

TECHNICAL SPECIFICATIONS TASK FORCE *A JOINT OWNERS GROUP ACTIVITY*

June 20, 2005

TSTF-05-10

U. S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, DC 20555-0001

SUBJECT: TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO"

Dear Sir or Madam:

Enclosed for NRC consideration is Technical Specification Task Force Traveler TSTF-439, Revision 2, "Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO." This revision addresses NRC comments.

We request that NRC review of the Traveler continue to be granted a fee waiver pursuant to the provisions of 10 CFR 170.11. Specifically, the request is to support NRC generic regulatory improvements (risk informed technical specifications), in accordance with 10 CFR 170.11(a)(1)(iii). This request is consistent with the NRC letter to A. R. Pietrangelo on this subject dated January 10, 2003.

Should you have any questions, please do not hesitate to contact us.

Wesley Spatkman (WOG)

Brian Woods (WOG/CE)

Enclosure

cc: Thomas H. Boyce, Technical Specifications Section, NRC

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Michael Crowthers (BWROG)

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Technical Specification Task Force Improved Standard Technical Specifications Change Traveler

Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO NUREGS Affected: 🔽 1430 🔀 1431 🖉 1432 🐼 1433 🐼 1434

Classification: 1) Technical Change

Recommended for CLIIP?: Yes

Correction or Improvement: Improvement

NRC Fee Status: Exempt

Benefit: Prevents Unnecessary Actions

Industry Contact: Wes Sparkman, (205) 992-5061, wasparkm@southernco.com

See attached justification.

Revision History

OG Revision 0

Revision Status: Closed

Revision Proposed by: Wolf Creek Revision Description: Original Issue

Owners Group Review Information

Date Originated by OG: 07-Feb-02

Owners Group Comments: (No Comments) Owners Group Resolution: Approved Date: 13-Feb-02

TSTF Review Information

TSTF Received Date:07-Feb-02Date Distributed for Review:13-Feb-02

OG Review Completed: \bigtriangledown BWOG \checkmark WOG \checkmark CEOG \checkmark BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 13-Feb-02

NRC Review Information

NRC Received Date: 03-Jun-02

Final Resolution: Superceded by Revision

Final Resolution Date: 04-Oct-02

20-Jun-05

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OG Revision 0

Revision Status: Closed

TSTF Revision 1

Revision Status: Closed

Revision Proposed by: TSTF

Revision Description:

TSTF-439 is revised. TSTF-439 deleted the last paragraph prior to the examples in Section 1.3. This paragraph states:

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.

Upon further consideration, the TSTF determined that all but the last two sentences of the paragraph should be retained. The discussion of "once per" Completion Times and of "from discovery" Completion Times is still applicable after implementation of this change. This change only deletes second Completion Times in a Condition that limit the maximum time an LCO can not be met. This type of condition is illustrated in Example 1.3-3, which is deleted by this change. The reference in the above paragraph to Example 1.3-3 must also be deleted. NUREG-1433 and 1434 contain single Completion Times based on failure to meet the LCO (for examples, see NUREG-1433 Required Actions of 3.3.5.1, 3.3.5.2, 3.3.7.1, and 3.4.2.) These Completion Times are unaffected by this proposed change and are described by the subject paragraph in Section 1.3.

To clarify the purpose of the change, the title is changed of TSTF-439 is changed from, "Eliminate Modified Time Zero Completion Times," to "Eliminate Second Completion Times Limiting Time From Discovery of Failure To Meet an LCO."

The third paragraph of Section 1.0, Description, is added to include a discussion of the NRC's letter of September 10, 2002 which states that TSTF-430, "AOT Extension to 7 Days for LPI and Containment Spray (BAW-2295-A, Rev. 1)" cannot be approved because it modifies a second Completion Time based on time of discovery of failure to meet an LCO. This is consistent with the discussion of the NRC's disposition of TSTF-417 and TSTF-409 in TSTF-439.

(Note: the NRC subsequently approved TSTF-430 and TSTF-409 with the originally proposed extensions of the the second Completion Times limiting time from discovery of failure to meet an LCO.)

TSTF Review Information

NRC Comments:

TSTF Received Date:	04-Oct-02	Date 1	Distributed fo	or Review: 04-Oct-02
OG Review Completed:	🗹 BWOG 🗹	WOG 🔽	CEOG 🗹	BWROG
TSTF Comments: (No Comments)				
TSTF Resolution: Ap	proved		Da	te: 21-Oct-02
NRC Review Infor	mation			•
NRC Received Date:	25-Oct-02			

Date of NRC Letter: 03-Mar-03

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20-Jun-05

TSTF Revision 1

Revision Status: Closed

3/3/03 - NRC provides letter requesting additional information.

TSTF-439 proposes to make changes to standard technical specifications (NUREGs 1430 through 1434) associated with all Nuclear Steam Supply System Vendor design LCO that contain second completion time limits, those completion times that reference the maximum time allowed during any single contiguous occurrence of failing to meet the LCO. For all STS NUREGs the affected specifications include LCO 3.8.1, AC Sources - Operating, and LCO 3.8.9, Distribution Systems - Operating. For BWOG, CEOG and WOG STS the affected specifications also include LCO 3.6.6, Containment Spray and Cooling Systems, and LCO 3.7.5, Auxiliary [Emergency] Feedwater System. For BWR/4 and BWR/6 STS the affected specifications also include LCO 3.1.7, Standby Liquid Control System.

The existing guidance for 10 CFR 50.65(a)(4) is not specific enough to ensure that all licensee programs for structure, system and component unavailability monitoring (Maintenance Rule) will assess and manage cumulative risk concerns regarding second completion time limits. This is because not enough overlap between the maintenance rule, TS, and the configuration risk management program exists to presume these operational limits would be managed by the associated system unavailability monitoring programs required by 10 CFR 50.65(a)(4).

Since TSTF-439 proposes to delete second completion time limits in their entirety, replacing them with unavailability monitoring programs required by 10 CFR 50.65(a)(4), the staff requests additional information to show that unavailability monitoring programs required by 10 CFR 50.65(a)(4) will result in appropriate operational limits and appropriately manage cumulative risks during second completion time limits. Provide a qualitative analysis which explains how the 10 CFR 50.65(a)(4) monitoring program will manage the same kind of limits that exist in standard technical specifications that are proposed for elimination. Discuss the quantitative approaches envisioned as required to support the risk analysis in the 10 CFR 50.65(a)(4) program.

9/23/03 - A series of discussions between the TSTF and the NRC resulted in an agreement to revise TSTF-439 to eliminate the second completion times limiting time from discovery of failure to meet an LCO and to revise (not delete) ISTS Example 1.3-3 to discuss that "flip flopping" between Conditions without meeting the LCO is inappropriate and licensees should establish administrative controls to avoid it.

Final Resolution: Superceded by Revision

TSTF Revision 2

Revision Status: Active

Revision Proposed by: TSTF

Revision Description:

TSTF-439 is revised based on discussions with the NRC. The changes are:

- Remarked pages on Revision 3 of the ISTS NUREGS.

- Retained Example 1.3-3. Revised the Actions to eliminate the second Completion Times limiting the time from discovery of failure to meet the LCO.

Revised the Example 1.3-3 discussion to state that repeatedly moving from Condition to Condition without meeting the LCO is inappropriate and licensees should establish administrative controls to prohibit the practice
Revised the justification to reflect these changes and to expand the discussion based on the extensive discussions held with the NRC on this matter.

TSTF Review Information

TSTF Received Date:18-Mar-05Date Distributed for Review:18-Mar-05OG Review Completed:Image: BWOG Image: BWOG Image: CEOG Image: BWROG

20-Jun-05

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TSTF-439, Rev. 2

TSTF Revision 2 Revision Status: Active

TSTF Comments: (No Comments) TSTF Resolution: Approved

Date: 20-Jun-05

NRC Review Information

NRC Received Date: 20-Jun-05

Affected Techni	cal Specifications	
1.3	Completion Times	
Action 3.1.7.B Bases	SLC System	
Action 3.8.1.A	AC Sources - Operating	
Action 3.8.1.A Bases	AC Sources - Operating	
Action 3.8.1.B	AC Sources - Operating	
Action 3.8.1.B Bases	AC Sources - Operating	
Action 3.8.9.A	Distribution Systems - Operating	
Action 3.8.9.A Bases	Distribution Systems - Operating	
Action 3.8.9.B	Distribution Systems - Operating	
Action 3.8.9.B Bases	Distribution Systems - Operating	
Action 3.8.9.C	Distribution Systems - Operating	
Action 3.8.9.C Bases	Distribution Systems - Operating	
Action 3.6.6.A	Containment Spray and Cooling Systems	NUREG(s)- 1430 Only
Action 3.6.6.A Bases	Containment Spray and Cooling Systems	NUREG(s)- 1430 Only
Action 3.6.6.C	Containment Spray and Cooling Systems	NUREG(s)- 1430 Only
Action 3.6.6.C Bases	Containment Spray and Cooling Systems	NUREG(s)- 1430 Only
Action 3.7.5.A	EFW System	NUREG(s)- 1430 Only
Action 3.7.5.A Bases	EFW System	NUREG(s)- 1430 Only

20-Jun-05

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Action	3.7.5.B	EFW System	NUREG(s)- 1430 Only
Action	3.7.5.B Bases	EFW System	NUREG(s)- 1430 Only
Action	3.7.5.B Bases	AFW System	NUREG(s)- 1431 1432 1433 1434 Only
Action	3.6.6B.A	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6A.A	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6A.A Bases	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6B.A Bases	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6B.B	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6B.B Bases	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6A.C	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.6.6A.C Bases	Containment Spray and Cooling Systems (Atmospheric and Dual)	NUREG(s)- 1431 1432 Only
Action	3.7.5.A	AFW System	NUREG(s)- 1431 1432 Only
Action	3.7.5.A Bases	AFW System	NUREG(s)- 1431 1432 Only
Action	3.7.5.B	AFW System	NUREG(s)- 1431 1432 Only
Action	3.1.7.A	SLC System	NUREG(s)- 1433 1434 Only
Action	3.1.7.A Bases	SLC System	NUREG(s)- 1433 1434 Only
Action	3.1.7.B	SLC System	NUREG(s)- 1433 1434 Only

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20-Jun-05

1.0 DESCRIPTION

In the Improved Standard Technical Specifications (NUREGs 1430 through 1434) (ISTS) a second Completion Time was included for certain Required Actions to establish a limit on the maximum time allowed for any combination of Conditions that result in a single continuous failure to meet the LCO. These Completion Times (henceforth referred to as "second Completion Times") are joined by an "AND" logical connector to the Condition-specific Completion Time and state "X days from discovery of failure to meet the LCO" (where "X" varies by specification). The intent of the second Completion Time was to preclude entry into and out of the ACTIONS for an indefinite period of time without meeting the LCO by providing a limit on the amount of time that the LCO could not be met for various combinations of Conditions.

The proposed Traveler deletes these second Completion Times from the affected Required Actions. It also revises ISTS Example 1.3-3 to remove the second Completion Times and to revise the discussion in that Example to state that alternating between Conditions in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO is inconsistent with the basis of the Completion Times and is inappropriate. Therefore, the licensee shall have administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the maximum time allowed for any combinations that result in a single contiguous occurrence of failing to meet the LCO.

2.0 <u>PROPOSED CHANGE</u>

NUREG-1430

ISTS Completion Times Example 1.3-3 is revised to eliminate the second completion times and to replace the discussion regarding second Completion Times with a new discussion. The second Completion Time associated with Technical Specification 3.6.6 Required Actions A.1 and C.1, Technical Specification 3.7.5 Required Actions A.1 and B.1, Technical Specification 3.8.1 Required Actions A.3 and B.4, and Technical Specification 3.8.9 Required Actions A.1, B.1, and C.1 is being deleted. The Bases associated with these Required Actions are also being revised to delete the discussion of the second Completion Time.

NUREG-1431 and NUREG-1432

ISTS Completion Times Example 1.3-3 is revised to eliminate the second completion times and to replace the discussion regarding second Completion Times with a new discussion. The second Completion Time associated with Technical Specification 3.6.6A Required Actions A.1 and C.1, Technical Specification 3.6.6B Required Actions A.1 and B.1, Technical Specification 3.7.5 Required Actions A.1 and B.1, Technical Specification 3.8.9 Required Actions A.1, B.1, and C.1 is being deleted. The Bases associated with these Required Actions are also being revised to delete the discussion of the second Completion Time.

NUREG-1433 and NUREG-1434

ISTS Completion Times Example 1.3-3 is revised to eliminate the second completion times and to replace the discussion regarding second Completion Times with a new discussion. The second Completion Time associated with Technical Specification 3.1.7 Required Actions A.1 and B.1, Technical Specification 3.8.1 Required Actions A.3 and B.4, and Technical Specification 3.8.9 Required Actions A.1, B.1, and C.1 is being deleted. The Bases associated with these Required Actions are also being revised to delete

the discussion of the second Completion Time.

3.0 BACKGROUND

Between July and December of 1991, the NRC and the ISTS lead plants discussed an issue affecting a small number of Technical Specifications that could theoretically allow indefinite operation of the plant while not meeting an LCO.

Put simply, if an LCO requires OPERABILITY of two systems, it is possible to enter the Condition for one inoperable system and before restoring the first system, the second system becomes inoperable. With the second system inoperable, the first system is restored to OPERABLE status. Before restoring the second system, the first system becomes inoperable again, and so on. Under this scenario, it would be theoretically possible to operate indefinitely without ever meeting the LCO. This also could occur with LCOs which require one only system to be OPERABLE, but for which the Conditions describe two or more mutually exclusive causes of inoperability.

