LICENSEE

PRESENTATION

MATERIALS

ATTACHMENT 1

Material for the 12/14 meeting between NRR and the Joint Licensing Subcommittee.

Enclosed:

Package assignment and proposed schedule

Process Flow Diagram

Prototype Conversion Package P-0

[This is a sample of the form and format that the subcommittee is starting with. The package is typical of an enclosure to the actual conversion submittals. The content of the package is not final and in places is purely fictional, as needed to develop a sample of the proposed product. It is expected that additional enhancements will be made to the process and the product as the actual submittals are prepared.]

PACKAGE ASSIGNMENTS AND PROPOSED SCHEDULE

Package	Lead Plant/Tech Spec Sections				Issue for Review
P0 -	CPSES	3/4.4.1 (PROTOTYPE PACKAGE)			12/01/1995 (Rev 1)
P1 -	CPSES	1, 3/4.0 & 3/4.4			12/12/1995
P2 -	DIABLO CANYON	3/4.8	CALLAWAY	3/4.1	2/01/1996
P3 -	WOLF CREEK	3/4.9 THRU 3/4.11	DIABLO CANYON	3/4.7	3/01/1996
P4 -	CALLAWAY	3/4.3			4/01/1996
P5 -	WESTINGHOUSE	3/4.2	DIABLO CANYON	5 AND 6	5/01/1996
P6 -	WOLF CREEK	3/4.6	CPSES	3/4.5	6/01/1996

	12/95	1/96	2/96	3/96	4/96	5/96	6/96	7/96	8/96	9/96	10/96	11/96	12/96
Issue for Review	P1		P2	P3	P4	P5	P6						
Joint Review Meeting		P1		P2	P3	P4	P5	P6					
Comment resolution			P1		P2	P3	P4	P5	P6				
Licensing Approval				P1		P2	P3	P4	P5	P6			
Plant Safety Committee Approval					P1		P2	P3	P4	P5	P6		
Corp Safety Committee Approval						P1		P2	P3	P4	P5	P6	
Final Assembly and Submittal										<---------->			

.\ISCP\4LOOP SCH 12/7/95

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JOINT TECHNICAL SPECIFICATION CONVERSION PROCESS

(A) Perform comparison of lead plant (i.e., that plant that has the lead for developing the TS Section Package) existing Tech Spec Section to ISTS

(B) Perform markup of lead plant existing Tech Specs and ISTS (Enclosure 2 &5A)

(C) Perform markup of ISTS Bases (Enclosure 5B)

Develop description of changes to lead plant existing Tech Specs (Enclosure 3)

Develop NSHC for changes to lead plant existing Tech Specs (Enclosure 4)

Develop justification for differences to NUREG-1431, Rev. 1 (Enclosure 6)

Develop matrix/commonality table. Matrix to identify where existing Tech Specs are to be located in ISTS. Commonality table identifies those plants adopting the same changes (Enclosure 1)

Transmit Tech Spec Section markup package to other utilities

(1)

(1)

Perform steps A, B &C utilizing lead plant markup package

Identify plant specific differences from lead plant markup package

Develop plant specific description of changes to existing Tech Specs and include in Enclosure 3

Develop plant specific NSHC for changes to existing Tech Specs and include in Enclosure 4

Develop justification for plant specific differences to NUREG-1431, Rev. 1 and include in Enclosure 6

Update matrix/commonality table (Enclosure 1) to include plant specific differences

Utility internal review of markup package

Group meeting to review markup package, resolve differences and comments. Revise packages.

Utility internal review of markup package. Resolution of comments - may require telecon or group resolution at next group review meeting.

(2)

(2)

Onsite Safety Review Committee review of markup package. Comment resolution.

Offsite Safety Review Committee review of markup package. Comment resolution.

Assemble full markup packages and transmit to NRC for review

Comments/Questions on markup package funnelled through Joint Licensing Subcommittee Chairman

Joint review meetings with NRC (Joint Licensing Subcommittee, technical reviewer and lead PM) questions that are not readily resolved.

Items not readily resolved raised to level of TS Branch Chief and Subcommittee Chairman

NRC issue License Amendment

Utility Implementation: procedure revisions, Operational/Technical Requirements Manual revisions, Surveillance Requirements Tracking Database changes, Operator Training

