review of section 15 of the FSAR.

3. This pressure test point is not discussed in any Tech Spec. or in any basis, including 3/4.7.

89-V2E0078

This change involves installation of a permanent sheet metal structure outside the Unit 2 Containment equipment hatch. This includes provisions for permanent normal lighting, security lighting, and power receptacles. Design methods are in accordance with Project Category 2 requirements for a non-safety related installation. This structure will provide a protected work space for equipment staging during outages.

1. It is highly unlikely that a component of the sheet metal structure could become a tornado missle as defined in the FSAR section 3.5 and appendix 3C. In the event that a missle is generated the seismic Category 1 structures are designed for postulated missle loading which encompasses this occurrence. Therefore, the change does not increase the probability of occurrence or consequences of an accident as described in the FSAR section 15.

2. The sheet metal structure is a permanent non-safety related installation which is not associated with any safety related system. The only Category 1 system in the vicinity of the structure are the containment shell and the missle shield door, which are designed to withstand loading in excess of any loads generated by the collapse of the sheet metal structure. Therefore, the proposed change does not increase the likelihood or consequences of the malfunction of any component or equipment assumed to function in accidents analyzed in the FSAR chapter 15.

3. There is no decrease in the safety margin of any plant systems per review of the basis of the Technical Specification.

89-V2E0096

The design change replaced the existing Veritrax Pressure Transmitters with Rosemont model 1151GP transmitters for instruments 2PT-507 and 2PT-508 (Feed Pump Discharge/Main Steam pressure). This change eliminated oscillation in the Feedwater control systems by providing an instrument with dampening provisions which eliminate output oscillation due to source input oscillations.

1. The change replaces the type of transmitter being used to supply main steam/feed pump discharge pressure to the feed pump speed control system. These transmitters are class 62J serving no safety-related function. The change does not affect system operation or the way the system operates or responds. These pressure transmitters have no effect on the operation of any component/equipment assumed to function in the Accident analysis and therefore the change will not increase the probability of occurrence or consequences of an accident or malfunction previously evaluated. Response based on a review of FSAR section 15.2.7, 15.2.8 and FSAR section 7.0, 10.3 and 10.4.7.

2. The transmitter changeout has no effect on safety related equipment, adds no new equipment nor requires any safety related equipment to function differently than previously analyzed. The change will not create the possibility of an accident or malfunction not previously described in the FSAR. System operation remain the same. Response was based on a review of FSAR section 10 and 15.

3. The design change installs a different model pressure transmitter for better input to system control. These transmitters (2PT-507, 2PT-508) are not involved in a safety related function and do not affect the Tech Spec. bases 3/4.7, 3/4.3 or LCO sections 3/4.7 and 3/4.3.

89-V1N0100

Modify and remove the current penetration from Train "A" bus ducts, so that the penetration seal between Diesel Generator room R-103 and south wall of Tunnel 1T4A are configured to allow 1" seismic movement. Likewise, provide for the similar configuration for Diesel Generator room R-101 to south wall of Tunnel 1T4B penetration for Train "B" bus ducts.

1. The proposed change does not increase the probability of occurrence or consequences of an accident or equipment/component malfunction described in the FSAR. FSAR sections 9.5.1 and 15.0 were reviewed and require no change. The change only relocated penetration seals from one side of a wall to the opposite side. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this DCP.

2. This modification creates no new possibilities or unanalyzed scenarios. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in section 2.0, 3.0, and 4.0 of the VEGP Tech Spec. do not deal with fire protection. Therefore, there is no decrease in the Tech Spec margin of safety.

89-V2N0103

The main turbine control cabinet was modified to remove the closing bias signal from the control valves, three intercept valves, and one stop valve. The change reduces the probability of valve closure due to minor voltage transients in the EHC power supply.

1. The change effects only the main turbine steam control valves. The change reduces the probability of an undesirable valve closure event. Based on a review of FSAR sections 10.2, 15.1, and 15.2, accident probability is not effected.

2. The change only reduces the chances for the turbine steam valves to unintentionally close. Valve failures in both the open and closed position are bounded by secondary heat removal increase and decrease events evaluated in chapter 15.

3. The margin of safety is not reduced based on a review of the Tech Specs. bases for section 2 and 3/4.3.4.

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MINOR DEPARTURES FROM DESIGN (MDD's)

88-V1M008 Upgrade the Security system data input boards.

1. The accident analysis section of the FSAR (section 15) was reviewed to determine that the implementation of this DCP would not increase the probability of or the consequences of an accident as described in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of section 15 of the Vogtle FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than previously evaluated in the FSAR.

3. A review of the bases in Section 2.0, 3.0 and 4.0 of the Vogtle Technical Specification was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Technical Specification.

88-VCM011 Replace the carbon steel manway cover of the demin. storage tank with a stainless steel cover fitted with piping and valves to allow for sampling. The stainless manway cover will have a 6" opening at center fitted with a baffle on the liner side to prevent liner from being sucked into opening. The cover will also have a 2" opening fitted with a sample valve.

Also, the 4" underground distribution piping is to be reflected on design drawings.

1. This change does not impact any accident analysis evaluated in chapter 15 of the FSAR and does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR.

2. This modification does not create the possibility of an accident or malfunction of a different type than previously evaluated in the safety analysis report. Chapter 15 of the FSAR was reviewed.

3. This modification involves no safety limits, limiting safety system settings, limiting conditions for operation or surveillance requirements. It does not reduce the margin of safety as defined in the bases for the Tech Spec. bases for section 2.0, 3.0 and 4.0 were reviewed.

88-V1M013 The modification was to review the vital DC breaker settings to provide proper coordination and to comply with the requirements of Branch Technical position CMEB 9.5-1.

1. Changing the setpoints of the DC circuit breakers to provide proper coordination will not affect normal operation of the DC system. This modification only affects the response of the DC system to short circuit conditions, in that selective sequential tripping will now occur to isolate faults from the DC system. This change is consistent with the failure analyses contained in FSAR sect. 8.3.2 and FSAR chapter 15; therefore, this modification will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report.

2. Changing the setpoints of the DC circuit breakers to provide proper coordination will not affect normal operation of the DC system. This modification only affects the response of the DC system to short circuit conditions in that, selective sequential tripping will occur to isolate a fault. This modification is consistent with the failure analyses contained in FSAR sec 8.3.2 and FSAR chapter 15; therefore this modification does not create the possibility of an accident or malfunction of a different type than previously evaluated in the Safety Analysis Report.

3. Changing the setpoints of the DC circuit breakers to provide proper coordination will not affect normal operation of the DC system. This modification only affects the response of the DC system to short circuit conditions in that,

selective sequential tripping will occur to isolate a fault. This modification is consistent with the bases for Tech Specs. 3/4.8.2; therefore the modification does not reduce the margin of safety as defined in the basis for any Technical Specification in particular basis for Tech Specs. 3/4.8.2.

88-V1M015

Proteus Computer System - Replace existing 2 megaword drums and controller cards with new controller cards and 4 megaword solid state memory units. Also install a tape backup device on one of the two solid state memory units. This change improves system response time and reliability of the system. (The additional 2 megawords of memory cannot be accessed until a resysgen of the operating system is done).

1. The Proteus Computer is not safety related and is not assumed to serve a safety related function in the plant's design bases analysis. Therefore, this change does not increase the probability of occurrence or consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. Reference FSAR section 7.5.

2. The replacement of the mass memory devices on the plant computer does not affect the software or system operation, and therefore does not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR. Reference FSAR section 7.5 and 15.0.

3. This change is to the Proteus memory hardware only and does not affect any software controlled functions. Therefore this change does not reduce the margin of safety defined by the basis for the Technical Specifications. Reference Tech Specs. 3/4.1.3 and 3/4.2.1.

88-V1M018

Disable the contact 3/4 of 1HS-0276A by lifting wires C5 and C6 of cable 1ABD47SA at termination cabinet 1ACPT07. (Terminal Points TB4.64 & TB4.65) Disable the contact 3/4 of 1HS-0277A, by lifting wires C5 & C6 of cable 1BBD47SA at terminal points TB3.69 & TB3.70 of Termination Cabinet 1BCPT10.

This change will prevent the System Status Monitoring Panel (SSMP) from illuminating during

normal operation of the Boric Acid Transfer System.

However, when the control of the Boric Acid Transfer motor is transferred to the shutdown panel by placing transfer switch TRS-LR to local position, the window on SSMP will be illuminated.

1. Disabling the SSMP alarm function associated with the Boric acid transfer pumps has no impact on the function of any safety related equipment or components as evaluated in the FSAR accident analysis. Therefore, the probability of or consequences of an equipment malfunction have not been increased.

2. Removal of the Boric Acid Transfer pumps from the SSMP alarm logic brings the system into compliance with section 7.5.5 of the FSAR. The SSMP is only intended to alarm for automatically actuated ESF functions.

3. This MDD has no impact on Boration System Technical Specification (3/4.1.2) or any other Technical Specification.

89-V2M001 This modification will enable the Unit 2 fault recorder to save information recorded during a generator undervoltage condition. This wiring addition is internal to the fault recorder panel and connects the existing generator P.T. input to an undervoltage sensor.

1. The fault recorder is not safety related and is used only as an information gathering device. A review of FSAR chapter 8.0 shows no mention of the plant fault recorder.

2. This modification has no effect on plant operation or safety related equipment. Reference FSAR chapter 8.0.

3. The fault recorder is not mentioned in Technical Specifications (3/4.8). It does not affect any equipment required for operation or safe shutdown of the plant.

89-VCM002 Three doors presently have windows measuring 96 square inches each. This MDD will install an improved barrier.

1. A review of sections 3.0 to 12.5 of the FSAR was used in determining that the addition of the improved barrier in MDD 89-VCM002 will in no way increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to the safety of the plant, as previously evaluated in the FSAR. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. The addition of the improved barrier on the doors will in no way create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR. A further review of FSAR sections 3.0 to 12.5 was performed to aid in this determination.

3. The modification performed here was reviewed against Technical Specifications sections 2.0, 3.0 and 4.0 which are the bases for LCO conditions. This review was used to determine that the addition of the improved barrier does not reduce the margin of safety as defined in the Technical Specification.

89-V1M003 Changed wiring on 1MSH 13205, steam packing exhaust filter high moisture alarm to provide annunciation on relative humidity rising above setpoint.

1. The SPE filter as described in FSAR 9.4.4 is not safety related.

2. FSAR 9.4.4 states that SPE system is not considered important to safety. The change cannot create an accident as the alarm circuit only is affected.

3. The alarm circuit only is affected. The ability of the unit to function as ventilation exhaust treatment system as defined by 3/4.11.2.4 is not affected.

89-VCM004

To revise many of the secondary plant annunciator setpoints to a more useful value. Presently some are too conservative and some are too liberal. Existing setpoints are based on chemistry control anticipated when the setpoints were originally developed.

1. The FSAR gives the chemistry limits in Tables 10.4.6-4 and 1-.4.6-2 and 10.3.5-1. All existing and new setpoints are within the limits prescribed in the FSAR, thus they have been previously evaluated.

2. The acknowledgement or actions taken in response to these annunciators is not associated with any accident evaluated in the FSAR. Since the new setpoints are bounded by the same criteria as the old setpoints, no new accidents or malfunctions are created.

3. Secondary plant chemistry specs are not a part of any reviewed Tech Spec. bases. However, basis 3/4.4.7 requires steady state steam generator chemistry to be within the "steady state limits (as provided by the vendor)". This annunciation is within EPRI, Westinghouse, and the FSAR limits.

89-V1M005

On Relay 160 (P.T. failure relay for Emergency Diesel Generator), switch wires at points (5 & 7) and (15 & 17). This change is required to allow operation of the 160 relay per its intended design. The relay came from the vendor wired per normal A-B-C rotation. This change will correct to the Georgia Power C-B-A phase rotation.

1. This change will allow operation of the 160 relay in the Diesel Generator relay protection scheme per the intended design. It will inhibit unwanted tripping of the Diesel Generator due to PT failure. This change, therefore, decreases the probability of an accident.

2. The 160 relay will now be configured as required by the original design. It provides a blocking function for the 140 relay (Loss of Field) and 151 relays (overcurrent) in case of a blown PT fuse. The generator protective functions are discussed in section 8.3.1.1.3 of the FSAR and are not affected by this Design Change.

3. All protective devices will function as specified by original design and are not affected by this change. The Diesel Generator System will provide its intended safety function and therefore, the margin of safety as discussed in Technical Specification Bases section 3/4.8 (Electrical Power Systems) will not be reduced.

89-V2M006 This modification changes the original parts specification for the fabrication of the seismic support brackets for penetrations 2-1818-H3-P71 (ports 1, 5, 12, 18) and 2-1818-H3-P19 (ports 1, 5, 11, 12) to support PERMS and NIS cable connections. The support bracket changes from .25 to .312 and the spacing between these holes changes from 1.56 to 2.00.

1. This design change involves a minor modification to the PERMS feedthrough seismic support (Conax) which includes U-Bolt and bracket changes. These changes have no impact on the functions and characteristics of the PERMS systems as described in section 11.5 of the FSAR. This description does not address PERMS in so far as the level of detail that this modification involves. This modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR.

2. This modification makes minor design changes to the physical dimensions to the U-Bolt and bracket for the PERMS feedthrough seismic support. These design changes adhere to applicable IEEE design codes and installation specifications.

3. A review of Tech Spec. section 3/4.3.3 (monitoring instrumentation) was done. These modifications to the U-Bolt and bracket components of the PERMS support does not reduce the margin of safety as defined in the basis for any Tech Spec.

89-V2M007

This modification involved replacing the Unit 2 Sigma Refueling Machine cable reel with a similar reel which has a distributor. The distributor assures that the cable will be evenly distributed along the reel as it is retracted. This modification resolved the problem of the cable jamming as it was retracted.

1. The Sigma Refueling Machine is a Non-Safety related, Seismic Category 2 system as described in DC-1010, Rev. 5. The modification improves the Refueling Machine without affecting its load capacity.

   This modification of the Refueling Machine will not degrade its performance and, therefore, will not impact the Fuel Handling Accident Analysis or operation of Safety Related Equipment as described in the FSAR.

2. The modification involved replacing the cable reel with a similar reel whch has a distributor to improve maintainability and reliability. The modification did not degrade the performance of the Machine. Also, it does not impact the Fuel Handling Accident Analyses or the operation of the Safety Related Equipment.

   Based on the above, this modification does not create the possibility of an Accident or Malfunction of a different type.

3. The modification has no effect on the margin of safety defined by the bases of Tech Spec. Section 3/4.9.6.

89-VQM008

Revise Waste Gas System Hydrogen recombiners oxygen and hydrogen circuitry and tubing to prevent analyzer micro-fuel cells from being damaged by overpressurization or burn-out. This will prevent the analyzers from being damaged when a waste gas compressor trips.

1. FSAR section 15.7.1 deals with loss of waste gas due to waste gas decay tank failure or failure of associated piping. This change modifies the sample tubing without compromising the accident analysis of the FSAR. The modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the FSAR.

2. This modification does not create the possibility of an accident or malfunction of a different type previously evaluated in the FSAR. FSAR accident analyses of chapter 15 were reviewed with attention to section 15.7.1.

3. This modification does not reduce the margin of safety as defined in the Bases for Tech Spec. section 3/4.6.4. This change, in no way, restricts the capability of maintaining operable the hydrogen recombiners with regards to detection and control as defined in the Technical Basis section 3/4.6.4.

89-V2M009

Change type of light fixture in room RB-88 from a mark FQF to a mark FQI and change the mounting detail to "8". The circuit feeding the light will be changed to 2NLP37-1 from 2NLP38-1. In room RA-74, change the light fixture from mark FQF to mark FQI, change the mounting detail to "8", and change the feeder from 2NLP33-3 to 2NLP37-3.

1. The probability of an accident will not be increased by the change of fixture type, mounting detail, or feeder. The FSAR does not address specifics of these lights in it's analysis. Reference FSAR section 9.5.3 and chapter 15.

2. The modification does not create the possibility of an accident. The change in feeder and mounting type of these lights does not affect function of these lights. Reference FSAR section 9.5.3 and chapter 15.

3. The lighting in these rooms is not described in any Technical Specification or bases for any Technical Specification. Therefore, this change in no way reduces the margin of safety as defined in the bases for any Technical Specification.

89-VCM010 This modification changes breaker setpoints to prevent spurious tripping of lighting breakers.

1. The modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. The modification changes only breaker setpoints to prevent spurious tripping and to provide proper breaker coordination (Ref. section 8.3 and chapter 15 of FSAR).

2. The modification does not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR. The modification changes only breaker setpoints to prevent spurious tripping and to provide proper breaker coordination (Ref. section 8.3 and chapter 15 of FSAR).

3. The modification does not involve a change to Technical Specifications. The modification changed only breaker setpoints to provide coordination and prevent spurious tripping. Breaker setpoints are not covered in Technical Specifications. Reference Technical Specification section 3/4.8.

89-V2M011 This modification installed a lanyard support on hanger V2-1201-053-H006 in order to accommodate the addition of one lanyard at Node Pt. 50 on line 2-1201-053-16" for thermal growth and vibration testing. This support will house the lanyard for monitoring snubber movement on hanger V2-1201-053-H006.

1. This modification was installed on V2-1201-053-H006 to monitor pressurizer surge line movement as part of power ascension testing requirements of FSAR section 14.2.8.2.48 (thermal expansion test). This lanyard and support were designed and installed to meet the requirements of FSAR section 3.9.B.3.4 (component supports) and comply with the applicable ASME Sect III codes. This modification did not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR.

2. The lanyard support as installed by 89-V2M011 was used to monitor pressurizer surge line movement as part of power ascension testing of Unit 2. This support was seismically designed and installed to meet ASME requirements, and therefore, creates no new accidents or malfunctions not addressed in FSAR section 15.

3. Tech Spec. bases 3/4.7.8 gives the LCO and surveillance requirements for snubbers. The installation of this lanyard support per 89-V2M011 does not reduce the margin of safety as defined in the Tech Spec.

89-V1M012 The addition of the "Start Delay" and "Monitor Delay" setpoints for 1XI22564A and 1XI22564B to the Instrument Setpoint Sheets.

1. The modification to add vibration monitor setpoints does not affect operation of the ESF chillers at all. The vibration monitor provides Control Room annunciation only and will not cuase an ESF chiller to trip off or fail to start. Therefore, no increase in the probability of occurrence or consequences of an accident or equipment malfunction previously evaluated in the FSAR will result.

2. As stated previously, the subject vibration provides Control Room annunciation only and can not impact ESF chiller operation.

3. Review of Technical Specification 3/4.7.11 indicates that valves, room coolers, chiller and pump are checked per surveillance requirements for position and actuation on SI signal. The setpoints for the vibration monitors does not change Tech Spec. requirements. Vibration monitors provide alarm functions only. Therefore, the margin of safety is not reduced.

89-V2M013

Changed model number of Pyco RTD from 122-3046-12-6 to 122-3027-24". This is a 24" long probe with a protective sheath. This change will place the sensing tip of 2TE-2618 into the active airflow region of 2-1505-A7-001 plenum to more accurately control the temperature of the air passing through the ductwork.

1. The proposed change does not degrade the safety of the system and will not increase the probability of occurence or consequences of an accident described in the FSAR. The longer probe will allow containment purge supply system to supply design air temperature to Containment. The Containment Purge Supply is not important to safety as described by 9.4.6 and is not a part of section 15 Accident Analysis.

2. The proposed change involves a non-safety related system and will not increase the probability of occurence or consequences of a malfunction of safety-related equipment or component previously evaluated in the FSAR. By supplying proper temperature air into Containment a more desirable evnironment will be established for equipment inside.

3. The Containment Normal Purge Supply unit and associated temperature control loop is not a part of any Technical Specification design bases.

89-V1M014

Revise wiring in the BETA annunciator panel (i.e, Condensate Demin Panel 1-1414-P5-FDP) to allow Control Room alarm AKB17D03 to clear once the local alarm at P5-FDP is acknowledged. This will allow the Control Room to be aware of subsequent alarms at the Condensate Demin. Panel.

