FERMI RESIDENT OFFICE
FAX COMMUNICATION

DATE: 17 17 PAGES + COVER

TO: Vigil

FROM: Campbell

FERMI RESIDENT OFFICE
PHONE (734) 586-2798
FAX (734) 586-8150

DESCRIPTION:

C/6

CARD Number : 99-13518 Assigned To : Flint

Title : Failure to enter T.S. Action 3.8.1.1.C

Level: 3

☐ Industry Issue

☐ Licensing Issues RACTS Number: _____

☐ Departmental Lessons Learned Meeting Required

☐ HPES Required Assigned To: _____

☐ Maintenance Rule Functional Failure Analysis Required

Due Date	Completed Date	Task	Task Description
9/30/1999		CA-1	Create a list for all TS 3.8.1.1 action c systems.
8/30/1999		CA-2	Improve operating shift understanding of GL 91-18
8/30/1999		CA-3	Review att. to 24.000.01 to determine if similar conditions exist.
3/30/2000		Closure	Submit CARD for closure.
6/6/1999	06/04/99	init invest	Initial Investigation. Devise an Action Plan with completion dates. Provide CARD Closure Date

CONNIE ABBOTT

JUN - 7 1999

OPERABILITY DETERMINATION IS REQUIRED - CONTACT OPERATIONS WITH YOUR FINDINGS

DETROIT EDISON

Condition Assessment Resolution Document (CARD)

No. 99 13518

INITIATOR

System No: C41 Component PIS No. C41K003C001B Location: N/A

Condition Title: Failure to Enter T.S. Action 3.8.1.1.#c

QA Finding: Yes ☐ No ☑

ACTION REQUESTED

☐ WR ☐ TSR ☐ DCR ☐ Label Request ☑ Investigation

CONDITION DESCRIPTION

On 4/5/99 the NRC senior resident inspector questioned the basis for not entering T.S. action 3.8.1.1.c with EDG 11 inop for a scheduled maintenance outage and SLC pump "B" inop.

Background: On 5/3/99 @ 1830 the control room received annunciator 3011 "SLC Ignition Continuity Loss". Initial indications were a loss of the Squib Cct B continuity light on 11P603 and SLC B annuciator in the relay room reading <2 amps. Initial investigation revealed that a 1/4 amp fuse in the continuity indicating circuit had blown and that we didn't appear to stock this type Continued ☒

IMMEDIATE ACTIONS TAKEN

Level Changed To 3 EDO 5/6/99

Continued ☐

Initiator: H. J. Higgins ID No.: 49720 Tel. Ext.: 65235 Date: 5/5/99 Time: 1500

Initiating Organization: NPOP Feedback Requested: Yes ☐ No ☑ Initial Cause Code: 58 (See back for Initial Cause Codes)

SUPERVISOR REVIEW

Level: 1 ☑ 2 ☐ 3 ☐ 4 ☐ Intermediate ☐ Supervisor Signature: [signature] ID No: 49720 Date: 5/5/99

REPORTABILITY / OPERABILITY REVIEW

☐ Not applicable: ____ / ____ / ____ Initial / ID No. / Date

* MES27 completed 5/5/99 and attached

Mode: 1 Rx Power: 97 Rx Temperature: 540 Rx Pressure: 1028 Rx Level: 197 Core Flow: 87

Operable: Yes ☑ No ☐ * Requires Engineering Review (MES27): Yes ☑ No ☐ LCO No.: 99-097

Reportable: 1 Hr. ☐ 4 Hr. ☐ 24 Hr. ☐ Other: 30 day LER N/A ☐ LER No.: ____ RACTS No. (DA Link): ____

Potentially Reportable Condition Requiring Nuclear Licensing Review (MLS05): Yes ☑ No ☐ Mode Change Restraint: ____ N/A ☑

NSS Signature: [signature] ID No.: 49720 Date: 5/5/99

DTC: TPMMQA DSN: MQA11001 Rev. 3 P1/1 File: 1703.22 Approved: 120198 Issued: 123098

