50-325/324

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 30, 1998

LICENSEE: Carolina Power & Light Company

FACILITY: Brunswick Steam Electric Plant, Units 1 and 2

SUBJECT: SUMMARY OF NOVEMBER 17, 1998, MEETING REGARDING PROPOSED CHANGES TO THE TECHNICAL SPECIFICATIONS TO PROVIDE LONGER ALLOWED OUTAGE TIMES FOR EMERGENCY AND BALANCE OF PLANT ELECTRICAL BUSES - BRUNSWICK STEAM ELECTRIC PLANT, UNITS 1 AND 2 (TAC NOS. MA3738 AND MA3739)

On November 17, 1998, members of the NRC staff met with Carolina Power & Light Company (CP&L or licensee) personnel at the NRC's One White Flint North headquarters in Rockville, Md. The meeting was open to the public. The purpose of the meeting was to discuss changes proposed by the licensee to the Technical Specifications (TS) for the Brunswick Steam Electric Plant Units 1 and 2 (BSEP 1 & 2) which would provide a longer allowed outage time (AOT) of 7 days for planned maintenance on emergency and balance of plant (BOP) electrical buses. The current AOT for these buses is 8 hours.

The changes were first submitted to the NRC on November 1, 1996, as part of CP&L's application for conversion to Improved Standard Technical Specifications (ITS). The NRC later determined that it required more information concerning the impact of the AOT extension on plant risk. Thus, at the NRC's request, on September 14, 1998, CP&L provided supplemental information in support of the AOT extension.

The licensee's basis for its request is that the additional time is needed to perform vendor-recommended maintenance on the buses and associated components. The AOT extension would only apply when one unit is operating and one unit is shut down and the planned maintenance is to be conducted on the shutdown unit's electrical system. However, because there is some cross sharing of electrical loads between units, a limited number of components on the operating unit would be affected by such maintenance.

During the meeting the licensee presented further information on the proposed changes and the plant electrical system design. This information will assist the NRC staff in reaching its conclusion on the impact of the proposal on plant risk. In follow-up to the meeting, the staff will issue a request for additional information (RAI). The staff asked that the licensee, as part of its response to the forthcoming RAI, determine if the planned maintenance can be

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accomplished safely in a shorter period of time. If so, the staff asked that the licensee consider reducing the length of the requested AOT.

A list of meeting attendees as well as the handout provided by the licensee are enclosed.

Original signed by:

David C. Trimble, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures: (1) Attendance List
(2) Licensee Handout

Docket Nos. 50-325 and 50-324

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OFFICE	PM:PDII-3	LA:PDII-2	D:PDII-3	
NAME	DTrimble DT	EDunnington ETD	FHebdon FH	
DATE	11/25/98	11/24/98	11/30/98	
COPY	Yes/No	Yes/No	Yes/No	

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COPY	Yes/No	Yes/No	Yes/No	

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MEETING ATTENDANCE LIST

Licensee: Carolina Power & Light Company Plant(s): Brunswick 1 and 2

Subject: Proposed Changes to the Technical Specifications to Provide Longer Allowed Outage Times for Emergency and Balance of Plant Electrical Buses

Date: November 17, 1998

Location: Room O-12B02, One White Flint North Building, 11555 Rockville Pike, Rockville, Md.

Time: 10:00 a.m.

NAME

NRC STAFF
F. Ashe
A. El -Bassioni
J. Lazevnick
D. O'Neal
M. Wohl
D. Trimble

CP&L
G. Atkinson
R. Delong
W. Dorman
M. Turkal
G. Ellis (contractor - Excel Services)
D. LaBelle
G. Miller

Enclosure 1

E/BOP Bus License Amendment

Brunswick Steam Electric Plant

November 17, 1998

CP&L

Discussion Topics

- Purpose Of Request
- Electrical Distribution System Overview
- Technical Specification Overview
- Risk Insights
- Conclusion

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Purpose Of Request

- Modify Technical Specifications (TS) 3.8.1 and 3.8.7 To:
  - Provide Sufficient Time For Bus Maintenance
  - Avoid Incurring A Dual Unit Outage
- 7 Day AOT Established Based On:
  - Most Restrictive AOT On Operating Unit
  - Acceptable Risk Evaluation
    - Benefit Of Performing Maintenance
    - Avoid Unnecessary Transient On Operating Unit