An NRC internal memo dated August 5, 1991 described the issue. As stated in the memo, "In these Specifications the following phrase was added in the Completion Time column of the Conditions that could extend the AOT: '[10 days] from discovery of failure to meet the LCO.' The [10 day] Completion Time cap is found by adding the maximum Completion Times from the two Conditions that could extend the AOT."

The decision to add the second Completion Time is summarized in a memo from the NRC to the industry lead plant representatives dated December 16, 1991. Both memos are attached.

It is important to note that this issue of "flip flopping" between Conditions only applies if the LCO is not met. If the LCO requirements are met, even if for an instant, this issue does not occur. This is a highly unlikely scenario and the Industry argued that it would never occur, but the NRC believed it should be addressed when developing the ISTS because there were no other regulatory processes in place at that time which could prevent or respond to such a situation, should it occur.

Section 1.3 of the ISTS, Example 1.3-3, describes the use of this type of second Completion Time. The ISTS NUREGs contain these types of second Completion Times in the following Specifications:

- AC Sources Operating (BWRs and PWRs)
- Distribution Systems Operating. (BWRs and PWRs)
- Containment Spray and Cooling (PWRs)
- Auxiliary / Emergency Feedwater System (PWRs)
- Standby Liquid Control (SLC) System (BWRs)

The addition of these second Completion Times did not originally create an operational restriction because the likelihood of experiencing concurrent failures such that the second Completion Time is limiting is very remote.

However, these second Completion Times became a problem when the Industry proposed risk-informed Completion Times for some of the Specifications which contained the second Completion Times. Specifically TSTF-409, Containment Spray System Completion Time Extension (CE NPSD-1045-A), and TSTF-430, AOT Extension to 7 Days for LPI and Containment Spray (BAW-2295-A, Rev. 1). These Travelers extended a Completion Time and, following the methodology described in the August 5, 1991 memo, the second Completion Time was extended by the same amount (i.e., the second Completion Time continued to be the sum of the two Completion Times.) However, in letters to the TSTF dated November 15, 2001 and September 10, 2002, the NRC stated that the extension of the second Completion Time in TSTF-409 and TSTF-430 was inappropriate because one of the two Completion Times added to obtain the second Completion Time limit was risk based and the other was deterministic. On September 10, 2002, the NRC provided a letter making a similar statement regarding TSTF-430. Eventually, the NRC accepted that it was acceptable to add these two Completion Times and TSTF-409 and TSTF-430 were approved. However, second Completion Times complicate the presentation of the ISTS and complicate the implementation of risk-informed Completion Times. In addition, other regulatory requirements, not present when the ISTS NUREGs were originally developed, eliminate the need for these second Completion Times.

4.0 TECHNICAL ANALYSIS

The adoption of a second Completion Time was based on an NRC concern that a plant could continue to operate indefinitely with an LCO governing safety significant systems never being met by alternately meeting the requirements of separate Conditions. In 1991, the NRC could not identify any regulatory requirement or program which could prevent this misuse of the Technical Specifications. However, that is no longer the case. There are now two programs which would provide a strong disincentive to continued operation with concurrent multiple inoperabilities of the type the second Completion Times were designed to prevent.

The Maintenance Rule: 10 CFR 50.65 (a)(1), the Maintenance Rule, requires each licensee to monitor the performance or condition of SSCs against licensee-established goals to ensure that the SSCs are capable of fulfilling their intended functions. If the performance or condition of an SSC does not meet established goals, appropriate corrective action is required to be taken. The NRC Resident Inspectors monitor the licensee's Corrective Action process and could take action if the licensee's maintenance program allowed the systems required by a single LCO to become concurrently inoperable multiple times. The performance and condition monitoring activities required by 10 CFR 50.65 (a)(1) and (a)(2) would identify if poor maintenance practices resulted in multiple entries into the ACTIONS of the Technical Specifications and unacceptable unavailability of these SSCs. The effectiveness of these performance monitoring activities, and associated corrective actions, is evaluated at least every refueling cycle, not to exceed 24 months per 10 CFR 50.65 (a)(3).

Under the Technical Specifications the Completion Time for one system is not affected by other inoperable equipment. The second Completion Times were an attempt to influence the Completion Time for one system based on the condition of another system, if the two systems were required by the same LCO. However 10 CFR 50.65(a)(4) is a much better mechanism to apply this influence as the Maintenance Rule considers all inoperable risk-significant equipment, not just the one or two systems governed by the same LCO.

Under 10 CFR 50.65(a)(4), the risk impact of all inoperable risk-significant equipment is assessed and managed when performing preventative or corrective maintenance. The risk assessments are conducted using the procedures and guidance endorsed by Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed maintenance is acceptable. This

comprehensive program provides much greater assurance of safe plant operation than the second Completion Times in the Technical Specifications.

The Reactor Oversight Process: NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," describes the tracking and reporting of performance indicators to support the NRC's Reactor Oversight Process (ROP). The NEI document is endorsed by RIS 2001-11, "Voluntary Submission Of Performance Indicator Data." NEI 99-02, Section 2.2, describes the Mitigating Systems Cornerstone. NEI 99-02 specifically addresses emergency AC Sources (which encompasses the AC Sources and Distribution System LCOs), and the Auxiliary feedwater system. Extended unavailability of these systems due to multiple entries into the ACTIONS would affect the NRC's evaluation of the licensee's performance under the ROP.

In addition to these programs, a requirement is added to Section 1.3 of the Technical Specifications to require licensees to have administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls should consider plant risk and shall limit the maximum contiguous time of failing to meet the LCO. This Technical Specification requirement, when considered with the regulatory processes discussed above, provide an equivalent or superior level of plant safety without the unnecessary complication of the Technical Specifications by second Completion Times on some Specifications.

Each of the Specifications affected by this Traveler are discussed below.

AC Sources - Operating (BWRs and PWRs)

Specification 3.8.1, AC Sources - Operating, has a 72 hour Completion Time for one offsite circuit inoperable (Condition A) and a 72 hour Completion Time for one diesel generator inoperable (Condition B). Both Condition A and Condition B have a second Completion Time of "6 days from discovery of failure to meet the LCO." The second Completion Time limits plant operation when Condition A or B is entered, and before the inoperable system is restored, the other Condition is entered, and then the first inoperable system is restored, and before the remaining inoperable system is restored, the other Condition D which applies when an offsite circuit and a DG are inoperable. It limits plant operation in this Condition to 12 hours. See Example 1 for an illustration.



Example 1

As stated above, the Reactor Oversight Process monitors the availability of mitigating systems, including the emergency AC sources (DG unavailability). Such frequent, repeated failures of the AC sources would be reported to the NRC and this represents a strong disincentive to such operation.

Distribution Systems - Operating (BWRs and PWRs)

Specification 3.8.9, Distribution Systems - Operating, has an 8 hour Completion Time for one or more AC electrical power distribution subsystems inoperable (Condition A), and a 2 hour Completion Time for one or more AC vital buses (Condition B) or one or more DC electrical power subsystems (Condition C) inoperable . Conditions A, B, and C have a second Completion Time of 16 hours from discovery of failure to meet the LCO. Condition E applies if two or more electrical distribution subsystems are inoperable and, if it results in a loss of safety function, LCO 3.0.3 must be entered immediately. See Example 2.



Example 2

The second Completion Time is not needed. First, it is unusual for an AC electrical power subsystem or AC vital bus to be inoperable without causing a reactor trip. Secondly, Completion Times are very short (8 and 2 hours) providing little time to restore systems such that the Conditions overlap and multiple inoperabilities occur. Lastly, should any overlapping inoperabilities that result in a loss of safety function occur, a plant shutdown in accordance with LCO 3.0.3 is required.

Containment Spray and Cooling (PWRs)

Specification 3.6.6A, Containment Spray and Cooling Systems (Credit taken for iodine removal), has a 72 hour Completion Time for one containment spray train inoperable (Condition A) and a 7 day Completion Time for one containment cooling train inoperable (Condition B). Conditions A and B have a second Completion Time of 10 days from discovery of failure to meet the LCO. Condition F also states that if two containment spray trains are inoperable or any combination of three or more trains are inoperable, LCO 3.0.3 must be entered immediately. Specification 3.6.6B, Containment Spray and Cooling Systems (Credit not taken for iodine removal), has a 7 day Completion Time for one containment spray train inoperable (Condition A) and a 7 day Completion Time for one containment spray train inoperable (Condition B). Conditions A and B have a second Completion Time for one containment spray train inoperable (Condition A) and a 7 day Completion Time for one containment cooling train inoperable (Condition B). Conditions A and B have a second Completion Time of 14 days from

discovery of failure to meet the LCO. Condition G also states that if any combination of three or more trains are inoperable, LCO 3.0.3 must be entered immediately. See Example 3 for an illustration of Specification 3.6.6A.



Example 3

The second Completion Time is not needed. Any combination of two of the four trains can perform the safety function. Adverse combinations require entry into LCO 3.0.3. The second Completion Time restricts operation with only one train inoperable, but that is unnecessary because when one train is inoperable, there are still three operable trains and only two trains are needed to perform the safety function. Therefore, the second Completion Time is overly restrictive.

Auxiliary / Emergency Feedwater System (PWRs)

Specification 3.7.5, Auxiliary Feedwater System (NUREG-1430 - Emergency Feedwater System) has a 7 day Completion Time for one inoperable steam supply to a turbine driven AFW pump (rendering the turbine driven AFW pump inoperable) (Condition A) and a 72 hour Completion Time for one AFW train inoperable (Condition B). Conditions A and B have a second Completion Time of 10 days from discovery of failure to meet the LCO. In order for the second Completion Time to be limiting, entry into and out of Conditions A and B must occur, which requires the turbine driven and motor driven AFW pumps to be concurrently inoperable. However, Condition C states that if AFW trains are inoperable the plant must be in MODE 3 in 6 hours and MODE 4 in 18 hours. See Example 4.





The second Completion Time is not needed. For the second Completion Time to be limiting, Conditions A and B must be entered concurrently. However, Condition C requires an immediate shutdown when two trains are inoperable. Therefore, the second Completion Time will never be limiting and can be removed. In addition, the Reactor Oversight Process monitors the availability of the AFW system. Such frequent, repeated failures of the AFW system would be reported to the NRC and this represents a strong disincentive to such operation.

Standby Liquid Control (SLC) System (BWRs)

Specification 3.1.7, Standby Liquid Control has a 7 day Completion Time for one inoperable SLC subsystem (Condition B) and a 72 hour Completion Time for the boron concentration of the boron solution storage tank not within limits (Condition A). The boron solution storage tank is shared by both SLC trains. Conditions A and B have a second Completion Time of 10 days from discovery of failure to meet the LCO. See Example 5.



Example 5

The second Completion Time is not needed. There are other similar specifications which provide for the parameters of a common tank to be inoperable (for example, PWR Refueling Water Storage Tank) which do not employ a second Completion Time. There is also no significant safety concern. As stated in the Bases, when in Condition A the SLC systems are capable of performing their original design basis function and the SLC system capability still exists for vessel injection. Therefore, the second Completion Time is overly conservative and not required.

In addition to these regulatory programs, Section 1.3 of the Technical Specifications is revised to require administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

Based on the above discussions, the concern regarding multiple continuous entries into Conditions without meeting the LCO is addressed by the system unavailability monitoring programs described above and the administrative controls required by Section 1.3 of the Technical Specifications. Therefore, this potential concern is no longer an issue and the Technical Specifications can be simplified by eliminating the second Completion Times with no detriment to plant safety.

5.0 REGULATORY ANALYSIS

5.1 No Significant Hazards Consideration

NUREG-1430, Standard Technical Specifications for Babcock & Wilcox plants, is modified. Completion Times Example 1.3-3 is revised to eliminate the second completion times and to replace the discussion regarding second Completion Times with a new discussion. The second Completion Time associated with Technical Specification 3.6.6 Required Actions A.1 and C.1, Technical Specification 3.7.5 Required Actions A.1 and B.1, Technical Specification 3.8.1 Required Actions A.3 and B.4, and Technical Specification 3.8.9 Required Actions A.1, B.1, and C.1 is being deleted. The Bases associated with these Required Actions are also being revised to delete the discussion of the second Completion Time.

NUREG-1431 and NUREG-1432, Standard Technical Specifications for Westinghouse and Combustion Engineering plants, respectively, are modified. Completion Times Example 1.3-3 is revised to eliminate the second completion times and to replace the discussion regarding second Completion Times with a new discussion. The second Completion Time associated with Technical Specification 3.6.6A Required Actions A.1 and C.1, Technical Specification 3.6.6B Required Actions A.1 and B.1, Technical Specification 3.7.5 Required Actions A.1 and B.1, Technical Specification 3.8.1 Required Actions A.3 and B.4, and Technical Specification 3.8.9 Required Actions A.1, B.1, and C.1 is being deleted. The Bases associated with these Required Actions are also being revised to delete the discussion of the second Completion Time.

NUREG-1433 and NUREG-1434, Standard Technical Specifications for Boiling Water Reactors, BWR/4 and BWR/6 respectively, are modified. Completion Times Example 1.3-3 is revised to eliminate the second completion times and to replace the discussion regarding second Completion Times with a new discussion. The second Completion Time associated with Technical Specification 3.1.7 Required Actions A.1 and B.1, Technical Specification 3.8.1 Required Actions A.3 and B.4, and Technical Specification 3.8.9 Required Actions A.1, B.1, and C.1 is being deleted. The Bases associated with these Required Actions are also being revised to delete the discussion of the second Completion Time.

The TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes eliminate certain Completion Times from the Technical Specifications. Completion Times are not an initiator to any accident previously evaluated. As a result, the probability of an accident previously evaluated is not affected. The consequences of an accident during the revised Completion Time are no different than the consequences of the same accident during the existing Completion Times. As a result, the consequences of an accident previously evaluated are not affected by this change. The proposed changes do not alter or prevent the ability of structures, systems, and components (SSCs) from performing their intended function to mitigate the consequences of an initiating event within the assumed acceptance limits. The proposed changes do not affect the source term, containment isolation, or radiological release assumptions used in evaluating the radiological consequences of an accident previously evaluated. Further, the proposed changes do not increase the types or amounts of radioactive effluent that may be released offsite, nor significantly increase individual or cumulative occupational/public radiation exposures. The proposed changes are consistent with the safety analysis assumptions and resultant consequences.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The changes do not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. The changes do not alter any assumptions made in the safety analysis.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

The proposed change to delete the second Completion Time does not alter the manner in which safety limits, limiting safety system settings or limiting conditions for operation are determined. The safety analysis acceptance criteria are not affected by this change. The proposed changes will not result in plant operation in a configuration outside of the design basis.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements

10 CFR 50.36, "Technical Specifications." 10 CFR 50.36(c)(2) states, "When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met." The revised Actions continue to meet the requirements of this regulation.

10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." The overall objective of this performance-based rule is to ensure that nuclear power plant structures, systems, and components (SSCs) will be maintained so that they will perform their intended function when required.

Based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

7.0 <u>REFERENCES</u>

- 1. Memorandum from Gordon Vytlacil (NRC) to TSPS (NRC), dated August 5, 1991, "Summary of potential Allowed Outage Time (AOT) extension issue."
- 2. Gordon M. Vytlacil (NRC) to Lee Bush (WOG), et al, dated December 16, 1991, "Information on the Completion Time Cap to be discussed at Wednesdays meeting with Chris Grimes."

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<u>INSERT</u>

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

1.3 Completion Times

DESCRIPTION (continued)

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate reentry into the Condition (for each train, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

1.3 Completion Times

EXAMPLES (continued)

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

EXAMPLE 1.3-3

ACTIONS

CON	DITION	REQUIRED ACTION	COMPLETION TIME
A. One Func train inope	ction X erable.	A.1 Restore Function X train to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
B. One Func train inope	tion Y erable.	B.1 Restore Function Y train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
C. One Func train inope <u>AND</u> One Func train inope	etion X erable. Stion Y erable.	 C.1 Restore Function X train to OPERABLE status. <u>OR</u> C.2 Restore Function Y train to OPERABLE status. 	72 hours 72 hours

1.3 Completion Times

EXAMPLES (continued)

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected train was declared inoperable (i.e., initial entry into Condition A).

The Completion Times of Conditions A and B are modified by a logical connector, with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met.—In this example, without the separate Completion Time, it would be possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock." In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition was entered.



3.6 CONTAINMENT SYSTEMS

- 3.6.6 Containment Spray and Cooling Systems
- LCO 3.6.6 Two containment spray trains and two containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1	Restore containment spray train to OPERABLE status.	[7] days <u>AND</u> [14] days from discovery of failure to meet the LCO
B. Required Action and associated Completion Time of Condition A not met.	B.1 <u>AND</u> B.2	Be in MODE 3. Be in MODE 5.	6 hours 84 hours
C. One [required] containment cooling train inoperable.	C.1	Restore [required] containment cooling train to OPERABLE status.	7 days <u>AND</u> [14] days from discovery of failure to meet the LCO

3.7 PLANT SYSTEMS

3.7.5 Emergency Feedwater (EFW) System

LCO 3.7.5 [Three] EFW trains shall be OPERABLE.

Only one EFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

APPLICABILITY: MODES 1, 2, and 3, MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

LCO 3.0.4.b is not applicable when entering MODE 1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. [One steam supply to turbine driven EFW pump inoperable.	A.1 Restore affected equipment to OPERABLE status.	7 days <u>AND</u>
OR NOTE Only applicable if MODE 2 has not been entered following refueling.		10 days from discovery of failure to meet the LCO]
One turbine driven EFW pump inoperable in MODE 3 following refueling.		

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ACTIONS (continued)

CONDITION		REQUIRED ACTION	COMPLETION TIME
 B. One EFW train inoperable [for reasons other than Condition A] in MODE 1, 2, or 3. 	B.1	Restore EFW train to OPERABLE status.	72 hours <u>AND</u> [10 days from discovery of failure to meet the LCO
 C. Required Action and associated Completion Time of Condition A [or B] not met. [OR] Two EFW trains inoperable in MODE 1, 2, or 3.] 	C.1 <u>AND</u> C.2	Be in MODE 3. Be in MODE 4.	6 hours [18] hours
 D. [Three] EFW trains inoperable in MODE 1, 2, or 3. 	D.1	NOTE LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one EFW train is restored to OPERABLE status. Initiate action to restore one EFW train to OPERABLE status.	Immediately
E. Required EFW train inoperable in MODE 4.	E.1	Initiate action to restore EFW train to OPERABLE status.	Immediately

ACTIONS (continued)

CONDITION		REQUIRED ACTION	COMPLETION TIME
	A.3	Restore [required] offsite	72 hours
		status.	AND
			6-days from discovery of failure to meet LCO
B. One [required] DG	B.1	Perform SR 3.8.1.1 for	1 hour
		offsite circuit(s).	AND
			Once per 8 hours thereafter
	<u>AND</u>		
	B.2	Declare required feature(s) supported by the inoperable DG inoperable when its redundant required feature(s) is inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>		
	B.3.1	Determine OPERABLE DG(s) is not inoperable due to common cause failure.	[24] hours
	OF	2	
	B.3.2	Perform SR 3.8.1.2 for OPERABLE DG(s).	[24] hours
	<u>AND</u>		

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ACTIONS (continued)

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CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.4 Restore [required] DG to OPERABLE status.	72 hours <u>ANÐ</u> 6 days from discovery of failure to meet LCO
C. Two [required] offsite circuits inoperable.	C.1 Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)
	AND	
	C.2 Restore one [required] offsite circuit to OPERABLE status.	24 hours
 D. One [required] offsite circuit inoperable. <u>AND</u> One [required] DG inoperable. 	NOTE Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating," when Condition D is entered with no AC power source to any train.	
	D.1 Restore [required] offsite circuit to OPERABLE status.	12 hours
	OR	
	D.2 Restore [required] DG to OPERABLE status.	12 hours

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3.8 ELECTRICAL POWER SYSTEMS

- 3.8.9 Distribution Systems Operating
- LCO 3.8.9 Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more AC electrical power distribution subsystems inoperable.	Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC trains made inoperable by inoperable power distribution subsystems.	
	A.1 Restore AC electrical power distribution subsystem(s) to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
 B. One or more AC vital buses inoperable. 	B.1 Restore AC vital bus subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO

ACTIONS (continued)

CONDITION		REQUIRED ACTION	COMPLETION TIME
C. One or more DC electrical power distribution subsystems inoperable.	C.1	Restore DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
D. Required Action and associated Completion Time not met.	D.1 <u>AND</u> D.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
E. Two or more electrical power distribution subsystems inoperable that result in a loss of function.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, and AC vital bus electrical power distribution subsystems.	7 days

ACTIONS

A.1

With one containment spray train inoperable, action must be taken to restore it to OPERABLE status within [7] days. In this condition, the remaining OPERABLE containment spray train is adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure to the remaining containment spray train could result in loss of spray function. The [7] day Completion Time is reasonable to perform corrective maintenance on the inoperable containment spray train. The [7] day Completion Time is based on the findings of the deterministic and probabilistic analysis in Reference 5. Reference 5 concluded that extending the Completion Time to [7] days for an inoperable containment spray train proves plant operational flexibility while simultaneously reducing overall plant risk. This is because the risks incurred by having the containment spray train unavailable for a longer time at power will be substantially offset by the benefits associated with avoiding unnecessary plant transitions and by reducing risk during plant shutdown operations.

The [14] day portion of the Completion Time for Required Action A.1-is based-upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this LCO coupled with the low-probability of an accident occurring during this time.—Refer-to Section 1.3, Completion Times, for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Times.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time to attempt restoration of the containment spray train and is reasonable when considering the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

ACTIONS (continued)

<u>C.1</u>

With one of the required containment cooling trains inoperable, the inoperable containment cooling train must be restored to OPERABLE status within 7 days. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

The [14] day portion of the Completion Time for Required Action C.1 is based-upon engineering judgment.—It takes into account the low probability of coincident entry into two Conditions in this LCO coupled with the low probability of an accident occurring during this time.—Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

D.1 and D.2

With one containment spray and one [required] containment cooling train inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period.

<u>E.1</u>

With two of the required containment cooling trains inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition (both spray trains are OPERABLE or else Condition G is entered) provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

ACTIONS A Note prohibits the application of LCO 3.0.4.b to an inoperable EFW train when entering MODE 1. There is an increased risk associated with entering MODE 1 with EFW inoperable and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

[<u>A.1</u>

With one of the two steam supplies to the turbine driven EFW pump inoperable, or if a turbine driven pump is inoperable while in MODE 3 immediately following refueling, action must be taken to restore the inoperable equipment to an OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

- a. For the inoperability of a steam supply to the turbine driven EFW pump, the 7 day Completion Time is reasonable since there is a redundant steam supply line for the turbine driven pump.
- b. For the inoperability of a turbine driven EFW pump while in MODE 3 immediately subsequent to a refueling, the 7 day Completion Time is reasonable due to the minimal decay heat levels in this situation.
- c. For both the inoperability of a steam supply line to the turbine driven pump and an inoperable turbine driven EFW pump while in MODE 3 immediately following refueling, the 7 day Completion Time is reasonable due to the availability of redundant OPERABLE motor driven EFW pumps, and due to the low probability of an event requiring the use of the turbine driven EFW pump.

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

ACTIONS (continued)

Condition A is modified by a Note which limits the applicability of the Condition to when the unit has not entered MODE 2 following a refueling. Condition A allows one EFW train to be inoperable for 7 days vice the 72 hour Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical.]

<u>B.1</u>

When one of the required EFW trains (pump or flow path) is inoperable, action must be taken to restore the train to OPERABLE status within 72 hours. This Condition includes the loss of two steam supply lines to one of the turbine driven EFW pumps. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the EFW System, time needed for repairs, and the low probability of a DBA occurring during this time period. The second Completion Time for Required Action B.1-establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion-Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO.—This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

C.1 and C.2

When either Required Action A.1 or Required Action B.1 cannot be completed within the required Completion Time, [or when two EFW trains are inoperable in MODE 1, 2, or 3,] the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 4 within [18] hours.

The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

ACTIONS (continued)

If at any time during the existence of Condition A (one offsite circuit inoperable) a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked,

Discovering no offsite power to one train of the onsite Class 1E Electrical Power Distribution System coincident with one or more inoperable required support or supported features, or both, that are associated with the other train that has offsite power, results in starting the Completion Times for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to Train A and Train B of the onsite Class 1E Distribution System. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

<u>A.3</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours. With one offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the unit safety systems. In this Condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System.

The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DG is inoperable and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 72 hours. This could lead

ACTIONS (continued)

to a total of 144 hours, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between the 72 hour and 6 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

As in Required Action A.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition A was entered.

<u>B.1</u>

To ensure a highly reliable power source remains with an inoperable DG, it is necessary to verify the availability of the offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions and Required Actions must then be entered.

ACTIONS (continued)

B.3.1 and B.3.2

Required Action B.3.1 provides an allowance to avoid unnecessary testing of OPERABLE DG(s). If it can be determined that the cause of the inoperable DG does not exist on the OPERABLE DG, SR 3.8.1.2 does not have to be performed. If the cause of inoperability exists on other DG(s), the other DG(s) would be declared inoperable upon discovery and Condition E of LCO 3.8.1 would be entered. Once the failure is repaired, the common cause failure no longer exists and Required Action B.3.1 is satisfied. If the cause of the initial inoperable DG cannot be confirmed not to exist on the remaining DG(s), performance of SR 3.8.1.2 suffices to provide assurance of continued OPERABILITY of that DG.

In the event the inoperable DG is restored to OPERABLE status prior to completing either B.3.1 or B.3.2, the [plant corrective action program] will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition B.

According to Generic Letter 84-15 (Ref. 7), [24] hours is reasonable to confirm that the OPERABLE DG(s) is not affected by the same problem as the inoperable DG.

<u>B.4</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition B for a period that should not exceed 72 hours.

In Condition B, the remaining OPERABLE DG and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.4-establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an offsite circuit is inoperable and that circuit is subsequently restored

ACTIONS (continued)

OPERABLE, the LCO may already have been not met for up to 72 hours. This could lead to a total of 144 hours, since initial failure to meet the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Condition A and Condition B are entered concurrently. The "<u>AND</u>" connector between the 72 hour and 6 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be mot.

As in Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition B was entered.