DTC: VSCARD DSN: ____ File: 0945 IP:1

of fuse on-site. At 0223 on 5/4/99 SLC was evaluated for a scheduled EDG 11 outage and considered functional since the failed fuse only affected the continuity indicating circuit. At 0300 on 5/4/99 EDG 11 was declared inop. New 1/4A fuses were obtained at approximately 1230 on 5/4/99 and the initial attempt to install the fuse resulted in an arc being drawn across from the fuse ferrells to the fuse clips causing the fuse to fail instantaneously. The shift discussed this situation and postulated that the arcing may have caused the new fuse to fail and decided to turn off the MCC position 72E-5B pos 2B, replace the fuse, and return the MCC back on. This action was performed after reviewing T.S. 3.8.1.1. The MCC was turned off @ 1336 on 5/4/99 and turned on @ 1539 on 5/4/99. The 1/4 amp fuse failed as soon as the MCC was energized. At this point Operations Mgmt and the WCM were contacted to insure that a work package was prepared to troubleshoot and repair the SLC B continuity circuit.

The failure to repair the SLC B continuity ckt required protective tagging for MCC 72E-5B pos 2B, which was completed at 1830 on 5/4/99.

On 5/5/99 the Ops Superintendent contacted the NSS regarding an NRC concern that T.S. 3.8.1.1 action c. had not been met with EDG 11 inop and the SLC B MCC off. Upon investigation and consultation with system engineering, it was determined that

Detroit Edison

Condition Assessment Resolution Document (CARD)
Continuation Sheet

No. 99-0518

T.S. 3.8.1.1 action c did apply, and that the appropriate actions had not been taken for this condition. At 1032 on 5/5/99 the tags on MCC72E-5B pos 2B were cleared off and the condition exited.

DOCUMENT JAM

Detroit Edison

CARD ASSIGNMENT AND RESOLUTION SHEET

No. 99- 13518

Page 4

OWNERSHIP COMMITTEE

Level classification accepted: ☒ Yes ☐ No If no, Level classification is: 1 ☐ 2 ☐ 3 ☒ 4 ☐ Initial/Date: EJO 5/5/99

CARD Priority: 3 ESCAQ, Senior Management Notified Yes ☐ No ☐ Initial/Date: N/A

Error free day reset: ☐ Yes ☐ No If yes, category: _____ Potential Maintenance Rule FF Review: ☐ Yes ☒ No

Assigned to Name/Organization: NPOP Initial/Date: EJO 5/6/99

Supporting Owners: _____

CARD OWNER/SOLUTION TEAM

Team Leader: _____

Team Members: _____

ANII Review Required (ASME): ☐ Yes ☐ No NQA Review Required (Level 1, 2, 3 Audit Findings): ☐ Yes ☐ No

Actions: THE OWNERSHIP COMMITTEE RECOMMENDS THAT THIS EVENT BE EVALUATED FOR CATEGORIES 5, 7, 8 AND 12. EJO 5/6/99

CONSIDER FOR INPO OE.

☐ Continued

Final Cause Code(s) (Ref. MQA12, Enclosures 'P', 'Q', 'R' for Level 1 and MQA11, Enclosure 'C' for Level 2 and 3): _____

TEAM LEADER

Closure is based on completion of all actions

ANII Review & Concurrence: _____ Date: _____

NQA Review & Concurrence: _____ Date: _____

Forced Outage/Refueling Outage Related: Yes ☐ No ☐ Decommissioning Record (MGA07, Section 3.6) Yes ☐ No ☐

Effectiveness Review Required: Yes ☐ No ☐ If yes, Effectiveness Review Date: _____

Signature: _____ ID No: _____ Date: _____

CARD Administrator Enter: Primary Category: PLA Sub Category: CARD Event Key Word: _____

Engineering Functional Analysis for Standby Liquid Control System with Non-Operational Continuity Indication

May 5, 1999

Identification of Degraded Condition

Drawing 6I721-2131-01 "Schematic Diagram Standby Liquid Control Pumps C4103-C001A & B" details the electrical circuit which includes the explosive 'squib' valve bridgewire elements and their associated continuity verification circuits. The continuity circuits are designed to verify squib valve integrity by trickling low amperage current through the squib elements and provide indication on the C41-M600A & B meters on the H11-P613 Panel located in the Relay Room.

