

**Mark J. Ajluni, P.E.**  
Nuclear Licensing Director

**Southern Nuclear  
Operating Company, Inc.**  
40 Inverness Center Parkway  
Post Office Box 1295  
Birmingham, Alabama 35201  
  
Tel 205.992.7673  
Fax 205.992.7885



October 13, 2011

Docket Nos.: 50-321  
50-366

NL-11-2038

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant Units 1 and 2  
Supplement to Licensing Amendment Request for Adoption of TSTF -425 -A,  
Rev. 3, Risk -Informed Justification for the Relocation of Specific Frequency  
Requirements to a Licensee Controlled  
Program Using the Consolidated Line Item Improvement Process

Ladies and Gentlemen:

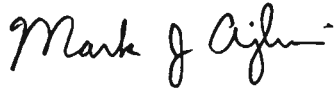
By letter dated October 29, 2010, supplemented by letters dated February 21, 2011 and May 27, 2011, Southern Nuclear Operating Company (SNC) submitted a license amendment request to relocate specific surveillance frequencies listed in the Technical Specifications (TS) for Unit 1 and Unit 2 of Edwin I. Hatch Nuclear Plant (HNP) with the implementation of Nuclear Energy Institute (NEI) 04-10, Revision 1 "Risk -Informed Technical Specification Initiative 5b, Risk - Informed Method of Control of Surveillance Frequencies" (TSTF 425).

On August 28, 2008 the Nuclear Regulatory Commission (NRC) approved the implementation of an alternative source term (AST) for HNP Units 1 and 2 as described in Amendments 256 and 200, respectively. The NRC amendments require specific actions to be performed by SNC prior to the incorporation of AST into the HNP TS. During the development of the license amendment request for TSTF 425, AST had not been incorporated into the HNP TS and, consequently, the TSTF 425 TS Marked Up pages did not reflect AST. SNC is submitting the AST inclusive TSTF 425 TS Marked Up pages for HNP Units 1 and 2 (Enclosures 1 and 2).

Mr. M. J. Ajluni states he is Nuclear Licensing Director of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.


This letter contains no NRC commitments. If you have any questions, please contact Jack Stringfellow at (205) 992-7037.

Respectfully submitted,



M. J. Ajluni  
Nuclear Licensing Director

Sworn to and subscribed before me this 13<sup>th</sup> day of October, 2011.

  
Notary Public

My commission expires: 6/9/12

MJA/SYA/

Enclosures:

1. Edwin I. Hatch Unit 1 Technical Specification Marked-Up Pages
2. Edwin I. Hatch Unit 2 Technical Specification Marked-Up Pages

cc: Southern Nuclear Operating Company  
Mr. S. E. Kuczynski, Chairman, President & CEO  
Mr. J. T. Gasser, Executive Vice President  
Mr. D. R. Madison, Vice President – Hatch  
Ms. P. M. Marino, Vice President – Engineering  
RType: CHA02.004

U. S. Nuclear Regulatory Commission  
Mr. V. M. McCree, Regional Administrator  
Mr. E. D. Morris, Senior Resident Inspector – Hatch  
Mr. William Gleaves, NRR Project Manager

State of Georgia  
Mr. Allen Barnes, Environmental Director Protection Division

**Edwin I. Hatch Nuclear Plant Units 1 and 2  
Supplement to Licensing Amendment Request for Adoption of TSTF -425 -  
A, Rev. 3, Risk -Informed Justification for the Relocation of Specific  
Frequency Requirements to a Licensee Controlled  
Program Using the Consolidated Line Item Improvement Process**