1. Review of the FSAR accident analyses of chapter 15 shows that the modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated.

2. Review of this modification condensate system description of FSAR section 10.4.6 and the accident analyses of FSAR chapter 15 reveals that this modification does not create the possibility of an accident or malfunction of a different type then previously evaluated in the FSAR.

3. This modification does not involve any safety related equipment nor does it involve any limiting conditions for operations or surveillance requirements as described by Tech Specs. Thus, this mod does not reduce the margin of safety as defined in the Bases of the Tech Specs. Tech Specs. for section 2.0, 3.0 and 4.0 were reviewed.

89-V2M015 Revise the wiring in the Beta Annunciator Panel at Panel 2-1414-P5-FDP to allow Control Room annunciator ALB17D03 to clear once the alarm at the local panel is acknowledged by an Operator.

1. The Condensate Demineralizer System is a non-safety related system. Failure of the components of this system will not affect the ability of the plant to accomplish a safe shutdown. This is based on a review of FSAR sections 15.0 and 10.4.6.

2. This modification will not in any way increase the possibility of an accident or malfunction occurring that will lead to an unsafe condition. This is based on a review of FSAR sections 15.0 and 10.4.6.

3. Based on a review of the Tech Spec. basis, including section B 3/4.7.1, this modification will not decrease the margin of safety at the plant.

89-V1M016

This modification removed the filter element from the Waste Evaporator Feed backflushable filter and the Floor Drain Tank backflushable filter. These filters are not needed since filtration for the Liquid Waste Processing System is performed at the Alternate Radwaste Building. The liquid waste evaporator is not utilized therefore there is no need to separate solids/crud from the liquid. All wastes go to the Alternate Radwaste Building for processing.

1. Increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety is not caused by this change. This change does not impact the pressure boundary of the system and included a review of FSAR chapter 15.

2. Removal of the filter elements will not create the possibility of an accident or malfunction different from FSAR evaluations of chapter 15 since no credit is taken for the elements and the removal will not affect the pressure boundaries.

3. Based on a review of the Tech Spec. bases, including section B 3/4.11 'Radioactive Effluents', this modification will not reduce the margin of safety at the plant.

89-V2M017

Reroute the conduit 2NE525RS001 to accommodate relocated flow switch when the Auxiliary CNMT. Cooler fan 2-1515-A7-002 was replaced.

1. This change affects a Non-Q conduit attached to a Non-Q cooling unit. The conduit attachment is sufficiently evaluated to ensure no impact to other Q equipment (EFCRB 8210F) and therefore does not increase the probability or the consequences of an accident or malfunction of equipment.

2. Conduit affects only Non-Q equipment. However, change is consistent with original design criteria. Therefore, this modification does not create the possibility of an accident or malfunction of equipment.

3. Rerouting the subject conduit does not affect the operation of the Auxiliary CNMT cooler fans and therefore the margin of safety does not decrease.

89-V2M018

Remove the filter elements from the Waste Evaporator Feed backflushable filter and the Floor Drain Tank backflushable filter. The filtering capability is not required since filtration is performed at the Alternate Radwaste Building.

1. The Liquid Waste Processing System is a non-safety related system. Failure of the components of this system will not affect the ability of the plant to accomplish a safe shutdown. This is based on a review of FSAR sections 15 and 11.2.

2. This modification will not in any way will increase the possibility of an accident or malfunction occurring that would lead to an unsafe condition. This is based on a review of FSAR sections 15.0 and 11.2.

3. Based on a review of the Tech Spec basis, including section B 3/4.11 'Radioactive Effluents', this modification will not reduce the margin of safety at the plant.

89-V2M019

Modify the Nuclear Sampling tubing supports to match field requirements. One support will be attached to an existing hanger. Another support's base plate is being made smaller to fit in the available space.

1. The support modifications will not increase the probability of occurence or consequences of an accident or malfunction of equipment required for safe-shutdown. The Nuclear Sampling system is not required for safe-shutdown of the plant. The subject tubing was and still is seismically qualified.

2. The Nuclear Sampling Panel is not involved in or used to mitigate any presently evaluated chapter 15 accident. Since this change does not alter the function or qualifications of the Nuclear Sampling Panel, no new accident possibilities are created.

3. Implementing this modification does not affect the function or reliability of the Nuclear Sampling Panel, nor does it affect our ability to meet Tech Specs. surveillance 4.4.7 or Basis 3/4.4.7.

89-V1M020 This modification changes breaker 1CD1M01, 02, 03, 04, and 05 from 15A to 30A thermal magnetic breakers per table 10 of DC-1823. There should be a 30A thermal magnetic breaker installed.

1. This modification only involves changing breakers 1CD1M01, 02, 03, 04 and 05 from 15A to 30A thermal magnetic breakers to conform to DC-1823. It will not cause any equipment assumed to function in an accident to malfunction. Reference FSAR sections 15.1 and 15.2.

2. This modification involves only changing thermal magnetic breakers to conform with DC-1823. It was originally a design error. No accidents or equipment malfunction will result from this change that is not described in the FSAR. Reference FSAR sections 15.1, 15.2 and 8.2.

3. This modification does not involve a change to Tech Specs (Ref. 3.7.1.2). It only involves changing thermal magnetic breakers to conform to DC-1823. This change will not affect the margin of safety as defined in Tech Spec. 3.7.1.2 and 3.8.1.

89-V2M021 This modification changes breaker 2CD1M01, 02, 03, 04, and 05 from 15A to 30A thermal magnetic breakers per table 10 of DC-1823. There should be a 30A thermal magnetic breaker installed.

1. This modification involves only changing breakers 2CD1M01, 02, 03, 04 and 05 from 15A to 30A thermal magnetic breakers to conform to DC-1823. It will not cause any equipment assumed to function in an accident to malfunction. Reference FSAR sections 15.1 and 15.2.

2. The modification involves only changing thermal magnetic breakers to conform with DC-1823. It was originally a design error. No accidents or equipment malfunction will result from this change that is not described in the FSAR. Reference FSAR sections 15.1, 15.2 and 8.2.

3. This modification does not involve a change to Tech Specs. section Ref. 3.7.1.2. It involves only changing thermal magnetic breakers to conform to DC-1823. This change will not effect the margin of safety as defined in Tech Specs. 3.7.1.2 and 3.8.1.

89-VCM0022 Add a note to the typical detail drawings to allow ladders and handrails to be added, modified, or deleted. An approved safety evaluation will be required and ladder and handrail typical details shall be followed. The typical details are shown on drawing AX2D94V004. These details were used during plant construction for ladder and handrail fabrication and installation.

1. This change will allow future ladder and handrail changes. All changes will be performed in accordance with approved typical details. These details were used during the original construction of the plant for ladder and handrail installation. These details meet all seismic design criteria. The safety evaluation required for each change will insure no increase in the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report can occur.

2. This change cannot create an accident or malfunction of a different type than previously evaluated in the safety analysis report. This change allows changes to ladders and handrails providing typical details are followed and an approved safety evaluation is completed. These steps insure that no safety related equipment can be affected by this change.

3. Ladders and handrails are not included in the basis for the Technical Specification. This change will have no effect on the basis for the Technical Specification. The required safety evaluation will ensure no future change can affect the basis for the Technical Sepcification.

89-VZM023

This change allows a variation from the mounting detail drawing for mounting of 2PDI-1222 (Steam Generator Blowdown Cartridge filter differential pressure indicator). It is necessary to allow welding on one side of the mounting plate and anchoring to the wall for the opposite mounting plate side. This is a nonsafety, nonseismic class 62J instrument.

1. Making an exception to the mounting detail drawing for this nonsafety, nonseismic class instrument has no impact on an accident or malfunction of equipment important to safety and evaluated in the FSAR chapter 15.

2. The pressure differential indicator has no control or operational function that could affect any equipment or accident of any type including one not previously analyzed in the FSAR chapter 15.

3. 2PDI-1222 is a new instrument, nonsafety-related, nonseismic, and is not included in the Tech Specs. including Bases B 3/4.7. It is an indicating instrument only with no impact on safety.

89-VCM024

To add Potable Water Building pump casing drains in the Potable Water Pump House. This will keep packing leak-off off the floor.

1. Neither the Potable Water Building, any equipment in it or the Potable Water System interfaces with any equipment that is important to safety. Implementing this change does not alter that fact.

2. The Potable Water System is not involved in any Chapter 15 accident. Since this modification does not link the Potable Water system with any other system, no new malfunction possibility is created.

3. No Tech Spec basis assumes anything about the function or malfunction of any equipment in or related to the Potable Water Building.

89-VCM025 Modified control loops AT-12470 and AT-12471 to provide proper operation of Fuel Handling Building normal supply reheat coils. Current to resistance converter made reverse acting.

1. The FHB Normal Supply Air System is not important to safety as outlined in FSAR section 9.4.2.

2. The FHB Normal Supply System is non-safety related and the control loop change cannot cause any type of accident.

3. The affected equipment is not part of any Technical Specification basis and specifically not a part of 3.9.12.

89-VCM027 This modification adds four receptacles to the north side of the Water Treatment Building to provide power to the NRC Mobile Lab. These 120V AC Receptacles will be powered from normal lighting panel ANLP79, breakers 30, 32, 34 and 36.

1. This change will not involve any safety-related components, and will not cause any equipment assumed to function in an accident to malfunction. Reference FSAR section 15.2.6.

2. This change involves no safety-related components or equipment it only adds 120V AC receptacles to a normal lighting panel in the Water Treatment Bldg. No accidents or equipment malfunction will result from this change that is not described in the FSAR. Reference FSAR sections 15.2.6 and 9.5.

3. The addition of four 120V AC receptacles to a normal lighting panel in the Water Treatment Building will not effect the margin of safety as defined in Tech Spec 3/4.8.1.

89-VCM028 This modification involves changing the setpoints on the level switches for the

Lube Oil Storage Area Sump Pump A-1420-P4-508. The pump start setpoint is to be lowered for instrument ALSH7680. The High-High alarm is also to be lowered for ALSH7680. In addition, the spare switch setting is to be revised on ALSL7680.

1. The Waste Water Effluent System, system 1420, is a non-safety related system. Failure of the components of this sytem will not affect the ability of the plant to accomplish a safe shutdown. This is based on a review of section 15, Accident Analyses'.

2. Based on a review of section 15.0 of the FSAR, 'Accident Analyses', it does not appear that this modification in any way will increase the possibility of an accident or malfunction occurring that would lead to an unsafe condition.

3. Based on a review of the Tech Spec. basis, this modification will not reduce the margin of safety at the Plant.

89-V1M029 Removed existing #2 torque switch limiter plate and replace with a #3 limiter plate set at 3.

1. This change does not exceed any manufacturer design criteria and in fact establishes proper valve operation. Therefore, there is no increase in the probability of occurrence or consequences of a malfunction of safety related equipment or components. Section 9.2.1 of the FSAR reviewed.

2. The installation of the #3 limiter plate provides correct operation of NSCW Tower Return Valve 1HV-1668A and does not change any previous system or component operation. This approved vendor replacement limiter plate does not create the possibility of an accident or equipment/component malfunction other than that evaluated in the FSAR. Section 9.2.1 of the FSAR reveiwed.

3. The bases for operation of the NSCW system is maintained by this change which effectively provides correct operation of valve 1HV-1668A. The margin of safety defined by the bases of the Tech Specs. is unchanged by the installation of the new limiter plate Tech Spec section 3/4.7.4 reviewed.

89-V2M031 Change time dial setting for RCP Time Overcurrent Relays from 960 cycles at 500% of Tap to 1080 cycles at 500% of Tap. Change High Dropout unit setpoint for RCP Time Overcurrent Relays from Tap 6 (480) to Tap 7 (560 amps). This change will allow all RCP's to start reliably without tripping when used as the last pump to start.

1. The change adjusts the RCP Time Overcurrent Relay setpoints to start reliably without nuisance tripping, while still providing adequate locked Rotor protection for the RCP motors and overcurrent protection for the containment penetrations. The new setpoints are still below the design limits of the penetration Ref. Fig. 8.3.1-7 sheet 12 of 19.

2. The new setpoints for the RCP Time Overcurrent Relays simply allow all the RCP's to start reliably without nuisance tripping while still providing adequate locked rotor protection for the RCP's and adequate protection for the containment penetrations.

3. The change does not decrease the margin of safety defined by the bases for the Tech Specs. (see sect 3/4.8.4) the new setpoints are still below the design limits of the Containment penetrations. Ref FSAR Fig 8.3.1-7 sheet 12 of 19.

89-V2M032 Underfrequency relay model #222A1175 has become obsolete and replaced by model #422B1275 which is the same form, and function as the original model #222A1175. Drawings 2X3D-AA-C03A & 2X3D-BD-B01X need to be updated to reflect the change in model #'s and rewiring due to a change in connection points on the new relays.

1. The new relays (model #422B1275) represent the same form and function as the old relays and will be calibrated to the same setpoint as the old relays and, therefore, will not increase the probability of occurrence or consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report. This includes a review of FSAR Chapter 15.

2. The new Relays (model #422B1275) represent the same form and function as the old relays and will be calibrated to the same setpoint as the old relays; therefore, will not create the possibility of an accident or malfunction of a different type than previously evaluated in the Safety Analysis Report. This includes a review of chapter 15.

3. The new Relays (model #422B1275) represent the same form and function as the old relays and will be calibrated to the same setpoint as the old relays; therefore, this modification will not reduce the margin of safety as defined in the Basis for any Technical Specification. The new relays will be calibrated to the same setpoint as the old relays which will be consistent with Tech Spec. 2.2.1 basis of U/F Reactor Trip signal reaching the Reactor Trip Breakers in 0.3 secs.

89-VCM033 The Waste Gas System Hydrogen Recombiner is subject to transients which cause pressure fluctuations at the Rupture Disc. This leads to fatiguing of the disc and, eventually, cracking. In order to alleviate the conditions leading to fatigue, a vacuum support has been installed within the rupture disc. It will brace the disc against back pressures as they occur.

1. The Waste Gas System is a non-safety related system. Failure of the components of this system will not affect the ability of the plant to accomplish a safe shutdown. This is based on a review of FSAR sections 15.0 and 11.3.

2. This modification does not increase the possibility of an accident or malfunction occurring that would lead to an unsafe condition. This is based on a review of FSAR sections 15.0 and 11.3.

3. Based on a review of the Technical Specification basis, including Section B 3/4.11, this modification will not reduce the margin of safety.

89-VCM035 The instrument air inlet and outlet tubing to current to pneumatic converter AFY-12777 will be disconnected. This tubing will be rerouted to run from the air regulator presently upstream of AFY-12777 directly to the positioner for the inlet vanes AFV-12777.

1. This change does not involve any safety-related equipment. It will only change the method by which the inlet vanes are positioned to obtain design air flow from the fume hood exhaust fan. This change will not increase the probability of an accident or consequences of any accident previously evaluated in the FSAR.

2. This change does not affect any safety-related equipment, nor will it create the possibility of any accident not evaluated in the FSAR.

3. The fume hood exhaust fan is not addressed specifically in the Section 3/4.11.2.4 of the Tech Spec. which addresses the "Ventilation Exhaust Treatment System" of which the fume hood exhaust is a part, will not be affected by this change and therefore the margin of safety will not be reduced.

89-VCM036 Upgrade the Security Card Reader.

1. The Accident Analysis section of the FSAR (section 15) was reviewed to determine that the implementation of this DCP would not increase the probability of or the consequences of an accident as described in the FSAR.

Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. A review of section 15 of the FSAR was performed in determining that this design change would not create the possibility of an accident or malfunction other than the previously evaluated in the FSAR.

3. A review of sections 2.0, 3.0 and 4.0 of the Vogtle Technical Specifications was performed. It was then determined that this design change would not reduce the margin of safety as defined by the Technical Specifications.

89-V2M038

This modification adds a CS lug to pipe just above the strap on support V2-2406-004-H601 to provide dead load support of relief valve 2-PSV-9697 and connects the relief valve to existing tailpipe using 1/2" diameter stainless steel tubing. The lug addition to the support puts the weight of the tailpipe on the support anchor bolts instead of on the Relief Valve threaded connection.

1. The purposes of the Aux. Hydrogen Gas System includes assuring a continuous supply of gas to the Reactor Coolant drain tank as described in FSAR section 9.3.5. The design changes in this modification ensure that 2-PSV-9697 can perform its intended design function. The support lug addition was designed and installed per applicable codes of ANSI B31.1 and AISC.

2. The Design Changes to the Aux. Hydrogen Gas System per 89-V2M038 ensure that 2-PSV-9697 can relieve pressure from the hydrogen header as designed. Neither the design nor installation of this modification creates the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR.

3. Review of Tech Spec. 3/4.4 shows that the Aux. Hydrogen Gas System is not addressed in the level of detail that this modification involves.

89-V2M039

This change deletes the Boric Acid transfer pumps handswitch position interlock from the System Status Monitor Panel logic. This is accomplished by lifting and sparing the appropriate conductors at the Main Control Board termination cabinets.

1. Disabling the Boric Acid transfer pump from the SSMP logic has no impact on the function of any safety-related component evaluated in chapter 15 of the FSAR. Therefore, the probability of occurrence of any accident is not increased.

2. This MDD brings the SSMP into compliance with section 7.5.5 of the FSAR by removing the manually actuated ESF functions from the SSMP which is intended to alarm for automatically actuated ESF functions.

3. This change has no impact on the boration system Technical Specification (3/4.1.2) or any other Tech Spec.

89-V2M041

This MDD substituted spare contact 11 for contact 1 on transfer switch 2HS-5106C. This was accomplished by moving the field side wires of cable 2CD1M05SF presently connected to TBF-43 and 42 to TBF-65 and 66.

1. This modification changed the field wiring from a failed contact 1 to the spare contact 11 of transfer switch 2HS-5106C. This enabled the circuit to operate as designed and thus reduced the probability of occurrence of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. FSAR sections 7.3.7 and 10.4.9 reviewed.

2. As this wiring modification made no functional or operational changes in the system it does not create the possibility of an accident or malfunction other than those which were previously evaluated in the FSAR. FSAR section 7.3.7 and 10.4.9 reviewed.

3. This change does not decrease the safety margin as defined by the Tech Spec. bases. The modification leaves the system operationally and functionally identical to the original design condition. Tech Spec. section 3/4.1.2 reviewed.

89-V2M042

A. This MDD installs a jumper from CR42 point 207 to the coil on TDR 28 in condensate demin panel 2-1414-P5-FDP. This allows a delay start of the spent resin transfer pump 2-1414-P4-502.

B. Changes the backwash high flow setting from 500 GPM to 375 GPM by adjusting regulator 2-HICV-03298B in condensate demin panel 2-1414-P5-FDP.

C. Removes pins 6,7 and 8 at tenor drum switch 44 (TDS-44) to eliminate spent resin auto start.

1. The modifications involved do not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the FSAR. The accident analysis, section 15.0 was reviewed with particular attention to section 15.1 "Increase In Heat Removal By The Secondary System" and 15.2 "Decrease In Heat Removal By The Secondary System".

2. The modifications enhance system operability with regards to Item A and Item B and provides manual control of spent resin transfer with regards to Item C. Section 15.0 of the FSAR was reviewed. The modifications do not create the possibility of an accident or malfunction of a different type than previously evaluated in the safety analysis report.

3. The modificaitons do not reduce the margin of safety as defined in the Basis for any Technical Specification. The bases for Tech Specs. sections 2.0, 3.0 and 4.0 were reviewed.

89-V1M048

Revise the backwash high flow setpoint on the condensate demins from 500 GPM to 357 GPM. This change prevents the backwash recovery tank from overflowing.

1. The Condensate Demin system is not safety-related. Since the lower backwash flow rate yields an equally effective backwash with less stress on the system, not only is any safety-related equipment unaffected by the change, but the non-safety related equipment associated with this system is less likely to malfunction.