Annunciation of the Ignition Continuity Loss alarm indicated that a problem existed within the continuity verification circuits, and the fuse designated F-4 (Grid location D-6 on the drawing) was found to be open. The replacement fuse immediately opened also, preventing the normal function of the continuity verification circuit. The normal function of the circuit is to verify the continuity of the squib elements of the C4104-F004B exists, and this function was lost.

Description of Functions

The SLC System provides an alternate method to shutdown the Reactor independently of the Control Rod Drive (CRD) System. It ensures Reactor shutdown from full power operation to cold sub-critical by mixing a neutron absorber with the primary Reactor coolant. The system is designed for the condition when no Control Rods can be inserted from full power. The neutron absorber is injected within the core zone in sufficient quantity to provide a margin for leakage or imperfect mixing. The SLC System is not a scram or backup scram system for the Reactor, but is an independent backup for the CRD System.

During normal Reactor operation the SLC System is kept on standby. There is no requirement for the SLC System to be operated. The SLC System will be activated only if the CRD System fails.

Operability Determination

The condition as described above discusses the loss of fuse F-4 which is rated for 0.25 Amps (250 milliAmps). Investigation of the circuit schematic reveals that the fault causing the over-current condition at fuse F-4 is connected to the circuit containing the elements by two 13 kiloOhm (kΩ) resistors (R2 and R8 on the circuit schematic). The continuity verification circuit normally operates at amperage levels of – 5 milliAmps (mA) as produced by the 120 Volt supply potential delivered across these 2 series-arranged 13 kΩ resistors.

The >250 mA current necessary to open the F-4 fuse must be the result of a short occurring between the F-4 fuse and the R2 resistor. A fault occurring inside the

boundaries of the R2 and R8 that could challenge the squib elements (nominally rated at 2 Amps) could not produce the current necessary to open the F-4 fuse because of the current limiting provided by the R2 and R8 resistors.

Troubleshooting performed by I&C technicians has verified this analysis with the determination that meter C41-M600B exhibits improper electrical testing characteristics when compared to a new meter, and it is located between the F-4 fuse and the R2 resistor. Correct continuity through the squib elements was also verified by the I&C technicians. The existence of the short does not affect the function of the SLC System to actuate when required because the short is isolated from the actuation current path by the same 13 kΩ resistors described above. Under the current condition the continuity of the squib elements has been verified and the system operability is unaffected.

Justification for Continued Safe Operation
The SLC system is operable because measurements taken during troubleshooting verified squib circuit continuity and therefore assured squib valve circuit integrity.

In addition, the troubleshooting activities strongly suggest a fault in the meter circuit. This fault will not prevent the ability of firing the squib valves because current is limited by the two 13 kΩ resistors.

Therefore, the SLC System is considered operable in spite of the deficiency of the squib continuity monitoring circuit.

Recommended Plant Action
Replace defective meter C41-M600B as soon as practical following completion of the EDG #11 outage.

Authored by:
D McConnell 5/5/99

Checked by:
John Wiegand 5/5/99

Approved by:
2 Dy 5-5-99

Condition Title: Failure to Enter T.S. Action 3.8.1.1.c
CARD Level 3

Investigation

A NRC resident inspector identified to the Operations Superintendent the plant was operating with EDG 11 inoperable and SLC B pump inoperable, a condition that potentially violated TS 3.8.1.1 action c. The operating shift was notified.

Immediate actions were taken by the operating shift to restore the SLC B pump to operable status and the condition was exited. Refer to the Immediate/Remedial Actions section, below, for details. Statements were taken and interviews of personnel knowledgeable of the event conducted. Key shift personnel had evaluated SLC B pump's applicability to TS 3.8.1.1 action c and determined that SLC B pump was not a "required" system or component relying on the remaining operable division of EDG's (division 2). A solution team was formed to address root cause issues and to perform a reportability evaluation.