JOINT LICENSING SUBCOMMITTEE

PROTOTYPE CONVERSION PACKAGE

EXISTING TECH SPEC 3/4.4.1

CONVERTED TECH SPECS 3.4.4 THROUGH 3.4.8

DECEMBER 7, 1995

COMANCHE PEAK STEAM ELECTRIC STATION
UNITS 1 AND 2

IMPROVED STANDARD TECHNICAL SPECIFICATIONS CONVERSION

TS SECTION 3/4.4.1

CONTENTS

ENCLOSURE 1

CROSS-REFERENCE TABLE

Table

Methodology

CROSS-REFERENCE TABLE

Existing TS				Converted TS			
Spec	No	Code	Para	Spec	No	Code	Para
3/4.4.1	3.4.1.1	LCO		3.4.4	3.4.4	LCO	
3/4.4.1	3.4.1.1	ACTION		3.4.4	3.4.4	CONDITION	A
3/4.4.1	4.4.1.1.1	SR		3.4.4	3.4.4.1	SR	
3/4.4.1	4.4.1.1.2	SR		5.5.9	5.5.9		
3/4.4.1	3.4.1.2	LCO		3.4.5	3.4.5	LCO	
3/4.4.1	3.4.1.2	ACTION	a	3.4.5	3.4.5	CONDITION	A
3/4.4.1	3.4.1.2	ACTION	a	3.4.5	3.4.5	CONDITION	B
3/4.4.1	3.4.1.2	ACTION	b	3.4.5	3.4.5	CONDITION	C
3/4.4.1	3.4.1.2	ACTION	c	3.4.5	3.4.5	CONDITION	D
3/4.4.1	4.4.1.2.1	SR		3.4.5	3.4.5.3	SR	
3/4.4.1	4.4.1.2.2	SR	a	3.4.5	3.4.5.2	SR	
3/4.4.1	4.4.1.2.2	SR	b	5.5.9	5.5.9		
3/4.4.1	4.4.1.2.3	SR		3.4.6	3.4.5.1	SR	
3/4.4.1	3.4.1.3	LCO		3.4.6	3.4.6	LCO	
3/4.4.1	3.4.1.3	ACTION	a	3.4.6	3.4.6	CONDITION	A
3/4.4.1	3.4.1.3	ACTION	a	3.4.6	3.4.6	CONDITION	B
3/4.4.1	3.4.1.3	ACTION	a	3.4.6	3.4.6	CONDITION	C
3/4.4.1	3.4.1.3	ACTION	b	3.4.6	3.4.6	CONDITION	C
3/4.4.1	4.4.1.3.1	SR		3.4.6	3.4.6.3	SR	
3/4.4.1	4.4.1.3.2	SR	a	3.4.6	3.4.6.2	SR	
3/4.4.1	4.4.1.3.2	SR	b	5.5.9	5.5.9		
3/4.4.1	4.4.1.3.3	SR		3.4.6	3.4.6.1	SR	
3/4.4.1	3.4.1.4.1	LCO		3.4.7	3.4.7	LCO	
3/4.4.1	3.4.1.4.1	ACTION	a	3.4.7	3.4.7	CONDITION	A
3/4.4.1	3.4.1.4.1	ACTION	b	3.4.7	3.4.7	CONDITION	B
3/4.4.1	4.4.1.4.1.1	SR		3.4.7	3.4.7.2	SR	
3/4.4.1	4.4.1.4.1.2	SR		3.4.7	3.4.7.1	SR	
3/4.4.1	4.4.1.4.1.2	SR	New	3.4.7	3.4.7.3	SR	
3/4.4.1	3.4.1.4.2	LCO		3.4.8	3.4.8	LCO	
3/4.4.1	3.4.1.4.2	ACTION	a	3.4.8	3.4.8	CONDITION	A
3/4.4.1	3.4.1.4.2	ACTION	b	3.4.8	3.4.8	CONDITION	B
3/4.4.1	4.4.1.4.2	SR		3.4.8	3.4.8	SR	
3/4.4.1	4.4.1.4.2	SR	New	3.4.8	3.4.8	SR	
3/4.4.1			NA	3.4.18	3.4.18		NA
3/4.4.1			NA	3.4.19	3.4.19		NA

Cross-Reference Table

The cross-reference table provides a guide to location of all current TS LCOs, Actions, Surveillances, Tables and Figures in the converted TS. It also includes the location of items that have been located out of the converted TS.

The cross-reference table contains the following columns:

Existing TS:

Specification Number (Spec) -
this column provides the specification number as it exists in the existing TS. All specifications in the Sections 3 and 4 start with "3/4." even though that precise numbering is not always used in the existing TS. For example, the existing TS uses 3/4.7.7 for LCOs 3.7.7.1 and 3.7.7.2. In this table a "3/4" number is used for each such LCO. In this example the numbers 3/4.7.7.1 and 3/4.7.7.2 are used for these two specifications.

LCO/SR number (No.) -
this column lists the LCO or SR number which applies as listed in the associated CPSES technical specification.

Requirement code (Code) -
this column identifies the portion of the specification affected using the following code:

- LCO - The LCO operability requirement
- APP - The APPLICABILITY requirement
- ACT - The ACTION requirements
- SR - The SURVEILLANCE REQUIREMENTS
- TBL - Table
- FIG - Figures

Note: The applicability of a specification is assumed to transfer to the same specification as the LCO. The cross reference for the applicability for the specification need only be identified in the table by a separate entry if the cross-reference is not clear (e.g., several existing specifications with different applicability are moved into the same specification in the converted TS, or a footnote in the applicability of the existing TS is moved to a different portion of the specification in the converted TS).

Paragraph (Para) -
This section identifies the affected paragraph. In general the numbering and lettering used in the existing TS will be provided but in some cases it may be appropriate to provide a description. For example in specification 3/4.7.7.1, the actions are arranged by those that apply in Modes 1, 2, 3, & 4 and those that apply in Modes 5, 6 and during movement of irradiated fuel assemblies.

Appropriate entries in this column for these respective actions might be "Modes 1-4" and "Modes 5,6,etc." Multiple paragraphs are not listed in the same row (e.g., "a and b").

New	This item has been added to reflect a requirement in NUREG-1431 that is not currently addressed in the CPSES TS
NA	This item is not in the existing CPSES TS because it does not apply to CPSES.

Note: When a single paragraph in the existing CPSES TS crosses to multiple locations in the converted TS, a new entry is made for each cross reference. A single entry is not used to identify the multiple paragraphs in the converted TS. Since multiple paragraphs in the existing TS may cross reference to the same paragraph in the converted TS, separate entries, each referencing the same location in the converted TS, are made for each such paragraph in the existing TS.