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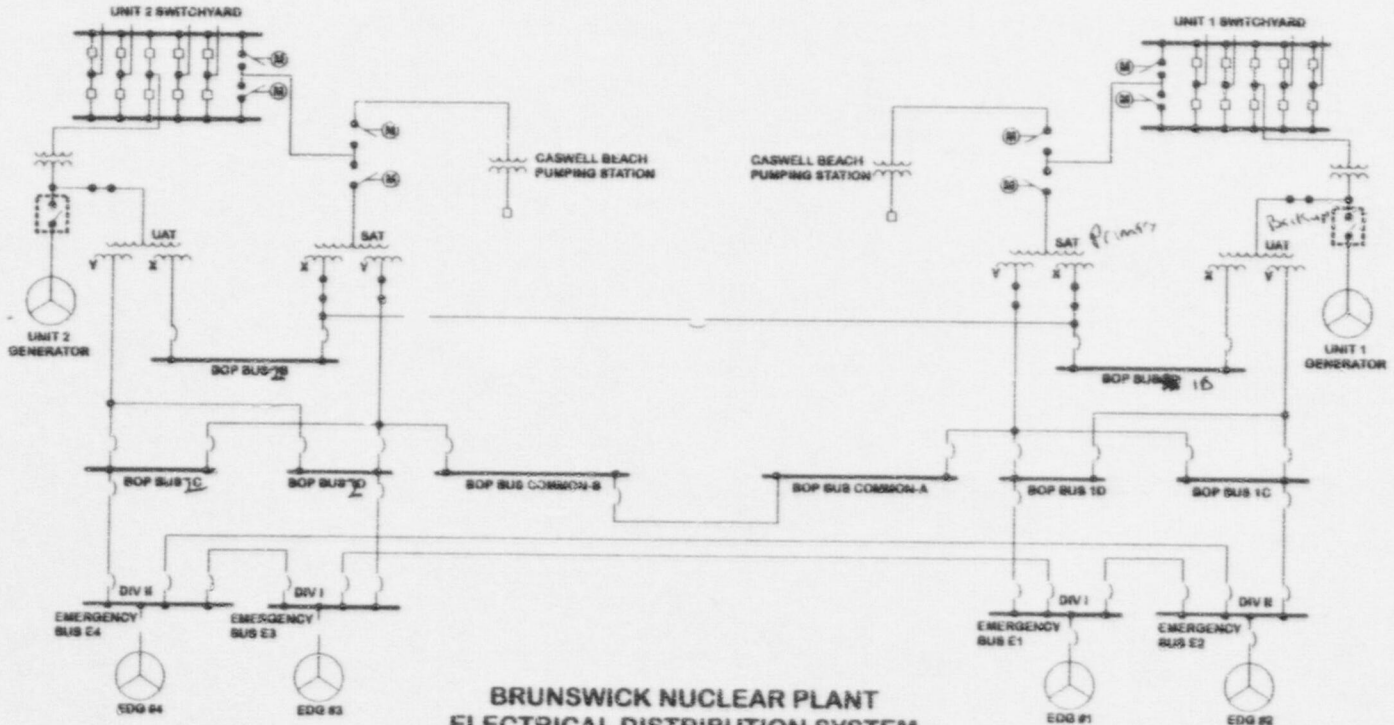
Electrical Distribution System



BRUNSWICK NUCLEAR PLANT
ELECTRICAL DISTRIBUTION SYSTEM

LEGEND:

- ALTERNATE OFF-SITE POWER SOURCE (BOTH UNITS SIMILAR)
- PREFERRED OFF-SITE POWER SOURCE (BOTH UNITS SIMILAR)
- CLASS IE SYSTEM

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Electrical Distribution System