Memorandum NANL-99-0183, Reportability Evaluation for CARD 99-13518, concluded that the situation described in the CARD does not constitute a condition prohibited by Technical Specifications, and it therefore, was not reportable as a Licensee Event Report under 10CFR 50.73(a)(2)(i)(B). The bases for this conclusion is also documented in the memorandum. This CARD was downgraded from level 1 to level 3 on 5/28/99.

Review of the conditions leading to the CARD being written, by the solution team, found opportunities for improvement:

- Addressing TS 3.8.1.1 action c; no written guidance existed.
- The operating shifts understanding of Generic Letter 91-18, NRC Inspection Manual Part 9900, Operable/Operability: Ensuring the Functional Capability of a System or Component, implemented at Fermi in MES 27, Verification of System Operability . The reportability evaluation concluded that, although we did not take credit for manual action to restore and start SLC B pump while it was red tagged, we could have, leaving the SLC B pump capable of performing its specified function (operable).

Action Plan

Immediate/Remedial Actions

NSS investigated and consulted with System Engineering. It was determined TS 3.8.1.1 action c did apply and that appropriate actions needed to be taken. At 1032 on 5/5/99 the condition was exited by removing the red tag on MCC position 72E-5B, position 2B.

"Engineering Functional Analysis for Standby Liquid Control System with Non-Operational Continuity Indication", dated May 5, 1999, was written, documenting the SLC system was considered operable in spite of the deficiency of the squib continuity monitoring circuit.

Extent of Condition

This condition applies only to TS 3.8.1.1 action c; *"With one or both diesel generators in one of the above required onsite AC electrical power divisions inoperable, in addition to ACTION b, above, verify within two hours that all required systems, subsystems, trains, components and devices that depend on the remaining onsite AC electrical power division as a source of emergency power are also OPERABLE; otherwise be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours."*

Determination of Probable Cause

Memorandum NANL-99-0183, Reportability Evaluation for CARD 99-13518, determined a failure to enter TS 3.8.1.1 action c did not occur. A probable cause for this condition is not required.

The largest factor contributing to the confusion created when the NRC questioned the SLC B pump and EDG 11 being inoperable at the same time is lack of a checklist of "required systems and components" in the procedure used to verify TS 3.8.1.1 actions. (24.000.01, attachment 28A) Probable causes for this lack of a checklist are:

Procedures/Written Communication
- C31 Content, D252 Omission of relevant information
- C31 Content, D256, Information is too generic (not equipment specific)

Corrective Actions

CA-1 Create a list for all TS 3.8.1.1 action c systems. This action will be completed by 9/30/99.

CA-2 Improve the operating shifts understanding of GL 91-18. This item will be discussed with licensing and training and an action plan developed by 8/30/99.

CA-3 Review attachments to 24.000.01, Situational Surveillances/LCO Action Tracking to determine if a similar condition exits. This action will be completed by 8/30/99.

Closure: Additional actions will be generated from CA-2, an interm closure date of 3/30/2000 is assigned.

6/4/99
6/4/99
6-4-99

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NUCLEAR GENERATION MEMORANDUM

Date: May 27, 1999
NANL-99-0183

To: J. Flint
Operations Support

From: Peter Smith
Principal Engineer

Subject: Reportability Evaluation for CARD 99-13518

Attached is the reportability evaluation for CARD 99-13518. The attached reportability evaluation concludes that the situation described in the CARD does not constitute a condition prohibited by Technical Specifications. It is, therefore, not reportable as a Licensee Event Report under 10 CFR 50.73(a)(2)(i)(B), "Any operation or condition prohibited by the plant's Technical Specifications." The basis for this conclusion is documented in the attachment.