Converted TS:

Specification Number (Spec) -
this column provides the LCO number as it exists in the CPSES improved STS.

LCO/SR number (No.) -
this column lists the LCO or SR number which applies as listed in the associated specification or use the following codes:

Relocated	This item is relocated to another licensee control document outside the TS (See Code for specific reference location).

Requirement code (Code) -
this column identifies the portion of the specification affected using the following code:

LCO	The LCO operability requirement
APP	The APPLICABILITY requirement
ACT	The REQUIRED ACTION requirements
SR	The SURVEILLANCE REQUIREMENTS
COND	The CONDITION requirements
TBL	Table
FIG	Figures

In addition specific plant document acronyms are used to list the licensee controlled documents where the item will be relocated to from the CPSES

improved STS (e.g., FSAR. TRM, or plant procedures)

Note: The applicability of a specification is assumed to transfer to the same specification as the LCO. The cross reference for the applicability for the specification is only identified in the table by a separate entry if the cross-reference is not clear (e.g., several existing specifications with different applicability are moved into the same specification in the converted TS, or a footnote in the applicability of the existing TS is moved to a different portion of the specification in the converted TS).

Paragraph -

This section identifies the affected paragraph. In general the numbering and lettering used in the converted TS is provided but in some cases it may be appropriate to provide a description.

New	This item has been added to the CPSES converted TS and was not addressed in the NUREG-1431.
Not Used	This item will not be used in the CPSES converted TS, nor relocated to another document (e.g., requirements already adequately addressed by regulations)
NA	This item from NUREG-1431 is not included in the CPSES converted TS because it does not apply to CPSES (e.g., specification unique to Ice Condenser Containments).

Note: The paragraph is only identified to the extent necessary to adequately describe the cross-reference. For example, if the cross-reference applies to the entire condition, it is appropriate to list the "Requirement Code" as "COND" and the "Paragraph" as "A". If the correct cross-reference is only to the required action, an appropriate cross-reference would be to "Requirement Code" as "ACT" and "Paragraph" as "A.1."

Note: When a single paragraph in the existing TS crosses to multiple locations in the converted TS, a new entry for each cross reference is made. Since multiple paragraphs in the existing TS may cross reference to the same paragraph in the converted TS, separate entries, each referencing the same location in the converted TS, is made for each such paragraph in the existing TS. Multiple paragraphs are not listed (e.g. "A.1.1 and A.1.2") although a "higher tier" number may be used to cover all sub-paragraphs (e.g., "A.1" may be used to identify all subparagraphs such as A.1.1, A.1.2, etc.).

ENCLOSURE 2

MARK-UP OF CURRENT TS

Mark-up

Methodology

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

3.4.1.1 All four (4) reactor coolant loops ~~and their associated steam generators and reactor coolant pumps~~ shall be OPERABLE and in operation. 4.1-01-LG

APPLICABILITY: MODES 1 and 2.

ACTION:

With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.1.1 The above required coolant loops shall be verified in operation ~~and circulating reactor coolant~~ at least once per 12 hours. 4.1-01-LG

4.4.1.1.2 The steam generators shall be demonstrated OPERABLE pursuant to Specification 4.0.6. 4.1-02-A

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HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 At least two of the reactor coolant loops listed below shall be OPERABLE with at least two reactor coolant loops in operation when the ~~reactor trip breakers are closed~~ rod control system is capable of rod withdrawal and at least one reactor coolant loop in operation when the ~~reactor trip breakers are open~~ rod control system is not capable of rod withdrawal:* 4.1-03-LS

a. Reactor Coolant Loop 1 ~~and its associated steam generator and reactor coolant pump,~~ 4.1-01-LG

b. Reactor Coolant Loop 2 ~~and its associated steam generator and reactor coolant pump,~~

c. Reactor Coolant Loop 3 ~~and its associated steam generator and reactor coolant pump,~~ and

d. Reactor Coolant Loop 4 ~~and its associated steam generator and reactor coolant pump~~.

APPLICABILITY: MODE 3.~~**~~ 4.1-04-M

ACTION:

a. With ~~less than the above~~ one required reactor coolant loop~~s OPERABLE~~ inoperable, restore the required loop~~s~~ to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours. 4.1-05-M

b. With only one reactor coolant loop in operation and the reactor trip breakers in the closed position and rod control system capable of rod withdrawal, within 1 hour restore two loops to operation or ~~open the reactor trip breakers~~ de-energize all control rod drive mechanisms (CRDMS). 4.1-03-LS

c. With four RCS loops inoperable or no reactor coolant loop in operation, open the reactor trip breakers and suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required reactor coolant loop to operation. 4.1-05-M

4.1-06-M

* All reactor coolant pumps may be deenergized for up to 1 hour per 8 hour period provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

~~** See special test exceptions Specification 3.10.4.~~ 4.1-04-M

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.2.2 The required steam generators shall be determined OPERABLE

a. By verifying secondary side water level to be greater than or equal to 10% (narrow range) at least once per 12 hours, and

b. By performing the surveillances pursuant to Specification 4.0.6. 4.1-02-A

4.4.1.2.3 The required reactor coolant loops shall be verified in operation ~~and circulating reactor coolant~~ at least once per 12 hours. 4.1-01-LG

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HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 At least two of the loops listed below shall be OPERABLE and at least one of these loops shall be in operation:*

a. Reactor Coolant Loop 1 ~~and its associated steam generator and reactor coolant pump,~~** 4.1-01-LG

b. Reactor Coolant Loop 2 ~~and its associated steam generator and reactor coolant pump~~,**

c. Reactor Coolant Loop 3 ~~and its associated steam generator and reactor coolant pump,~~**

d. Reactor Coolant Loop 4 ~~and its associated steam generator and reactor coolant pump,~~**

e. RHR Loop A, or

f. RHR Loop B.