System Configuration - E-Bus Loads

		E1	E2	E3	E4
Unit 1 ECCS	CS Div I	CS 1A			
	CS Div II		CS 1B		
	LPCI Div I	RHR 1C		RHR 1A & Valves	
	LPCI Div II		RHR 1D		RHR 1B & Valves
Unit 2 ECCS	CS Div I			CS 2A	
	CS Div II				CS 2B
	LPCI Div I	RHR 2C & Valves		RHR 2A	
	LPCI Div II		RHR 2D & Valves		RHR 2B
Service Water	Nuc SW	1A	1B	2A	2B
	Unit 1 Con SW	1B	1C		1A
	Unit 2 Con SW	2C		2A	2B

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Technical Specification Overview
Comparison

	Operability Requirements (Current)	Operability Requirements (Proposed)	AOT (Current)	AOT (Proposed)
TS 3.8.1	4 Offsite Circuits (2 per unit) 4 EDGs	4 Offsite Circuits (2 per unit) 4 EDGs	2 Offisite Circuits and EDG Inop Enter LCO 3.0.3	2 Offisite Circuits and EDG Inop Enter LCO 3.0.3 (Unplanned)
				2 Offisite Circuits and EDG Inop (S/D Unit) 7 Days to Restore 12 Hrs to Mode 3 (Planned)
TS 3.8.7	2 AC & 2 DC Divisions of Electrical Power	2 AC & 2 DC Divisions of Electrical Power	1 AC Division Inop 8 Hrs to Restore 12 Hrs to Mode 3	1 AC Division Inop 8 Hrs to Restore 12 Hrs to Mode 3 (Unplanned)
				1 AC Division Inop (S/D Unit) 7 Days to Restore 12 Hrs to Mode 3 (Planned)

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Technical Specification Overview
Examples

- Proposed TS And Bases Changes
- Application Of Required Action B.1
- Practical Examples