Reviewed by: _____
R. Gaston

Approved by: _____
N. Peterson

Attachment

Reportability Evaluation for CARD 99-13518

Summary

On May 5, 1999, EDG 11 was out of service with Standby Liquid Control System (SLCS 'B') equipment powered from the opposite division also declared inoperable. The breaker for SLCS 'B' had been tagged open to permit repairs to the continuity circuits for the SLCS explosive actuated valves. The NRC resident inspectors questioned the plant being in this condition in view of the requirement of Technical Specification (TS) Action 3.8.1.1.c. With one EDG inoperable, TS Action 3.8.1.1.c requires verification of the operability of all "required" equipment powered by the opposite division.

This condition did not constitute a condition prohibited by TS. The basis for this position is twofold.

1. SLCS is not a required system in the context of Action 3.8.1.1.c. SLCS is a unique system. SLCS is not credited in the mitigation of any design basis accident or transient, as opposed to other TS systems such as ECCS systems for which the TS Action 3.8.1.1.c verification is required.

2. SLCS is a manually actuated system. Under the conditions associated with this event, SLCS 'B' was capable of prompt manual restoration. Consequently, SLCS 'B' could have been considered operable.

"Required" within the Scope of TS Action 3.8.1.1.c

SLCS is an unique system. SLCS is the secondary reactivity control system required to satisfy 10 CFR 50, Appendix A GDC 26, *Reactivity control system redundancy and capability*. It is also required by 10 CFR 50.62, the ATWS rule. Two objectives are delineated for the SLCS in the bases for TS 3.1.5, Standby Liquid Control System. One objective is to provide backup capability for bringing the reactor from full power to a cold, Xenon-free shutdown, assuming that the withdrawn control rods remain fixed in the rated power pattern. The second objective of the SLC System is to meet the requirement of the ATWS Rule, specifically 10 CFR 50.62 paragraph (c)(4) which states that, in part: "Each boiling water reactor must have standby liquid control system (SLCS) with a minimum flow capacity and boron content equivalent in control capacity to 86 gallons per minute of 13 weight percent sodium pentaborate solution.

SLCS is not credited in the mitigation of any design basis accident or transient. In BWRs primary automatic ATWS protection is provided by Alternate Rod Insertion (ARI) and the Recirculation Pump Trip (RPT). SLCS was not required to be automatically actuated. ATWS is not a design basis transient.

SLCS was not designed as a safety-related system; however, 10 CFR 50.62, requires SLCS to perform its function in a reliable manner. Although it was not designated as safety-related, it is essentially maintained as such at Fermi. Standby power is a design feature provided for SLCS as discussed in the UFSAR, which states that SLCS "is required to be operable in the event of a station power failure." Accordingly, SLCS pumps, valves, and controls are powered from the standby ac power supply. While the power supplies are oriented to redundant SLCS components, SLCS is not treated as a divisionalized system. Operating, surveillance, and maintenance procedures are not divisionalized. SLCS outages are scheduled during non-divisional work weeks. SLCS is not modeled as a divisionalized system in the Fermi PSA. The Fermi Regulatory Guide 1.47, Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems, has only one status indicator of SLCS, whereas divisionalized safety systems have one for each division.

10 CFR 50, Appendix A, General Design Criteria, Criterion 17, *Electric power systems*, delineates the requirements for on-site and off-site electrical power systems. GDC 17 requires both an on-site and off-site power distribution system to permit functioning structures, systems, and components important to safety, assuming either the on-site or off-site system is unavailable. GDC 17 further defines the two required safety functions supported by the electric power system: 1) protection of specified acceptable fuel design limits and the reactor coolant pressure boundary during anticipated operational occurrences; and, 2) assurance of core cooling and containment integrity during postulated accidents. Both of these functions relate to design basis accidents and transients. In contrast, for beyond design basis ATWS events, 10 CFR 50.62 requires SLCS to be designed to perform its function in a reliable manner. Regulatory Guide 1.93, Availability of Electric Power Sources, provides guidance on TS allowed out of service times for electric power systems required by GDC 17. RG 1.93 frames its discussion in terms of mitigation of design basis accidents and transients.