2. The Condensate Demin system is not involved in any chapter 15 accident. Since implementing this change only enhances the operation of the Condensate Demin system, no new accident possibility is created.

3. Implementing this change does not alter our ability to maintain proper secondary plant chemistry as assumed in Tech Spec. Basis 3/4.4.7

89-VCM049

To provide system overpressure protection for the Normal Chilled Water System by lowering the relief valve set pressure on the pump suction. Change the set pressure of relief valve APSV-22302 from 135 psig to 45 psig. To accomplish this a new spring must be installed in the valve.

1. The Normal Chilled Water System is not included in accident scenario in chapter 15 of FSAR.

2. The Normal Chilled Water System has no safety design basis per paragraph 9.2.9.2.3 of the FSAR. Nevertheless, the change in relief valve set pressure was conservative in relation to possible system failure.

3. The Normal Chilled Water System is not considered in any Tech Spec. basis. Technical Specifications 3/4.7.11 addresses the ESF Chilled Water System only.

89-VCM050

Changed the fire water tank level setpoints and the instruments used to monitor these setpoints. The level setpoint was raised to increase the amount of water available in the fire water tanks. The instrument type was changed to one with a smaller deadband.

1. The setpoint level changes assured that minimum amounts of firewater are maintained as required by FSAR. The new switches give more accurate control of level. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this MDD.

2. The new switches are similar to those already installed but with a smaller deadband and will therefore more accurately control tank level within FSAR requirements.

3. The fire water tanks are not included in the Technical Specification bases.

89-V1M051 This MDD corrected Automatic Rod Control wiring for automatic insertion of control rods. The incorrect wiring would make the rods move out then stop for an auto insertion signal. The rewiring of a control card will allow the proper operation of the Automatic Rod Control System.

1. Automatic Rod Control is not a safety system but can be used during some events to prevent the plant from exceeding Reactor Trip limits.

2. The modification changed the plant design to match proper operation of Automatic Rod Control. The FSAR assumes correct Automatic Rod Control per section 7.7.7.1.

3. Auto Rod Control is not required for safety of the plant, therefore correct operation of Auto Rod Control does not reduce the safety margin of the plant. Per review of Tech Specs. 3.4.8.

89-V1M052 Addition of a hanger between the RHR suction line and the RHR suction line vent, 1-HV-10466. This will restrict movement relative between the RHR Suction line and 1-HV-10466, the suction line vent.

1. The addition of the hanger will prevent an overstressing of the associated piping during a SSE or an OBE. The removal of the possibility of overstressing will prevent the failure of the piping under a seismic event as required by FSAR 3.7.B.

2. This addition of a hanger will not create the possibility of an accident different from those described in section 15.0 of the FSAR. This hanger was required to ensure that the piping to the RHR suction line vent could survive a seismic event. The design of this hanger agrees with the original installation specifications for hangers. The compliance of the hanger design with the original installation requirements ensures that the hanger will function as intended and will not compromise the system which it supports.

3. The margin of safety established for the associated system in the Tech Specs is assured by Engineering analyses and installation requirements as described in the FSAR 3.7.B. This hanger addition ensures that the piping involved can survive a seismic event as required by section 3.7.B of the FSAR.

89-VCM059

Add one fuse to each neutral leg for 120V AC power feeding Loop-2, Zone-1, Leg-A (Unit 1), and Loop-4, Zone 2, Leg-A (Unit 2) paging system in Containment. The type of fuse is Bussman MDA-15. This modification adds the additional fuse protection so that testing of breakers CB6 and CB12 in the Gai-Tronics control cabinet (A-1701-U3-TDC) is eliminated.

1. The additional fuse will not affect the penetration protection since the fuse curve is below the penetration capability curve. (Ref FSAR Figure 8.3.1-7, Sheet 16 of 19). Therefore, the fuse should open prior to penetration damage occurring and thus maintain the integrity of the containment pressure boundary (Ref. FSAR 8.3.1.1.12).

   Also, the plant is designed to shutdown without relying on communications equipment. (Ref. FSAR 9.5.2.2.6).

2. This modification does not affect operation of the plant page and provides additional protection of the containment penetrations on this leg.

3. The addition of the fuses will provide the redundant penetration protection required (Ref Tech Spec. 3/4.8.4).

89-V1M062

The quick disconnects of the Nuclear Sampling Panel (Unit 1) were changed to eliminate the need for an adapter for the gas stripper, to be consistent with the Unit 2 disconnects, and increase the pressure rating. This change will allow interchangeability of sample bombs for both units and eliminate the threat of contamination should the pressure boundary fail with the previous disconnects. The affected sample bombs are 1-1212-NPS-501, 502, and 503. The Swagelok disconnects are model QT4.

1. This change does not affect consequences/ occurrences of any accident or malfunction of equipment important to safety. The Nuclear Sampling Panel is not safety-related and is not taken credit for in FSAR chapter 15.

2. The Nuclear Sampling Panel is not safety-related and is not required to mitigate any accident of a type similar or different from the analyis of FSAR chapter 15.

3. Changing quick-disconnects on the Nuclear Sampling Panel does not affect the Tech Spec. Bases B 3/4.4.7 or B 3/4.4.8.

89-V1M065

The changes accomplisned by this MDD are threefold. The intent of these changes are to decrease the likelihood of contaminated water leaving the RWST valve room. The mods are:

A. Add threaded caps to the lines used to take chemistry samples of the RWST.

B. Revise the design of the floor joint seal to ensure that any contaminated water in the room cannot leak into the soil below.

C. Design and install a curb at the door to the room such that any water on the floor of the room cannot leak under the door and onto the ground outside the RWST valve room.

1. These three changes will in no way affect the functional operation of the plant as described in FSAR. These changes will serve only to ensure the leaktightness of the RWST sample lines and the RWST valve room itself. Since these changes are "nonfunctional" in nature, they will not result in the increase of either the probability or consequences of any accident or malfunction described in the FSAR (Ref 15.0 of the FSAR).

2. These nonfunctional changes to the plant will serve only to improve the leaktightness of the RWST valve room and the RWST sample lines. Due to the nature of these modifications, they will not result in the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR.

3. These changes will not result in a change to the level of safety established by the Bases for the RWST Tech Spec. 3/4.9.

89-V2M066 The changes accomplished by this MDD are threefold. The intent of these changes are to decrease the likelihood of contaminated water leaving the RWST valve room. The mods are:

A. Add threaded caps to the lines used to take chemistry samples of the RWST.

B. Revise the design of the floor joint seal to ensure that any contaminated water in the room cannot leak into the soil below.

C. Design and install a curb at the door to the room such that any water on the floor of the room cannot leak under the door and onto the ground outside the RWST valve room.

1. These three changes will in no way affect the functional operation of the plant as described in in the FSAR. These changes will serve only to ensure the leaktightness of the RWST sample lines and the RWST valve room itself. Since these changes are "nonfunctional" in nature, they will not result in the increase of either the probability or consequences of any accident or malfunction described in the FSAR(Ref. 15.0 of the FSAR).

2. These nonfunctional changes to the plant will serve only to improve the leaktightness of the RWST valve room and the RWST sample lines. Due to the nature of these modifications, they will not result in the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR.

3. These changes will not result in a change to the level of safety established by the Bases for the RWST Tech Spec. 3/4.9.

89-V2M067 Change the span of the Containment Spray Additive Tank pressure indication, 2-PI-0932, from 0 to 60 psig to 0 to 15 psig. This was done to achieve a clearer indication of the cover pressure on the SAT.

1. This change results in an enhanced reading of the pressure in the SAT. Since the design pressure of the SAT is 10 psig, this change will have no detrimental operating effect. The probability of occurrence and/or severity of consequences of an accident or malfunction as described in the FSAR is not affected by this change.

2. This change is to the scale of the instrument only. The internals are not significantly changed from the original design. The only effect this change will have is to enhance the readability of the gauge by the operations staff when adjusting the cover pressure of the SAT. For these reasons, this change will not create the possibility of an accident or malfunction of a different type than previously evaluated in the FSAR.

3. Based on the foregoing answers, this instrument scale change will not reduce the margin of safety established by the Bases of the Containment Spray Tech Spec.

89-V1M068 This modification added an individual volume control for Control Room page speaker #S46 to stop feedback problems associated with this speaker.

1. This modification affects only the volume of Control Room speaker #S46. The installation of the volume control will enhance Control Room communications by eliminating feedback problems. The volume control is located between the amplifier and the speaker and therefore, reduces the volume of the emergency tone signals at that speaker (Ref, FSAR 9.5.2.2.1). However, these emergency tone signals are still heard with clarity and the origin of the signals is from the Control Room. Furthermore, the Control Room and Shutdown Panels are designed and instrumented to bring the plant to a safe shutdown condition, assuming a single failure of safety-related equipment, without relying on communications equipment (Ref. FSAR 9.5.2.2.6).

2. This modification affects only the volume of Control Room speaker #S46. The plant page is in routine use which will ensure the availability of the speaker at a volume level appropriate for this location. (Ref FSAR 9.5.2.3)

3. The only communications required by Technical Specifications is between the Control Room and personnel at the Refueling station during core alterations (Ref. Tech Spec. 3/4.9.5). This communication is provided by the sound power system (Ref. FSAR 9.5.2.2.3) which is not affected by this modification.

89-V2M069 The main transformers have two sets of contacts for annunciation of high oil temperature. One set makes at 65°C and other at 90 °C. The 65°C contacts are to be disconnected.

1. This change does not involve a safety related equipment/system. It does not increase probability of accident or malfunction not analyzed in section 8 of the FSAR.

2. The change does not create possibility of an accident or malfunction not previously evaluated. In FSAR sections 8.12, 8.1.4.2, 8.3, 1.2.8.

3. The margin of safety is not affected per review of sec 3/4.8. The setpoint (65°C) is used for annunciation only.

89-V1M072 Add an "in-service" permissive in the low differential pressure alarm annunciator for the Unit 1 Steam Packing Exhaust and Steam Jet Air Ejector Filter Units. To prevent the low differential pressure annunciators from alarming if the filter units are not in service.

1. The SPE and SJAE systems as describe in FSAR 9.4.4 are not important to safety.

2. FSAR 9.4.4 states that SPE and SJAE exhaust filters have no safety design bases.

3. The change is in alarm circuitry only and would not affect the ability of the units to function as a ventilation exhause treatment system as defined by 3/4.11.2.4.

89-V2M073 Add an "in-service permissive in the low differential pressure alarm annunciator for the Unit 2 Steam Packing Exhaust and Steam Jet Air Ejector Filter Units. To prevent the low differential pressure annunciators from alarming if the filter units are not in service.

1. The SPE and SJAE systems as described in FSAR 9.4.4 are not important to safety.

2. FSAR 9.4.4 states that SPE and SJAE exhaust filters have no safety design bases.

3. The change is in alarm circuitry only and would not affect the ability of the units to function as a ventilation exhaust treatment system as defined by 3/4.11.2.4.

89-V1M074 Install a check valve in the hydrogen supply line to the main generator (Unit 1).

1. The change does not require change to FSAR section 9.3.5 which describes the Aux Gas system. The change does not increase the probability or consequences of accident.

2. Addition of a check valve in supply line improves the reliability of machine it will prevent generator depressurization due to failure of hydrogen skid. This does not create any accident not analyzed in section 15 of the FSAR.

3. A review of section 3/4.7 does not indicate that safety margin will be affected.

89-VCM079 This modification involved adding knee braces to all 50 Boraflex Coupon holders on the four Boraflex Coupon Trees in accordance with Holtec International Engineering order no. 70810-1 dated 7/14/89.

1. The probability of an accident will not be increased by the weight addition to the Boraflex Coupon Trees. The weight of the trees is bounded by the Spent Fuel Pool rack analysis for full and empty racks at each location. Also, this change will not increase the probability of malfunction of a safety related component. This modification has significantly reduced the likelihood of Boraflex Coupon Holder failure.

2. This modification has decreased the probability of Boraflex Coupon holder failure, a malfunction not evaluated in the FSAR.

3. The Boraflex Coupon Trees are not described in any Technical Specification or bases for any Tech Spec. Therefore, this change in no way reduces the margin of safety as defined in the bases for any Tech. Specs.

89-V1M080 The cabling from the Rod Control System to the Proteus computer was changed such that Proteus would track all rod movement correctly. Before this MDD was installed, if any rods in shutdown banks C, D, or E were stepped out, all three of these banks would be indicated as stepping out.

1. Rod Control and Proteus are not safety related systems. The modification was rolling six(6) terminations in one non-safety related panel.

2. This change to the plant design reduced the possibility of an accident by having proper indication of control rod position displayed and tracked by Proteus.

3. The Proteus computer can be used as a non-safety related verification of the Rod Control demand counters and digital rod display (DRPI). This "back-up" will aid in trouble shooting problems with any of these systems.

89-V2M083 This modification corrects a wiring error, resulting from a wiring diagram error, in the Reserve Auxiliary Transformer (RAT) 2NXRA differential relay (487RA) scheme.

1. This modification corrects a wiring error so that the differential relay scheme works as originally intended. As previously wired, a fault or load surge on switchgear 2NA05 would have erroneously tripped RAT 2NXRA instead of the switchgear breaker. This modification conforms to FSAR 8.3.1.1.2 (K.3) in that the differential relay now only reacts to faults within the relay zone.

2. This modification corrects a wiring error so that the differential relay scheme works as originally intended. Reference FSAR chapter 8.0.

3. This modification corrects a design error such that the relay scheme functions as originally intended. This correction actually improves the availability of power from transformer 2NXRA. Therefore, no change to the original design assumptions have been made. A review of the bases to Technical Specifications section 3/4.8 show that this change does reduce the margin of safety.

89-VCM0086

Add a note to drawing AX4DD000 Rev-14 stating that unions may be added without design change if the following criteria has been met:

a) Seismic category 2 piping system.
b) ANSI pressure and temperature rating is not greater than 150 lbs.
c) Non radioactive piping system

However, an approved Request for Engineering Review followed by an As-Built Notice is required.

1. Installation of unions per this MDD will be done on systems described above as allowed by piping and material classification manual AX4DR001 Rev 9. Installation of unions will be reviewed on an individual basis before approved for installation. Individual safety evaluations will be performed as required by procedures. This design change will not be used on any piping system with nuclear class 1&2 and seismic class 1 systems and will not increase the probability of occurrence or the consequence of an accident or malfunction of equipment important to safety listed in FSAR section 3, Table 3.2.2-1.

2. This modification is only a drawing change design change, which allows installation of unions in seismic category - 2 piping system which do not carry radioactive fluid and have ANSI pressure and temperature rating less 150#. Failure of the system is within the bounds of accident analysis described in chapter 15 of the FSAR.

3. This modification will not involve any safety system and will not affect margin of safety as defined basis of Tech Spec. described in bases section of Tech Spec.

89-V2M087

Remove door 2-2111-L1-A90 from between rooms R-A22 and R-A81 on level A of the Control Bldg. to allow transfer of air between rooms so that temperature switch 2-TSH-12819 can adequately monitor the temperature of the Auxiliary Relay Panel Room, R-A22.

1. The removal of door 2-2111-L1-A90 does not increase the probability of occurrence or the consequences of an accident or equipment/ component malfunction because this door is not a fire barrier, flood barrier, tornado barrier, security barrier, or missle shield/barrier per review of drawing AX1D94A20, Rev 6. FSAR chapter 15 has been reviewed and requires no change.

2. Removal of door 2-2111-L1-A90 will have no impact on the operation and proper function of either the Auxiliary Relay Panel or the Auxiliary Relay Panel Room Cooler and therefore, will not create the possibility of an accident or safety-related equipment malfunction not described in the FSAR.

3. Removal of the subject door does not affect the operation of the Auxiliary Relay Panel Room Cooler and therefore does not decrease the margin of safety defined by the bases for Technical Specification.

89-V2M088

Swap indicator lights at stator water control panel 2-1326-P5-HSC to follow plant convention, Red on right and Green on left. Existing bulbs to be replaced with ET-16 type lights to prevent breaker tripping due to short circuit within the bulb holder.

1. This is not a safety related system and does not affect any other safety related systems as evaluated in chapter 15.9 of FSAR.

2. This change does not create possibility of an accident or malfunction other than previously evaluated in chapter 15.

3. Swapping indicator lights will not reduce the margin of safety as defined by the bases for Tech Spec. section 3/4.7.

89-V1M089

Swap indicator lights at stator water control panel 1-1326-P5-HSC to follow plant convention, Red on right and Green on left. Existing bulbs to be replaced with ET-16 type lights to prevent breaker tripping due to a short circuit within the bulb holder.

1. This is not safety related system and does not affect any other safety related systems as evaluated in chapter 15.0 of FSAR.

2. This change does not create possibility of an accident or malfunction other than previously evaluated in chapter 15.

3. Swapping indicator lights will not reduce the margin of safety as defined by the bases for Tech Spec. section 3/4.7.

89-V2M090 The Burnable Poison Rod Assembly (BPRA) Inserts fabricated for use in Unit 1 Westinghouse spent fuel racks were modified for use in Unit 2 Holtec International spent fuel racks. The modification involved decreasing the external dimensions of BPRA inserts from 13.0 x 13.0 inches to 10.30 X 10.30 inches.

1. The BPRA inserts that are modified for use in the high density racks (Holtec International) will decrease the probability of a fuel handling accident due to the proper fit without any overlapping. The BPRA inserts are not safety related and do not affect any other safety related equipment.

2. The center to center spacing of the Unit 2 high density spent fuel racks is closer than those of Unit 1 low density racks. This insert modification will enable a proper fit for the BPRA's, RCCA's thus decreasing the probability of a fuel handling accident.

3. Margin of safety is increased due to a lower probability of affecting the position of the inserts in case of a seismic event.

89-VQM097 Auxiliary transformer MK.GT (located in high voltage switchyard panel "5B" was installed incorrectly to step the voltage down. This MDD will rewire the transformer to step the voltage up. Thus, the Control Room voltmeter will receive correct voltage.

1. The proposed change will only correct the voltage level supplied by the transformer. It will not affect safety related equipment or components previously evaluated in the FSAR. Reference FSAR chapters 8.0 and 15.0.

2. The wiring change will only provide proper indication of Bus #2 voltage at the QEAB. No accidents or equipment malfunction will result from this change that is not described in the FSAR, reference chapter 8.0 and 15.0.

3. The proposed transformer wiring change does not involve Tech Specs. or decrease the margin of safety defined by the Bases for any Technical Specification.

89-V1M101 There is a blanked off opening/hole on the north side of Unit 1 generator. A transition spool piece and 3/4" ball valve is to be installed over the opening. The valve is to be installed with Garlock gaskets and capped closed with a blank flange.

1. This change does not affect safety related equipment. It does not create increased probability of occurrence or the consequence of an accident or malfunction not evaluated in FSAR section 10.

2. This change does not create the possibility of an accident or malfunction not evaluated in section 10.1 & 10.2 of FSAR.

3. The change does not affect safety related equipment and is not addressed in Tech. Specifications.

89-V1M103 Lift cable NGV660XA from RTD TE-6800 and land on RTD TE-16173, which is a spare temperature element measuring the same system data as TE-6800. This will supply controller TV-6800 a more accurate signal for control of stator cooling water temperature.

1. The change does not affect any safety related systems as described in FSAR nor is stator cooling water required for safe shutdown of plant. Reference system definition section 10.2 of FSAR.

2. The change cannot cause an accident or malfunction of different type not evaluated in section 10.0, 10.2 and 15.1.

3. The change does not effect the margin of safety as defined in Technical Specifications. Ref. section 3/4.7.

89-V2M104 Lift cable NGV660XA from RTD TE-6800 and land on RTD TE-16173, which is a spare temperature element measuring the same system data as TE-6800. This will supply controller TV-6800 a more accurate signal for control of stator cooling water temperature.

1. The change does not effect any safety related system as described in the FSAR. Stator cooling water is not required for safe-shutdown of the plant. Reference FSAR section 10.2.

2. This change does not, and can not cause an accident or malfunction of a component that is different from those described in FSAR section 15.