**Enclosure 1**

**Edwin I. Hatch Unit 1 Technical Specification Marked-Up Pages**

## TABLE OF CONTENTS

---

<b>1.0</b>	<b><u>USE AND APPLICATION</u></b> .....	1.1-1
1.1	Definitions .....	1.1-1
1.2	Logical Connectors.....	1.2-1
1.3	Completion Times .....	1.3-1
1.4	Frequency .....	1.4-1
<b>2.0</b>	<b><u>SAFETY LIMITS (SLs)</u></b> .....	2.0-1
2.1	SLs.....	2.0-1
2.2	SL Violations .....	2.0-1
<b>3.0</b>	<b><u>LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY</u></b> .....	3.0-1
	<b><u>SURVEILLANCE REQUIREMENT (SR) APPLICABILITY</u></b> .....	3.0-3
<b>3.1</b>	<b><u>REACTIVITY CONTROL SYSTEMS</u></b> .....	3.1-1
3.1.1	SHUTDOWN MARGIN (SDM).....	3.1-1
3.1.2	Reactivity Anomalies .....	3.1-4
3.1.3	Control Rod OPERABILITY .....	3.1-5
3.1.4	Control Rod Scram Times .....	3.1-9
3.1.5	Control Rod Scram Accumulators .....	3.1-12
3.1.6	Rod Pattern Control.....	3.1-15
3.1.7	Standby Liquid Control (SLC) System .....	3.1-17
3.1.8	Scram Discharge Volume (SDV) Vent and Drain Valves .....	3.1-2223
<b>3.2</b>	<b><u>POWER DISTRIBUTION LIMITS</u></b> .....	3.2-1
3.2.1	AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) .....	3.2-1
3.2.2	MINIMUM CRITICAL POWER RATIO (MCPR) .....	3.2-2
3.2.3	LINEAR HEAT GENERATION RATE (LHGR).....	3.2-4
<b>3.3</b>	<b><u>INSTRUMENTATION</u></b> .....	3.3-1
3.3.1.1	Reactor Protection System (RPS) Instrumentation .....	3.3-1
3.3.1.2	Source Range Monitor (SRM) Instrumentation .....	3.3-10
3.3.2.1	Control Rod Block Instrumentation .....	3.3-15
3.3.2.2	Feedwater and Main Turbine Trip High Water Level..... Instrumentation	3.3-2021
3.3.3.1	Post Accident Monitoring (PAM) Instrumentation.....	3.3-2223
3.3.3.2	Remote Shutdown System .....	3.3-2526

(continued)

**TABLE OF CONTENTS (continued)**

---

**3.3 INSTRUMENTATION (continued)**

3.3.4.1 End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation..... 3.3-27  
3.3.4.2 Anticipated Transient Without Scram Recirculation  
Pump Trip (ATWS-RPT) Instrumentation..... 3.3-30  
3.3.5.1 Emergency Core Cooling System (ECCS) Instrumentation ..... 3.3-33  
3.3.5.2 Reactor Core Isolation Cooling (RCIC) System Instrumentation..... 3.3-43  
3.3.6.1 Primary Containment Isolation Instrumentation ..... 3.3-47  
3.3.6.2 Secondary Containment Isolation Instrumentation..... 3.3-55  
3.3.6.3 Low-Low Set (LLS) Instrumentation..... 3.3-58  
3.3.7.1 Main Control Room Environmental Control (MCREC) System  
Instrumentation..... 3.3-62  
3.3.8.1 Loss of Power (LOP) Instrumentation..... 3.3-64  
3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring ..... 3.3-67

**3.4 REACTOR COOLANT SYSTEM (RCS)..... 3.4-1**

3.4.1 Recirculation Loops Operating ..... 3.4-1  
3.4.2 Jet Pumps ..... 3.4-4  
3.4.3 Safety/Relief Valves (S/RVs)..... 3.4-6  
3.4.4 RCS Operational LEAKAGE..... 3.4-8  
3.4.5 RCS Leakage Detection Instrumentation..... 3.4-10  
3.4.6 RCS Specific Activity ..... 3.4-12  
3.4.7 Residual Heat Removal (RHR) Shutdown Cooling System -  
Hot Shutdown ..... 3.4-14  
3.4.8 Residual Heat Removal (RHR) Shutdown Cooling System -  
Cold Shutdown ..... 3.4-16  
3.4.9 RCS Pressure and Temperature (P/T) Limits ..... 3.4-18  
3.4.10 Reactor Steam Dome Pressure..... 3.4-25