Technical Specifications Action 3.8.1.1.c states:

c. With one or both diesel generators in one of the above required onsite A.C. electrical power divisions inoperable, in addition to ACTION b, above, verify within 2 hours that all required systems, subsystems, trains, components and devices that depend on the remaining onsite A.C. electrical power division as a source of emergency power are also OPERABLE; otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

A footnote on Action 3.8.1.1.c exempts the primary containment oxygen monitoring instrumentation subject to TS 3.3.7.5 from this requirement.

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The bases for TS 3.8.1 indicates that "required" means more than merely being subject to a TS LCO. A "required" system must also be considered a "critical" system where a loss of offsite power under the conditions prohibited by TS Action 3.8.1.1.c would result in a complete loss of a safety function. The bases for TS 3.8.1 states:

> When one diesel generator is inoperable, there is an additional ACTION requirement to verify that all required systems, subsystems, trains, components and devices, that depend on the remaining OPERABLE diesel generator as a source of emergency power, are also OPERABLE. This requirement is intended to provide assurance that a loss of offsite power event will not result in a complete loss of safety function of critical systems during the period one of the diesel generators is inoperable.

10 CFR 50.36, *Technical Specifications*, establishes requirements for technical specifications and establishes specific criteria which define the required scope and content of the technical specifications. The criteria provide some insight as to what constitutes a "critical system." 10 CFR 50.36(c)(2)(ii) requires that technical specifications limiting conditions for operation be established for items meeting any of the following criteria:

Criterion 1. Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

Criterion 2. A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Criterion 3. A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to a fission product barrier.

Criterion 4. A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

These criteria were developed by the NRC and industry during the mid-1980's as part of the Technical Specifications Improvement Project (TSIP). The first three criteria first appeared in the NRC Proposed Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors, published in the Federal Register on February 6, 1987 (52FR3788). The proposed policy statement recognized that the

SLCS would not satisfy any of the three criteria for inclusion in Technical Specifications. Of particular note is Criterion 3. SLCS is not part of the primary success path for any design basis accident or transient. Nor is SLCS on the primary success path for beyond design basis ATWS events. In an ATWS event, SLCS would be initiated if the primary path, RPT and ARI, were unsuccessful. However, the proposed policy statement identified SLCS, Reactor Core Isolation Cooling, Residual Heat Removal, and the Recirculation Pump Trip as systems which operating experience and probabilistic risk assessment have generally shown to be important to the public health and safety, a basis similar to the current Criterion 4. The final Policy Statement was published on July 22, 1993 (58FR39132). The final Policy Statement included the current Criterion 4.

All of the systems that are on the primary success path in the mitigation of design basis accidents and transients satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii). This includes the on-site and off-site A.C. sources required by GDC 17 under TS 3.8.1.1, as well as the systems necessary to mitigate design basis accidents and transients. SLCS is a Criterion 4 system. Furthermore, even if SLCS were considered to be a Criterion 3 system (suppose ATWS was considered a design basis transient), SLCS would not be on the primary success path for mitigation of an ATWS event.

The background discussion relating to the evolution of Criterion 4 indicates that it is intended to include systems that "operating experience and probabilistic risk assessment have generally shown to be important to public health and safety." It is noteworthy that the Fermi plant specific PSA and Configuration Risk Management Program mandated by TS 3.8.1.1, shows that removal of the entire SLCS in conjunction with an EDG is a low risk evolution. The PSA models SLCS as a whole, that is, not divisionalized. This is consistent with scheduling of maintenance for SLCS and the structure of SLCS related procedures.

The Improved Technical Specifications and associated basis further amplify the significance of Criterion 3 versus Criterion 4 in defining critical or required systems in the context of TS 3.8.1.1. ITS LCO 3.8.1 Action A.2 is analogous the TS Action 3.8.1.1.c in the current TS. The ITS bases for LCO 3.8.1 reiterates the fact that the TS requirements are related to mitigation of design basis accidents and transients. It follows that the required features that must be verified under ITS LCO 3.8.1 Action A.2 (and current TS Action 3.8.1.1.c) comprise the Criterion 3 systems included in TS. SLCS does not rise to the level of systems required by Criterion 3, which require verification under TS Action 3.8.1.1.c when an EDG is out-of-service.