3. This change does not effect the margin of safety as defined in Tech Spec. section 3/4.7.

89-V1M107 Lower the machine gas high temperature alarm from 134°F to 120°F. Set 1TIS-6846 located in hydrogen and stator cooling water cabinet 1-1326-P5-HSC at 120°F.

1. The change does not increase the probability of occurrence or consequences of malfunction of safety related system/equipment. FSAR sections reviewed 10.2, 15.1 and 15.2.

2. Change does not create the possibility of an accident or equipment malfunction not described and analyzed in FSAR, sections reviewed 15.0.8, 15.1 and 15.2.

3. Per review of 2.2.1 and 3/4.3.4 the change does not decrease the margin of safety defined by the bases of the Technical Specifications.

89-V1M104

This modification lowers the temperature and alarm setpoints for 4 heat tracing circuits. The existing setpoints are based on the need to maintain the associated piping at 170°F for 12% boric acid concentration. However, the system operates at 4% boric acid concentration. The new setpoints are the required setpoints to maintain a minimum temperature of 65°F for 4% boric acid concentration.

1. This change decreases the operating temperature of piping associated with 4 heat trace circuits to maintain the required minimum of 65°F. This does not affect the operation of safety related equipment. Reference FSAR section 8.3.1.1.9.

2. This change will not create the possibility for an accident or equipment malfunction. This change will allow the under temperature alarms to clear and the system to function correctly. Reference 8.3.1.1.9 and chapter 15.

3. This change will not decrease the margin of safety defined by the bases for the Tech Specs. This is a setpoint change that reduces the pipe temperature from that required for 12% boric acid solution to that required for 4% boric acid solution. Reference 3.3.3.10 of the Tech Specs.

89-V2M108

Change time overcurrent relay tap setting from TAP 3 to TAP 4 and cycles to operate at 500% of TAP from 65 to 55 cycles for breaker 2NAA09 due to addition of a 500 KVA transformer under DCP 89-VCN0038.

1. This modification does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report. The change only adjusts the time-overcurrent relays setpoints for breaker 2NAA09 to reflect the addition of a 500 KVA transformer being added under DCP # 89-VCN0038. The new setpoints are coordinated with upstream overcurrent relays. This includes a review of FSAR section 8.3, 15.0.8 and 15.2.6.

2. The modification does not create the possibility of an accident or malfunction of a different type than previously evaluated in the Safety Analysis Report. The change only adjusts the time overcurrent relays setpoints for breaker 2NAA09 to reflect the addition of a 500 KVA transformer being added under DCP # 89-VCN0038. This breaker will now feed the Field Support Building transformer and the Alternate PESB transformer. The new setpoints are coordinated with upstream overcurrent relays. This includes a review of FSAR sections 8.3, 15.0.8 and 15.2.6.

3. The change does not decrease the margin of safety defined by the bases for the Tech Specs (See Section 3/4.8.4). The new setpoints for breaker 2NAA09 are coordinated with upstream overcurrent relays.

89-V2M109 Lower the machine gas high temperature alarm from 134 °F to 120 °F. Set 2TIS-6846 located in the hydrogen and stator cooling water cabinet 2-1326-P5-HSC at 120 °F.

1. The proposed change does not increase probability of occurence or consequences of malfunction of safety related system/equipment sections reviewed 10.2, 15.1 and 15.2.

2. The proposed change does not create the possibility of an accident or equipment malfunction not described and analyzed in FSAR section reviewed 15.0.8, 15.1 and 15.2.

3. Per review of 2.2.1 and 3/4.3.4 the proposed change does not decrease the margin of safety defined by the bases of the Technical Specifications.

89-VCM0112 Lower the setpoint of the Electric Fire Pump (C-2301-P4-002) safety relief valve, CPSV-18076 from 175 psig to 138 psig. This will allow the pump to be operated safely with little or no flow without overheating or damaging the pump. A bypass flow of 13.75 gpm at dead head pressure from the pump discharge is available.

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1. This change involves lowering the setpoint of the safety pressure relief valve for the electric fire pump which does not increase the probability of occurrence or consequences of an accident or equipment/component malfunction described in the FSAR. FSAR sections 9.5.1 and 15.0 were reviewed and require no change. There is no degradation of the "defense-in-depth" Fire Protection Program as a result of this MDD.

2. This modification creates no new possibilities or unanalyzed scenarios. This is based on a review of FSAR sections 9.5.1 and 15.0.

3. The safety limits and settings discussed in section 2.0, 3.0, and 4.0 of the VEGP Tech Spec do not deal with fire protection. Therefore, there is no decrease in the Tech Specs. margin of safety.

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TEST OR EXPERIMENTS

T-ENG-87-10

This procedure tested the door alarms to the PESB UPS area. Alarm and tamper supervision were tested.

1. The FSAR did not analyze the Security system for accident probabilities. The addition of these alarms will increase the effectiveness of the security system and therefore decrease the probability of an accident. Reference FSAR section 13.6. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. The FSAR did no accident analysis of the Security system. The addition of alarms will not create the possibility of an accident other than that analyzed in the FSAR.

3. The alarms on the Security UPS will enhance physical security and increase the margin of safety. Tech Specs. did not address security in the basis.

T-ENG-87-14

This procedure tested the installation of ACAT controlled turnstiles in the PESB. Tested were alarm capability and turnstile operation. Reference FSAR section 13.6.

1. The addition of turnstiles at the PESB has no direct effect on Accident Analysis. The turnstiles will decrease the probability of sabotage due to increased security of the main entry point. Also, FSAR Section 13.6 details the industrial security requirements, section 13.6 as well as the VEGP Physical Security Plan was reviewed. No decrease in the security effectiveness would be realized as a result of implementing this change.

2. The FSAR did not analyze the Security system since it has no direct effect on plant safe shutdown capability. The addition of turnstiles does not create the possibility of a different type of accident.

3. The test increases the margin of safety by increasing security at the PESB main entry point. Tech Specs. did not address security in the basis.

T-ENG-88-10

This test demonstrates the operability of the Condensate Filter Demin System and Transfer System. This is a temporary procedure to test the system operation which mimicks a preoperational test that would have been done during plant start-up.

1. Testing this system does not impact any equipment important to safety or accident analysis. This system is non-safety related. This included a review of FSAR section 10.4.6 and chapter 15.

2. This modification involves a non-safety related system with no impact on any safety functions or equipment. This review included FSAR section 10.4.6 and chapter 15.

3. This change does not impact the margin of safety as described in the Tech Spec section B 3/4.7.

T-ENG-88-13

To provide test method for performing a functional test on the BTRS common chiller upon implementation of DCP 87-VCE0230. Test will verify proper limit indication on handswitches 1-HS-390 and 2-HS-0390 as to the unit operating the chiller.

1. During performance of this test the BTRS chiller, A-1208-E6-008, is not actually started because power leads to the compressor motor are lifted. Because the BTRS system is not required for reactivity control. This test will not impact or affect plant operation, nor will it increase the probability of occurance or consequences of an accident. This is based on a review of FSAR section 9.3.4.

2. The BTRS system will not actually be placed in service during this test and it is not required to mitigate any accident. The possibility of an accident or malfunction of a different type than that evaluated in the FSAR is not created.

3. The BTRS system does not have any associated Technical Specifications based on review of 3/4.1 for reactivity control in Technical Specification and therefore does not reduce the margin of safety.

T-ENG-89-02

To test the Control Room logic of the Control Room emergency filtration units to insure that no more than one(1) of the two(2) fans will start on a Safety Injection/Control Room Isolation signal.

1. This test verifies that the system will operate within the design parameters after installation of modification DCP 88-V1N0079. This test simulates events described in FSAR section 6.4 to assure compliance. Therefore, this test does not increase the probability of occurrence or the consequence of an accident or malfunction of equipment.

2. This test simulates events described in section 6.4 of the FSAR to assure equipment response is as evaluated in the FSAR and therefore, does not create the possibility of an accident or malfunction of equipment.

3. This test verifies that the correct requirements of Technical Specifications 3/4.7.6 are met by design change package 88-V1N0079. Therefore, the margin of safety is not required.

T-ENG-89-06

The purpose of this experiment is to determine if there is a temperature problem in the Unit 1 and Unit 2 north and south MSIV areas.

1. This test involves the temporary installation of thermocouples and a recorder in each MSIV room. It will not affect the operation of permanent plant equipment.

2. The testing equipment installed in the MSIV rooms will be placed to avoid any possible impact on permanent plant equipment.

3. This test will not affect any permanent plant equipment nor will this margin of safety for the Tech Spec. be affected.

T-ENG-89-08

The test establishes and maintains unit operating conditions required for performance of a baseline secondary plant performance test. The test requires that the plant remain stable at approximately 100% power with significant leakage paths into or out of the Turbine cycle isolated.

1. If the cycle isolation walkdown identifies the main steam dumps as excessively leaking valves, the isolation of these valves would increase the probability of lifting a main steam safety valve upon a reactor trip. However, since administravely only a few steam dumps would be allowed to be isolated at one time, the increase in probability of lifting a main steam safety is very very small. No credit is taken for the main steam dumps in the safety analysis. In addition, a reactor trip would have to occur during the short period that these valves would be isolated.

2. This test does not manipulate or modify any safety grade equipment and thus does not create the possibility of an accident or malfunction of a different type than previously evaluated in the safety analysis report.

3. The test does not manipulate any safety grade equipment and therefore does not reduce the margin of safety as defined in the Tech Specs.

T-ENG-89-09

The test procedure valves-in and measures the zero shift of temporary high precision test feedwater flow differential pressure transmitters. These test transmitters are used in a baseline secondary plant performance test.

1. The applicable feedwater flow channel is removed from service prior to valving in and measuring the zero shift of the test transmitter. Therefore, the test does not increase the probability of occurrence or the consequences of an accident or malfunction of any plant equipment.

2. Since the applicable feedwater flow channel is out of service when this test is performed, it does not create the possibility of an accident or malfunction of a different type than previously evaluated in the safety analysis report.

3. Since the test is performed on equipment which is out of service, there is no reduction in the margin of safety as defined in the Tech Spec.

III

GEORGIA POWER COMPANY

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1 AND UNIT 2

NRC DOCKET NOS. 50-424 AND 50-425

FACILITY OPERATING LICENSE NOS. NPF-68 AND NPF-81

EMERGENCY CORE COOLING SYSTEMS OUTAGE DATA REPORT

VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 & 2
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EMERGENCY CORE COOLING SYSTEM
OUTAGE DATA REPORT

This report contains:

a) outage dates and duration of outages
b) ECCS systems or components involved in the outage
c) cause of the outage, and
d) corrective actions taken

- UNIT 1 -

Unit 1 Emergency Core Cooling System components were out of service a total of 620 hours and 11 minutes in 1989.

1. a) 1-7-89 14 hours and 53 minutes
   b) & c) RHR Isolation Valve found with wrong size interlock fuse.
   d) Fuse changed and valve returned to service.

2. a) 1-20-89 2 hours and 6 minutes
   b) & c) Safety Injection Pumps removed from service to comply with Technical Specifications.
   d) Pumps returned to service.

3. a) 1-21-89 115 hours and 18 minutes
   b) & c) Accumulator Isolation Valve torqued closed.
   d) Valve manually opened off of closed seat, and returned to service.

4. a) 2-21-89 18 hours and 24 minutes
   b) & c) Train A Safety Injection Pump maintenance outage.
   d) Maintenance completed and pump returned to service.

5. a) 2-28-89 34 hours and 2 minutes
   b) & c) Train B Safety Injection System preventive maintenance service.
   d) Servicing completed and system restored to service.

6. a) 3-8-89 37 hours and 50 minutes
   b) & c) Train B Component Cooling Water Pump has various small leaks.
   d) Leaks repaired and pump returned to service.

7. a) 3-10-89 2 hours and 40 minutes
   b) & c) RHR Heat Exchanger Outlet Valve requires calibration.
   d) Calibration complete and valve restored to service.

8. a) 3-11-89 39 minutes
   b) & c) RHR Heat Exchanger Outlet Valve removed from service for I&C inspection.

d) Inspection completed and valve returned to service.

9. a) 3-20-89 26 hours and 20 minutes
b) & c) Boron Injection Tank Discharge Isolation Valve limit switch out of adjustment.
d) Limit switch adjusted and valve restored to service.

10. a) 4-13-89 47 minutes
b) & c) RHR Hot Leg Isolation Valve removed from service for testing.
d) Testing completed, valve restored to service.

11. a) 4-13-89 7 minutes
b) & c) Train A RHR Pump placed in pull-to-lock for valve testing.
d) Testing completed, pump returned to service.

12. a) 4-13-89 39 minutes
b) & c) Train B RHR removed from service for testing.
d) Testing completed, Train B returned to service.

13. a) 4-13-89 1 hour and 38 minutes
b) & c) RHR Hot Leg Isolation Valve removed from service for testing.
d) Testing completed, valve restored to service.

14. a) 5-16-89 33 hours and 56 minutes
b) & c) Train A Centrifugal Charging Pump removed from service for maintenance outage.
d) Outage completed, pump restored to service.

15. a) 5-22-89 21 minutes
b) & c) Charging Pump Miniflow to Refueling Water Storage Tank Isolation Valve breaker racked out to replace thermal overload.
d) Thermal overload replaced, valve restored to service.

16. a) 5-23-89 45 hours and 6 minutes
b) & c) Train B RHR removed from service for maintenance outage.
d) Outage completed, Train B returned to service.

17. a) 5-26-89 20 minutes
b) & c) Refueling Water Storage Tank to Charging Pump Valve Breaker turned off to replace thermal overload.
d) Thermal overload replaced, valve restored to service.

18. a) 5-26-89 14 minutes
b) & c) Charging Pump Miniflow Isolation Valve Breaker racked out to replace thermal overload.
d) Thermal overload replaced, valve restored to service.

19. a) 6-5-89 3 hours and 15 minutes
b) & c) Train B Safety Injection Pump Suction Header Valve and Charging Pump Header to Safety Injection System Valve thermal overload bypasses require replacement.
d) Thermal overload bypasses replaced, valves returned to service.

20. a) 6-7-89 2 hours and 21 minutes
b) & c) Train A Safety Injection Miniflow Isolation Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve restored to service.

21. a) 6-7-89 41 minutes
b) & c) Train A RHR Pump Inlet Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve returned to service.

22. a) 6-7-89 2 hours and 25 minutes
b) & c) Train A Safety Injection Discharge Isolation Valve removed from service for thermal overload jumper replacement.
d) Work stopped, valve returned to service.

23. a) 6-12-89 26 minutes
b) & c) Train A Safety Injection Discharge Isolation Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve returned to service.

24. a) 6-13-89 14 minutes
b) & c) Charging Pump Miniflow to Refueling Water Storage Tank Isolation Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve returned to service.

25. a) 6-13-89 16 minutes
b) & c) Volume Control Tank Outlet Isolation Valve removed from service for thermal overload jumper replacement.
d) jumper replaced, valve returned to service.

26. a) 6-14-89 12 minutes
b) & c) Train B RHR Containment Sump Check Valve removed from service for testing.
d) Testing completed, valve restored to service.

27. a) 6-14-89 2 hours and 2 minutes
b) & c) Train A RHR check valve removed from service to inspect for possible loose pin.
d) Valve inspected OK and returned to service.

28. a) 6-14-89 1 hour and 11 minutes
b) & c) Train A RHR check valve removed from service for testing.
d) Testing completed and valve returned to service.

29. a) 6-14-89 22 minutes
b) & c) Charging Pump to Reactor Coolant System Isolation Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve returned to service.

30. a) 6-14-89 20 minutes
b) & c) Refueling Water Storage Tank to Charging Pump Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve restored to service.

31. a) 6-25-89 38 minutes
b) & c) Train B RHR Heat Exchanger to Safety Injection Pump Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve restored to service.

32. a) 6-25-89 1 hour and 30 minutes
b) & c) Train B Containment Sump Isolation Valve removed from service for thermal overload jumper replacement.
d) Jumper replaced, valve restored to service.

33. a) 6-25-89 1 hour and 59 minutes
b) & c) Train B RHR Pump Inlet Valve, Train B RHR Hot Leg Isolation Valve, and RHR Pump Miniflow Valve removed from service for thermal overload jumper replacement.
d) Jumpers replaced, valves restored to service.

34. a) 6-30-89 3 hours and 58 minutes
b) & c) Train B Centrifugal Charging Pump Discharge Valve closed for testing.
d) Testing completed, valve returned to service.

35. a) 7-9-89 8 hours and 41 minutes
b) & c) Train A RHR Heat Exchanger Outlet Valve removed from service for testing.
d) Testing completed, valve returned to service.

36. a) 7-17-89 10 hours and 44 minutes
b) & c) Train B Centrifugal Charging Pump removed from service due to inboard motor bearing oil leak.
d) Leak repaired, valve restored to service.

37. a) 7-20-89 13 minutes
b) & c) Train B RHR removed from service for valve testing.
d) Testing completed, Train B returned to service.

38. a) 8-24-89 5 hours and 17 minutes
b) & c) Train B RHR Heat Exchanger Outlet Valve removed from service for preventive maintenance.
d) Maintenance completed, valve returned to service.

39. a) 9-12-89 22 minutes
b) & c) Train B RHR Containment Sump Check Valve removed from service for testing.
d) Testing completed, valve returned to service.

40. a) 10-2-89 1 hour and 12 minutes
b) & c) Train A RHR System removed from service to fill and vent letdown system.
d) Fill and vent complete, RHR System returned to service.

41. a) 10-3-89 less than one minute
b) & c) Train A RHR electrical breaker removed from service to search for ground.
d) Breaker closed and restored to service.

42. a) 10-13-89 4 minutes
b) & c) Train B RHR Pump put in Pull-to-Lock for testing.
d) Testing completed, pump restored to service.

43. a) 10-14-89 162 hours and 14 minutes
b) & c) Train B Centrifugal Charging Pump Alternate Miniflow Relief Valve leaking.
d) Valve replaced, new valve entered service.

44. a) 10-19-89 42 hours and 14 minutes
b) & c) Train B Centrifugal Charging Pump removed from service to repair the Centrifugal Charging Pump Miniflow to Refueling Water Storage Tank Isolation Valve.
d) Valve repaired, pump returned to service.

45. a) 10-24-89 1 hour and 31 minutes
b) & c) Train A Centrifugal Charging Pump removed from service for testing.
d) Testing completed, pump returned to service.

46. a) 10-31-89 32 minutes
b) & c) Train A Centrifugal Charging Pump Discharge Valve removed from service for testing.
d) Testing completed, valve restored to service.

47. a) 12-7-89 1 hour and 18 minutes
b) & c) RHR Hot Leg Isolation Valve removed from service for testing.
d) Testing completed, valve restored to service.

48. a) 12-18-89 32 hours and 38 minutes
b) & c) Train A RHR Pump, Heat Exchanger Outlet Valve, and Heat Exchanger Outlet Valve removed from service for testing.
d) Testing completed, valves returned to service.

- UNIT 2 -

Emergency Core Cooling System components were out of service a total of 283 hours and 15 minutes in 1989.

1. a) 2-19-89 1 hour and 10 minutes
   b) & c) Train B RHR Pump taken to Pull-to-Lock for valve testing.
   d) Testing completed, pump restored to service.

2. a) 2-20-89 134 hours and 40 minutes
   b) & c) RHR Loop 4 Isolation Valve failed to calibrate.
   d) Valve repaired and returned to service.

3. a) 2-20-89 5 hours and 51 minutes
   b) & c) Train B RHR Pump taken to Pull-to-Lock for pressure transmitter testing.
   d) Testing completed, pump returned to service.

4. a) 2-21-89 1 hour and 54 minutes
   b) & c) Train B RHR Pump taken to Pull-to-Lock for testing.
   d) Testing completed, pump returned to service.

5. a) 2-25-89 27 minutes
   b) & c) Train B RHR Pump taken to Pull-to-Lock for valve testing.
   d) Testing completed, pump restored to service.

6. a) 2-27-89 1 hour and 17 minutes
   b) & c) RHR Suction Relief Valve removed from service for response time testing.
   d) Testing completed, valve restored to service.