**3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR  
CORE ISOLATION COOLING (RCIC) SYSTEM..... 3.5-1**

3.5.1 ECCS - Operating ..... 3.5-1  
3.5.2 ECCS - Shutdown ..... 3.5-6  
3.5.3 RCIC System ..... 3.5-9

**3.6 CONTAINMENT SYSTEMS..... 3.6-1**

3.6.1.1 Primary Containment..... 3.6-1  
3.6.1.2 Primary Containment Air Lock ..... 3.6-3  
3.6.1.3 Primary Containment Isolation Valves (PCIVs)..... 3.6-7  
3.6.1.4 Drywell Pressure ..... 3.6-13  
3.6.1.5 Drywell Air Temperature..... 3.6-14

(continued)

**TABLE OF CONTENTS (continued)**

---

**3.6      CONTAINMENT SYSTEMS (continued)**

3.6.1.6    Low-Low Set (LLS) Valves ..... 3.6-15

3.6.1.7    Reactor Building-to-Suppression Chamber Vacuum Breakers..... 3.6-17

3.6.1.8    Suppression Chamber-to-Drywell Vacuum Breakers..... 3.6-19

3.6.2.1    Suppression Pool Average Temperature ..... 3.6-21

3.6.2.2    Suppression Pool Water Level ..... 3.6-24

3.6.2.3    Residual Heat Removal (RHR) Suppression Pool Cooling ..... 3.6-25

3.6.2.4    Residual Heat Removal (RHR) Suppression Pool Spray ..... 3.6-27

3.6.3.1    Containment Atmosphere Dilution (CAD) System..... 3.6-29

3.6.3.2    Primary Containment Oxygen Concentration..... 3.6-31

3.6.4.1    Secondary Containment..... 3.6-32

3.6.4.2    Secondary Containment Isolation Valves (SCIVs) ..... 3.6-35

3.6.4.3    Standby Gas Treatment (SGT) System ..... 3.6-38

**3.7      PLANT SYSTEMS ..... 3.7-1**

3.7.1      Residual Heat Removal Service Water (RHRSW) System ..... 3.7-1

3.7.2      Plant Service Water (PSW) System and Ultimate Heat Sink (UHS)..... 3.7-3

3.7.3      Diesel Generator (DG) 1B Standby Service Water (SSW) System ..... 3.7-6

3.7.4      Main Control Room Environmental Control (MCREC) System..... 3.7-8

3.7.5      Control Room Air Conditioning (AC) System ..... 3.7-12

3.7.6      Main Condenser Offgas..... 3.7-16

3.7.7      Main Turbine Bypass System..... 3.7-18

3.7.8      Spent Fuel Storage Pool Water Level..... 3.7-19

**3.8      ELECTRICAL POWER SYSTEMS ..... 3.8-1**

3.8.1      AC Sources - Operating ..... 3.8-1

3.8.2      AC Sources - Shutdown ..... 3.8-20

3.8.3      Diesel Fuel Oil and Transfer, Lube Oil, and Starting Air..... 3.8-23

3.8.4      DC Sources - Operating ..... 3.8-26

3.8.5      DC Sources - Shutdown ..... 3.8-31

3.8.6      Battery Cell Parameters ..... 3.8-33

3.8.7      Distribution Systems - Operating ..... 3.8-36

3.8.8      Distribution Systems - Shutdown ..... 3.8-39

**3.9      REFUELING OPERATIONS ..... 3.9-1**

3.9.1      Refueling Equipment Interlocks ..... 3.9-1

3.9.2      Refuel Position One-Rod-Out Interlock..... 3.9-3

3.9.3      Control Rod Position ..... 3.9-4

3.9.4      Control Rod Position Indication ..... 3.9-5

3.9.5      Control Rod OPERABILITY - Refueling..... 3.9-7

(continued)