C.1 and C.2

Required Action C.1, which applies when two offsite circuits are inoperable, is intended to provide assurance that an event with a coincident single failure will not result in a complete loss of redundant required safety functions. The Completion Time for this failure of redundant required features is reduced to 12 hours from that allowed for one train without offsite power (Required Action A.2). The rationale for the reduction to 12 hours is that Regulatory Guide 1.93 (Ref. 6) allows a Completion Time of 24 hours for two required offsite circuits inoperable, based upon the assumption that two complete safety trains are OPERABLE. When a concurrent redundant required feature failure exists, this assumption is not the case, and a shorter Completion Time of 12 hours is appropriate. These features are powered from redundant AC safety trains. This includes motor driven auxiliary feedwater pumps. Single train features, such as turbine driven auxiliary pumps, are not included in the list.
ACTIONS (continued)

Condition A worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of:

- a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train to the actions associated with taking the unit to shutdown within this time limit and
- b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

The second Completion Time for Required Action A.1-establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 2 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC-circuit could again become inoperable, and AC-distribution restored OPERABLE. This could continue indefinitely.

The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

Required Action A.1 is modified by a Note that requires the applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," to be entered for DC trains made inoperable by inoperable power distribution subsystems. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. Inoperability of a distribution system can result in loss of charging power to batteries and eventual loss of DC power. This Note ensures that the appropriate attention is given to restoring charging power to batteries, if necessary, after loss of distribution systems.

ACTIONS (continued)

The 2 hour Completion Time takes into account the importance to safety of restoring the AC vital bus to OPERABLE status, the redundant capability afforded by the other OPERABLE vital buses, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not-met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time, an AC train could again become inoperable, and vital bus distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

<u>C.1</u>

With one or more DC buses or distribution panels inoperable, and a loss of function has not yet occurred, the remaining DC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, the [required] DC buses and distribution panels must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

Condition C represents one or more DC buses or distribution panels without adequate DC power; potentially both with the battery significantly degraded and the associated charger nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining trains and restoring power to the affected train.

ACTIONS (continued)

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components that are without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

- a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) while allowing stable operations to continue,
- b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions to restore power to the affected train, and
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC-bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC train could again become inoperable and DC distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

DESCRIPTION (continued)

b. Must remain inoperable or not within limits after the first inoperability is resolved.

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate re-entry into the Condition (for each train, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion-Time. The 10 day Completion-Time specified for Conditions A and B in Example 1.3-3 may not be extended.

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLES (continued)

EXAMPLE 1.3-3

ACTIONS

A.1 Restore Function X train to OPERABLE status.	7 days
	AND 10 days from discovery of failure to meet the LCO
B.1 Restore Function Y train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
 C.1 Restore Function X train to OPERABLE status. OR C.2 Restore Function Y train to OPERABLE status. 	72 hours 72 hours
	 status. 8.1 Restore Function Y train to OPERABLE status. 2.1 Restore Function X train to OPERABLE status. 2.2 Restore Function Y train to OPERABLE status.

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

EXAMPLES (continued)

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected train was declared inoperable (i.e., initial entry into Condition A).

The Completion Times of Conditions A and B are modified by a logical connector with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met. In this example, without the separate Completion Time, it would be possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock." In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition, was entered.



3.6 CONTAINMENT SYSTEMS

- 3.6.6A Containment Spray and Cooling Systems (Atmospheric and Dual) (Credit taken for iodine removal by the Containment Spray System)
- LCO 3.6.6A Two containment spray trains and [two] containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

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CONDITION		REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1	Restore containment spray train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to moot the LCO
 B. Required Action and associated Completion Time of Condition A not met. 	B.1 <u>AND</u> B.2	Be in MODE 3. Be in MODE 5.	6 hours 84 hours
C. One [required] containment cooling train inoperable.	C.1	Restore [required] containment cooling train to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
D. Two [required] containment cooling trains inoperable.	D.1	Restore one [required] containment cooling train to OPERABLE status.	72 hours

3.6 CONTAINMENT SYSTEMS

- 3.6.6B Containment Spray and Cooling Systems (Atmospheric and Dual (Credit not taken for iodine removal by the Containment Spray System)
- LCO 3.6.6B Two containment spray trains and [two] containment cooling trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1	Restore containment spray train to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to moet the LCO
B. One [required] containment cooling train inoperable.	B.1	Restore [required] containment cooling train to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to meet the LCO
C. Two containment spray trains inoperable.	C.1	Restore one containment spray train to OPERABLE status.	72 hours

3.7 PLANT SYSTEMS

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- 3.7.5 Auxiliary Feedwater (AFW) System
- LCO 3.7.5 [Three] AFW trains shall be OPERABLE.

[Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.]

APPLICABILITY: MODES 1, 2, and 3, MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION		REQUIRED ACTION	COMPLETION TIME
A. [One steam supply to turbine driven AFW pump inoperable.	A.1	Restore affected equipment to OPERABLE status.	7 days <u>AND</u>
OR NOTE Only applicable if MODE 2 has not been entered following refueling.		· · · · · · · · · · · · · · · · · · ·	10 days from discovery of failure to moot the LCO]
One turbine driven AFW pump inoperable in MODE 3 following refueling.			

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CONDITION		REQUIRED ACTION	COMPLETION TIME
 B. One AFW train inoperable in MODE 1, 2, or 3 [for reasons other than Condition A]. 	B.1	Restore AFW train to OPERABLE status.	72 hours <u>AND</u> [10 days from discovery of failure to moot the LCO]
C. Required Action and associated Completion Time for Condition A [or B] not met. [OR Two AFW trains inoperable in MODE 1, 2, or 3.]	C.1 <u>AND</u> C.2	Be in MODE 3. [Be in MODE 4.	6 hours [18] hours]
 D. [Three] AFW trains inoperable in MODE 1, 2, or 3. 	D.1	NOTE LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. Initiate action to restore one AFW train to OPERABLE status.	Immediately]
E. Required AFW train inoperable in MODE 4.	E.1	Initiate action to restore AFW train to OPERABLE status.	Immediately

Noriono (continued)			
CONDITION		REQUIRED ACTION	COMPLETION TIME
	A.3	Restore [required] offsite circuit to OPERABLE	72 hours
		status.	
			6-days-from discovery of failure to meet LCO
B. One [required] DG	B.1	Perform SR 3.8.1.1 for the	1 hour
			AND
			Once per 8 hours thereafter
	AND		
	B.2	Declare required feature(s) supported by the inoperable DG inoperable when its required redundant feature(s) is inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required
	AND		leature(s)
	B.3.1	Determine OPERABLE DG(s) is not inoperable due to common cause failure.	[24] hours
	OF	<u>R</u>	
	B.3.2	Perform SR 3.8.1.2 for OPERABLE DG(s).	[24] hours
	AND		

CONDITION		REQUIRED ACTION	COMPLETION TIME
	B.4	Restore [required] DG to OPERABLE status.	72 hours <u>AND</u> 6-days-from-discovery of-failure-to-meet-LCO
C. Two [required] offsite circuits inoperable.	C.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required features
	AND		
	C.2	Restore one [required] offsite circuit to OPERABLE status.	24 hours
 D. One [required] offsite circuit inoperable. <u>AND</u> One [required] DG inoperable. 	Enter Requi "Distri when AC po	applicable Conditions and red Actions of LCO 3.8.9, bution Systems - Operating," Condition D is entered with no wer source to any train.	
	D.1	Restore [required] offsite circuit to OPERABLE status.	12 hours
	<u>OR</u>		
	D.2	Restore [required] DG to OPERABLE status.	12 hours

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3.8 ELECTRICAL POWER SYSTEMS

- 3.8.9 Distribution Systems Operating
- LCO 3.8.9 Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

<u>ACTIONS</u>		
CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more AC electrical power distribution subsystems inoperable.	Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC trains made inoperable by inoperable power distribution subsystems.	
	A.1 Restore AC electrical power distribution subsystem(s) to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
B. One or more AC vital buses inoperable.	B.1 Restore AC vital bus subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO

CONDITION		REQUIRED ACTION	COMPLETION TIME
C. One or more DC electrical power distribution subsystems inoperable.	C.1	Restore DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
D. Required Action and associated Completion Time not met.	D.1 <u>AND</u> D.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours
E. Two or more electrical power distribution subsystems inoperable that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, and AC vital bus electrical power distribution subsystems.	7 days

ACTIONS (continued)

The 10 day portion of the Completion Time for Required Action A.1 is based upon engineering judgment.—It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time for attempting restoration of the containment spray train and is reasonable when considering the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

<u>C.1</u>

With one of the required containment cooling trains inoperable, the inoperable required containment cooling train must be restored to OPERABLE status within 7 days. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of DBA occurring during this period.

The 10 day portion of the Completion Time for Required Action C.1 is based upon ongineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

BASES	
LCO (continued)	
	Each Containment Cooling System typically includes demisters, cooling coils, dampers, instruments, and controls to ensure an OPERABLE flow path.
APPLICABILITY	In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature requiring the operation of the containment spray trains and containment cooling trains.
	In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray System and the Containment Cooling System are not required to be OPERABLE in MODES 5 and 6.
ACTIONS	<u>A.1</u>
	If one containment spray train is inoperable, it must be restored to OPERABLE status within 7 days. The components in this degraded condition are capable of providing at least 100% of the heat removal needs (for the condition of one containment spray train inoperable) after an accident. The 7 day Completion Time was chosen in light of the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of DBA occurring during this period.
	The 14 day portion of the Completion Time for Required Action A.1-is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this LCO-coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, Completion Times, for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Times.
	<u>B.1</u>
	If one of the required containment cooling trains is inoperable, it must be restored to OPERABLE status within 7 days. The components in this degraded condition are capable of providing at least 100% of the heat removal needs (for the Condition of one containment cooling train inoperable) after an accident. The 7 day Completion Time was chosen based on the same reasons as given in Required Action A.1.

ACTIONS (continued)

The 14 day portion of the Completion Time for Required Action B.1 is based-upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low-probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

<u>C.1</u>

With two of the required containment spray trains inoperable, one must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was chosen in light of the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, reasonable time for repairs, and low probability of DBA occurring during this period.

D.1 and D.2

If one required containment spray train is inoperable and one of the required containment cooling trains is inoperable, the inoperable containment spray train or the inoperable containment cooling train must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was chosen based on the same reasons as those given in Required Action C.1.

<u>E.1</u>

If two required containment cooling trains are inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was chosen based on the same reasons as those given in Required Action C.1.

ACTIONS (continued)

c. For both the inoperability of a steam supply line to the turbine driven pump and an inoperable turbine driven AFW pump while in MODE 3 immediately following a refueling outage, the 7 day Completion Time is reasonable due to the availability of redundant OPERABLE motor driven AFW pumps, and due to the low probability of an event requiring the use of the turbine driven AFW pump.

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between 7-days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

Condition A is modified by a Note which limits the applicability of the Condition to when the unit has not entered MODE 2 following a refueling. Condition A allows one AFW train to be inoperable for 7 days vice the 72 hour Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical.]

<u>B.1</u>

With one of the required AFW trains (pump or flow path) inoperable in MODE 1, 2, or 3 [for reasons other than Condition A], action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of two steam supply lines to the turbine driven AFW pump. The 72 hour Completion Time is reasonable, based on redundant capabilities afforded by the AFW System, time needed for repairs, and the low probability of a DBA occurring during this time period.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

ACTIONS (continued)

Discovering no offsite power to one train of the onsite Class 1E Electrical Power Distribution System coincident with one or more inoperable required support or supported features, or both, that are associated with the other train that has offsite power, results in starting the Completion Times for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to Train A and Train B of the onsite Class 1E Distribution System. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

<u>A.3</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours. With one offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the unit safety systems. In this Condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System.

The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DG is inoperable and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 72 hours. This could lead to a total of 144 hours, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time allowed in a specified

ACTIONS (continued)

condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The "<u>AND</u>" connector between the 72 hour and 6 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

As in Required Action A.2, the Completion Time-allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition A was entered.

<u>B.1</u>

To ensure a highly reliable power source remains with an inoperable DG, it is necessary to verify the availability of the offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions and Required Actions must then be entered.

<u>B.2</u>

Required Action B.2 is intended to provide assurance that a loss of offsite power, during the period that a DG is inoperable, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related trains. This includes motor driven auxiliary feedwater pumps. Single train systems, such as turbine driven auxiliary feedwater pumps, are not included. Redundant required feature failures consist of inoperable features associated with a train, redundant to the train that has an inoperable DG.

ACTIONS (continued)

failure is repaired, the common cause failure no longer exists, and Required Action B.3.1 is satisfied. If the cause of the initial inoperable DG cannot be confirmed not to exist on the remaining DG(s), performance of SR 3.8.1.2 suffices to provide assurance of continued OPERABILITY of that DG.

In the event the inoperable DG is restored to OPERABLE status prior to completing either B.3.1 or B.3.2, the [plant corrective action program] will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition B.

According to Generic Letter 84-15 (Ref. 7), [24] hours is reasonable to confirm that the OPERABLE DG(s) is not affected by the same problem as the inoperable DG.

<u>B.4</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition B for a period that should not exceed 72 hours.

In Condition B, the remaining OPERABLE DG and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.4 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an offsite-circuit-is-inoperable-and-that-circuit-is-subsequently-restored OPERABLE, the LCO-may-already-have-been-not-met for-up-to-72-hours. This could lead to a total of 144 hours, since initial failure to meet the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on time allowed in a specified condition after discovery of failure to meet the LCO.-This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. -The "AND" connector between the 72-hour-and 6-day-Completion-Times-means-that-both-Completion-Times-apply simultaneously, and the more restrictive Completion Time must be met.

ACTIONS (continued)

As in Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition B was entered.