7. a) 2-28-89 4 hours and 16 minutes
   b) & c) Train A RHR Loop Suction Valves shut for response time testing.
   d) Testing completed, valves restored to service.

8. a) 3-9-89 5 minutes
   b) & c) Train A Safety Injection Miniflow Valve closed for testing.
   d) Testing completed, valve re-opened.

9. a) 3-9-89 3 minutes
   b) & c) Train B Safety Injection Miniflow Valve closed for testing.
   d) Testing completed, valve re-opened.

10. a) 3-9-89 13 minutes
    b) & c) Both Trains of RHR declared inoperable when isolation valves found open.
    d) Valves closed, system restored to service.

11. a) 3-12-89 18 minutes
b) & c) Train A RHR Pump stopped and removed from service when discharge pressure dropped.
d) Bad instrument reading verified, pump returned to service.

12. a) 3-18-89 35 minutes
b) & c) SI Pumps inoperable upon Mode 3 entry.
d) Breakers racked in, pumps returned to service.

13. a) 3-19-89 33 minutes
b) & c) Automatic Safety Injection signal blocked while troubleshooting.
d) Problem corrected, block removed, automatic SI signal capability restored.

14. a) 3-21-89 6 minutes
b) & c) Train A RHR to Cold Leg Safety Injection Isolation Valve closed for testing.
d) Testing completed, valve reopened and returned to service.

15. a) 3-21-89 10 minutes
b) & c) Train B RHR to Cold Leg Safety Injection Isolation Valve closed for testing.
d) Testing completed, valve reopened and returned to service.

16. a) 3-30-89 10 minutes
b) & c) Train B RHR Pump taken to Pull-to-Lock for valve testing.
d) Testing complete, pump restored to service.

17. a) 4-7-89 33 minutes
b) & c) Accumulator #2 removed from service due to low pressure.
d) Pressure restored, accumulator returned to service.

18. a) 4-14-89 41 minutes
b) & c) Accumulator #2 removed from service due to low pressure.
d) Pressure restored, accumulator returned to service.

19. a) 5-2-89 13 minutes
b) & c) Accumulator #4 removed from service due to low pressure.
d) Pressure restored, accumulator returned to service.

20. a) 6-9-89 14 minutes
b) & c) Accumulator #3 sample valve opened for sample.
d) Sample valve closed, accumulator restored to service.

21. a) 6-13-89 13 minutes
b) & c) Train A RHR Pump removed from service for testing.
d) Testing completed, pump returned to service.

22. a) 6-14-89 7 minutes
b) & c) Train B RHR Pump removed from service for testing.
d) Testing completed, pump restored to service.

23. a) 6-23-89 13 hours and 25 minutes
b) & c) Centrifugal Charging Pump Miniflow to Refueling Water Storage Tank Isolation Valve removed from service for maintenance.
d) Maintenance completed, valve restored to service.

24. a) 7-25-89 5 hours and 12 minutes
b) & c) Train A Safety Injection Pump Miniflow Isolation Valve removed from service for repair.
d) Repair complete, valve restored to service.

25. a) 7-29-89 50 minutes
b) & c) Accumulator #4 removed from service due to low pressure.
d) Pressure restored, accumulator returned to service.

26. a) 8-30-89 1 hour and 59 minutes
b) & c) Train A RHR removed from service for miniflow control calibration.
d) Calibration completed, Train A returned to service.

27. a) 9-25-89 1 hour and 1 minute
b) & c) Train A RHR Transfer Switch removed from service for repair.
d) Repair completed, switch restored to service.

28. a) 10-1-89 91 hours and 34 minutes
b) & c) Refueling Water Storage Tank Sludge Mixing Isolation Valve removed from service when indicator light falls.
d) Replaced bulb sockets, valve returned to service.

29. a) 10-10-89 18 minutes
b) & c) Train A RHR to Safety Injection Cold Leg Isolation Valve removed from service for testing.
d) Testing completed, valve restored to service.

30. a) 10-14-89 7 minutes
b) & c) Train B RHR Pump taken to Pull-to-Lock for testing.
d) Testing completed, pump returned to service.

31. a) 10-14-89 17 minutes
b) & c) Train B RHR valves removed from service for ISI testing.
d) Testing completed, valves returned to service.

32. a) 10-14-89 1 hour and 18 minutes
b) & c) Train B Chemical and Volume Control System Valves removed from service for ISI testing.
d) Testing completed, valves returned to service.

33. a) 10-15-89 1 hour and 14 minutes
b) & c) SI valves removed from service for stroke testing.
d) Testing completed, valves returned to service.

34. a) 10-19-89 19 minutes
b) & c) Train B Centrifugal Charging Pump Discharge Valve removed from service for testing.
d) Testing completed, valve restored to service.

35. a) 10-19-89 5 minutes
b) & c) Train A Centrifugal Charging Pump Discharge Valve removed from service for testing.
d) Testing completed, valve restored to service.

36. a) 10-23-89 38 minutes
b) & c) Train A Centrifugal Charging Pump Discharge Valve removed from service for testing.
d) Testing completed, valve restored to service.

37. a) 10-31-89 32 minutes
b) & c) Train A Centrifugal Charging Pump Discharge Valve removed from service for testing.
d) Testing completed, valve restored to service.

38. a) 11-9-89 6 hours and 59 minutes
b) & c) Train B RHR Heat Exchanger Discharge Valve removed from service for preventive maintenance.
d) Testing completed, valve restored to service.

39. a) 11-26-89 5 minutes
b) & c) Train A RHR Pump taken to Pull-to-Lock for valve testing.
d) Testing completed, pump returned to service.

40. a) 12-12-89 46 minutes
b) & c) Train A Centrifugal Charging Pump Discharge Valve removed from service for testing.
d) Testing completed, valve restored to service.

41. a) 12-14-89 1 hour and 54 minutes
b) & c) Train B Centrifugal Charging Pump Discharge Valve closed for testing.
d) Testing completed, valve reopened and restored to service.

42. a) 12-15-89 30 minutes
b) & c) Train B Centrifugal Charging Pump Discharge Valve closed for testing.
d) Testing completed, valve reopened and restored to service.

43. a) 12-15-89 14 minutes
b) & c) Train A Centrifugal Charging Pump Discharge Valve closed for testing.
d) Testing completed, valve reopened and restored to service.

44. a) 12-29-89 9 minutes
b) & c) Chemical and Volume Control System Valves removed from service for ISI testing.
d) Testing completed, valves restored to service.

IV

GEORGIA POWER COMPANY

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1 AND UNIT 2

NRC DOCKET NOS. 50-424 AND 50-425

FACILITY OPERATING LICENSE NOS. NPF-68 AND NPF-81

ANNUAL RADIOLOGICAL ENVIRONMENTAL SURVEILLANCE REPORT
CALENDAR YEAR 1989

VOGTLE ELECTRIC GENERATING PLANT
RADIOLOGICAL ENVIRONMENTAL SURVEILLANCE REPORT

TABLE OF CONTENTS

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ACRONYMS

CSRA	Central Savannah River Area
CY	Calendar Year
EL	Environmental Laboratory
EPA	Environmental Protection Agency
GPC	Georgia Power Company
LLD	Lower Limit of Detection
MDD	Minimum Detectable Difference
MDA	Minimum Detectable Activity
NA	Not Applicable
NDM	No Detectable Measurement(s)
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
REMP	Radiological Environmental Monitoring Program
RL	Reporting Level
RM	River Mile
SRS	Savannah River Site
TLD	Thermoluminescent Dosimeter
TS	Technical Specifications for Unit 1 and Unit 2
VEGP	Alvin W. Vogtle Electric Generating Plant

VOGTLE ELECTRIC GENERATING PLANT
RADIOLOGICAL ENVIRONMENTAL SURVEILLANCE REPORT

1.0 INTRODUCTION

This is the third annual Radiological Environmental Surveillance Report for the Alvin W. Vogtle Electric Generating Plant (VEGP). It covers activities of the Radiological Environmental Monitoring Program (REMP) during calendar year (CY) 1989. Hence all dates in this report are for the year 1989 unless otherwise indicated. The specifications for the REMP are provided by Section 3/4.12 of the Technical Specifications for Unit 1 and Unit 2 (TS).

The objectives of the REMP are to ascertain the levels of radiation and the concentrations of radioactivity in the environs of VEGP and to assess any radiological impact upon the environment due to plant operations. A comparison between the results obtained during the preoperational and operational phases provides some basis for such an assessment. A comparison between the results obtained at control stations (locations where radiological levels are not expected to be significantly affected by plant operations) and at indicator stations (locations where it is anticipated that radiological levels are more likely to be affected by plant operations) provides a further basis for this assessment.

The preoperational stage of the REMP started in August of 1981 when the initial collections of the radiological environmental samples were made; there was a phase in period of a few years before the preoperational program was fully implemented. The transition from the preoperational stage to the operational stage hinged about initial criticality for Unit 1 which occurred on March 9, 1987. A low power operating license for Unit 2 was obtained on February 9, 1989; initial criticality for Unit 2 occurred on March 28.

A summary description of the REMP is provided in Section 2. This includes maps showing the sampling locations; the maps are keyed to a table indicating the distance and direction of each sampling location from a point midway between the two reactors.

An annual summary of the laboratory analysis results obtained from the main samples utilized for environmental monitoring is presented in Section 3. A discussion of the results including assessments of any radiological impacts upon the environment is provided in Section 4.

The results of the Interlaboratory Comparison Program are presented in Section 5. The chief conclusions are stated in Section 6.

2.0 SUMMARY DESCRIPTION

A summary description of the REMP is provided in Table 2-1. This table portrays the program in the manner by which it is being regularly carried out; it is essentially a copy of Table 3.12-1 of the TS which delineates the program's requirements. Sampling locations specified by Table 2-1 are described in Table 2-2 and are shown on maps in Figures 2-1 through 2-4. This description of the sample locations closely follows that found in the table and figures of Section 3.0 of the Offsite Dose Calculation Manual (ODCM).

It is stated in Footnote (1) of Table 3.12-1 of the TS that deviations are permitted from the required sampling schedule (which is delineated in Table 2-1 herein), if specimens are unobtainable due to circumstances, such as, hazardous conditions, seasonal unavailability, and malfunction of sampling equipment. Any deviations are accounted for in the discussions for each particular sample type in Section 4.

During 1989, all the laboratory analyses except for the reading of the thermoluminescent dosimeters (TLDs) were performed by Georgia Power Company's (GPC's) Environmental Laboratory (EL) in Smyrna, Georgia. The EL was previously called the Central Laboratory. The reading of the TLDs was provided by Teledyne Isotopes Midwest Laboratory in Northbrook, Illinois.

TABLE 2-1 (SHEET 1 OF 5)

SUMMARY DESCRIPTION OF RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
1. Direct Radiation(1)	Thirty-seven routine monitoring stations with two or more dosimeters placed as follows: An inner ring of stations, one in each meteorological sector in the general area of the site boundary; An outer ring of stations, one in each meteorological sector in the 6 mile range from the site; and The balance of the stations to be placed in special interest areas such as population centers, nearby residences, schools, and in one or two areas to serve as control stations.	Quarterly	Gamma dose quarterly.

TABLE 2-1 (SHEET 2 OF 5)

SUMMARY DESCRIPTION OF RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
2. Airborne			
Radioiodine and Particulates	Samples from seven locations	Continuous sampler operation with sample collection weekly, or more frequently if required by dust loading	Radioiodine Cannister: I-131 analysis weekly.
	Five samples from close to the five site boundary locations, in different sectors;		Particulate Sampler: Gross beta analysis(2) following filter change; and gamma isotopic analysis(3) of composite (by location) quarterly.
	One sample from the vicinity of a community having the highest calculated annual average ground-level D/Q; and		
	One sample from a control location, as for example, a population center at a distance of 10 to 20 miles.		

TABLE 2-1 (SHEET 3 OF 5)

SUMMARY DESCRIPTION OF RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
3. Waterborne			
a. Surface[4]	One sample upriver Two samples downriver	Composite sample over 1-month period[5]	Gamma isotopic analysis[3] monthly. Composite for tritium analysis quarterly.
b. Drinking	Two samples at each of the two nearest water treatment plants that could be affected by plant discharges. Two samples at a control location.	Composite sample of river water near the intake at each water treatment plant over 2-week period[5] when I-131 analysis is required to be performed on each sample, monthly composite otherwise; and grab sample of finished water at each water treatment plant every 2 weeks or monthly, as appropriate	I-131 analysis on each sample when the dose calculated for the consumption of the water is greater than 1 mrem per year[6]. Composite for gross beta and gamma isotpic analyses [3] on raw water monthly. Gross beta, gamma isotopic and I-131 analyses on grab sample of finished water monthly. Composite for tritium analysis on raw and finished water quarterly.
c. Sediment from Shoreline	One sample from downriver area with existing or potential recreational value. One sample from upriver area with existing or potential recreational value.	Semiannually	Gamma isotopic analysis[3] semiannually.

TABLE 2-1 (SHEET 4 OF 5)

SUMMARY DESCRIPTION OF RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

EXPOSURE PATHWAY AND/OR SAMPLE	NUMBER OF REPRESENTATIVE SAMPLES AND SAMPLE LOCATIONS	SAMPLING AND COLLECTION FREQUENCY	TYPE AND FREQUENCY OF ANALYSIS
4. Ingestion			
a. Milk	Two samples from milking animals(7) at control locations at a distance of about 10 miles or more and preferably in a wind direction of lower prevalence.	B weekly	Gamma isotopic analysis(3,8) biweekly
b. Fish	At least one sample of any commercially or recreationally important species in vicinity of plant discharge area.	Semiannually	Gamma isotopic analysis(3) on edible portions semiannually
	At least one sample of any species in areas not influenced by plant discharge.		
	At least one sample of any anadromous species in vicinity of plant discharge.	During spring spawning season.	
c. Grass or Leafy Vegetation	One sample from two onsite locations near the site boundary in different sectors.	Monthly during growing season.	Gamma isotopic analysis(3,8) monthly
	One sample from a control location at about 15 or more miles distance.		

TABLE 2-1 (SHEET 5 OF 5)

SUMMARY DESCRIPTION OF
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

TABLE NOTATIONS

(1) One or more instruments, such as a pressurized ion chamber, for continuously measuring and recording acquired dose may be used in place of, or in addition to, integrating dosimeters. For the purposes of this table, a TLD is considered to be one phosphor; two or more phosphors in a packet are considered as two or more dosimeters. Film badges shall not be used as dosimeters for measuring direct radiation.

(2) Airborne particulate sample filters shall be analyzed for gross beta radioactivity 24 hours or more after sampling to allow for radon and thoron daughter decay. If gross beta activity in air particulate samples is greater than 10 times the yearly mean of control samples, gamma isotopic analysis shall be performed on the individual samples.

(3) Gamma isotopic analysis means the identification and quantification of gamma-emitting radionuclides that may be attributable to the effluents from the facility.

(4) The upriver samples are taken at distances beyond significant influence of the discharge. The downriver samples are be taken in areas beyond and near the mixing zone.

(5) Composite sample aliquots shall be collected at time intervals that are very short (e.g., hourly) relative to the compositing period (e.g., monthly) in order to assure obtaining a representative sample.

(6) The dose shall be calculated for the maximum organ and age group, using the methodology and parameters in the ODCM.

(7) A milking animal is a cow or goat producing milk for human consumption.

(8) If gamma isotopic analysis is not sensitive enough to meet the Lower Limit of Detection (LLD) for I-131, a separate analysis for I-131 will be performed.

TABLE 2-2 (SHEET 1 OF 3)

RADIOLOGICAL ENVIRONMENTAL SAMPLING LOCATIONS

Station Number	Station Type (1)	Descriptive Location	Direction (2)	Distance (2) (miles)	Sample Type (3)
1	I	Hancock Landing Road	N	1.1	D
2	I	River Bank	NNE	0.8	D
3	I	Discharge Area	NE	0.6	A
3	I	River Bank	NE	0.7	D
4	I	River Bank	ENE	0.8	D
5	I	River Bank	E	1.0	D
6	I	Plant Wilson	ESE	1.1	D
7	I	Simulator Building	SE	1.7	D,V,A
8	I	River Road	SSE	1.1	D
9	I	River Road	S	1.1	D
10	I	Met Tower	SSW	0.8	A
10	I	River Road	SSW	1.1	D
11	I	River Road	SW	1.2	D
12	I	River Road	WSW	1.2	D,A
13	I	River Road	W	1.3	D
14	I	River Road	WNW	1.8	D
15	I	Hancock Landing Road	NW	1.5	D,V
16	I	Hancock Landing Road	NNW	1.4	D,A
17	O	Savannah River Site (SRS) River Road	N	5.4	D
18	O	SRS D Area	NNE	5.0	D
19	O	SRS Road A.13	NE	4.6	D
20	O	SRS Road A.13.1	ENE	4.8	D
21	O	SRS Road A.17	E	5.3	D
22	O	River Bank Downstream of Buxton Landing	ESE	5.2	D
23	O	River Road	SE	4.7	D
24	O	Chance Road	SSE	4.9	D
25	O	Chance Road and Highway 23	S	5.2	D
26	O	Highway 23, Mile 15.5	SSW	4.6	D
27	O	Highway 23, Mile 17	SW	4.8	D
28	O	Claybon Road	WSW	5.0	D
29	O	Claxton-Lively Road	W	5.0	D
30	O	Nathaniel Howard Road	WNW	5.0	D
31	O	River Road at Allen's Church Fork	NW	5.[illegible]	D
32	O	River Bank	NNW	4.8	D
33	O	Nearby Permanent Residence	SE	3.3	D

TABLE 2-2 (SHEET 2 OF 3)

RADIOLOGICAL ENVIRONMENTAL SAMPLING LOCATIONS

Station Number	Station Type (1)	Descriptive Location	Direction(2)	Distance(2) (miles)	Sample Type (3)
35	O	Girard	SSE	6.6	D,A
36	C	Waynesboro	WSW	14.9	D,A
37	C	Substation (Waynesboro)	WSW	17.5	D,V
43	O	Employees Recreation Area	SW	2.2	D
80	C	Augusta Water Treatment Plant	NNW	27.5	W(4)
81	C	Savannah River	N	2.2	F(5),S(6)
82	C	Savannah River (RM 151.2)	NNE	0.8	R
83	I	Savannah River (RM 150.6)	ENE	0.8	R,S(6)
84	O	Savannah River (RM 149.5)	ESE	1.6	R
85	I	Savannah River	ESE	5.0	F(5)
87	I	Beaufort-Jasper County Water Treatment Plant; Beaufort, SC	SE	76	W(7)
88	I	Cherokee Hill Water Treatment Plant; Port Wentworth, GA	SSE	72	W(8)
98	C	W. C. Dixon Dairy	SE	9.8	M
99	C	Boyceland Dairy	W	24.5	M

TABLE NOTATION:

(1) Station Types
- C - Control
- I - Indicator
- O - Other

(2) Direction and distance are reckoned from a point midway between the two reactors

(3) Sample Types
- A - Airborne Radioactivity
- D - Direct Radiation
- F - Fish
- M - Milk
- R - River Water
- S - River Shoreline Sediment
- W - Drinking Water
- V - Vegetation

TABLE 2-2 (SHEET 3 OF 3)

RADIOLOGICAL ENVIRONMENTAL SAMPLING LOCATIONS

TABLE NOTATIONS (Continued)