**TABLE OF CONTENTS (continued)**

---

**3.9      REFUELING OPERATIONS (continued)**

3.9.6      Reactor Pressure Vessel (RPV) Water Level ..... 3.9-8

3.9.7      Residual Heat Removal (RHR) - High Water Level..... 3.9-9

3.9.8      Residual Heat Removal (RHR) - Low Water Level ..... 3.9-11

**3.10     SPECIAL OPERATIONS ..... 3.10-1**

3.10.1     Inservice Leak and Hydrostatic Testing Operation..... 3.10-1

3.10.2     Reactor Mode Switch Interlock Testing ..... 3.10-3

3.10.3     Single Control Rod Withdrawal - Hot Shutdown..... 3.10-5

3.10.4     Single Control Rod Withdrawal - Cold Shutdown..... 3.10-8

3.10.5     Single Control Rod Drive (CRD) Removal - Refueling ..... 3.10-11-12

3.10.6     Multiple Control Rod Withdrawal - Refueling ..... 3.10-13-14

3.10.7     Control Rod Testing - Operating..... 3.10-15-16

3.10.8     SHUTDOWN MARGIN (SDM) Test - Refueling..... 3.10-17-18

**4.0      DESIGN FEATURES ..... 4.0-1**

4.1        Site..... 4.0-1

4.2        Reactor Core..... 4.0-1

4.3        Fuel Storage..... 4.0-2

**5.0      ADMINISTRATIVE CONTROLS ..... 5.0-1**

5.1        Responsibility ..... 5.0-1

5.2        Organization..... 5.0-2

5.3        Unit Staff Qualifications ..... 5.0-5

5.4        Procedures..... 5.0-6

5.5        Programs and Manuals ..... 5.0-7

5.6        Reporting Requirements..... 5.0-18

5.7        High Radiation Area ..... 5.0-21

---

(continued)

**TABLE OF CONTENTS (continued)**

---

**LIST OF TABLES**

1.1-1	MODES .....	1.1-6
3.1.4-1	Control Rod Scram Times .....	3.1-11
3.3.1.1-1	Reactor Protection System Instrumentation.....	3.3-7
3.3.1.2-1	Source Range Monitor Instrumentation .....	3.3-14
3.3.2.1-1	Control Rod Block Instrumentation .....	3.3-19 <u>20</u>
3.3.3.1-1	Post Accident Monitoring Instrumentation.....	3.3-24 <u>25</u>
3.3.5.1-1	Emergency Core Cooling System Instrumentation .....	3.3-38 <u>39</u>
3.3.5.2-1	Reactor Core Isolation Cooling System Instrumentation.....	3.3-46 <u>47</u>
3.3.6.1-1	Primary Containment Isolation Instrumentation .....	3.3-51 <u>52</u>
3.3.6.2-1	Secondary Containment Isolation Instrumentation.....	3.3-57 <u>59</u>
3.3.6.3-1	Low-Low Set Instrumentation .....	3.3-61 <u>63</u>
3.3.8.1-1	Loss of Power Instrumentation .....	3.3-66 <u>68</u>
3.8.6-1	Battery Cell Parameter Requirements .....	3.8-31

**LIST OF FIGURES**

3.1.7-1	Sodium Pentaborate Solution Volume Versus Concentration Requirements .....	3.1-20 <u>21</u>
3.1.7-2	Sodium Pentaborate Solution Temperature Versus Concentration Requirements .....	3.1-21 <u>22</u>
3.4.1-1	Deleted.....	3.4-3
3.4.9-1	Pressure/Temperature Limits for Inservice Hydrostatic and Inservice Leakage Tests .....	3.4-22
3.4.9-2	Pressure/Temperature Limits for Non-Nuclear Heatup, Low Power Physics Tests, and Cooldown Following a Shutdown .....	3.4-23
3.4.9-3	Pressure/Temperature Limits for Criticality .....	3.4-24
4.1-1	Site and Exclusion Area Boundaries and Low Population Zone.....	4.0-3