C.1 and C.2

Required Action C.1, which applies when two offsite circuits are inoperable, is intended to provide assurance that an event with a coincident single failure will not result in a complete loss of redundant required safety functions. The Completion Time for this failure of redundant required features is reduced to 12 hours from that allowed for one train without offsite power (Required Action A.2). The rationale for the reduction to 12 hours is that Regulatory Guide 1.93 (Ref. 6) allows a Completion Time of 24 hours for two required offsite circuits inoperable, based upon the assumption that two complete safety trains are OPERABLE. When a concurrent redundant required feature failure exists, this assumption is not the case, and a shorter Completion Time of 12 hours is appropriate. These features are powered from redundant AC safety trains. This includes motor driven auxiliary feedwater pumps. Single train features, such as turbine driven auxiliary pumps, are not included in the list.

The Completion Time for Required Action C.1 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action the Completion Time only begins on discovery that both:

- a. All required offsite circuits are inoperable and
- b. A required feature is inoperable.

If at any time during the existence of Condition C (two offsite circuits inoperable) a required feature becomes inoperable, this Completion Time begins to be tracked.

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition C for a period that should not exceed 24 hours. This level of degradation means that the offsite electrical power system does not have the capability to effect a safe shutdown and to mitigate the effects of an accident; however, the onsite AC sources have not been degraded. This level of degradation generally corresponds to a total loss of the immediately accessible offsite power sources.

ACTIONS (continued)

Condition A worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because of:

- a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit and
- b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC-bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 2-hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC-circuit could again become inoperable, and AC-distribution restored OPERABLE. This could continue indefinitely.

The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

Required Action A.1 is modified by a Note that requires the applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," to be entered for DC trains made inoperable by inoperable power distribution subsystems. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. Inoperability of a distribution system can result in loss of charging power to batteries and eventual loss of DC power. This Note ensures that the appropriate attention is given to restoring charging power to batteries, if necessary, after loss of distribution systems.

ACTIONS (continued)

The second Completion Time for Required Action B.1 establishes a limit on the maximum allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time, an AC train could again become inoperable, and vital bus distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock."—This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

<u>C.1</u>

With one or more DC buses or distribution panels inoperable, and a loss of function has not yet occurred, the remaining DC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, the [required] DC buses and distribution panels must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

Condition C represents one or more DC buses or distribution panels without adequate DC power; potentially both with the battery significantly degraded and the associated charger nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining trains and restoring power to the affected train.

ACTIONS (continued)

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components that would be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

- a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) while allowing stable operations to continue,
- b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train, and
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC train could again become inoperable, and DC distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

DESCRIPTION (continued)

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate reentry into the Condition (for each train, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLES (continued)

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

EXAMPLE 1.3-3

ACTIONS

co	NDITION	REQUIRED ACTION	COMPLETION TIME
A. On Fu tra inc	ne nction X in operable.	A.1 Restore Function X train to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
B. On Fu tra inc	ne nction Y in operable.	B.1 Restore Function Y train to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
C. Or Fu inc <u>AN</u> Or Fu tra inc	nction X in operable. <u>ID</u> ne nction Y in operable.	 C.1 Restore Function X train to OPERABLE status. <u>OR</u> C.2 Restore Function Y train to OPERABLE status. 	72 hours 72 hours

EXAMPLES (continued)

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected train was declared inoperable (i.e., initial entry into Condition A).

The Completion Times of Conditions A and B are modified by a logical connector, with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met. In this example, without the separate Completion Time, it would be possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock." In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition was entered.



3.6 CONTAINMENT SYSTEMS

- 3.6.6A Containment Spray and Cooling Systems (Atmospheric and Dual) (Credit taken for iodine removal by the Containment Spray System)
- LCO 3.6.6A Two containment spray trains and two containment cooling trains shall be OPERABLE.
- APPLICABILITY: MODES 1, 2, 3, and [4].

ACTIONS

__ ...

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	[7] days <u>AND</u> 14-days from discovery of failure to meet the LCO
 B. Required Action and associated Completion Time of Condition A not met. 	B.1 Be in MODE 3.ANDB.2 Be in MODE 5.	6 hours 84 hours
C. One containment cooling train inoperable.	C.1 Restore containment cooling train to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to meet the LCO
D. One containment spray and one containment cooling train inoperable.	D.1 Restore containment spray train to OPERABLE status.	72 hours

3.6 CONTAINMENT SYSTEMS

3.6.6B	SB Containment Spray and Cooling Systems (Atmospheric and Dual)			
i	(Credit not taken for iodine removal by the Containment Spray System)			

- LCO 3.6.6B Two containment spray trains and two containment cooling trains shall be OPERABLE.
- APPLICABILITY: MODES 1, 2, 3, and [4].

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One containment spray train inoperable.	A.1 Restore containment spray train to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to meet the LCO
B. One containment cooling train inoperable.	B.1 Restore containment cooling train to OPERABLE status.	7 days <u>AND</u> 14 days from discovery of failure to meet the LCO
C. Two containment spray trains inoperable.	C.1 Restore one containment spray train to OPERABLE status.	72 hours

3.7 PLANT SYSTEMS

3.7.5 Auxiliary Feedwater (AFW) System

LCO 3.7.5 [Three] AFW trains shall be OPERABLE.

Only one AFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

APPLICABILITY: MODES 1, 2, and 3, [MODE 4 when steam generator is relied upon for heat removal].

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. [One steam supply to turbine driven AFW pump inoperable.	A.1 Restore affected equipment to OPERABLE status.	7 days AND
OR NOTE Only applicable if MODE 2 has not been entered following refueling.		10 days from discovery of failure to meet the LCO]
One turbine driven AFW pump inoperable in MODE 3 following refueling.		

CONDITION		REQUIRED ACTION	COMPLETION TIME
 B. One AFW train inoperable [for reasons other than Condition A] in MODE 1, 2, or 3. 	B.1	Restore AFW train to OPERABLE status.	72 hours <u>AND</u> [10 days from discovery of failure to meet the LCO]
C. Required Action and associated Completion Time of Condition A [or B] not met.	C.1 <u>AND</u> C.2	Be in MODE 3.	6 hours
[<u>OR</u> [Two] AFW trains inoperable in MODE 1, 2, or 3.]	0.2		
 D. [[Three] AFW trains inoperable in MODE 1, 2, or 3. 	D.1	NOTE LCO 3.0.3 and all other LCO Required Actions requiring MODE changes are suspended until one AFW train is restored to OPERABLE status. 	Immediately]

CONDITION	REQUIRED ACTION		COMPLETION TIME
	A.3	Restore [required] offsite	72 hours
		status.	AND
			6-days-from-discovery of failure to meet LCO
B. One [required] DG	B.1	Perform SR 3.8.1.1 for the	1 hour
		offsite circuit(s).	AND
			Once per 8 hours thereafter
	AND		
	B.2	Declare required feature(s) supported by the inoperable DG inoperable when its redundant required feature(s) is inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	<u>AND</u>		
	B.3.1	Determine OPERABLE DG(s) is not inoperable due to common cause failure.	[24] hours
	OF	2	
	B.3.2	Perform SR 3.8.1.2 for OPERABLE DG(s).	[24] hours
	AND		

CONDITION	REQUIRED ACTION		COMPLETION TIME
	B.4	Restore [required] DG to OPERABLE status.	72 hours <u>AND</u> 6 days from discovory of failure to meet LCO
C. Two [required] offsite circuits inoperable.	C.1	Declare required feature(s) inoperable when its redundant required feature(s) is inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)
	AND		
	C.2	Restore one [required] offsite circuit to OPERABLE status.	24 hours
 D. One [required] offsite circuit inoperable. <u>AND</u> One [required] DG inoperable. 	Enter Requi "Distri when AC po	applicable Conditions and red Actions of LCO 3.8.9, bution Systems - Operating," Condition D is entered with no ower source to any train.	
	D.1	Restore [required] offsite circuits to OPERABLE status.	12 hours
	OR		
	D.2	Restore [required] DG to OPERABLE status.	12 hours

3.8 ELECTRICAL POWER SYSTEMS

- 3.8.9 Distribution Systems Operating
- LCO 3.8.9 Train A and Train B AC, DC, and AC vital bus electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more AC electrical power distribution subsystems inoperable.	Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC trains made inoperable by inoperable power distribution subsystems.	
	A.1 Restore AC electrical power distribution subsystem(s) to OPERABLE status.	8 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
B. One or more AC vital buses inoperable.	B.1 Restore AC vital bus subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO

ACT	ACTIONS (continued)				
	CONDITION		REQUIRED ACTION	COMPLETION TIME	
C.	One or more DC electrical power distribution subsystems inoperable.	C.1	Restore DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO	
D.	Required Action and associated Completion Time not met.	D.1 <u>AND</u> D.2	Be in MODE 3. Be in MODE 5.	6 hours 36 hours	
E.	Two or more electrical power distribution subsystems inoperable that result in a loss of safety function.	E.1	Enter LCO 3.0.3.	Immediately	

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY		
SR 3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, and AC vital bus electrical power distribution subsystems.	7 days		
BASES				
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APPLICABILITY	In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment and an increase in containment pressure and temperature, requiring the operation of the containment spray trains and containment cooling trains.			
	In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Thus, the Containment Spray and Containment Cooling systems are not required to be OPERABLE in MODES 5 and 6.			
ACTIONS	<u>A.1</u>			
	REVIEWER'S NOTE Utilization of the 7 day Completion Time for Required Action A.1 is dependent on the licensee adopting CE NPSD-1045-A (Ref. 6) and meeting the requirements of the Topical Report and the associated Safety Evaluation. Otherwise, a 72 hour Completion Time applies.			
	With one containment spray train inoperable, the inoperable containment spray train must be restored to OPERABLE status within [7] days. In this Condition, the remaining OPERABLE spray and cooling trains are adequate to perform the iodine removal and containment cooling functions. The [7] day Completion Time takes into account the redundant heat removal capability afforded by the Containment Spray System, reasonable time for repairs, and the findings of Ref. 6.			
	The 14 day portion of the Completion Time for Required Action A.1 is based upon engineering judgment.—It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.			
	B.1 and B.2			
	If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 84 hours. The allowed Completion Time of 6 hours is			

ACTIONS (continued)

reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE 5 allows additional time for the restoration of the containment spray train and is reasonable when considering that the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

<u>C.1</u>

With one required containment cooling train inoperable, the inoperable containment cooling train must be restored to OPERABLE status within 7 days. The remaining OPERABLE containment spray and cooling components provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

The 14 day-portion of the Completion Time for Required Action C.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

D.1 and D.2

With one containment spray and one containment cooling train inoperable, one of the required containment cooling trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of a DBA occurring during this period.

ACTIONS (continued)

Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

The 14 day-portion of the Completion Time for Required Action A.1 is based-upon engineering-judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3, "Completion Times," for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

<u>B.1</u>

With one required containment cooling train inoperable, the inoperable containment cooling train must be restored to OPERABLE status within 7 days. The components in this degraded condition are capable of providing greater than 100% of the heat removal needs (for the condition of one containment cooling train inoperable) after an accident. The 7 day Completion Time was developed based on the same reasons as those for Required Action A.1.

The 14 day portion of the Completion Time for Required Action B.1 is based upon engineering judgment. It takes into account the low probability of coincident entry into two Conditions in this Specification coupled with the low probability of an accident occurring during this time. Refer to Section 1.3 for a more detailed discussion of the purpose of the "from discovery of failure to meet the LCO" portion of the Completion Time.

<u>C.1</u>

With two required containment spray trains inoperable, one of the required containment spray trains must be restored to OPERABLE status within 72 hours. The components in this degraded condition are capable of providing greater than 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of a DBA occurring during this period.

ACTIONS (continued)

The second Completion Time for Required Action A.1-establishes a limit on the maximum-time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day-Completion-Time-provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between 7-days and 10 days dictates that both Completion Times apply simultaneously and the more restrictive must be met.

Condition A is modified by a Note which limits the applicability of the Condition to when the unit has not entered MODE 2 following a refueling. Condition A allows one AFW train to be inoperable for 7 days vice the 72 hour Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical.]

<u>B.1</u>

With one of the required AFW trains (pump or flow path) inoperable, action must be taken to restore OPERABLE status within 72 hours. This Condition includes the loss of two steam supply lines to the turbine driven AFW pump. The 72 hour Completion Time is reasonable based on the redundant capabilities afforded by the AFW System, the time needed for repairs, and the low probability of a DBA event occurring during this period. Two AFW pumps and flow paths remain to supply feedwater to the steam generators. The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The <u>AND</u> connector between 72 hours and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

ACTIONS (continued)

Discovering no offsite power to one train of the onsite Class 1E Electrical Power Distribution System coincident with one or more inoperable required support or supported features, or both, that are associated with the other train that has offsite power, results in starting the Completion Times for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to Train A and Train B of the onsite Class 1E Distribution System. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

<u>A.3</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours. With one offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the unit safety systems. In this Condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System.

The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC-power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DG is inoperable, and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 72 hours. This could lead to a total of 144 hours, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion-Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. This limit is

ACTIONS (continued)

considered reasonable for situations in which Conditions A and B are entered concurrently. The "<u>AND</u>" connector between the 72 hour and 6-day Completion Time means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

As in Required Action A.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition A was entered.

<u>B.1</u>

To ensure a highly reliable power source remains with an inoperable DG, it is necessary to verify the availability of the offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions and Required Actions must then be entered.

<u>B.2</u>

Required Action B.2 is intended to provide assurance that a loss of offsite power, during the period that a DG is inoperable, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related trains. This includes motor driven auxiliary feedwater pumps. Single train systems, such as turbine driven auxiliary feedwater pumps, are not included. Redundant required feature failures consist of inoperable features with a train, redundant to the train that has an inoperable DG.