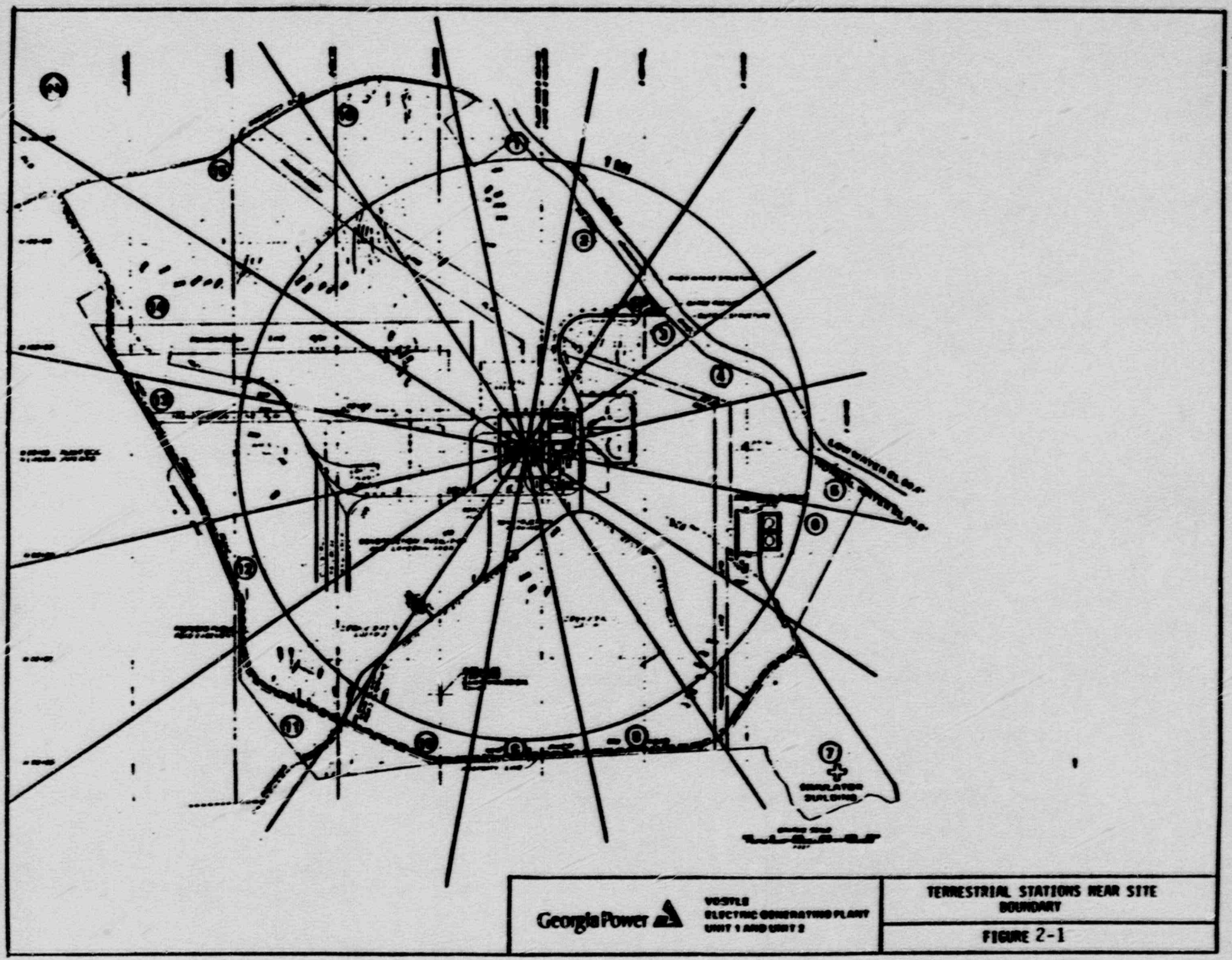
(4) The intake for the Augusta Water Treatment Plant is located on the Augusta Canal. The entrance to this canal is at River Mile (RM) 207 on the Savannah River. The canal effectively parallels the river. The intake to the pumping station is 3.6 miles down the canal and only a tenth of a mile across a narrow neck of land to the river.

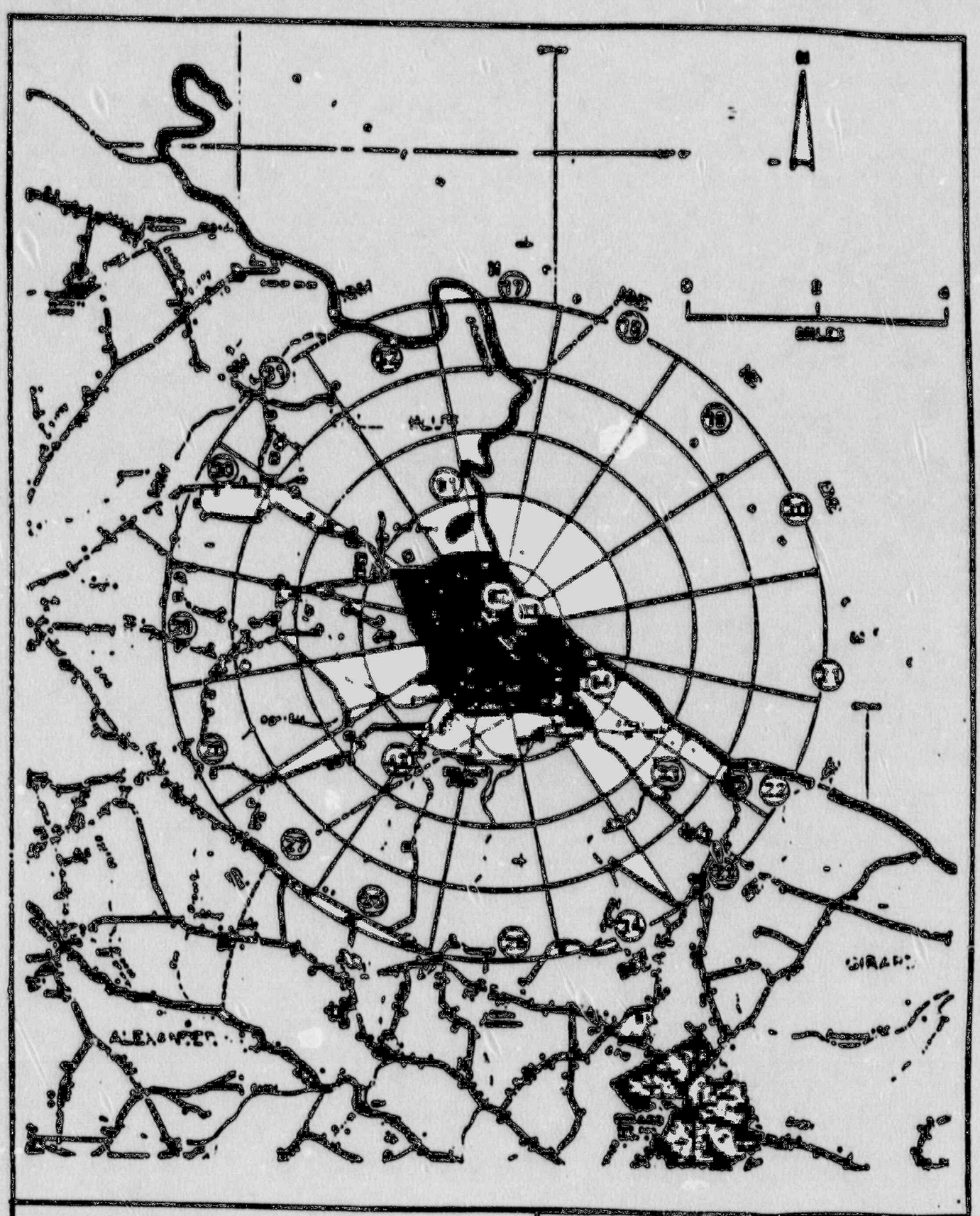
(5) About a five mile stretch of the river is generally needed to obtain adequate fish samples. Samples are normally gathered between RM 153 and 158 for upriver collections and between RM 144 and 149.4 for downriver collections.

(6) Sediment is collected at locations with existing or potential recreational value. Because high water shifting of the river bottom or other reasons could cause a suitable location for sediment collection to become unavailable or unsuitable, a stretch of the river between RM 149.7 and 150.7 is designated for downriver collections while a stretch between RM 153 and 154 is designated for upriver collections. In practice, collections are normally made at RM 150.2 for downriver collections and at RM 153.2 for upriver collections.

(7) The intake for the Beaufort-Jasper County Water Treatment Plant is located at the end of a canal which begins at RM 39.2 on the Savannah River. This intake is about 16 miles by line of sight down the canal from its beginning on the Savannah River.

(8) The intake for the Cherokee Hill Water Treatment Plant is located on Abercorn Creek which is about one and a quarter creek miles from its mouth on the Savannah River at RM 29.


1 MI
SIMULATOR BUILDING
Georgia Power
VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2
TERRESTRIAL STATIONS NEAR SITE BOUNDARY
FIGURE 2-1

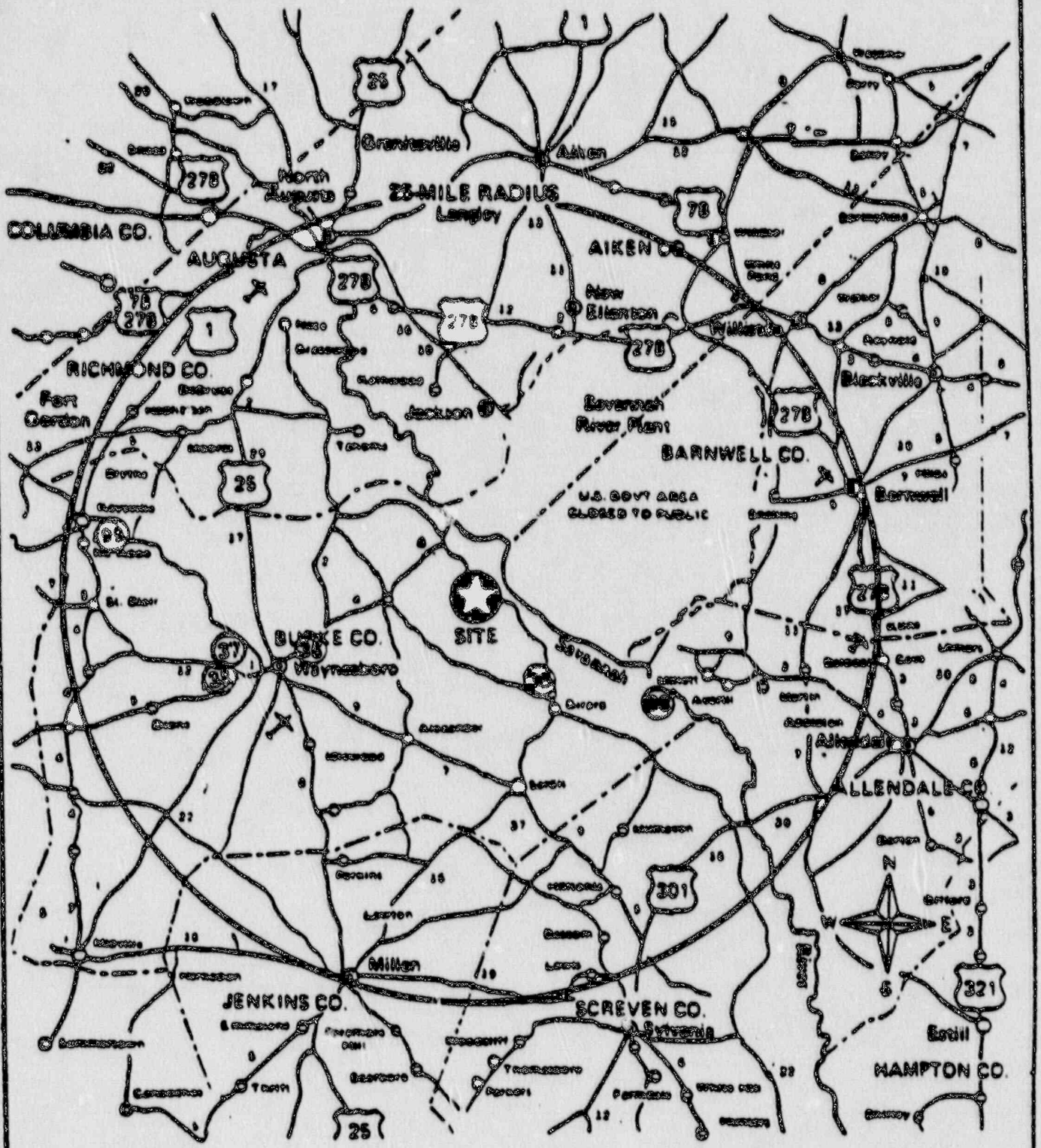


Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

TERRESTRIAL STATIONS BEYOND SITE BOUNDARY OUT TO APPROXIMATELY SIX MILES AND RIVER STATIONS

FIGURE 2-2



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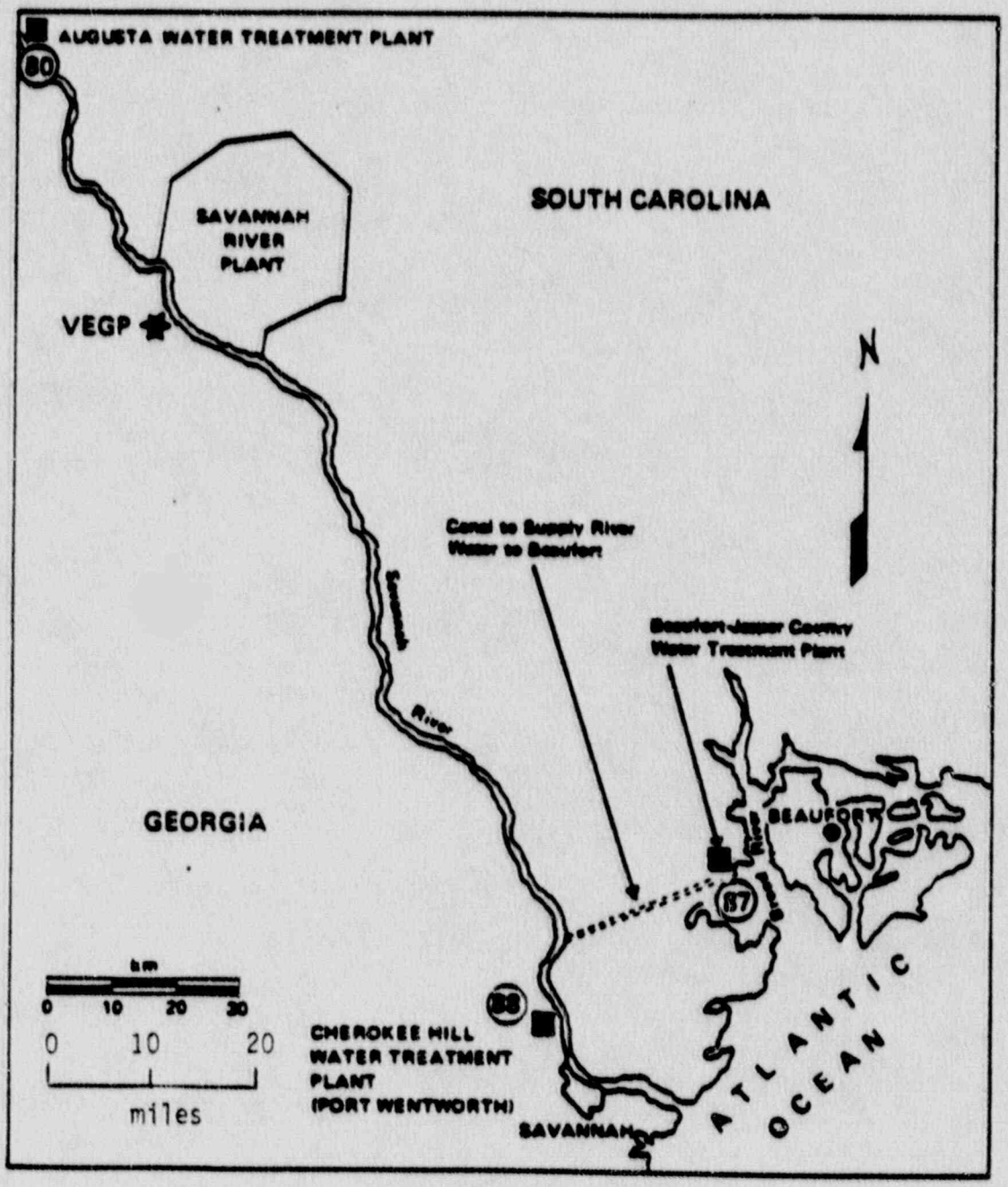
VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

TERRESTRIAL STATIONS
BEYOND 6 MILES

FIGURE 2-3

423-0



Georgia Power

VOGTLE
ELECTRIC GENERATING PLANT
UNIT 1 AND UNIT 2

DRINKING WATER STATIONS

FIGURE 2-4

433-9

3.0 RESULTS SUMMARY

In accordance with Section 6.8.1.3 of the TS, summarized and tabulated results of all of the regular radiological environmental samples and radiation measurements taken during the year at the designated indicator and control stations are presented in Table 3-1 in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November, 1979. Results for samples collected at locations other than indicator or control stations or in addition to those stipulated by Table 2-1 are included in Section 4, the discussion of results section, for the type sample.

Naturally occurring radionuclides which are not included in the plant's effluent releases are not required to be reported. Naturally occurring Be-7 is produced in the reactors; miniscule quantities are found in the liquid releases. No other naturally occurring radionuclides are known to be included in the plant's effluent releases. Hence, the radionuclides of interest for the radiological environmental samples monitoring liquid releases (river water, drinking water, fish, sediment and aquatic vegetation) are manmade radionuclides plus Be-7, while only manmade radionuclides are of interest for the other radiological environmental samples.