---

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.1.2	Verify drywell to suppression chamber differential pressure does not decrease at a rate > 0.25 inch water gauge per minute tested over a 10 minute period at an initial differential pressure of 1 psid.	<p><del>24 months</del></p> <p>Insert: In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>-----NOTE----- Only required after two consecutive tests fail and continues until two consecutive tests pass -----</p> <p><del>9 months</del></p> <p>Insert: In accordance with the Surveillance Frequency Control Program</p>

3.6 CONTAINMENT SYSTEMS

3.6.2.5 Residual Heat Removal (RHR) Drywell Spray

LCO 3.6.2.5 Two RHR drywell spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR drywell spray subsystem inoperable.	A.1 Restore RHR drywell spray subsystem to OPERABLE status.	7 days
B. Two RHR drywell spray subsystems inoperable.	B.1 Restore one RHR drywell spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.5.1 Verify each RHR drywell spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	<del>31 days</del> Insert: In accordance with the Surveillance Frequency Control Program

(continued)

**SURVEILLANCE REQUIREMENTS**

-----NOTE-----

When a TB HVAC exhaust system fan, with associated filter trains, ductwork and dampers, is placed in an inoperable status for the performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours.

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate each TB HVAC exhaust system fan for ≥ 15 minutes.	<p><u>92 days</u></p> <div style="border: 1px solid black; padding: 2px;">                     Insert:                      In accordance with the Surveillance Frequency Control Program                 </div>
SR 3.7.9.2	Verify manual transfer capability to alternate power supply for each TB HVAC exhaust system fan.	<p><u>24 months</u></p> <div style="border: 1px solid black; padding: 2px;">                     Insert:                      In accordance with the Surveillance Frequency Control Program                 </div>

**Edwin I. Hatch Nuclear Plant Units 1 and 2  
Supplement to Licensing Amendment Request for Adoption of TSTF -425 -  
A, Rev. 3, Risk -Informed Justification for the Relocation of Specific  
Frequency Requirements to a Licensee Controlled  
Program Using the Consolidated Line Item Improvement Process**

**Enclosure 2**

**Edwin I. Hatch Unit 2 Technical Specification Marked-Up Pages**

## TABLE OF CONTENTS

---

<b>1.0</b>	<b><u>USE AND APPLICATION</u></b> .....	1.1-1
1.1	Definitions .....	1.1-1
1.2	Logical Connectors.....	1.2-1
1.3	Completion Times .....	1.3-1
1.4	Frequency .....	1.4-1
<b>2.0</b>	<b><u>SAFETY LIMITS (SLs)</u></b> .....	2.0-1
2.1	SLs.....	2.0-1
2.2	SL Violations .....	2.0-1
<b>3.0</b>	<b><u>LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY</u></b> .....	3.0-1
	<b><u>SURVEILLANCE REQUIREMENT (SR) APPLICABILITY</u></b> .....	3.0-3
<b>3.1</b>	<b><u>REACTIVITY CONTROL SYSTEMS</u></b> .....	3.1-1
3.1.1	SHUTDOWN MARGIN (SDM).....	3.1-1
3.1.2	Reactivity Anomalies .....	3.1-4
3.1.3	Control Rod OPERABILITY .....	3.1-5
3.1.4	Control Rod Scram Times .....	3.1-9
3.1.5	Control Rod Scram Accumulators .....	3.1-12
3.1.6	Rod Pattern Control.....	3.1-15
3.1.7	Standby Liquid Control (SLC) System .....	3.1-17
3.1.8	Scram Discharge Volume (SDV) Vent and Drain Valves .....	3.1-22
<b>3.2</b>	<b><u>POWER DISTRIBUTION LIMITS</u></b> .....	3.2-1
3.2.1	AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR) .....	3.2-1
3.2.2	MINIMUM CRITICAL POWER RATIO (MCPR) .....	3.2-2
3.2.3	LINEAR HEAT GENERATION RATE (LHGR).....	3.2-4
<b>3.3</b>	<b><u>INSTRUMENTATION</u></b> .....	3.3-1
3.3.1.1	Reactor Protection System (RPS) Instrumentation .....	3.3-1
3.3.1.2	Source Range Monitor (SRM) Instrumentation .....	3.3-10
3.3.2.1	Control Rod Block Instrumentation .....	3.3-15
3.3.2.2	Feedwater and Main Turbine Trip High Water Level.....	3.3-2021
	Instrumentation	
3.3.3.1	Post Accident Monitoring (PAM) Instrumentation.....	3.3-2223
3.3.3.2	Remote Shutdown System .....	3.3-2526