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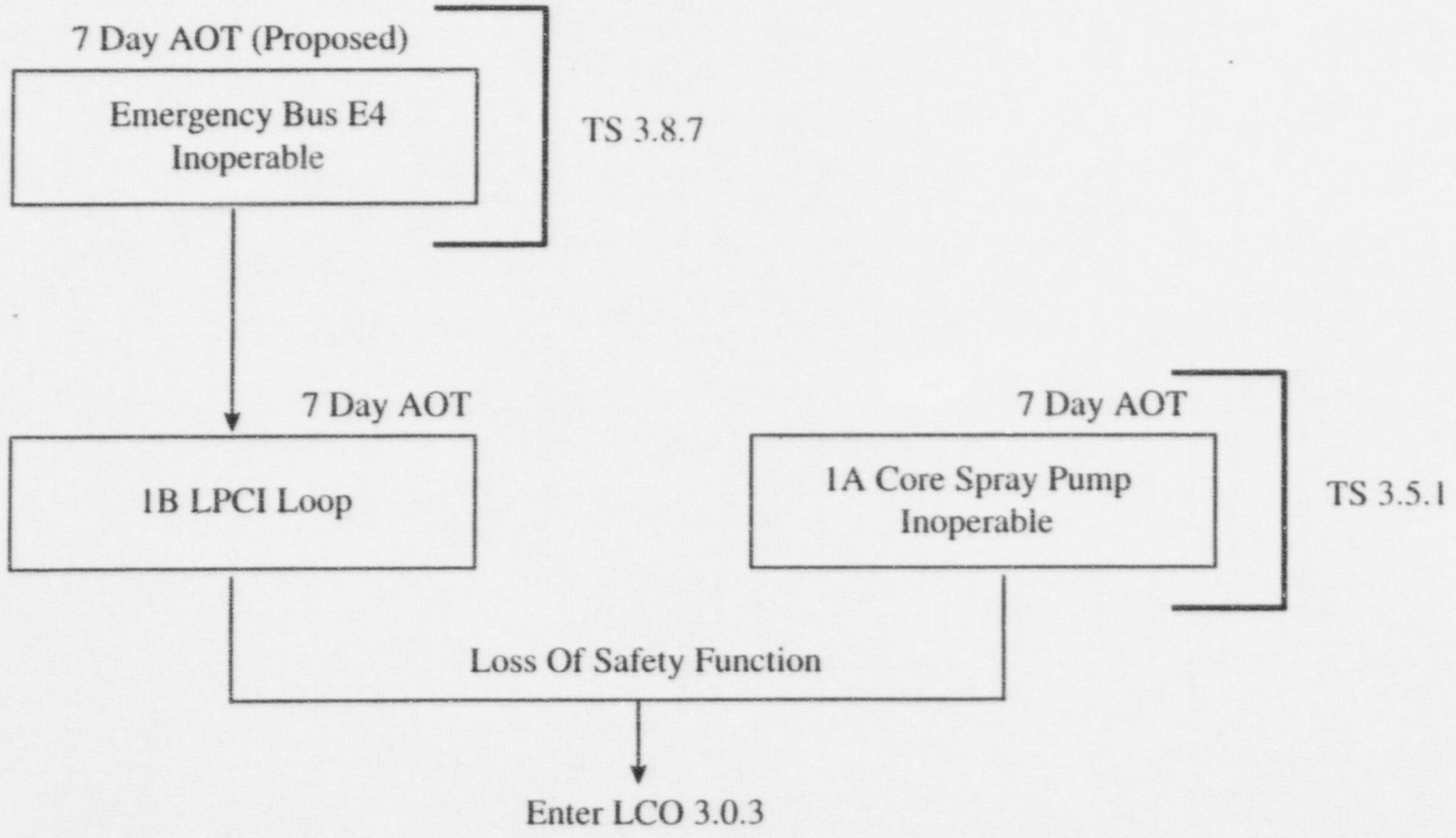
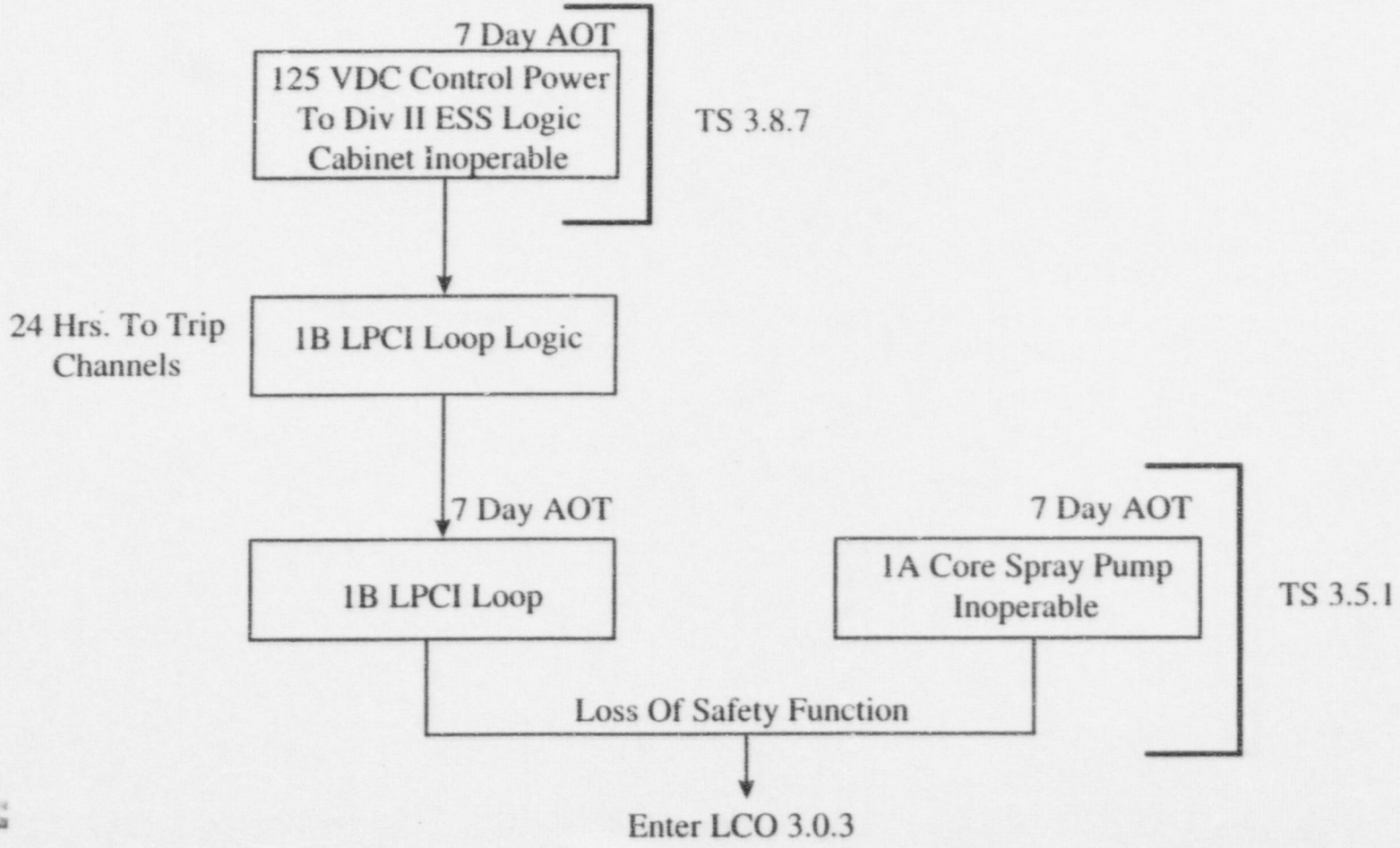
SFDP