APPLICABILITY: MODE 4.

ACTION:

a. With one less than the above required loops OPERABLE, immediately initiate corrective action to return the required loop~~s~~ to OPERABLE status as soon as possible; if the remaining OPERABLE loop is an RHR loop, be in COLD SHUTDOWN within 24 hours. 4.1-07-A

b. With no loops OPERABLE or no loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return ~~the required~~ one loop to OPERABLE status and operation. 4.1-07-A

4.1-06-M

* All reactor coolant pumps and RHR pumps may be deenergized for up to 1 hour per 8 hour period provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

** A reactor coolant pump shall not be started in Mode 4 unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

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SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required reactor coolant pump(s), and/or RHR pump(s) if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE

a. By verifying secondary side water level to be greater than or equal to 10% (narrow range) at least once per 12 hours, and

b. By performing the surveillances pursuant to Specification 4.0.6. 4.1-02-A

4.4.1.3.3 At least one reactor coolant or RHR loop shall be verified in operation ~~and circulating reactor coolant~~ at least once per 12 hours. 4.1-01-LG

000013

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.1 At least one residual heat removal (RHR) loop shall be OPERABLE and in operation* ****, and either: 4.1-08-LS

a. One additional RHR loop shall be OPERABLE**, or

b. The secondary side water level of at least two steam generators shall be greater than or equal to 10% (narrow range).

APPLICABILITY: MODE 5 with reactor coolant loops filled***.

ACTION:

a. With one of the RHR loops inoperable ~~or~~ and with less than the required steam generator level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible. 4.1-09-A

b. With required RHR loops inoperable or no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to OPERABLE status and operation. 4.1-10-M

SURVEILLANCE REQUIREMENTS

4.4.1.4.1.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

4.4.1.4.1.2 At least one RHR loop shall be determined to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours. 4.1-01-LG

(NEW) Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation at least once per 7 days. 4.1-11-M

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* The RHR pump may be deenergized for up to 1 hour per 8 hour period provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, and (2) core outlet temperature is maintained at least 10°F below saturation temperature. 4.1-06-M

** One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

*** A reactor coolant pump shall not be started in Mode 5 unless the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures.

**** All RHR loops may be removed from operation during planned heatup to MODE 4 when at least one RCS loop is in operation. 4.1-08-LS

REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS NOT FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4.2 Two residual heat removal (RHR) loops shall be OPERABLE* and at least one RHR loop shall be in operation.**

APPLICABILITY: MODE 5 with reactor coolant loops not filled.

ACTION:

a. With one ~~less than the above~~ required RHR loop~~s~~ inoperable ~~OPERABLE~~, immediately initiate corrective action to return the required RHR loop~~s~~ to OPERABLE status as soon as possible. 4.1-12-M

b. With required RHR loops inoperable or no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to OPERABLE status and operation. 4.1-10-M

SURVEILLANCE REQUIREMENTS

4.4.1.4.2 At least one RHR loop shall be determined to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours. 4.1-01-LG

(NEW) Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation at least once per 7 days. 4.1-11-M

* One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

** The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration, ~~and~~ (2) core outlet temperature is maintained at least 10°F below saturation temperature, and (3) no draining operations to further reduce the RCS water volume are permitted. 4.1-13-M

000013

MARK-UP OF THE CURRENT CPSES TS

This enclosure contains the electronic mark-up of the current CPSES Technical Specifications (TS) NUREG-1468. The electronic version of the CPSES specifications are identical to NUREG-1468 version with the exception that pagination is not necessarily the same. The electronic mark-up is performed in accordance with the following guidelines:

- The current CPSES specifications are marked-up to reflect what they would look like when the substance of NUREG-1431 Revision 1 is incorporated.

- In general, only technical changes have been identified. However, some non-technical changes have also been included when the changes cannot easily be determined to be non-technical by a reviewer, or if an explanation is required to demonstrate that the change is non-technical.

- Changes are identified by a change number in the right margin. A description/justification for each change is contained in Enclosure 3.

There are four types of changes:

1. Deletions - Material is no longer in the specifications. (this includes material which is moved to the Bases of the TS).

2. Additions - This includes the addition of new requirements, restrictions, etc. to the specifications which are not presently in the existing TS.

3. Modifications - This includes requirements which exist in the existing TS but are being revised in the converted TS.

4. Administrative - These are non-technical changes to the TS. These include adopting the new format of the improved STS, moving the location of material from within the specifications, etc.

The methodology of identifying the changes is :

Deletions - The portion of the specification which is being deleted is annotated using the strike-out feature of WordPerfect. The deletions is identified by an item number or a change code in the adjacent right margin.

Additions - The information being added is inserted into the specification in the appropriate location and is annotated using the red-line feature of WordPerfect. The addition is identified by an item number or a change code in the adjacent right margin.

Modifications - The information being revised is annotated in the existing TS using the strike-out feature of WordPerfect and the revised

information is inserted into the specification in the appropriate location and is annotated using the red-line feature of WordPerfect. The modification is identified by an item number or a change code in the adjacent right margin.