(continued)

## TABLE OF CONTENTS

---

<b>3.3</b>	<b><u>INSTRUMENTATION (continued)</u></b>	
3.3.4.1	End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation.....	3.3-2728
3.3.4.2	Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation.....	3.3-3031
3.3.5.1	Emergency Core Cooling System (ECCS) Instrumentation.....	3.3-3334
3.3.5.2	Reactor Core Isolation Cooling (RCIC) System Instrumentation.....	3.3-4344
3.3.6.1	Primary Containment Isolation Instrumentation .....	3.3-4748
3.3.6.2	Secondary Containment Isolation Instrumentation.....	3.3-5556
3.3.6.3	Low-Low Set (LLS) Instrumentation.....	3.3-5860
3.3.7.1	Main Control Room Environmental Control (MCREC) System Instrumentation.....	3.3-6264
3.3.8.1	Loss of Power (LOP) Instrumentation.....	3.3-6466
3.3.8.2	Reactor Protection System (RPS) Electric Power Monitoring.....	3.3-6769
<b>3.4</b>	<b><u>REACTOR COOLANT SYSTEM (RCS)</u></b> .....	3.4-1
3.4.1	Recirculation Loops Operating .....	3.4-1
3.4.2	Jet Pumps .....	3.4-43
3.4.3	Safety/Relief Valves (S/RVs).....	3.4-65
3.4.4	RCS Operational LEAKAGE.....	3.4-87
3.4.5	RCS Leakage Detection Instrumentation.....	3.4-109
3.4.6	RCS Specific Activity .....	3.4-1211
3.4.7	Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown .....	3.4-1413
3.4.8	Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown .....	3.4-1716
3.4.9	RCS Pressure and Temperature (P/T) Limits .....	3.4-1918
3.4.10	Reactor Steam Dome Pressure.....	3.4-25
<b>3.5</b>	<b><u>EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM</u></b> .....	3.5-1
3.5.1	ECCS - Operating .....	3.5-1
3.5.2	ECCS - Shutdown .....	3.5-67
3.5.3	RCIC System .....	3.5-910

---

(continued)