ACTIONS (continued)

In the event the inoperable DG is restored to OPERABLE status prior to completing either B.3.1 or B.3.2, the [plant corrective action program] will continue to evaluate the common cause possibility. This continued evaluation, however, is no longer under the 24 hour constraint imposed while in Condition B.

According to Generic Letter 84-15 (Ref. 7), [24] hours is reasonable to confirm that the OPERABLE DG(s) is not affected by the same problem as the inoperable DG.

<u>B.4</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition B for a period that should not exceed 72 hours.

In Condition B, the remaining OPERABLE DG and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion-Time for Required Action B.4 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an offsite-circuit is-inoperable-and-that-circuit-is-subsequently-returned OPERABLE, the LCO may already have been not met for up to 72 hours. This-could-lead-to-a-total-of-144-hours, since-initial-failure-to-meet-the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO.-The 6 day Completion Time provides a limit on time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for-situations in which Conditions A and B are entered-concurrently. The "AND" connector between the 72-hour and 6-day Completion-Times-means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

As in Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not-met, instead of at the time Condition B was entored.

ACTIONS (continued)

Condition A worst scenario is one train without AC power (i.e., no offsite power to the train and the associated DG inoperable). In this condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operator's attention be focused on minimizing the potential for loss of power to the remaining train by stabilizing the unit, and on restoring power to the affected train. The 8 hour time limit before requiring a unit shutdown in this condition is acceptable because of:

- a. The potential for decreased safety if the unit operator's attention is diverted from the evaluations and actions necessary to restore power to the affected train, to the actions associated with taking the unit to shutdown within this time limit and
- b. The potential for an event in conjunction with a single failure of a redundant component in the train with AC power.

The second Completion-Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 2 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC circuit could again become inoperable, and AC distribution restored OPERABLE. This could continue indefinitely.

The Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

Required Action A.1 is modified by a Note that requires the applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," to be entered for DC trains made inoperable by inoperable power distribution subsystems. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. Inoperability of a distribution system can result in loss of charging power to batteries and eventual loss of DC power. This Note ensures that the appropriate attention is given to restoring charging power to batteries, if necessary, after loss of distribution systems.

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BASES

ACTIONS (continued)

The second Completion Time for Required Action B.1 establishes a limit on the maximum allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time, an AC train could again become inoperable, and vital bus distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

<u>C.1</u>

With one or more DC buses or distribution panels inoperable, and a loss of function has not yet occurred, the remaining DC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, the [required] DC buses and distribution panels must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

Condition C represents one or more DC buses or distribution panels without adequate DC power; potentially both with the battery significantly degraded and the associated charger nonfunctioning. In this situation, the unit is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for loss of power to the remaining trains and restoring power to the affected train.

ACTIONS (continued)

This 2 hour limit is more conservative than Completion Times allowed for the vast majority of components which would be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

- a. The potential for decreased safety by requiring a change in unit conditions (i.e., requiring a shutdown) while allowing stable operations to continue,
- b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected train, and
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC-bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This could lead to a total of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC train could again become inoperable, and DC distribution restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

DESCRIPTION (continued)

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate reentry into the Condition (for each division, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLES (continued)

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

EXAMPLE 1.3-3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X subsystem inoperable.	A.1 Restore Function X subsystem to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
B. One Function Y subsystem inoperable.	B.1 Restore Function Y subsystem to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
C. One Function X subsystem inoperable. <u>AND</u> One Function Y subsystem inoperable.	 C.1 Restore Function X subsystem to OPERABLE status. <u>OR</u> C.2 Restore Function Y subsystem to OPERABLE status. 	72 hours 72 hours

EXAMPLES (continued)

When one Function X subsystem and one Function Y subsystem are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each subsystem starting from the time each subsystem was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second subsystem was declared inoperable (i.e., the time the situation described in Condition C was discovered).

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected subsystem was declared inoperable (i.e., initial entry into Condition A).

The Completion Times of Conditions A and B are modified by a logical connector with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met.—In this example, without the separate Completion Time, it would be possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO.—The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock." In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition was entered.

3.1 REACTIVITY CONTROL SYSTEMS

Standby Liquid Control (SLC) System 3.1.7

LCO 3.1.7 Two SLC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

ACT	IONS			
CONDITION		REQUIRED ACTION		COMPLETION TIME
Α.	[Concentration of boron in solution not within limits but > [] .	A.1	Restore concentration of boron in solution to within limits.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO]
В.	One SLC subsystem inoperable [for reasons other than Condition A].	B.1	Restore SLC subsystem to OPERABLE status.	7 days <u>AND</u> [10 days from discovery of failure to meet the LCO]
C.	Two SLC subsystems inoperable [for reasons other than Condition A].	C.1	Restore one SLC subsystem to OPERABLE status.	8 hours
D.	Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	12 hours

ACTIONS (continued)

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CONDITION	REQUIRED ACTION		COMPLETION TIME
	A.3	Restore [required] offsite	72 hours
		status.	AND
			6 days from discovery of failure to meet LCO
B. One [required] DG	B.1	Perform SR 3.8.1.1 for OPERABLE [required]	1 hour
		offsite circuit(s).	AND
			Once per 8 hours thereafter
	AND		
	B.2	Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	AND		
	B.3.1	Determine OPERABLE DG(s) are not inoperable due to common cause failure.	[24] hours
		2	
	B.3.2	Perform SR 3.8.1.2 for OPERABLE DG(s).	[24] hours
	AND		

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
	B.4 Restore [required] DG to OPERABLE status.	72 hours AND 6 days from discovery of failure to meet LCO
C. Two [required] offsite circuits inoperable.	C.1 Declare required feature(s) inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)
	AND C.2 Restore one [required] offsite circuit to OPERABLE status.	24 hours
 D. One [required] offsite circuit inoperable. <u>AND</u> One [required] DG inoperable. 	 NOTE	12 hours 12 hours
E. Two [or three] [required] DGs inoperable.	E.1 Restore one [required] DG to OPERABLE status.	2 hours

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems - Operating

LCO 3.8.9 [Division 1] and [Division 2] AC, DC, [and AC vital bus] electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more AC electrical power distribution subsystems inoperable.	NOTE Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," for DC divisions made inoperable by inoperable power distribution subsystems.		
	A.1 Restore distributi OPERA	AC electrical power on subsystem(s) to BLE status.	8 hours AND
			 discovery of failure to meet LCO
B. [One or more AC vital buses inoperable.	B.1 Restore distributi OPERA	AC vital bus on subsystem(s) to BLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to moet LCO]

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more [station service] DC electrical power distribution subsystems inoperable.	C.1 Restore DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
D. Required Action and associated Completion Time of Condition A, B, or C not met.	 D.1 Be in MODE 3. <u>AND</u> D.2 Be in MODE 4. 	12 hours 36 hours
E. [One or more DG DC electrical power distribution subsystems inoperable.	E.1 Declare associated DG(s) inoperable.	Immediately]
F. Two or more electrical power distribution subsystems inoperable that result in a loss of function.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, [and AC vital bus] electrical power distribution subsystems.	7 days

BASES				
LCO	The OPERABILITY of the SLC System provides backup capability for reactivity control independent of normal reactivity control provisions provided by the control rods. The OPERABILITY of the SLC System is based on the conditions of the borated solution in the storage tank and the availability of a flow path to the RPV, including the OPERABILITY of the pumps and valves. Two SLC subsystems are required to be OPERABLE; each contains an OPERABLE pump, an explosive valve, and associated piping, valves, and instruments and controls to ensure an OPERABLE flow path.			
APPLICABILITY	In MODES 1 and 2, shutdown capability is required. In MODES 3 and 4, control rods are not able to be withdrawn since the reactor mode switch is in shutdown and a control rod block is applied. This provides adequate controls to ensure that the reactor remains subcritical. In MODE 5, only a single control rod can be withdrawn from a core cell containing fuel assemblies. Demonstration of adequate SDM (LCO 3.1.1, "SHUTDOWN MARGIN (SDM)") ensures that the reactor will not become critical. Therefore, the SLC System is not required to be OPERABLE when only a single control rod can be withdrawn.			
ACTIONS	<u>A.1</u>			
	If the boron solution concentration is less than the required limits for mitigation but greater than the concentration required for cold shutdown (original licensing basis), the concentration must be restored to within limits in 72 hours. It is not necessary under these conditions to enter Condition C for both SLC subsystems inoperable since they are capable of performing their original design basis function. Because of the low probability of an event and the fact that the SLC System capability still exists for vessel injection under these conditions, the allowed Completion Time of 72 hours is acceptable and provides adequate time to restore concentration to within limits.			
	The second Completion-Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of concentration out of limits or inoperable SLC subsystems during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, an SLC subsystem is inoperable and that subsystem is subsequently returned the OPERABLE, the LCO may already have been not met for up to 7 days. This situation could lead to a total duration of 10 days (7 days in Condition B, followed by 3 days in Condition A), since initial failure of the LCO, to restore the SLC System. Then an SLC subsystem could be found inoperable again, and concentration could be restored to within limits. This could continue indefinitely.			

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ACTIONS (continued)

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock," resulting in establishing the "time zero" at the time the LCO was initially not met instead of at the time Condition A was entered. The 10 day Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

<u>B.1</u>

If one SLC subsystem is inoperable for reasons other than Condition A, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this condition, the remaining OPERABLE subsystem is adequate to perform the shutdown function. However, the overall reliability is reduced because a single failure in the remaining OPERABLE subsystem could result in reduced SLC System shutdown capability. The 7 day Completion Time is based on the availability of an OPERABLE subsystem capable of performing the intended SLC System function and the low probability of a Design Basis Accident (DBA) or severe transient occurring concurrent with the failure of the Control Rod Drive (CRD) System to shut down the plant.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of concentration out of limits or inoperable SLC subsystems during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, concentration is out of limits, and is subsequently returned to within limits, the LCO may already have been not met for up to 3 days. This situation could lead to a total duration of 10 days (3 days in Condition A, followed by 7 days in Condition B), since initial failure of the LCO, to restore the SLC-System. Then concentration could be found out of limits again, and the SLC subsystem could be restored to OPERABLE. This-could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock," resulting in establishing the "time zero" at the time the LCO was initially not met instead of at the time Condition B was entered. The 10 day Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

ACTIONS (continued)

If, at any time during the existence of this Condition (one offsite circuit inoperable) a required feature subsequently becomes inoperable, this Completion Time would begin to be tracked.

Discovering no offsite power to one 4160 V ESF bus of the onsite Class 1E Power Distribution System coincident with one or more inoperable required support or supported features, or both, that are associated with any other ESF bus that has offsite power, results in starting the Completion Times for the Required Action. Twenty-four hours is acceptable because it minimizes risk while allowing time for restoration before the unit is subjected to transients associated with shutdown.

The remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection may have been lost for the required feature's function; however, function is not lost. The 24 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

<u>A.3</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours. With one offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the plant safety systems. In this condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E Distribution System.

The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DG is inoperable, and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 72 hours. This situation could lead to a total of 144 hours, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become

ACTIONS (continued)

inoperable, the circuit restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entored concurrently. The "<u>AND</u>" connector between the 72 hours and 6 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met. As in Required Action A.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time the LCO was initially not met, instead of at the time that Condition A was entered.

<u>B.1</u>

To ensure a highly reliable power source remains with one DG inoperable, it is necessary to verify the availability of the required offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions must then be entered.

<u>B.2</u>

Required Action B.2 is intended to provide assurance that a loss of offsite power, during the period that a DG is inoperable, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included). Redundant required features failures consist of inoperable features associated with a division redundant to the division that has an inoperable DG.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action the Completion Time only begins on discovery that both:

- a. An inoperable DG exists and
- b. A required feature on the other division (Division 1 or 2) is inoperable.

ACTIONS (continued)

<u>B.4</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition B for a period that should not exceed 72 hours. In Condition B, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.4 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an offsite circuit is inoperable and that circuit is subsequently restored OPERABLE, the LCO may already have been not met for up to 72 hours. This situation could lead to a total of 144 hours, since initial failure of the LCO, to restore the DG. At this time, an offsite circuit could again become inoperable, the DG-restored OPERABLE, and an additional 72 hours (for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO.-This limit is considered reasonable for situations in which Conditions A and B are entered-concurrently. The "AND" connector between the 72-hour and 6 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

As in Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time that the LCO was initially not mot, instead of the time that Condition B was entered.

C.1 and C.2

Required Action C.1 addresses actions to be taken in the event of inoperability of redundant required features concurrent with inoperability of two offsite circuits. Required Action C.1 reduces the vulnerability to a loss of function. The Completion Time for taking these actions is reduced

ACTIONS (continued)

failure in the remaining power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the required AC buses, load centers, motor control centers, and distribution panels must be restored to OPERABLE status within 8 hours.

The Condition A worst scenario is one division without AC power (i.e., no offsite power to the division and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operators' attention be focused on minimizing the potential for loss of power to the remaining division by stabilizing the unit, and on restoring power to the affected division. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because:

- a. There is a potential for decreased safety if the unit operators' attention is diverted from the evaluations and actions necessary to restore power to the affected division to the actions associated with taking the unit to shutdown within this time limit.
- b. The potential for an event in conjunction with a single failure of a redundant component in the division with AC power. (The redundant component is verified OPERABLE in accordance with Specification 5.5.12, "Safety Function Determination Program (SFDP).")