Administrative - The text of the existing TS is not modified to reflect administrative changes. Where the administrative change might cause confusion to a reviewer, the change is identified by an item number or a change code in the right margin. For example, if a requirement relocated in a specification in the converted TS which does not correspond with the specification in which that requirement is located in the existing TS, an item number is provided in the markup of the existing TS and an explanation is provided which explains where that requirement has been located in the converted TS.

MARGIN CHANGE CODES:

A margin code, located in the right margin adjacent to a technical change mark-up, provides an identifier for its corresponding description/justification and indicates the type of NSHC used. The margin code is of the form 4.5-13-LS. The first two numbers (i.e., 4.5 in this example) refer to the TS Section number, 3/4.4.5 (the 3/4. prefix is deleted). For all other sections in the current TS, (i.e., Chapters 1, 2, 5 and 6) a single number is used to identify the section and the full change code is of the form 1-1-A, 1-2-M, 1-3-LS..., or, 2-1-R, 2-2-M, 2-3-LS..... etc. The next set of numbers (i.e., -13 in this example) is a sequentially assigned number for changes in that section. The letter suffix (i.e., LS in this example) indicates the type NSHC used (e.g., A, M, LG, TG, LS, R).

In summary, "red-line" is used to annotate new information, "strike-out" is used to annotate deleted material (which includes material that is moved out of the specifications), and identification numbers or change codes are used in the right margin to identify technical changes. All technical changes (i.e., "red-line" or "strike-out" items) require an identification number or a change code. In addition, certain administrative changes (e.g., requirements moved to another specification) are also assigned an identification number or a change code to provide addition clarification.

ENCLOSURE 3

DESCRIPTION OF CHANGES TO CURRENT TS

Description of Changes

Commonality Table (Proposed Format)

DESCRIPTION OF CHANGES TO CPSES TS SECTION 3/4.4.1

This enclosure contains a brief description/justification for each marked-up change to existing CPSES Technical Specifications. The changes are identified by change numbers contained in enclosure 2 (Mark-up of the CPSES Technical Specifications). In addition, the referenced No Significant Hazards Considerations (NSHCs) are contained in enclosure 4. Only technical changes are discussed; administrative changes (i.e., format, presentation, and editorial changes made to conform to the improved Standard Technical Specifications (STS)) are not discussed.

CHANGE NUMBER	NSHC	DESCRIPTION
4.1-01	LG	The definition of OPERABLE and operating for the RCS loops is moved to the Bases.
4.1-02	A	SR 4.4.1.1.2, SR 4.4.1.2.2b and SR 4.4.1.3.3b for the steam generators is moved to Section 5.5.9 in the converted TS.
4.1-03	LS-1	This change adds the additional allowance that the rod control system is capable of rod withdrawal before the action is applied. This is a relaxation in that methods, other than opening the RTBs, are allowed to preclude rod withdrawal. However, as prevention of rod withdrawal, is the requirement of concern, the relaxation is justified. This change is in conformance with NUREG-1431 Rev. 1. The LCO is also revised to be based on capability to withdraw rods rather than RTB position.
4.1-04	M	This change removes the allowance provided by special test exception 3.10.4 from the applicability of the specification. This test exception allowed for suspension of the requirements of the specification for the purpose of performing hot rod drop time measurements. These measurements are done with full RCS flow and the test exception is not needed for safe operation of CPSES. This change is in conformance with NUREG-1431 Rev. 1.
4.1-05	M	This change constitutes greater restriction on operation at CPSES, as the actions required for "four loops inoperable" has changed from an Allowed Outage Time of 72 hours to immediate action required. The restrictive immediate actions are seen as warranted commensurate with the critical nature of providing decay heat removal. This change is acceptable to CPSES and is in conformance with NUREG-1431 Rev. 1.

CHANGE NUMBER	NSHC	DESCRIPTION
4.1-06	M	The note to allow short term deenergization of RCPs for 1 hour is clarified as 1 hour per 8 hour period. This change is in accordance with NUREG-1431 Rev. 1 and is more restrictive for CPSES as no restrictions on use of the note were required previously.
4.1-07	A	This change seperates the Action Statement for one loop OPERABLE from that of no loops OPERABLE. The condition of no loops OPERABLE is now included with the condition of no loops in operation. Additional action of returning a loop to OPERABLE status is added for this change. The effect of this change is more conservative operation as a result of no loops having an OPERABLE status. This change is consistent with the operation of CPSES and is acceptable. This change is in conformance with NUREG-1431 Rev. 1.
4.1-08	LS-2	This change is the addition of an allowance to suspend operation of all RHR pumps when proceeding from MODE 5 to MODE 4, if decay heat removal is being provided by an RCS loop. This change is to provide a smoother transition to MODE 4 operations. This change is in conformance with NUREG-1431 Rev. 1.
4.1-09	A	Clarifies Action a by replacing the word "or" with "and". Prior to this change, the action could have been interpreted to require that the SG level be restored even when the SGs were not being credited for heat removal. The revised wording clarifies that the second part of the LCO (i.e., 'a' or 'b') is met with either one RHR loop operable or two Sgs with required level. This wording is consistent with the wording in NUREG-1431.
4.1-10	M	The action is changed to include the required actions for no required RHR loops OPERABLE. Previously, the specification did not provide specific action for no RHR loops OPERABLE. Also clarifies that the restored loop must be OPERABLE as well as in operation. This action is consistent with the actions which are required under this condition and are in conformance with NUREG-1431 Rev. 1.
4.1-11	M	This change adds a surveillance for verification of breaker alignment and power availability to the required pump not in operation. This change is in conformance with NUREG-1431 Rev. 1.