**TABLE OF CONTENTS (continued)**

---

<b>3.6</b>	<b><u>CONTAINMENT SYSTEMS</u></b> .....	3.6-1
3.6.1.1	Primary Containment.....	3.6-1
3.6.1.2	Primary Containment Air Lock.....	3.6-3
3.6.1.3	Primary Containment Isolation Valves (PCIVs).....	3.6-7
3.6.1.4	Drywell Pressure .....	3.6-13
3.6.1.5	Drywell Air Temperature.....	3.6-14
3.6.1.6	Low-Low Set (LLS) Valves .....	3.6-15
3.6.1.7	Reactor Building-to-Suppression Chamber Vacuum Breakers.....	3.6-17
3.6.1.8	Suppression Chamber-to-Drywell Vacuum Breakers.....	3.6-19
3.6.2.1	Suppression Pool Average Temperature.....	3.6-21
3.6.2.2	Suppression Pool Water Level .....	3.6-24
3.6.2.3	Residual Heat Removal (RHR) Suppression Pool Cooling .....	3.6-25
3.6.2.4	Residual Heat Removal (RHR) Suppression Pool Spray.....	3.6-27
3.6.2.5	Residual Heat Removal (RHR) Drywell Spray .....	3.6-29
3.6.3.1	(Deleted) .....	
3.6.3.2	Primary Containment Oxygen Concentration.....	3.6-31
3.6.3.3	Drywell Cooling System Fans.....	3.6-32
3.6.4.1	Secondary Containment.....	3.6-33
3.6.4.2	Secondary Containment Isolation Valves (SCIVs).....	3.6-36
3.6.4.3	Standby Gas Treatment (SGT) System .....	3.6-39
<b>3.7</b>	<b><u>PLANT SYSTEMS</u></b> .....	3.7-1
3.7.1	Residual Heat Removal Service Water (RHRSW) System .....	3.7-1
3.7.2	Plant Service Water (PSW) System and Ultimate Heat Sink (UHS) .....	3.7-3
3.7.3	Diesel Generator (DG) 1B Standby Service Water (SSW) System .....	3.7-6
3.7.4	Main Control Room Environmental Control (MCREC) System.....	3.7-8
3.7.5	Control Room Air Conditioning (AC) System .....	3.7-12
3.7.6	Main Condenser Offgas.....	3.7-16
3.7.7	Main Turbine Bypass System.....	3.7-18
3.7.8	Spent Fuel Storage Pool Water Level.....	3.7- <del>19</del> <u>20</u>
3.7.9	Turbine Building Ventilation (TB HVAC) Exhaust System Fans.....	3.7- <del>20</del> <u>21</u>
<b>3.8</b>	<b><u>ELECTRICAL POWER SYSTEMS</u></b> .....	3.8-1
3.8.1	AC Sources - Operating .....	3.8-1
3.8.2	AC Sources - Shutdown .....	3.8-20
3.8.3	Diesel Fuel Oil and Transfer, Lube Oil, and Starting Air.....	3.8-23
3.8.4	DC Sources - Operating .....	3.8-26
3.8.5	DC Sources - Shutdown .....	3.8-31

(continued)

## TABLE OF CONTENTS

---

<b>3.8</b>	<b><u>ELECTRICAL POWER SYSTEMS (continued)</u></b>	
3.8.6	Battery Cell Parameters .....	3.8-33
3.8.7	Distribution Systems - Operating .....	3.8- <del>36</del> <u>37</u>
3.8.8	Distribution Systems - Shutdown .....	3.8- <del>39</del> <u>40</u>
<b>3.9</b>	<b><u>REFUELING OPERATIONS</u></b> .....	3.9-1
3.9.1	Refueling Equipment Interlocks .....	3.9-1
3.9.2	Refuel Position One-Rod-Out Interlock .....	3.9-3
3.9.3	Control Rod Position .....	3.9- <u>45</u>
3.9.4	Control Rod Position Indication .....	3.9- <u>56</u>
3.9.5	Control Rod OPERABILITY - Refueling .....	3.9- <u>78</u>
3.9.6	Reactor Pressure Vessel (RPV) Water Level .....	3.9- <u>89</u>
3.9.7	Residual Heat Removal (RHR) - High Water Level .....	3.9- <u>910</u>
3.9.8	Residual Heat Removal (RHR) - Low Water Level .....	3.9- <u>112</u>
<b>3.10</b>	<b><u>SPECIAL OPERATIONS</u></b> .....	3.10-1
3.10.1	Inservice Leak and Hydrostatic Testing Operation .....	3.10-1
3.10.2	Reactor Mode Switch Interlock Testing .....	3.10-3
3.10.3	Single Control Rod Withdrawal - Hot Shutdown .....	3.10-5
3.10.4	Single Control Rod Withdrawal - Cold Shutdown .....	3.10-8
3.10.5	Single Control Rod Drive (CRD) Removal - Refueling .....	3.10- <u>142</u>
3.10.6	Multiple Control Rod Withdrawal - Refueling .....	3.10- <u>134</u>
3.10.7	Control Rod Testing - Operating .....	3.10- <u>156</u>
3.10.8	SHUTDOWN MARGIN (SDM) Test - Refueling .....	3.10- <u>178</u>
<b>4.0</b>	<b><u>DESIGN FEATURES</u></b> .....	4.0-1
4.1	Site .....	4.0-1
4.2	Reactor Core .....	4.0-1
4.3	Fuel Storage .....	4.0-2