TABLE 3-1 (SHEET 1 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
Airborne Particulates (fCi/m^3)	Gross Beta 306	10	19.1 5-40 (254/254)	No. 12 River Road 1.1 miles WSW	20.0 5-36 (49/49)	18.2 7-33 (52/52)	0
	Gamma Isotopic 24						
	Cs-134	50	NDM (c)		NDM	NDM	0
	Cs-137	60	NDM		NDM	NDM	0
Airborne Radioiodine (fCi/m^3)	I-131 308	70	NDM		NDM	NDM	0
Direct Radiation (mR/91 days)	Gamma Dose 71	NA (d)	17.9 10-25 (63/63)	No. 15 Han Lan Rd 1.5 miles NW	21.1 19-24 (4/4)	18.4 16-21 (8/8)	0

TABLE 3-1 (SHEET 2 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name, Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
Milk (pCi/l)	Gamma Isotopic 54						
	Cs-134	15	NA		NDM	NDM	0
	Cs-137	18	NA	No. 98 Dixon Dairy 9.8 miles SE	7.0 5.8-7.7 (3/27)	7.0 5.8-7.7 (3/54)	0
	Ba-140	60	NA		NDM	NDM	0
	La-140	15	NA		NDM	NDM	0
	I-131 53	1	NA		NDM	NDM	0
Grass (pCi/kg wet)	Gamma Isotopic 36						
	I-131	60	NDM		NDM	NDM	0
	Cs-134	60	NDM		NDM	NDM	0

TABLE 3-1 (SHEET 3 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
	Cs-137	80	9.7 9.7-9.7 (1/24)	No. 7 Simulator 1.7 miles SE	9.7 9.7-9.7 (1/12)	NDM	0
River Water (pCi/l)	Gamma Isotopic 36						
	Be-7	80 (e)	NDM		NDM	NDM	0
	Mn-54	15	NDM		NDM	NDM	0
	Fe-59	30	NDM		NDM	NDM	0
	Co-58	15	NDM		NDM	NDM	0
	Co-60	15	NDM		NDM	NDM	0
	Zn-65	30	NDM		NDM	NDM	0
	Zr-95	30	NDM		NDM	NDM	0
	Nb-95	15	NDM		NDM	NDM	0
	I-131	15	NDM		NDM	NDM	0

TABLE 3-1 (SHEET 4 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name, Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
	Cs-134	15	NDM		NDM	NDM	0
	Cs-137	18	NDM		NDM	NDM	0
	Ba-140	60	NDM		NDM	NDM	0
	La-140	15	NDM		NDM	NDM	0
	Tritium 8	3000	1293 1010-1590 (4/4)	No. 83 Downriver 0.3 miles	1293 1010-1590 (4/4)	538 281-770 (4/4)	0
Water Near Intakes to Water Treatment Plants (pCi/l)	Gross Beta 36	4	2.93 1.5-5.1 (24/24)	No. 88 Port Went Downriver 122 miles	3.19 2.3-5.1 (12/12)	3.05 2.2-5.2 (11/12)	0
	Gamma Isotopic 36						
	Be-7	80 (e)	NDM		NDM	NDM	0
	Mn-54	15	NDM		NDM	NDM	0
	Fe-59	30	NDM		NDM	NDM	0

TABLE 3-1 (SHEET 5 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name, Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
	Co-58	15	NDM		NDM	NDM	0
	Co-60	15	NDM		NDM	NDM	0
	Zn-65	30	NDM		NDM	NDM	0
	Zr-95	30	NDM		NDM	NDM	0
	Nb-95	15	NDM		NDM	NDM	0
	I-131 (f)	15	NDM		NDM	NDM	0
	Cs-134	15	NDM		NDM	NDM	0
	Cs-137	18	NDM		NDM	NDM	0
	Ba-140	60	NDM		NDM	NDM	0
	La-140	15	NDM		NDM	NDM	0
	Tritium 12	3000	2508 1490-3970 (8/8)	No. 88 Port Went Downriver 122 miles	2752 1650-3970 (4/4)	259 182-390 (4/4)	0

TABLE 3-1 (SHEET 6 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
Finished Water at Water Treatment Plants (pCi/l)	Gross Beta 36	4	2.36 1.4-3.6 (22/24)	No. 87 Beaufort Downriver 112 miles	2.51 1.4-3.6 (12/12)	2.38 1.4-3.6 (11/12)	0
	Gamma Isotopic 36						
	Be-7	80 (e)	NDM		NDM	NDM	0
	Mn-54	15	NDM		NDM	NDM	0
	Fe-59	30	NDM		NDM	NDM	0
	Co-58	15	NDM		NDM	NDM	0
	Co-60	15	NDM		NDM	NDM	0
	Zn-65	30	NDM		NDM	NDM	0
	Zr-95	30	NDM		NDM	NDM	0
	Nb-95	15	NDM		NDM	NDM	0
	Cs-134	15	NDM		NDM	NDM	0

TABLE 3-1 (SHEET 7 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
	Cs-137	18	NDM		NDM	NDM	0
	Ba-140	60	NDM		NDM	NDM	0
	La-140	15	NDM		NDM	NDM	0
	I-131 36	1	NDM		NDM	NDM	0
	Tritium 12	2000	2236 1320-2960 (8/8)	No. 87 Beaufort Downriver 112 miles	2325 1810-2960 (4/4)	259 179-390 (4/4)	0
Anadromous Fish (pCi/kg wet)	Gamma Isotopic 1						
	Be-7	100 (e)	NDM		NDM	NA	0
	Mn-54	130	NDM		NDM	NA	0
	Fe-59	260	NDM		NDM	NA	0
	Co-58	130	NDM		NDM	NA	0
	Co-60	130	NDM		NDM	NA	0
	Zn-65	260	NDM		NDM	NA	0

TABLE 3-1 (SHEET 8 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
	Cs-134	130	NDM		NDM	NA	0
	Cs-137	150	NDM		NDM	NA	0
Fish (pCi/kg wet)	Gamma Isotopic 9						
	Be-7	100 (e)	NDM		NDM	NDM	0
	Mn-54	130	NDM		NDM	NDM	0
	Fe-59	260	NDM		NDM	NDM	0
	Co-58	130	NDM		NDM	NDM	0
	Co-60	130	NDM		NDM	NDM	0
	Zn-65	260	NDM		NDM	NDM	0
	I-131	15 (e)	18 18-18 (1/4)	No. 85 Downriver 3 miles	18 18-18 (1/4)	NDM	0
	Cs-134	130	NDM		NDM	NDM	0
	Cs-137	150	117.3 32-280 (4/4)	No. 81 Upriver 2.2 miles	124.6 47-310 (5/5)	124.6 47-310 (5/5)	0

TABLE 3-1 (SHEET 9 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Lower Limit of Detection (a) (LLD)	All Indicator Locations Mean (b) Range (Fraction)	Location with Highest Annual Mean: Name Distance & Direction	Location with Highest Annual Mean: Mean (b) Range (Fraction)	Control Locations Mean (b) Range (Fraction)	Number of Nonroutine Reported Measurements
Sediment (pCi/kg dry)	Gamma Isotopic 4						
	Be-7	300 (e)	1300 1200-1400 (2/2)	No. 83 Downriver 0.7 miles	1300 1200-1400 (2/2)	415 270-560 (2/2)	0
	Mn-54	50 (e)	18 18-18 (1/2)	No. 83 Downriver 0.7 miles	18 18-18 (1/2)	NDM	0
	Co-58	25 (e)	135 130-140 (2/2)	No. 83 Downriver 0.7 miles	135 130-140 (2/2)	NDM	0
	Co-60	40 (e)	46 22-70 (2/2)	No. 83 Downriver 0.7 miles	46 22-70 (2/2)	NDM	0
	Cs-134	150	NDM		NDM	NDM	0
	Cs-137	180	230 210-250 (2/2)	No. 83 Downriver 0.7 miles	230 210-250 (2/2)	125 120-130 (2/2)	0

TABLE 3-1 (SHEET 10 OF 10)

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY
Vogtle Electric Generating Plant, Docket Nos. 50-424 & 50-425
Burke County, Georgia, Calendar Year 1989

TABLE NOTATIONS

a. The LLD is defined in table Notation 3 of Table 4.12-1 of the TS. Except as noted otherwise, the values listed in the column are those found in that table. In practice, the LLDs attained are generally much lower than the values listed.

b. Mean and range are based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis.

c. No Detectable Measurement(s).

d. Not Applicable.

e. The EL has determined that this value may be routinely attained. No value was provided in Table 4.12-1 of the TS.

f. Item 3b of Table 3.12-1 of the TS implies that an I-131 analysis is not required to be performed on these samples when the dose calculated from the consumption of water is less than 1 mrem per year.

4.0 DISCUSSION OF RESULTS

An interpretation and evaluation, as appropriate, of the laboratory results for each type sample are included in this section. Relevant comparisons were made between the difference in average values for indicator and control stations and the calculated Minimum Detectable Difference (MDD) between these two groups at the 99-percent confidence level. The MDD was determined using the standard Student's t-test. A difference in the average values which is less than the MDD is considered to be statistically indiscernible. Pertinent results were also compared with past results including preoperations. The results were examined to perceive any trends. To provide perspective, a result might also be compared with its LLD or Reporting Level (RL). Attempts were made to explain any RLs or other high radiological levels found in the samples. There were no failures in the laboratory analyses of each of the samples in attaining the LLDs required by Table 4.12-1 of the TS for this report period.

Unless otherwise indicated, any references made in this section to the results of a previous period will be results which have been purged of any obvious extraneous short term impacts. During preoperations these included the nuclear weapons tests in the fall of 1980, abnormal releases from the Savannah River Site (SRS) and the Chernobyl incident in the spring of 1986. During the part of 1987 after operations commenced, these included abnormal releases from SRS. There were no obvious extraneous short term impacts during CY 88 and CY 89. Also unless otherwise indicated, any references to CY 87 will be to the operations portion of 1987. The SRS was previously called the Savannah River Plant.

The annual land use census was conducted on April 10 and 11. The locations of the nearest milk animal, residence and garden of greater than 500 square feet producing broad leaf vegetation in each of the 16 meteorological sectors within a distance of 5 miles are tabulated in Table 4-1. Land within SRS was excluded from the census. Any consequences of the results of the land use census upon sample collections are discussed in Sections 4.3 and 4.4. The results of the annual survey conducted downstream of the plant to determine whether water from the Savannah River is being used for drinking or irrigation purposes are presented in Section 4.5.

TABLE 4-1

LAND USE CENSUS RESULTS

Distance in Miles to Nearest Locations in Each Sector

SECTOR	MILK ANIMAL	RESIDENCE	LEAFY GARDEN
N	*	*	*
NNE	*	*	*
NE	*	*	*
ENE	*	*	*
E	*	*	*
ESE	*	*	*
SE	*	4.3	*
SSE	*	4.6	*
S	*	4.5	*
SSW	*	4.6	*
SW	*	1.3	4.4
WSW	*	1.2	3.1
W	*	1.5	*
WNW	*	1.8	*
NW	*	1.8	*
NNW	*	1.6	*

* None within 5 miles and outside of SRS.

4.1 Airborne

As indicated by Tables 2-1 and 2-2, airborne particulates and airborne radioiodine are collected at 5 indicator stations (Nos. 3, 7, 10, 12, and 16) which encircle the site boundary, at a nearby community (No. 35) and at a control station (No. 36). At these locations, air is continuously drawn through a particulate filter and a charcoal canister in sequence to retain airborne particulates and to adsorb airborne radioiodine, respectively. The filters and canisters are collected weekly. Each of the air particulate filters is counted for gross beta activity. A gamma isotopic analysis is performed quarterly on a composite of the air particulate filters for each station. Each charcoal canister is analyzed for I-131 by gamma spectroscopy.

On four occasions, both the airborne particulate and radioiodine samples were deemed to be unacceptable due to a very low volume of air drawn through the filter and canister. When collecting the samples at Station 10 on June 6 and 13, the pump was found to be off; there did not appear to be a problem with the pump as it would restart easily; the pump was replaced on June 13. The power was found to be off at Station 12 on July 10 and 17; the fuse had blown on July 17; the problem was attributed to thunderstorms.

In addition to the above failures, the particulate samples collected on February 20 at Station 10 and on August 28 at Station 12 were also deemed unacceptable as in each case the filters had inadvertently been mounted off-center. Consequently, little dust had collected on the filters. Those who install the filters were reinstructed in the steps to be followed for proper installation.

As seen in Table 3-1, the average weekly gross beta activity during the year for the indicator stations was 0.9 fCi/m^3 greater than that for the control station. However, this difference is not discernable since it is less than the MDD which was calculated as 2.5 fCi/m^3.

The average weekly gross beta activity in units of fCi/m^3 for the indicator, community and control stations during CY 89 are compared below with those attained during previous years of operation, with the entire preoperational period (which began in September 1981 for the air monitoring stations) and with the range of annual averages during the calendar years of preoperations.

Group	CY 89	CY 88	CY 87	Preop Overall	Preop Ranges
Indicator	19.1	24.7	23.0	22.9	18.1-28.1
Community	18.8	22.8	22.3	21.9	19.3-25.5
Control	18.2	23.7	23.5	22.1	18.3-26.5

The average weekly readings for CY 89 are seen to be roughly 80% of that generally found during the previous years of operation and near the lower end of the range of annual averages for the years of preoperations. No trends were recognized in these data.

Like CY 88, no positive results for manmade radionuclides were found during CY 89 from the gamma isotopic analyses of the quarterly composites of the air particulate filters. During CY 87, Cs-137 was found in one indicator composite at a level of 1.7 fCi/m^3. During preoperations Cs-137 was found in an eighth of the indicator composites and a seventh of the control composites with average levels of 1.7 and 1.0 fCi/m^3, respectively. The required LLD is 60 fCi/m^3. Also, during preoperation Cs-134 was found in about 8% of the indicator composites; the average level was 1.2 fCi/m^3.

I-131 was not detected in any of the charcoal canisters during the year. There were no positive results during the previous years of operation. During preoperations, positive results were obtained only during the aftermath of the Chernobyl incident when levels as high as 182 fCi/m^3 were obtained. The maximum allowed LLD is 70 fCi/m^3; however, the LLD usually attained was about 30% of this value. The RL is 900 fCi/m^3.

4.2 Direct Radiation

Direct (external) radiation is measured by TLDs. A TLD badge is placed at each station; each badge contains 4 calcium sulfate TLD cards. Hence, each of the TLD badges consists of 4 dosimeters.

Two TLD stations are established in each of the 16 meteorological sectors about the plant. The inner ring of stations (Nos. 1 through 16) is located near the site boundary, while the outer ring (Nos. 17 through 32) is located at a distance of about 5 miles. The 16 stations forming the inner ring are designated as the indicator stations. The 2 control stations (Nos. 36 and 37) are well over 10 miles from the plant. Special interest areas consist of a nearby permanent residence (No. 33), the Town of Girard (No. 35), and the GPC employees' recreational area (No. 43).

Station 34, a special interest area station at 6.3 miles in the SSE sector, was discontinued at the end of CY 88 as the Girard Elementary School (adjacent to Station 34) closed at the end of the 87-88 school year. To enhance the statistical base for the control stations, consideration is being given to adding additional stations. During the third and fourth quarters, TLD badges were placed on a trial basis at a location 10.4 miles from the plant in the SE sector adjacent to the Oak Grove Church, and at a location 10.3 miles from the plant in the NW sector adjacent to the McBean Cemetery; these were designated as Stations 47 and 48, respectively.

Frequently, TLDs are lost due to theft and damaged due to vandalism. A total of 5 badges was found to be missing during the year. A sixth badge was lost in shipment to the contract laboratory.

As may be seen from Table 3-1, the average quarterly dose of 17.9 mR acquired at the indicator stations over the year was 0.5 mR less than that acquired at the control stations; this difference was not discernable, however, since it was less than the MDD of 2.5 mR. The average quarterly dose at the trial control stations No. 47 and No. 48 were 17.6 and 16.5 mR, respectively.

The quarterly doses acquired at the outer ring stations ranged from 9.9 to 26.4 mR with an average of 17.2 mR for the year which is 0.7 mR less than that found for the inner ring. There was no discernable difference between the averages for the inner and outer rings since this difference was less than the MDD of 1.3 mR.

The quarterly doses in units of mR acquired at the special interest areas were as follows.

Station No.	Average	Minimum	Maximum
33	21.2	19.9	22.6
35	18.7	16.8	20.4
43	17.4	13.9	19.8

The doses acquired at the special interest stations are seen to be somewhat typical and within the range of those acquired at the other stations.

Listed below for the indicator, control and outer ring stations, as well as for the special interest areas, are the average levels in units of mR/91 days obtained during each year of operations and the entire period of preoperations along with the ranges of annual averages obtained during the calendar years of preoperations.

Group	CY 89	CY 88	CY 87	Preop Overall	Preop Ranges
Indicator	17.9	16.8	17.6	15.3	15.1 - 16.9
Control	18.4	16.1	17.9	16.5	14.1 - 18.2
Outer Ring	17.2	16.0	16.7	14.7	12.5 - 16.2
No. 33	21.2	19.7	21.3	16.6	13.6 - 19.9
No. 34		18.4	20.1	15.1	12.5 - 18.1
No. 35	18.7	18.1	18.5	15.1	12.6 - 17.6
No. 43	17.4	14.8	15.2	15.3	13.9 - 25.0

Overall, the doses for CY 89 were roughly 4% greater than those found during previous years of operation and nearly 17% greater than those found during preoperations. No trend is recognized in these data, however.

4.3 Milk

As indicated by Tables 2-1 and 2-2, milk is collected biweekly from two control stations, Dixon Dairy (No. 98) and the Boyceland Dairy (No. 99). Gamma isotopic and I-131 analyses were performed on each sample.

Milk has not been available from an indicator station (a location within 5 miles of the plant) since April 1986 when the cow from which milk was being obtained went dry and was subsequently removed from the area. As indicated by Table 4-1, no milk animals were found in the land use census. The availability of milk within 5 miles of the plant was meager throughout preoperations. A milk animal is a cow or goat producing milk for human consumption.

The only manmade radionuclide found during CY 89 from the gamma isotopic analysis of the milk samples was Cs-137. Listed below are the average, minimum and maximum levels in units of pCi/l for the control stations along with the fraction of detectable measurements during preoperations and each year of operations.

Period	Average	Minimum	Maximum	Fraction
Preoperations	18.0	9.0	27.0	7/194
CY 87	10.4	9.9	10.8	2/39
CY 88	6.9	4.9	8.1	3/52
CY 89	7.0	5.8	7.7	3/54

Although the fraction of detectable measurements during operations is more than 50% greater than that during preoperations, the average level has become less than 40% of that during preoperations. The LLD and RL as required by the TS are 18 and 70 pCi/l, respectively. All but two of the 15 positive results were obtained from samples collected at Dixon Dairy; these two were collected at Boyceland Dairy, one during preoperations and the other during CY 87.

A positive I-131 level of 0.81 pCi/l with an uncertainty of 0.26 pCi/l at the 95% confidence level and with a maximum detectable activity (MDA) of 0.61 pCi/l was found in the sample collected on May 23 at Boyceland Dairy. An investigation of these analyses, and other related analyses for the same time period, indicated the strong likelihood that the samples had been cross contaminated in the laboratory from glassware used to prepare I-131 Standards. For this reason, these results are not considered valid and are not shown in Table 3-1. To diminish the probability of a recurrence, laboratory personnel were reminded not to use the same glassware to process standards and samples. The glassware for standards is to be labeled "For Standard Use Only".

I-131 was not detected in any other milk sample during the year, nor has I-131 been detected otherwise in milk samples during operations. During preoperations, I-131 was detected only during the Chernobyl incident. The LLD and RL required by the TS are 1 and 2 pCi/l, respectively.

4.4 Vegetation

The TS call for the gamma isotopic analysis of grass or leafy vegetation collected monthly from two onsite locations near the site boundary in different meteorological sectors (Stations 7 and 15) and one control location at about 15 or more miles from the plant (Station 37). Grass is collected at each of these locations.

No gardens were found in the land use census where the calculated dose commitment would be 20% greater than that of either of the indicator stations at which vegetation is being sampled.

As indicated in Table 3-1, Cs-137 was the only manmade radionuclide detected; it was detected only in one sample which had been collected at an indicator station. The average level of Cs-137 found in vegetation samples in units of pCi/kg wet along with the fraction of detectable measurements at the indicator and control stations is shown below for the period of preoperations and each year of operations.

	Indicator Stations		Control Stations	
Period	Average	Fraction	Average	Fractions
Preoperations	54.6	0.573	4.37	0.193
CY 87	24.4	0.318	61.5	0.250
CY 88	38.7	0.280	0.0	0.000
CY 89	9.7	0.042	0.0	0.000

These data show an overall downward trend in both the average level and the fraction of detectable measurements. The LLD and RL are respectively 60 and 2000 pCi/kg wet.

4.5 River Water

Surface water is composited from the Savannah River at three locations using ISCO automatic samplers. Small quantities of river water are collected at intervals not exceeding a few hours. River water collected by these machines is picked up monthly; quarterly composites are made up from the monthly collections. The collection points consist of a control station (No. 82) which is located about 0.3 miles upriver of the plant intake structure, an indicator station (No. 83) which is located about 0.3 miles downriver of the plant discharge structure and a special station (No. 84) which is located about 1.4 miles downriver.

A gamma isotopic analysis was made on each monthly collection. Like CY 87 and CY 88, there were no radionuclides of interest detected in CY 89.

A tritium analysis was performed on each quarterly composite. A positive result was obtained from each analysis. As indicated in Table 3-1, the average level of 1293 pCi/l found at the indicator station is 755 pCi/l greater than that at the control station; this difference is discernable because it is greater than the MDD of 518 pCi/l. There was also a discernable difference in the tritium level between these two stations in CY 88. At the special station (No. 84), the results ranged from 905 to 1780 pCi/l with an average of 1269 pCi/l. The LLD is 3000 pCi/l and the RL is 10 times greater.

Listed below for each year of operations are the average tritium levels found at the control, indicator and special stations, the difference between the average values at the indicator and control stations (L_i-L_c), the MDD between these two stations and the annual liquid releases of tritium from the plant. All of these values are in units of pCi/l except for the releases which are in units of Ci.