CHANGE NUMBER	NSHC	DESCRIPTION
4.1-12	M	The actions are changed to delineate the required actions for only one required RHR loop OPERABLE and no required RHR loops OPERABLE. These actions are consistent with the actions which are required under this condition, are in conformance with NUREG-1431 Rev. 1, and more conservative.
4.1-13	M	An additional restriction to the stopping of all RHR pumps is added. This restriction precludes further draining of the RCS which is an acceptable conservative action. This change is in conformance with NUREG-1431 Rev. 1.

COMMONALITY TABLE
FOR
EXISTING TS SECTION 3/4.4.1

Change #	CPSES	WNOC	Callaway	Diablo
4.1-01-LG	X	X	X	X
4.1-02-A	X	-	-	-
4.1-03-LS	X	X	X	-
4.1-04-M	X	-	X	X
4.1-05-M	X	X	X	X
4.1-06-M	X	-	-	-
4.1-07-A	X	X	X	-
4.1-08-LS	X	X	X	X
4.1-09-A	X	-	X	X
4.1-10-M	X	X	X	X
4.1-11-M	X	X	X	X
4.1-12-M	X	X	X	-
4.1-13-M	X	-	-	X
4.1-14-LS	-	X	X	X
4.1-15-LS	-	X	X	X
4.1-16-M	-	X	X	-
4.1-17-LG	-	-	X	X
4.1-18-LS	-	-	-	X

ENCLOSURE 4

NO SIGNIFICANT HAZARDS CONSIDERATIONS

NO SIGNIFICANT HAZARDS CONSIDERATIONS (NSHC)
CONTENTS

000027

I. NO SIGNIFICANT HAZARDS CONSIDERATIONS ORGANIZATION

In accordance with the provisions of 10 CFR 50.90, TU Electric proposes to amend the Comanche Peak Steam Electric Station (CPSES) Unit I and 2 Technical Specifications , Appendix A to Operating Licenses NPF-96 and NPF-98. The proposed change would revise the existing Technical Specifications in accordance with the NRC Policy Statement on Technical Specification Improvements for Nuclear Power Reactors, July 22, 1993 (58 FR 39132). The proposed change includes converting the existing Technical Specifications to the improved Standard Technical Specifications of G-143 1. The conversion to the improved Standard Technical Specifications (hereafter referred to as the improved Standard Technical Specifications (STS)) has generated a large number of changes. Evaluations pursuant to 10 CFR 50.92 showing that the proposed changes do not involve significant hazards considerations are provided for each Technical Specification (TS) chapter. However, due to the volume of changes, similar changes have been grouped in categories to facilitate the no significant hazards considerations (NSHCs) required by 10 CFR 50.92.

Generic NSHCs have been developed that correspond to each category of changes. In addition, since each TS chapter has been evaluated individually, chapters may contain chapter-specific generic NSHCS. NSHCs for changes that cannot be grouped into a category have also been developed. Typically, less restrictive technical changes must be evaluated individually. Each TS chapter will therefore contain "change-specific" NSHCs as well as generic NSHCS.

Each change to the existing Technical Specifications is marked-up on the appropriate page and technical changes are assigned a reference number. Obvious editorial or administrative changes are not marked-up. The reference number in the right margin of the marked-up page is used in the Description of Change which provides a detailed basis for each change and a reference to the applicable NSHC and/or Criteria Application Report (CAR). Changes that are editorial, administrative, or addressed by the CPSES Criteria Application Report are discussed in the following descriptions of generic NSHCS.

II. DESCRIPTION OF NSHC EVALUATIONS

GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

The following are brief descriptions of the generic NSHCs contained within this TS chapter conversion documentation. The reference symbols are used in the Discussion of Changes document to index the applicable NSHC for each change described. Additional generic subcategories may be developed and will be referenced by adding a numeric designator to the existing alpha reference symbol (i.e., LGI, LG2, A1, A2, etc).

Administrative

Reference symbol "A" (Administrative)

This category consists of changes which are editorial in nature, involve the movement of requirements within the TS without affecting their technical content, simply reformat a requirement, or clarify the TS (such as deleting a footnote no longer applicable due to a technical change to a requirement). It also includes nontechnical changes made to conform to the Writer's Guide or the improved Standard Technical Specifications in NUREG-1431. Most administrative changes have not been marked-up on the existing Technical Specifications, and thus are not specifically referenced to a discussion of change or NSHC. If no discussion of change or NSHC is referenced for a change it is considered administrative in nature and this Generic NSHC applies. This NSHC may also be referenced in a discussion of change for an administrative change that is not obvious and requires an explanation.

Relocation of Technical Specification Requirements

Reference symbol "R" (Relocation per Criteria Application Report)

This category applies to TS requirements that do not meet the criteria in the NRC Final Policy Statement on Technical Specification Improvement for Nuclear Power Reactors (58FR39132, dated 7/22/93). The TS requirements affected by the application of the NRC's criteria have been identified and discussed in the CPSES Criteria Application Report. TS requirements affected by the application of the criteria are annotated with an "R" in the description of the change (enclosure 3). The "R" designation and the description of the relocation direct the reviewer to the CPSES Criteria Application Report and this NSHC for a description and evaluation of the change.