---

(continued)

**TABLE OF CONTENTS (continued)**

---

**LIST OF TABLES**

1.1-1	MODES .....	1.1-6
3.1.4-1	Control Rod Scram Times .....	3.1-11
3.3.1.1-1	Reactor Protection System Instrumentation.....	3.3-7
3.3.1.2-1	Source Range Monitor Instrumentation .....	3.3-14
3.3.2.1-1	Control Rod Block Instrumentation .....	3.3- <del>19</del> <u>20</u>
3.3.3.1-1	Post Accident Monitoring Instrumentation.....	3.3- <del>24</del> <u>25</u>
3.3.5.1-1	Emergency Core Cooling System Instrumentation .....	3.3- <del>38</del> <u>39</u>
3.3.5.2-1	Reactor Core Isolation Cooling System Instrumentation.....	3.3- <del>46</del> <u>47</u>
3.3.6.1-1	Primary Containment Isolation Instrumentation .....	3.3- <del>51</del> <u>52</u>
3.3.6.2-1	Secondary Containment Isolation Instrumentation.....	3.3- <del>57</del> <u>59</u>
3.3.6.3-1	Low-Low Set Instrumentation .....	3.3- <del>61</del> <u>63</u>
3.3.8.1-1	Loss of Power Instrumentation .....	3.3- <del>66</del> <u>68</u>
3.8.6-1	Battery Cell Parameter Requirements .....	3.8-31

**LIST OF FIGURES**

3.1.7-1	Sodium Pentaborate Solution Volume Versus Concentration Requirements .....	3.1-20
3.1.7-2	Sodium Pentaborate Solution Temperature Versus Concentration Requirements .....	3.1-21
3.4.1-1	Deleted.....	3.4-3
3.4.9-1	Pressure/Temperature Limits for Inservice Hydrostatic and Inservice Leakage Tests .....	3.4-22
3.4.9-2	Pressure/Temperature Limits for Non-Nuclear Heatup, Low Power Physics Tests, and Cooldown Following a Shutdown .....	3.4-23
3.4.9-3	Pressure/Temperature Limits for Criticality .....	3.4-24
4.1-1	Site and Exclusion Area Boundaries and Low Population Zone .....	4.0-3

---

3.6 CONTAINMENT SYSTEMS

3.6.2.5 Residual Heat Removal (RHR) Drywell Spray

LCO 3.6.2.5 Two RHR drywell spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR drywell spray subsystem inoperable.	A.1 Restore RHR drywell spray subsystem to OPERABLE status.	7 days
B. Two RHR drywell spray subsystems inoperable.	B.1 Restore one RHR drywell spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.5.1 Verify each RHR drywell spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.	<del>31 days</del> Insert: In accordance with the Surveillance Frequency Control Program

(continued)

**SURVEILLANCE REQUIREMENTS**

-----NOTE-----

When a TB HVAC exhaust system fan, with associated filter trains, ductwork and dampers, is placed in an inoperable status for the performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours.

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate each TB HVAC exhaust system fan for $\geq$ 15 minutes.	<del>92 days</del> Insert: In accordance with the Surveillance Frequency Control Program
SR 3.7.9.2	Verify manual transfer capability to alternate power supply for each TB HVAC exhaust system fan.	<del>24 months</del> Insert: In accordance with the Surveillance Frequency Control Program