<u>SLCS 'B' was Capable of Performing its Specified Functions</u>

SLCS is a manually actuated system which is credited with two backup functions as described above and in the bases for TS 3.1.5. SLCS "B" was removed from service

under LCO 99-0197 because of the loss of the continuity indication for the squib "B" circuit. An Engineering Functional Analysis subsequently determined that operability was unaffected in this configuration. At 1830 hrs on 5/4/99, the MCC position for SLCS "B" was tagged out to provide personnel protection for corrective maintenance on the SLCS "B" continuity circuit. This occurred during the same time that EDG 11 was out-of-service. EDG 11 would provide standby power for SLCS "A." No work was performed on SLCS "B" that would have prevented SLCS "B" from being restored by simple manual action of restoring the breaker at the MCC. The fundamental difference in this configuration is that activation of SLCS "B" in a loss-of-offsite power scenario would require an additional manual action outside the control room at the MCC. Restoration of the breaker for SLCS "B" under non-emergency circumstances took 17 minutes on 5/5/99 when NRC questioned the situation with EDG 11 and SLCS "B" both inoperable. Indications are that SLCS "B" could have been restored in significantly less time had an emergency existed necessitating its activation. Since SLCS is a manually actuated system, the additional manual action in an accessible area outside the control room would not have prevented SLCS 'B' from performing its specified function.

Generic Letter 91-18 (NRC Inspection Manual Part 9900, Operable/Operability: Ensuring the Functional Capability of a System or Component) provides guidance on determining operability for degraded and non-conforming conditions. Although, this guidance was not applied at the time the SLCS "B" breaker was opened, it can be applied retrospectively to assess whether or not a condition prohibited by TS actually existed. The central focus of this guidance is whether or not SLCS "B" was capable of performing its intended functions.

As discussed above, two functions are attributed to SLCS. The first relates to the GDC 26 function of providing a redundant reactivity control system, the primary function for SLCS described in the UFSAR. As discussed in the UFSAR, this function is not time critical. The second function relates to the 10 CFR 50.62 ATWS rule requirements for SLCS. No plant specific ATWS analysis is presented in the UFSAR. The ATWS rule prescribes overall functional requirements for SLCS based on generic analysis of ATWS events. The UFSAR to references General Electric topical reports (primarily NEDE-24222, December 1979) relating to ATWS.

The generic ATWS evaluation assumes the beyond design basis failure of the RPS to initiate a reactor trip in conjunction with the anticipated operational occurrences described in the UFSAR. The primary success path for ATWS is the automatic Recirculation Pump Trip (RPT) and Alternate Rod Insertion (ARI). The generic evaluation indicates that RPT results in an immediate substantial reduction in power into the 20-30% range. ARI provides a diverse method from RPS for initiating control rod insertion. SLCS would only be necessary if ARI was unsuccessful. The generic evaluation conservatively assumes ARI failure and relies on the backup SLCS. The

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generic evaluation assumes that SLCS is initiated at two minutes into the ATWS event. The reactor becomes subcritical in less than fifteen minutes.

For the situation considered in this CARD, the relevant ATWS transient involves a loss-of-offsite power. The LOOP results in closure of MSIVs and loss of the condenser as a heat sink. In this scenario all of the heat generated by the reactor is deposited in the suppression pool, resulting in suppression pool heat up and containment pressurization. The effect of having the SLCS "B" breaker open at the MCC would be to delay SLCS initiation by up to about 15 minutes. A simple energy balance on the containment indicates that the containment design pressure would not be exceeded assuming a 15-minute delay in initiating SLCS. The containment emergency pressurization limit should not be exceeded for and ATWS event. The energy balance assumes that all of the steam relieved into the suppression pool is condensed and that the pool mass increase associated with the condensed steam is negligible. No credit is taken for suppression pool cooling. It is expected that a more rigorous analysis would continue to support the conclusion that the containment pressurization limit would not be exceeded and that SLCS "B" was capable of performing its specified function for ATWS mitigation, and could have been considered operable.