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is ontored while, for instance, a DC bus is inoperable and subsequently returned OPERABLE, this LCO may already have been not met for up to 2-hours. This situation could lead to a total duration of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time a DC circuit could again become inoperable, and AC distribution could be restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This results in establishing the "time zero" at the time this LCO was initially not met, instead of at the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

ACTIONS (continued)

- b. The potential for decreased safety when requiring entry into numerous applicable Conditions and Required Actions for components without adequate vital AC power, while not providing sufficient time for the operators to perform the necessary evaluations and actions to restore power to the affected division, and
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time takes into account the importance to safety of restoring the AC vital bus to OPERABLE status, the redundant capability afforded by the other OPERABLE vital buses, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC-bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This situation could lead to a total duration of 10 hours, since initial failure of the LCO, to restore the vital bus distribution system. At this time an AC division could again become inoperable, and vital bus distribution-could be restored OPERABLE. This could continue indefinitely.]

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This allowance results in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time that Condition B was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

<u>C.1</u>

With one or more station service DC bus or distribution panel inoperable, and a loss of function has not yet occurred, the remaining DC electrical power distribution subsystem is capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystem could result in the minimum required ESF functions not being supported. Therefore, the required DC buses and distribution panels must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

ACTIONS (continued)

Condition C represents one or more DC buses or distribution panels without adequate DC power, potentially with both the battery significantly degraded and the associated charger nonfunctioning. In this situation the plant is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the plant, minimizing the potential for loss of power to the remaining divisions, and restoring power to the affected division.

This 2 hour limit is more conservative than Completion Times allowed for the majority of components that would be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, which would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

- a. The potential for decreased safety when requiring a change in plant conditions (i.e., requiring a shutdown) while not allowing stable operations to continue,
- b. The potential for decreased safety when requiring entry into numerous applicable Conditions and Required Actions for components without DC power, while not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected division,
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition C is entered while, for instance, an AC bus is inoperable and subsequently restored OPERABLE, the LCO may already have been not met for up to 8 hours. This situation could lead to a total duration of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC division could again become inoperable, and DC distribution could be restored OPERABLE. This could continue indefinitely.

ACTIONS (continued)

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This allowance results in establishing the "time zero" at the time the LCO was initially not met, instead of at the time Condition C was entered. The 16 hour Completion Time is an acceptable limitation on this potential of failing to meet the LCO indefinitely.

D.1 and D.2

If the inoperable distribution subsystem cannot be restored to OPERABLE status within the associated Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

<u>E.1</u>

With one or more DG DC buses inoperable, the associated DG(s) may be incapable of performing their intended functions. In this situation the DG(s) must be immediately declared inoperable. This action also requires entry into applicable Conditions and Required Actions of LCO 3.8.1, "AC Sources - Operating."

<u>F.1</u>

Condition F corresponds to a level of degradation in the electrical distribution system that causes a required safety function to be lost. When more than one AC or DC electrical power distribution subsystem is lost, and this results in the loss of a required function, the plant is in a condition outside the accident analysis. Therefore, no additional time is justified for continued operation. LCO 3.0.3 must be entered immediately to commence a controlled shutdown.

DESCRIPTION (continued)

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

- a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or
- b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate reentry into the Condition (for each division, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLES (continued)

EXAMPLE 1.3-3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X subsystem inoperable.	A.1 Restore Function X subsystem to OPERABLE status.	7 days <u>AND</u> 10 days from discovery of failure to meet the LCO
B. One Function Y subsystem inoperable.	B.1 Restore Function Y subsystem to OPERABLE status.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO
C. One Function X subsystem inoperable. <u>AND</u> One Function Y subsystem inoperable.	 C.1 Restore Function X subsystem to OPERABLE status. <u>OR</u> C.2 Restore Function Y subsystem to OPERABLE status. 	72 hours 72 hours

When one Function X subsystem and one Function Y subsystem are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each subsystem starting from the time each subsystem was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second

EXAMPLES (continued)

subsystem was declared inoperable (i.e., the time the situation described in Condition C was discovered).

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected subsystem was declared inoperable (i.e., initial entry into Condition A).

The Completion Times of Conditions A and B are modified by a logical connector with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met. In this example, without the separate Completion Time, it would be possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock." In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition was entered.

INSERT

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3.1 REACTIVITY CONTROL SYSTEMS

3.1.7 Standby Liquid Control (SLC) System

LCO 3.1.7 Two SLC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
 A. [Concentration of boron in solution not within limits but > []. 	A.1	Restore concentration of boron in solution to within limits.	72 hours <u>AND</u> 10 days from discovery of failure to meet the LCO]
B. One SLC subsystem inoperable [for reasons other than Condition A].	B.1	Restore SLC subsystem to OPERABLE status.	7 days <u>AND</u> [10 days from discovery of failure to meet the LCO]
C. Two SLC subsystems inoperable [for reasons other than Condition A].	C.1	Restore one SLC subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time not met.	D.1	Be in MODE 3.	12 hours

ACTIONS (continued)

No none (continued)			······································
CONDITION		REQUIRED ACTION	COMPLETION TIME
	A.2	Declare required feature(s) with no offsite power available inoperable when the redundant required feature(s) are inoperable.	24 hours from discovery of no offsite power to one division concurrent with inoperability of redundant required feature(s)
	AND		
	A.3	Restore [required] offsite circuit to OPERABLE	72 hours
		status.	AND
			24 hours from discovery of two divisions with no offsite power
			AND
			6 days from discovery of failure to meet LCO
B. One [required] DG	B.1	Perform SR 3.8.1.1 for OPERABLE [required] offsite circuit(s).	1 hour
inoperable.			AND
			Once per 8 hours thereafter
	AND		
	B.2	Declare required feature(s), supported by the inoperable DG, inoperable when the redundant required feature(s) are inoperable.	4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)
	AND		

ACTIONS (continued)

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CONDITION	REQUIRED ACTION		COMPLETION TIME
	B.3.1	Determine OPERABLE DG(s) are not inoperable due to common cause failure.	[24] hours
	OF	<u>R</u>	
	B.3.2	Perform SR 3.8.1.2 for OPERABLE DG(s).	[24] hours
	AND		
	B.4 Restore required DG to	72 hours	
		OPERABLE status.	AND
			6 days from discovery of failure to meet LCO
C. Two [required] offsite circuits inoperable.	C.1	Declare required feature(s) inoperable when the redundant required feature(s) are inoperable.	12 hours from discovery of Condition C concurrent with inoperability of redundant required feature(s)
	AND		
	C.2	Restore one [required] offsite circuit to OPERABLE status.	24 hours

3.8 ELECTRICAL POWER SYSTEMS

- 3.8.9 Distribution Systems Operating
- LCO 3.8.9 [Division 1], [Division 2], and [Division 3] AC, DC, [and AC vital bus] electrical power distribution subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more [Division 1 and 2] AC electrical power distribution subsystems inoperable.	 NOTE	nd 4, "DC and 2] 8 hours m(s) to AND 16 hours from discovery of failure to moot LCO
B. [One or more [Division 1 and 2] AC vital buses inoperable.	B.1 Restore [Division 1 a AC vital bus distributi subsystem(s) to OPERABLE status.	nd 2] 2 hours on <u>AND</u> 16 hours from discovery of failure to meet LCO]

ACTIONS (continued)

ACTIONS (continued)				
	CONDITION		REQUIRED ACTION	COMPLETION TIME
C.	One or more [Division 1 and 2] DC electrical power distribution subsystems inoperable.	C.1	Restore [Division 1 and 2] DC electrical power distribution subsystem(s) to OPERABLE status.	2 hours <u>AND</u> 16 hours from discovery of failure to meet LCO
D.	Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 <u>AND</u> D.2	Be in MODE 3. Be in MODE 4.	12 hours 36 hours
Ε.	One or more [Division 3] AC, DC, or AC vital bus electrical power distribution subsystems inoperable.	E.1	Declare High Pressure Core Spray System [and 2C Standby Service Water System] inoperable.	Immediately
F.	Two or more electrical power distribution subsystems inoperable that result in a loss of function.	F.1	Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

	FREQUENCY	
SR 3.8.9.1	Verify correct breaker alignments and voltage to [required] AC, DC, [and AC vital bus] electrical power distribution subsystems.	7 days

BASES	
LCO	The OPERABILITY of the SLC System provides backup capability for reactivity control, independent of normal reactivity control provisions provided by the control rods. The OPERABILITY of the SLC System is based on the conditions of the borated solution in the storage tank and the availability of a flow path to the RPV, including the OPERABILITY of the pumps and valves. Two SLC subsystems are required to be OPERABLE, each containing an OPERABLE pump, an explosive valve and associated piping, valves, and instruments and controls to ensure an OPERABLE flow path.
APPLICABILITY	In MODES 1 and 2, shutdown capability is required. In MODES 3 and 4, control rods are not able to be withdrawn since the reactor mode switch is in shutdown and a control rod block is applied. This provides adequate controls to ensure the reactor remains subcritical. In MODE 5, only a single control rod can be withdrawn from a core cell containing fuel assemblies. Demonstration of adequate SDM (LCO 3.1.1, "SHUTDOWN MARGIN (SDM)") ensures that the reactor will not become critical. Therefore, the SLC System is not required to be OPERABLE during these conditions, when only a single control rod can be withdrawn.
ACTIONS	<u>A.1</u>
	If the boron solution concentration is less than the required limits for ATWS mitigation but greater than the concentration required for cold shutdown (original licensing basis), the concentration must be restored to within limits in 72 hours. It is not necessary under these conditions to enter Condition C for both SLC subsystems inoperable, since they are capable of performing their original design basis function. Because of the low probability of an ATWS event and that the SLC System capability still exists for vessel injection under these conditions, the allowed Completion Time of 72 hours is acceptable and provides adequate time to restore concentration to within limits.
	The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of concentration out of limits or inoperable SLC subsystems during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, an SLC subsystem is inoperable and that subsystem is subsequently returned to OPERABLE, the LCO may already have been not met for up to 7 days. This situation could lead to a total duration of 10 days (7 days in Condition B, followed by 3 days in Condition A), since initial failure of the LCO, to restore the SLC System. Then an SLC subsystem could be found inoperable again, and concentration could be restored to within limits. This could continue indefinitely.

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ACTIONS (continued)

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock", resulting in establishing the "time zero" at the time the LCO was initially not-met instead of at the time Condition A was entered. The 10 day Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

<u>B.1</u>

If one SLC System subsystem is inoperable for reasons other than Condition A, the inoperable subsystem must be restored to OPERABLE status within 7 days. In this condition, the remaining OPERABLE subsystem is adequate to perform the shutdown function. However, the overall reliability is reduced because a single failure in the remaining OPERABLE subsystem could result in reduced SLC System shutdown capability. The 7 day Completion Time is based on the availability of an OPERABLE subsystem capable of performing the intended SLC System function and the low probability of a Design Basis Accident (DBA) or severe transient occurring concurrent with the failure of the Control Rod Drive System to shut down the plant.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of concentration out of limits or inoperable SLC subsystems during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, concentration is out of limits, and is subsequently returned to within limits, the LCO may already have been not met of up to 3 days. This situation could lead to a total duration of 10 days (3 days in Condition A, followed by 7 days in Condition B), since initial failure of the LCO, to restore the SLC System. Then concentration could be found out of limits again, and the SLC subsystem could be restored to OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock", resulting in establishing the "time zero"-at the time the LCO was initially not met instead of at the time Condition B was entered. The 10 day Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

ACTIONS (continued)

Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 24 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

<u>A.3</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition A for a period that should not exceed 72 hours.

This Completion Time assumes sufficient offsite power remains to power the minimum loads needed to respond to analyzed events. In the event more than one division is without offsite power, this assumption is not met. Therefore, the optional Completion Time is specified. Should two or more divisions be affected, the 24 hour Completion Time is conservative with respect to the Regulatory Guide assumptions supporting a 24 hour Completion Time for both offsite circuits inoperable. With one offsite circuit inoperable, the reliability of the offsite system is degraded, and the potential for a loss of offsite power is increased, with attendant potential for a challenge to the plant safety systems. In this Condition, however, the remaining OPERABLE offsite circuit and DGs are adequate to supply electrical power to the onsite Class 1E distribution system.

The Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and the low probability of a DBA occurring during this period.

The third Completion Time for Required Action A.3 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to moet the LCO. If Condition A is entered while, for instance, a DG is inoperable and that DG is subsequently returned OPERABLE, the LCO may already have been not met for up to 72 hours. This situation could lead to a total of 144 hours, since initial failure to meet the LCO, to restore the offsite circuit. At this time, a DG could again become inoperable, the circuit restored OPERABLE, and an additional 72 hours for a total of 9 days) allowed prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. This limit is

ACTIONS (continued)

(considered reasonable for situations in which Conditions A and B are entered concurrently. The "<u>AND</u>" connector between the 72 hour and 6-day Completion Times means that both Completion Times apply simultaneously, and the more restrictive must be met.

As in Required Action A.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time the LCO was initially not met, instead of at the time that Condition A was entered.

<u>B.1</u>

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuit on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in a Required Action being not met. However, if a circuit fails to pass SR 3.8.1.1, it is inoperable. Upon offsite circuit inoperability, additional Conditions must then be entered.

<u>B.2</u>

Required Action B.2 is intended to provide assurance that a loss of offsite power, during the period that a DG is inoperable, does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included, although for this Required Action, Division 3 is considered redundant to Division 1 and 2 Emergency Core Cooling Systems (ECCS)). Redundant required features failures consist of inoperable features associated with a division redundant to the division that has an inoperable DG.

The Completion Time is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

- a. An inoperable DG exists and
- b. A required feature on another division is inoperable.