II. DESCRIPTION OF NSHC EVALUATIONS

GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS
(continued)

Moving information out of Technical Specifications

Reference symbol "LG" (Less restrictive, generic)

In some cases, information will be moved out of the TS but the change is not addressed in the CPSES Criteria Application Report. The affected information maybe moved to the Bases, the FSAR, plant procedures or other utility controlled documents. This is a change that is not addressed in the CPSES Criteria Application Report. This category of change is considered to be less restrictive (no longer controlled by TS) and usually involves moving information of a descriptive nature. These changes are generally made in order to conform with NUREG-1431 format and content.

Technical change, more restrictive

Reference symbol "M" (More restrictive, generic)

This category consists of changes that add new requirements to the TS or revise existing requirements to be more stringent. These are changes are typically made to conform to applicable requirements of NUREG-1431.

SPECIFIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

Those TS changes that must be evaluated individually are typically the less restrictive technical changes. Each NSHC for less restrictive technical changes in this TS chapter will be numbered sequentially with the prefix of the corresponding TS section. The applicable NSHC for each less restrictive change will be referenced in the Description of Change document for this chapter. The Description of Change document contains the basis for the change.

Technical change, less restrictive

Reference symbol "LS" (Less restrictive, specific)

This category consists of changes which revise existing requirements such that more restoration time is provided, fewer compensatory measures are needed, or fewer or less restrictive surveillance requirements are required. This would also include requirements which are deleted from the TS (not relocated to other documents).

Technical change, generic - less restrictive

Reference symbol "TG1, 2, 3...." (technical generic)

This category consists of the same kind of changes as above except that they apply to several specifications.

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"A"

10 CFR 50.92 EVALUATION FOR ADMINISTRATIVE REFORMATTING AND REWORDING

This proposed TS revision includes reformatting and rewording the remaining requirements in accordance with the NURMARC Technical Specification Writer's Guide and the improved Standard Technical Specifications in NUREG-1431. This is intended to make the TS more readily understandable to plant operators and other users. Application of the Writer's Guide will also assure consistency between specifications. During this reformatting and rewording process, no technical changes (either actual or interpretational) were made to the TS unless they were identified and justified.

TU Electric has evaluated this proposed TS change and has determined that it involves no significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92(c) as quoted below:

> "The Commission may make a final determination, pursuant to the procedures in 50.91, that a proposed amendment to an operating license for a facility licensed under 50.21(b) or 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not:
>
> 1 . Involve a significant increase in the probability or consequences of an accident previously evaluated; or
>
> 2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
>
> 3. Involve a significant reduction in a margin of safety."

The following evaluation is provided for the three categories of the significant hazards consideration standards:

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

   The proposed change involves reformatting and rewording of the existing Technical Specifications. The reformatting and rewording process involves no technical changes to the existing Technical Specifications. As such, this change is administrative in nature and does not impact initiators of analyzed events or assumed mitigation of accidents or transient events. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"A"
(continued)

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

   The proposed change does not necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any different requirements. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated for CPSES.

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

   The proposed change will not reduce a margin of safety because it has no impact on any safety analysis assumptions. This change is administrative in nature. As such, no question of safety is involved.

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"R"

10 CFR 50.92 EVALUATION
FOR
RELOCATING TECHNICAL SPECIFICATION REQUIREMENTS
TO OTHER LICENSEE CONTROLLED DOCUMENTS

This proposed TS revision includes relocating requirements, which do not meet the TS criteria, to documents with established control programs. Relocation of these requirements allows the TS to be reserved only for those conditions or limitations upon reactor operation which are necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety thereby focusing the scope of the TS.

Therefore, requirements which do not meet the TS criteria in the NRC Final Policy Statement on Technical Specification Improvement for Nuclear Power Reactors (58 FR 39132, dated 7/22/93) have been relocated to other 10 CFR 50.59 controlled documents. The NRC policy statement addresses the scope and purpose of TS. In doing so, it sets forth a specific set of objective criteria for determining which regulatory requirements and operating restrictions should be included in the TS. These criteria are as follows:

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

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

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

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

The application of these criteria is described in the CPSES Units 1 and 2 Criteria Application Report. The requirements which meet the criteria will be retained in the CPSES improved STS. The CPSES Units I and 2 Criteria Application Report specifies the proposed location for the requirements which do not meet the criteria.

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"R"
(continued)

TS requirements that do not meet the NRC's criteria will be relocated to other licensee controlled documents. Some of these requirements will be relocated to documents that are subject to the provisions of 10 CFR 50.59. This will ensure that changes to these relocated requirements will be limited to those that do not involve an unreviewed safety question. The remainder of the requirements that do not meet the NRC criteria will be relocated to programs that are controlled via the Administrative Controls section of the CPSES improved STS. This will ensure an appropriate level of control over changes to these requirements. Any changes to relocated requirements will require review by the Station Operations Review Committee (SORC) and approval by the Operations Vice President.

Compliance with the relocated requirements will not be affected by this proposed change to the existing Technical Specifications. CPSES will continue to perform the required periodic surveillances and ensure that limits on parameters are maintained. Therefore, relocation of these requirements will have no impact on system operability or the maintenance of controlled parameters within limits.

TU Electric has evaluated this proposed TS change and has determined that it involves no significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92(c) as quoted below.

> "The Commission may make a final determination, pursuant to the procedures in 50.91, that a proposed amendment to an operating license for a facility licensed under 50.21(b) or 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not:
>
> I. Involve a significant increase in the probability or consequences of an accident previously evaluated; or
>
> 2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
>
> 3. Involve a significant reduction in a margin of safety."