TS 5.5.11.b.1 Example



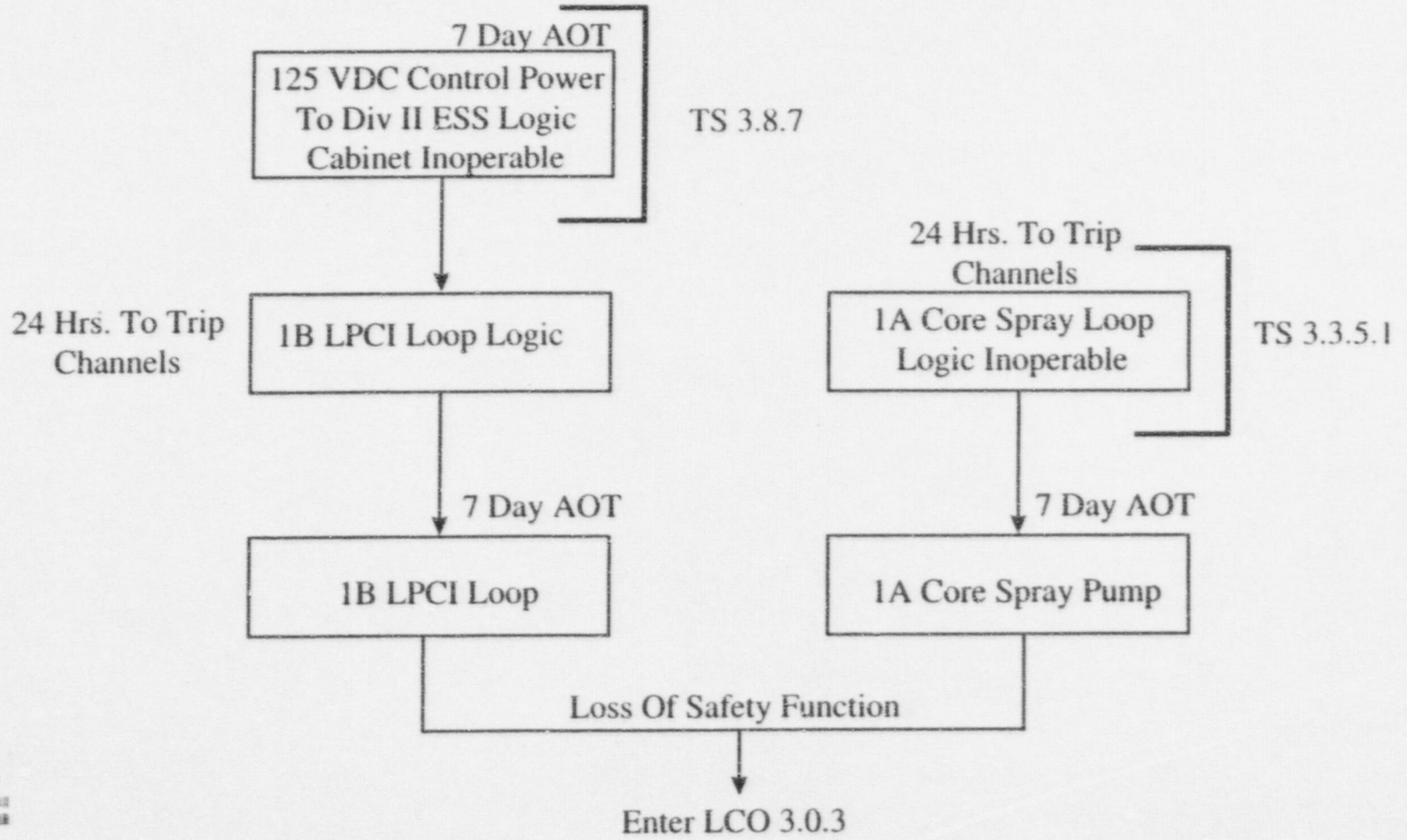
SFDP

TS 5.5.11.b.2 Example



SFDP

TS 5.5.11.b.2 Example



Risk-Informed Overview

Risk Management Process

- Brunswick Risk Management Process Complies With a(3) Of Maintenance Rule
- Additional Controls In TS 5.5.11, SFDP
  - Redundant Safety Functions
- Brunswick Procedure AP-25:
  - Prevents Removal Of Additional High Risk Components
  - Contains Guidance For Actions If Unforeseen Configurations Occur

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Risk-Informed Overview

Risk Management Process

- Integrated Assessment Of Plant Configuration
  - Based On Level 1 Internal Events PSA
  - PSA Model Includes Buses, Breakers, Offsite And Onsite AC Sources That Represent The Proposed Configuration
  - PSA Model Is Updated Periodically
  - Equipment Performance Is Monitored By Maintenance Rule Program

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Risk-Informed Overview

Impact of TS Change

- **Impact On The Operating Unit:**
  - 1 RHR Pump
  - 1 RHR Service Water Pump (Same Division)
  - AC Power To 1 Loop Of LPCI Valves
  - 1 Conventional Service Water Pump
    - E1 Or E4 Outages Only
- **Adequate Redundancy Exists On Remaining Equipment**

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Risk-Informed Overview

Impact of TS Change

- **Operating Unit**
  - **Base Case CDF** — **9.2E-6/year**
  - **Analyzed Case CDF** — **9.7E-6/year**
    - **Incremental Change** — **4.6E-7/year**

  - **Actual CDF Change Would Be Less**
    - **Actual Out Of Service Time Much Less**
    - **No Credit Taken For Improved Reliability Of E-Bus**

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Risk-Informed Overview

Impact of TS Change

MOST IMPORTANT SYSTEMS (E-BUS OUT OF SERVICE)	IMPACT IF ALSO REMOVED FROM SERVICE	CONTROLS TO PRECLUDE UNAVAILABILITY
Core Spray	TS LCO 3.0.3	YES
Conventional Service Water	7 day AOT	YES
Diesel Generator	TS LCO 3.0.3	YES
High Pressure Coolant Injection	72 hr. AOT	YES
Reactor Core Isolation Cooling	14 day AOT	YES

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Risk-Informed Overview

Impact of TS Change

- **Large Early Release Not Significant**
  - Affected Systems Have Minimal Impact On Containment Performance
  - Some Isolation Valves Will Be In Isolated Position
- **External Events Impact Not Significant**
  - Proposed Configuration Does Not Create Additional Challenges Or Increased Initiating Event Potential

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Risk-Informed Overview

Impact of TS Change

- **Shutdown Unit**
  - **TSs Allow This Configuration Indefinitely**
  - **Risk Is Managed By Defense-In-Depth Philosophy (NUMARC 91-04)**
    - **Concurrent Outage Activities Are Limited**
  - **E-Bus Work Is Performed Late In The Outage**
    - **Lower Decay Heat**
- **Adequate Redundancy Exists To Maintain Required Defense-In-Depth**

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Risk-Informed Overview Conclusion

- Proposed Change Has An Acceptably Low Impact On Plant Risk
- Adequate Plant Controls Are In Place To Reduce The Likelihood Of Risk-Significant Configurations
- Existing Programs And Procedures Meet The Recommendation For A Risk-Informed Plant Configuration Control Program