ACTIONS (continued)

<u>B.4</u>

According to Regulatory Guide 1.93 (Ref. 6), operation may continue in Condition B for a period that should not exceed 72 hours. In Condition B, the remaining OPERABLE DGs and offsite circuits are adequate to supply electrical power to the onsite Class 1E distribution system. The 72 hour Completion Time takes into account the capacity and capability of the remaining AC sources, reasonable time for repairs, and low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.4 established a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO.-If Condition B is entered while, for instance, an offsite-circuit-is-inoperable-and-that-circuit-is-subsequently-restored OPERABLE, the LCO may already have been not met for up to 72 hours. This situation could lead to a total of 144 hours since initial failure to meet-the-LCO, to restore the-DG. At this time, an offsite circuit-could again become inoperable, the DG restored OPERABLE, and an additional-72-hours (for a total of 9-days) allowed-prior to complete restoration of the LCO. The 6 day Completion Time provides a limit on the time-allowed-in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The "AND" connector between the 72 hour and 6 day Completion Times means that both Completion-Times apply simultaneously, and the more restrictive **Completion-Time-must-be-met.**

As in Required Action B.2, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This exception results in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition B was entered.

C.1 and C.2

Required Action C.1 addresses actions to be taken in the event of concurrent failure of redundant required features. Required Action C.1 reduces the vulnerability to a loss of function. The Completion Time for taking these actions is reduced to 12 hours from that allowed with only one division without offsite power (Required Action A.2). The rationale for the reduction to 12 hours is that Regulatory Guide 1.93 (Ref. 6) allows a Completion Time of 24 hours for two required offsite circuits inoperable,

ACTIONS (continued)

The Condition A worst scenario is one division without AC power (i.e., no offsite power to the division and the associated DG inoperable). In this Condition, the unit is more vulnerable to a complete loss of AC power. It is, therefore, imperative that the unit operators' attention be focused on minimizing the potential for loss of power to the remaining division by stabilizing the unit, and on restoring power to the affected division. The 8 hour time limit before requiring a unit shutdown in this Condition is acceptable because:

- a. There is potential for decreased safety if the unit operators' attention is diverted from the evaluations and actions necessary to restore power to the affected division to the actions associated with taking the unit to shutdown within this time limit.
- b. The potential for an event in conjunction with a single failure of a redundant component in the division with AC power. (The redundant component is verified OPERABLE in accordance with Specification 5.5.12, "Safety Function Determination Program (SFDP).")

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition A is entered while, for instance, a DC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 2 hours. This situation could lead to a total duration of 10 hours, since initial failure of the LCO, to restore the AC distribution system. At this time, a DC circuit could again become inoperable, and AC distribution could be restored OPERABLE. This could continue indefinitely.

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This results in establishing the "time zero" at the time the LCO was initially not met, instead of at the time Condition A was entered. The 16 hour Completion Time is an acceptable limitation on this potential to fail to meet the LCO indefinitely.

Required Action A.1 is modified by a Note that requires the applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources - Operating," to be entered for DC divisions made inoperable by inoperable power distribution subsystems. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. Inoperability of a

ACTIONS (continued)

c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time takes into account the importance to safety of restoring the AC vital bus to OPERABLE status, the redundant capability afforded by the other OPERABLE vital buses, and the low probability of a DBA occurring during this period.

The second Completion Time for Required Action B.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition B is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours. This situation could lead to a total duration of 10 hours, since initial failure of the LCO, for restoring the vital bus distribution system. At this time, an AC division could again become inoperable, and vital bus distribution could be restored to OPERABLE. This could continue indefinitely.

This Completion-Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This allowance results in establishing the "time zero" at the time the LCO was initially not met, instead of at the time that Condition B was entered. The 16 hour Completion-Time is an acceptable limitation on this potential of failing to meet the LCO indefinitely.

<u>C.1</u>

With one or more Division 1 and 2 DC buses or distribution panels in one [division] inoperable, and a loss of function has not yet occurred, the remaining DC electrical power distribution subsystems are capable of supporting the minimum safety functions necessary to shut down the reactor and maintain it in a safe shutdown condition, assuming no single failure. The overall reliability is reduced, however, because a single failure in the remaining DC electrical power distribution subsystems could result in the minimum required ESF functions not being supported. Therefore, the required DC buses and distribution panels must be restored to OPERABLE status within 2 hours by powering the bus from the associated battery or charger.

ACTIONS (continued)

Condition C represents one or more DC buses or distribution panels without adequate DC power, potentially with both the battery significantly degraded and the associated charger nonfunctioning. In this situation, the plant is significantly more vulnerable to a complete loss of all DC power. It is, therefore, imperative that the operator's attention focus on stabilizing the plant, minimizing the potential for loss of power to the remaining divisions, and restoring power to the affected division.

This 2 hour limit is more conservative than Completion Times allowed for the majority of components that could be without power. Taking exception to LCO 3.0.2 for components without adequate DC power, that would have Required Action Completion Times shorter than 2 hours, is acceptable because of:

- a. The potential for decreased safety when requiring a change in plant conditions (i.e., requiring a shutdown) while not allowing stable operations to continue,
- b. The potential for decreased safety when requiring entry into numerous applicable Conditions and Required Actions for components without DC power while not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected division, and
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).

The second Completion Time for Required Action C.1 establishes a limit on the maximum time allowed for any combination of required distribution subsystems to be inoperable during any single contiguous occurrence of failing to meet the LCO.—If Condition C is entered while, for instance, an AC bus is inoperable and subsequently returned OPERABLE, the LCO may already have been not met for up to 8 hours.—This situation could lead to a total duration of 10 hours, since initial failure of the LCO, to restore the DC distribution system. At this time, an AC division could again become inoperable, and DC distribution could be restored OPERABLE. This could continue indefinitely.

ACTIONS (continued)

This Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This allowance results in establishing the "time zero" at the time the LCO was initially not met, instead of the time Condition C was entered. The 16-hour Completion Time is an acceptable limitation on this potential of failing to meet the LCO indefinitely.

D.1 and D.2

If the inoperable electrical power distribution system cannot be restored to OPERABLE status within the associated Completion Times, the plant must be bought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

<u>E.1</u>

With the Division 3 electrical power distribution system inoperable, the Division 3 powered systems are not capable of performing their intended functions. Immediately declaring the high pressure core spray inoperable allows the ACTIONS of LCO 3.5.1, "ECCS - Operating," to apply appropriate limitations on continued reactor operation.

<u>F.1</u>

Condition F corresponds to a level of degradation in the electrical distribution system that causes a required safety function to be lost. (Single division systems are not included, although for this Action, Division 3 is considered redundant to Division 1 and 2 ECCS.) When two or more inoperable electrical power distribution subsystems result in the loss of a required function, the plant is in a condition outside the accident analysis. Therefore, no additional time is justified for continued operation. LCO 3.0.3 must be entered immediately to commence a controlled shutdown.

Attachment

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NRC Memos on Second Completion Time Issue

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A WEC 409E WORD PROC.

P002/002

PAGES

FROM: Gordon Vytlacil VIN: 284-4158 DATE: August E, 1991 SUBJECT: Summary of potential Allowed Outage Time (ADT) extension issue.

TO: TSPS

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The potential AOT extension occurs when a Condition in a specification is entered, but, before the Completion Time for that Condition is passed, a second different Condition is entered. Before the Completion Time for the second Condition is passed, the first Condition is entered again.

The scenario described above could potentially allow operation of the plant, while not meeting an LCO, to occur indefinitely. To overcome this issue, specifications that have met certain criteria (see below) have been identified and fixed by an industry approved methods.

The following criteria were used to determine if a specification has been written in a way that would allow indefinite plant operation with non-compliance.

- 1. The ACTIONS table must contain more than one Condition.
- 2. The Completion Time(s) of the Conditions must be longer than Immediately.
- 3. Required Actions which change the MODE of the plant to outside the applicability cannot extend the AOT and, therefore, are not considered.
 - Ners than two Conditions may allow operation with non-compliance.

When the above criteria were applied to the post Sevine markup of NUREG-1431 the following Westinghouse specifications were identified.

3.6.6A	Containment Spray and Cooling Systems
3.8.68	Containment Spray and Cooling Systems
3.6.10	Hydrogen Ignition System (PUN25)
3,0,13	Snibid building Air Cleanup Aysten (
3.8.1	AC Sources - Operating Parks and B barbs)
3.8.9	Distribution Systems - Shutdown (printed a contract

In these specifications the following phress was added in the Completion Time column as the Conditions that could extend the ADT: "[30 days] from discovery of failure to meat the LCO." The [10 day] Completion Time cap is found by adding the maximum Completion Times from the two Conditions that could extend the ADT. If there are more than two Conditions that can extend the ADT the Completion Time cap is found by adding the shortest Completion Time and the Iongest Completion Time. The brackets are only to show that the 10 days is a specification dependent time.

3.6. LCO	6A <u>Containment S</u> (Credit taken 3.5.6A Two conta trains sh	for iod	<u>Cooling Systems</u> (Atmosp ine removal by the Conta pray trains and [2] cont PERABLE.	heric & Dual) inment Spray System) ainment cooling
(PPI	ICABILITY: HODET T	2, <u>[</u>], an	4 4.] <i>(</i>)	
	CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One containment Spray train inoperable.		Restore containment They train to TRABLE status.	72 hours And And ID Days saun Drowe OF Answer to apart
B.	Required Action and associated Completion Time of Condition A not met.	8.1 AMD 8.2	Reservoires	6 hours 84 hours
٤.	One containment cooling train inoperable.	C.1	Restore centainment cooling train to OPERABLE status.	7 days (AG ANO 10 Days Plan Daswa or Philude To addr.
D.	Two containment cooling trains inoperable.	D.1	One C Restore d' containment cooling train to OPERABLE status.	72 hours
				(continued)

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FROM: Gordon M. Vytlacil PHONE: (412) 374-4155

FAX: (412) 374-4683

DATE: December 16, 1991

SUBJECT: Information on the Completion Time Cap - to be discussed at Wednesdays meeting with Chris Grimes

TO: Lee Bush, WOG Lee Robertson, BWROG Brian Woods, CEOG Biair Wunderly, BWOG

In July considerable work was done to address non-compliance with certain LCOs for an extended time. This letter will serve as a reminder of the problem and the solution we found.

Some specifications allow entry into a Condition and before the Completion Time expires a different Condition in the same specification is entered. The problem occurs when, previous to the expiration of the second Completion Time, the first Condition is entered for a second time, this process could allow an LCO to never be met. Multiple Condition entry is permissible, but, the repetitive entry into the same Condition, so that the LCO in not met for an extended period of time, is unacceptable.

To prevent this, all the specifications were screened. Specifications that had more than one non-shutdown Condition with Completion Times longer than 1 hour were studied to see it a Condition could be entered repetitively while the LCO was not met. The final WOG list contained seven specifications:

- 3.8.6A Containment Spray and Cooling Systems
- 3.8.68 Containment Spray and Cooling Systems
- 3.8.10 Hydrogen Ignition System
- 3.6.13 Shield Building Air Cleanup System
- 3.7.4 Auxiliary Feedwater System
- 3.8.1 AO Sources Operating
- 3.8.9 Distribution Systems Shutdown

To cap the time that a plant would not be complying with an LCO, additional Completion Times were used. If a specification had only two Conditions that could extend the AOT, the Completion Times for those Conditions were added and this summed Completion Time was inserted into both Conditions. See example A. If a specification had more than two Conditions that could extend the AOT, the inserted Completion Time was that could extend the AOT, the inserted Completion Time was the sum of the longest and shortest Completion Times of all Conditions involved. See example B.

Due to the additional Completion Times Bases wording was also developed although my notes do not indicate that wording was agreed upon.

If you have questions on this material I'll be in tomorrow until 4:00 at which point I'll be on my way to Rockville.

Hordon M. Vytlacil

Sordon M. Vytiaci Technical Specification Program Services

Attachments



WOG STS

01/06/91 5:03pm

(Proposed new LCO) EXAMPLE B)

Diesal Fuel Oil 3.8.3

3.8 ELECTRICAL POWER SYSTEMS

3.8.3 Diesel Fuel Oil

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APPLICABILITY: When associated diesel generator is required to be OPERABLE. ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME ,
A.	Fuel level < [60,000] gallons and > [51,425] gallons in storage tank.	A.I	Restore fuel oil level in DG storage tank.	48 hours 2
8.	Lubricating oil inventory < [500] gallons and > [425] gallons.	B. 1	Restore lube oil inventory.	48 hours
с.	Stored fuel oil total particulates net within timits Z 10 mg/L	C.1	Restore fuel oil particulates to within limite <10 mg/L	7 days 4
٥.	New fuel cil properties not within limits of SR 3.8.3.4	D.1	Restore new fuel oil properties to within limits.	$\frac{30 \text{ days}}{7}$

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Diesel Fuel Oil 3.8.3

ACTIONS (continued)

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			REQUIRED ACTION	COMPLETION TIME	1 1
E.	Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1	Declare associated diesal generator inoperable.	Immediately (æ
	<u>OR</u>				
	Diesel fuel oil or lubricating oil not within limits for reasons other than Condition A, B, C or D.				

SURVEILLANCE REQUIREMENTS

		SURVEILLANCE	FREQUENCY
SR	3.8.3.1	Verify each fuel storage tank contains $\geq [60,000]$ gallons of fuel.	31 days
ŚR	3.8.3.2	Verify lubricating oil inventory is 2 [500] gallons.	31 days
SR	3.8.3.3	Verify flash point, specific gravity, viscosity, and appearance of new fuel are within limits when tested in accordance with applicable ASTM standards.	Once within 31 days prior to addition of new fuel to storage tank

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