Item	CY 87	CY 88	CY 89
Control Station	524	427	538
Indicator Station	680	843	1293
Special Station	1411	1430	1268
L_i-L_c	156	416	755
MDD	416	271	518
Releases	321	390	916

These data show an upward trend for the levels at the indicator station and some correlation between (L_i-L_c) and plant releases. The releases are sufficient to account for the increased concentration of tritium at the indicator station. The CY 89 level at the indicator station is modest in comparison to those which have generally been found further downstream on the river during the past three decades or so. It is shown in Table 3-1 that the average tritium levels at the intakes for the indicator water treatment plants which are more than a hundred miles

downriver are nearly twice the level for the indicator station shown above. The annual organ dose that the maximum exposed individual (a child) would receive from drinking water with an average tritium concentration of 755 pCi/l was conservatively calculated to be 0.078 mrem or 0.78% of the TS limit.

On September 26 the annual survey of the Savannah River was conducted downriver of the plant for approximately 130 river miles to identify any parties who may use river water for purposes of drinking or irrigation. The only parties found to be withdrawing river water for drinking purposes were the two downriver water treatment plants (Stations 87 and 88) from which samples are collected monthly. As in all previous surveys, no intakes for irrigation use were observed. On September 22, the survey results were corroborated by contacting the Environmental Protection Division of the Georgia Department of Natural Resources and the South Carolina Department of Health and Environmental Control; it was found that no new surface or drinking water withdrawal permits had been issued for the Savannah River during the previous 12 months.

4.6 Drinking Water

Samples were collected at a control station (No. 80), the Augusta Water Treatment Plant in Augusta, Georgia, which is located about 56 miles upriver and at two indicator stations (Nos. 87 and 88), the Beaufort-Jasper County Water Treatment Plant near Beaufort, South Carolina and the Cherokee Hill Water Treatment Plant near Port Wentworth, Georgia, which are respectively located about 112 and 122 miles downriver. These upriver and downriver distances in river miles are the distances from VEGP to the point in the river where water is diverted to the intake for each of these water treatment plants.

At each of the water treatment plants, monthly collections were made of riverwater which was composited near the plant's intake (raw drinking water) and of grab samples of finished drinking water; quarterly composites are made up from the monthly collections. Gross beta and gamma isotopic analyses were performed on each of the samples collected monthly. Tritium analyses were performed on the quarterly composites. Although an I-131 analysis is not required to be performed on these samples when the dose calculated from the consumption of water is less than 1 mrem per year (see Item 3b of Table 4.12-1 of the TS), an I-131 analysis was performed on each of the grab samples of finished water collected monthly since a drinking water pathway exists.

As indicated by Table 3-1, the average gross beta activity for raw drinking water was 0.12 pCi/l greater for the control station than for the indicator stations. However, this difference was not discernable because it was less than the MDD of 0.85 pCi/l. For finished drinking water, the average gross beta activity was 0.02 pCi/l greater for the control stations than for the indicator station. This difference was not discernable because it was less than the MDD of 0.57 pCi/l.

There were no positive results for the radionuclides of interest from the gamma isotopic analyses of the monthly collections. Only one positive result has been found since operations began; Be-7 at a level of 68.2 pCi/l was found in the sample collected for September 1987 at Beaufort.

Positive results were obtained from the tritium analysis of each of the quarterly composites. Furthermore, there was a discernable difference between the average tritium values for the two type stations for both the raw and finished drinking water since these differences were each greater than their MDDs. As indicated by Table 3-1, the average values of the tritium levels for the indicator stations were 2249 and 1977 pCi/l greater than those for the control station for raw and finished drinking water, respectively; the MDDs were correspondingly 1000 and 627 pCi/l. Similar results were obtained during all previous years of operation and during preoperations.

Each result for the I-131 analysis of the finished drinking water samples was below its MDA which ranged from 0.21 to 0.75 pCi/l. Similar results were obtained in CY 88. The TS call for a LLD and a RL of 1 and 2 pCi/l, respectively.

4.7 Fish

The TS call for the collection of at least one sample of any anadromous species of fish in the vicinity of the plant discharge during the spring spawning season. The TS also call for semiannual collections of any commercially or recreationally important species in the vicinity of the plant discharge area and in areas not influenced by plant discharges. Furthermore, the TS call for a gamma isotopic analysis on the edible portions of each sample collected.

About a five mile stretch of the river is generally needed to obtain adequate fish samples. For the semiannual collections, the control station (No. 81) extends from approximately 2 to 7 miles upriver of the plant intake structure and the indicator station (No. 85) extends from about 1.5 to 7 miles downriver of the plant discharge structure. For the anadromous species all collection points can be considered as indicator stations.

On March 27, American shad, an anadromous species, was collected at Station 85. Like CY 88 no positive results for the radionuclides of interest were obtained from the gamma isotopic analysis. In CY 87, Cs-137 was found in one of the three shad collected at a barely detectable level of 10 pCi/kg wet. The LLD and RL for Cs-137 in fish as specified by the TS are 150 and 2000 pCi/kg wet, respectively.

On April 24 and October 23, the composition of the catches were as follows:

Date	Station 82	Station 85
April 24	Large Mouth Bass Red Ear Sunfish	Large Mouth Bass Red Ear Sunfish
October 23	Chain Pickerel Large Mouth Bass Red Ear Sunfish	Chain Pickerel Large Mouth Bass Red Ear Sunfish

As indicated in Table 3-1, I-131 and Cs-137 were the only radionuclides of interest found in the semiannual collections of commercially or recreationally important species; since operations began, positive results had only been found for Cs-137.

A positive I-131 level of 18 pCi/kg wet with an uncertainty of 11 pCi/kg wet at the 95% confidence level was found in one of the two samples collected at the indicator station in October. The LLD assigned for I-131 in fish is 15 pCi/kg wet. The annual thyroid dose that the maximum exposed individual (an adult) would receive from eating fish with an average I-131 concentration of 18 pCi/kg is 0.737 mrem or 7.37% of the TS limit.

Actual releases of I-131 to the river totaled 0.631 mCi for the year. Conservative calculations of radioactivity in fish that might result from these actual releases correspond to a level of 0.718 pCi/kg or about 4% of the one sample. In addition, aquatic vegetation samples, discussed in section 4.9 of this report, indicate other sources of radioiodines exist. Since the measured levels of I-131 do not correllate with actual release data, and there are indications that other sources of I-131 besides Plant Vogtle exist, we do not believe these fish results are the result of plant operations.

It can be seen from Table 3-1, that the average level for Cs-137 at the indicator station of 117.3 pCi/kg wet is 7.3 pCi/kg less than that at the control station. This difference is not discernable since it is less than the MDD of 219 kCi/kg wet. Since operations began, positive values for Cs-137 have been found in all but one (an indicator sample in CY 87) of the 25 samples collected. The levels found in CY 89 are typical of those found in the previous years.

4.8 Sediment

Sediment was collected along the shoreline of the Savannah River on April 4 and October 23 at Stations 81 and 83. Station 81 is a control station located about 2.3 miles upriver of the plant intake structure at RM 153.2 while Station 83 is an indicator station located about 0.7 miles downriver of the plant discharge structure at RM 150.2. The indicator sample for October was collected at RM 149.5. A gamma isotopic analysis was performed on each sample.

As in all previous years of operation, positive readings for Be-7 and Cs-137 were found in each sample and the readings were on the same order as found in those years. For Be-7, the average reading of 1300 pCi/kg dry for the indicator station is 885 pCi/kg dry greater than that for the control station; there is no discernable difference, however, since this difference is less than the MDD of 1227 pCi/kg dry. For Cs-137 the average reading of 230 pCi/kg dry for the indicator station is 105 pCi/kg dry greater than that for the control station; there is no discernable difference since this difference is less than the MDD of 144 pCi/kg dry.

Also indicated in Table 3-1 is the presence of the activation products, Mn-54, Co-58 and Co-60 at the downriver station. Each of these radionuclides were found at slightly lower levels than in CY 88.

The radiological impact due to the readings of Mn-54, Co-58 and Co-60 in the shoreline sediment was assessed by calculating the whole body dose by direct radiation (from the sediment) to an individual using the methodology and parameters of Regulatory guide 1.109, Revision 1, October 1977 and comparing this dose with that permitted by Section 3.11.1.2.b of the TS (3 mrem per year). The theoretical dose was determined to be .0026 mrem per year or 0.087% of the TS limit. This dose is nearly 30% lower than that calculated for last year. This extremely low dose, although calculable, poses no measurable negative environmental or public health impact.

4.9 Aquatic Vegetation

On six occasions during the year, a sample of aquatic vegetation (egeria densa) but commonly known as water weed, was collected on a trial basis at both a downriver indicator station and an upriver control station to determine the suitability of its use as an environmental sample to monitor any radiological impact due to liquid release. This vine-like densely foliaged plant grows underwater at depths of 3 meters or less and acts somewhat like a filter. Gamma isotopic analyses were performed on each sample.

For the first collection, the indicator station was located at RM 149.7 and the control stations at RM 151. Subsequently, the indicator station was at the GPC landing which is located at approximately RM 149.5 and the control station at Hancock Landing which is located at approximately RM 151.7.

The results in units of pCi/kg wet are summarized in Table 4-2. To be noted is the presence of positive results for Mn-54, Co-58 and Co-60 at the indicator station and the absence of these radionuclides at the control station; this tends to support the suggestion that the presence of these radionuclides in sediment samples at the indicator station is due to plant releases. Also, the presence of I-131 at the control station and its absence at the indicator station supports the contention that the presence of I-131 in a fish sample collected at the indicator station is not due to plant releases.

It may also be seen from Table 4-2 that the average reading of 219.4 pCi/kg wet for Be-7 at the control station is 56.2 pCi/kg wet greater than that for the indicator station; this difference is not discernable since it is less than its MDD of 178.1 pCi/kg wet. Similarly, the average reading of 19.0 pCi/kg wet for Cs-137 at the control station is 3.3 pCi/kg wet greater than that for the indicator station; the difference is not discernable since it is less than its MDD of 40.5 pCi/kg wet.

It appears that water weed would be a suitable radiological environmental monitoring sample.

TABLE 4-2

RESULTS SUMMARY FOR AQUATIC VEGETATION

Radionuclide	LLD[a]	Indicator Station Mean	Indicator Station Range	Indicator Station Fraction	Control Station Mean	Control Station Range	Control Station Fraction
Be-7	150	163.3	130-218	4/6	219.4	85-391	5/6
Mn-54	15	58.1	29-145	4/6	NDM		0/6
Co-58	15	39.8	24-68	5/6	NDM		0/6
Co-60	15	43.1	43-43	1/6	NDM		0/6
I-131	30	NDM		0/6	15.5	14-17	2/6
Cs-137	20	15.7	9-23	2/6	19.0	13-30	3/6

Table Notation

a. The EL has determined that these values may be routinely attained.

5.0 Interlaboratory Comparison Program

Section 3.12.3 of the TS requires that analyses shall be performed on radioactive materials supplied as part of an Interlaboratory Comparison Program that has been approved by the Nuclear Regulatory Commission (NRC). The Environmental Protection Agency's (EPA's) Environmental Radioactivity Laboratory Intercomparison Studies (Crosscheck) Program conducted by the Environmental Monitoring and Support Laboratory in Las Vegas, Nevada provides such a program and the EL participates in the program. Reported herein, are only those results where the type analysis and sample in the EPA Crosscheck Program are the same as that delineated in Table 2-1.

The crosscheck program was designed for laboratories involved with REMPs; the program involves environmental media and a variety of radionuclides with activities at or near environmental levels. Participation in the program ensures that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of a quality assurance program to demonstrate that the results are reasonably valid.

Simulated environmental samples are distributed regularly to the participants who analyze the samples and return the results to the EPA for statistical analysis and comparisons with known values and with results obtained from other participating laboratories. The crosscheck program thus provides each participant with documentation on the precision and accuracy of its performance; the program helps in indicating instrument or procedural problems; the program also provides each participant with a comparison of its performance to that of other laboratories.

The EL performed the analyses called for by the program on each sample provided by the EPA. Analyses were performed in a normal manner. Each sample was analyzed in triplicate as required by the program. Table 5-1 provides a summary of the relevant results of the EL's participation in the program.

The results listed in Table 5-1 were obtained: from the gross beta and gamma isotopic analyses of air filters; from the gamma isotopic analysis of a milk sample; and from the gross beta, tritium, gamma isotopic and I-131 analyses of water samples. Not shown in Table 5-1 are the results from the gross beta analysis on the air filters collected on August 25 and the I-131 analysis on the milk sample collected on April 28. The EPA invalidated the gross beta results on the air filters for the August 25 collection for all participants due to problems they had with I-131 in these air filters. The EPA also invalidated the results of the I-131 analysis of the milk samples collected on April 28 for all participants as the activity placed in the sample by the EPA was much less than the activity routinely measured by most of the participants.

TABLE 5-1 (SHEET 1 OF 2)

CROSSCHECK PROGRAM RESULTS

Analysis	Date Collected	Known Value	Expected Precision	Reported Average	Standard Deviation	Normalized Deviation	Normalized Range
				Air Filters (pCi/filter)			
Gross Beta	3/31/89	62.0	5.0	63.33	0.58	0.46	0.12
Cs-137	3/31/89	20.0	5.0	25.67	0.58	1.96	0.12
	8/25/89	10.0	5.0	9.33	0.58	-0.23	0.12
				Milk (pCi/l)			
Cs-137	4/28/89	50.0	5.0	49.00	2.00	-0.35	0.47
				Water (pCi/l)			
Gross Beta	1/20/89	4.0	5.0	3.00	0.00	-0.35	0.00
	4/18/89	57.0	5.0	52.67	1.15	-1.50	0.24
	5/12/89	50.0	5.0	46.00	2.00	-1.39	0.47
	9/22/89	6.0	5.0	6.00	0.00	0.00	0.00
	10/31/89	32.0	5.0	35.67	1.53	1.27	0.36
H-3	2/24/89	2754.0	356.0	2696.67	90.74	-0.28	0.28
	6/23/89	2754.0	356.0	2696.67	90.74	-0.28	0.28
	10/20/89	3496.0	364.0	3240.00	120.00	-1.22	0.39
Cr-51	2/10/89	235.0	24.0	217.67	13.01	-1.25	0.64
Co-60	2/10/89	10.0	5.0	9.67	58	-0.12	0.12
	6/09/89	31.0	5.0	28.33	1.53	-0.92	0.36
	10/06/89	30.0	5.0	31.33	1.53	0.46	0.36

TABLE 5-1 (SHEET 2 OF 2)

CROSSCHECK PROGRAM RESULTS

Analysis	Date Collected	Known Value	Expected Precision	Reported Average	Standard Deviation	Normalized Deviation	Normalized Range
Ru-106	2/10/89	178.0	18.0	171.00	17.69	-0.67	1.29
	6/09/89	128.0	13.0	112.00	13.89	-2.13	1.26
	10/06/89	161.0	16.0	140.67	35.23	-2.20	3.88
Cs-134	2/10/89	10.0	5.0	9.67	2.08	-0.12	0.47
	4/18/89	20.0	5.0	20.00	1.73	0.00	0.36
	6/09/89	39.0	5.0	38.00	2.00	-0.35	0.47
	10/06/89	29.0	5.0	29.33	5.03	0.12	1.35
	10/31/89	5.0	5.0	4.67	0.58	-0.12	0.12
Cs-137	2/10/89	10.0	5.0	10.67	2.89	0.23	0.59
	4/18/89	20.0	5.0	18.67	4.16	-0.46	0.95
	6/09/89	20.0	5.0	20.67	1.53	0.23	0.36
	10/06/89	59.0	5.0	62.67	3.21	1.27	0.71
	10/31/89	5.0	5.0	5.33	0.58	0.12	0.12
Ba-133	6/09/89	49.0	5.0	45.33	2.31	-1.27	0.47
	10/06/89	59.0	6.0	51.33	4.51	-2.21	0.89
I-131	8/04/89	83.0	8.0	80.67	3.79	-0.51	0.52

The acceptance criteria used by the EL are warning limits and control limits defined as the 95% and 99% confidence levels, respectively, for both the normalized deviation and the normalized range. The normalized deviation is a measure of the accuracy of the data. The normalized range is a measure of the precision of the data. Results are evaluated for trends and out of control limit conditions.

It is noted from Table 5-1 that the normalized range for Ru-106 in the water sample collected on October 6 exceeded the control limit. It was also noted that the Ru-106 and Ba-133 results in water samples exhibited evidence of negative bias. Evaluation of these analyses demonstrate that bias and precision are not due to sample preparation, instrument quality control or instrument calibration. The decay schemes for Ru-106 and Ba-133 suggest possible negative bias due to summing losses from analytical peaks. Corrections for losses due to summing are being evaluated.

In past years, the NRC's "Criteria for Comparing Analytical Measurements" was used in this report to determine agreement with known values. It was decided to adopt the more restrictive criteria, described above, that was already being employed by the EL.

6.0 CONCLUSIONS

This report has shown the licensee's conformance with Section 3/4.12 of the TS during the year. It has shown that all data were carefully examined. A summary and a discussion of the results of the laboratory analyses for each type sample collected were presented.

No measurable radiological impact upon the environment as a consequence of plant discharges to the atmosphere was established. Although low levels of tritium in river water samples and of Mn-54, Co-58 and Co-60 in sediment samples were found downriver of the plant, and their presence might (at least partially) be due to liquid effluents from the plant, evaluations show they pose no measurable negative impact upon the environment or public health.

An aquatic vegetation plant collected during the year on a trial basis shows promise as a radiological environmental sample for monitoring liquid releases.

The results of the EL's participation in an Interlaboratory Comparison Program were presented. One result exceeded a control limit, an investigation was made, corrective actions are being evaluated.

V

GEORGIA POWER COMPANY

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1 AND UNIT 2

NRC DOCKET NOS. 50-424 AND 50-425

FACILITY OPERATING LICENSE NOS. NPF-68 AND NPF-81

ANNUAL ENVIRONMENTAL OPERATING REPORT FOR 1989
(NONRADIOLOGICAL)

VOGTLE ELECTRIC GENERATING PLANT - UNIT 1 AND UNIT 2
ANNUAL ENVIRONMENTAL OPERATING REPORT (NONRADIOLOGICAL)
1989

SPECIFICATION

In accordance with Section 5.4.1 of the Vogtle Electric Generating Plant Environmental Protection Plan (Nonradiological), Appendix B to Facility Operating License Nos. NPF-68 and NPF-81, this report is submitted describing implementation of the Environmental Protection Plan for the calendar year 1989.

REPORTING REQUIREMENTS

A. Summaries and Analyses of the Results of the Environmental Monitoring Activities for the Report Period

1. Aquatic Monitoring - Liquid effluent monitoring was performed in accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. GA0026786; there was no additional requirement for aquatic monitoring during 1989.

2. Terrestrial Monitoring - Not required.

3. Maintenance of Transmission Line Corridors

a. There was no herbicide use within the VEGP transmission line corridors during 1989.

b. There were no clearing or maintenance-related activities within the Ebenezer Creek or Francis Plantation areas during 1989.

c. Routine maintenance activities within the designated cultural properties along transmission line corridors were conducted in accordance with the Final Cultural Resource Management Plan.

4. Noise Monitoring - There were no complaints received by Georgia Power Company during 1989 regarding noise along the VEGP-related high voltage transmission lines.

B. Comparison of the 1989 Monitoring Activities with Preoperational Studies, Operational Controls, and Previous Monitoring Reports

These comparisons were not required because no nonradiological environmental monitoring programs were conducted during the reporting period beyond those performed in accordance with the NPDES Permit No. GA0026786 referenced in Section A above.

C. An Assessment of the Observed Impacts of Plant Operation on the Environment

There was no significant adverse environmental impact associated with plant operation during 1989.

D. Environmental Protection Plan (EPP) Noncompliances and Corrective Actions

There were no EPP noncompliances during 1989.

E. Changes in Station Design or Operation, Tests, and Experiments Made in Accordance with EPP Section 3.1 which Presented Significant Environmental Impact or Involved a Potentially Significant Unreviewed Environmental Question

There were no changes in station design or operation, tests, or experiments during 1989 which presented signficant environmental impact or involved a potentially significant unreviewed environmental question.

F. Nonroutine Reports Submitted in Accordance with EPP Subsection 5.4.2

There were no nonroutine reports submitted during 1989.