The following evaluation is provided for the three categories of the significant hazards consideration standards:

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

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"R"
(continued)

The proposed change relocates requirements and surveillances for structures, systems, components or variables which did not meet the criteria for inclusion in the CPSES improved STS. The affected structures, systems, components or variables are not assumed to be initiators of analyzed events and are not assumed to mitigate accident or transient events. These relocated operability requirements and surveillances will continue to be maintained pursuant to 10 CFR 50.59 and/or the administrative Controls section of the CPSES improved STS. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed change does not necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any different requirements and adequate control of information will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated for CPSES.

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

The proposed change will not reduce a margin of safety because it has no impact on any safety analysis assumptions. In addition, the relocated requirements and surveillances for the affected structure, system, component or variables are the same as the existing Technical Specifications. Since any future changes to these requirements and the associated surveillance procedures will be evaluated per the requirements of 10 CFR 50.59 and/or the Administrative Controls section of the CPSES improved STS, no reduction (significant or insignificant) in a margin of safety will be allowed without prior NRC approval. Therefore, this change does not involve a significant reduction in a margin of safety

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"LG"

10 CFR 50.92 EVALUATION
FOR
MOVING INFORMATION FROM RETAINED TECHNICAL SPECIFICATIONS TO TECHNICAL SPECIFICATION BASES, FSAR OR PROCEDURES

This proposed TS revision includes reformatting and rewording of the TS requirements in accordance with the NUMARC Technical Specifications Writer's Guide and achieves consistency with the improved Standard Technical Specifications (NUREG-1431).

Some information that is descriptive in nature regarding the equipment, system(s), actions or surveillances identified by the specification has been deleted from the proposed specification and included in the proposed Bases, FSAR or procedures. The relocation of this descriptive information to the Bases of the TS, FSAR or procedures is permissible, because the Bases, FSAR or procedures will be controlled through a process which utilizes 10 CFR 50.59. Therefore, the descriptive information that has been moved continues to be maintained in an appropriately controlled manner.

TU Electric has evaluated this proposed TS change and has determined that it involves no significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 5 0.92(c) as quoted below:

> "The Commission may make a final determination, pursuant to the procedures in 50.91, that a proposed amendment to an operating license for a facility licensed under 50.2 1 (b) or 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not:
>
> 1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or
>
> 2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
>
> 3. Involve a significant reduction in a margin of safety."

The following evaluation is provided for the three categories of the significant hazards consideration standards-.

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

   The proposed change relocates requirements from the TS to the Bases, FSAR or procedures. The Bases, FSAR or procedures containing the relocated requirements will be maintained using the provisions of 10 CFR 50.59.

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"LG"
(continued)

Since any changes to the Bases, FSAR or procedures will be evaluated per the requirements of 10 CFR 50.59, no increase (significant or insignificant) in the probability or consequences of an accident previously evaluated will be allowed without prior NRC approval. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change will not impose any different requirements and adequate control of the information will be maintained. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

   The proposed change will not reduce a margin of safety because it has no impact on any safety analysis assumptions. In addition, the requirements to be transposed from the TS to the Bases, FSAR or procedures are the same as the existing TS. Since any future changes to these requirements in the Bases, FSAR or procedures will be evaluated per the requirements of 10 CFR 50.59, no reduction (significant or insignificant) in a margin of safety will be allowed without prior NRC approval. Therefore, this change does not involve a significant reduction in a margin of safety.

III. GENERIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

"M"

10 CFR 50.92 EVALUATION
FOR
TECHNICAL CHANGES THAT IMPOSE MORE RESTRICTIVE REQUIREMENTS WITHIN THE TECHNICAL SPECIFICATIONS

This proposed revision involves modifying the existing Technical Specifications to impose more stringent requirements and achieves consistency with the proposed improved Standard Technical Specifications (NUREG-1431).

The existing Technical Specifications have been modified in some areas to impose more stringent guidelines than previously required. These more restrictive modifications are being imposed to be consistent with the proposed improved Standard Technical Specifications (NUREG-1431). Such changes have been made after ensuring the previously evaluated safety analysis was not affected. Also, other more restrictive technical changes have been made to achieve consistency, correct discrepancies, and remove ambiguities from the specification.

TU Electric has evaluated this proposed TS change and has determined that it involves no significant hazards consideration. This determination has been performed in accordance with the criteria set forth in 10 CFR 50.92(c) as quoted below:

> "The Commission may make a final determination, pursuant to the procedures in 50.91, that a proposed amendment to an operating license for a facility licensed under 50.21 (b) or 50.22 or for a testing facility involves no significant hazards consideration, if operation of the facility in accordance with the proposed amendment would not:
>
> 1. Involve a significant increase in the probability or consequences of an accident previously evaluated; or
>
> 2. Create the possibility of a new or different kind of accident from any accident previously evaluated; or
>
> 3. Involve a significant reduction in a margin of safety."

The following evaluation is provided for the three categories of the significant hazards consideration standards:

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

   The proposed change provides more stringent requirements for the CPSES improved STS. These more stringent requirements are not assumed to be initiators of analyzed events and will not alter assumptions relative to mitigation of accident or transient events. The change has been confirmed to ensure no

previously evaluated accident has been adversely affected. The more stringent requirements are imposed to ensure process variables, structures, systems and components are maintained consistent with the safety analyses and licensing basis. Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The proposed change does not necessitate a physical alteration of the plant (no new or different type of equipment will be installed) or changes in parameters governing normal plant operation. The proposed change does impose different requirements. However, these changes are consistent with assumptions made in the safety analysis and licensing basis. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated for the CPSES.

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

   The imposition of more stringent requirements either has no impact on or increases the margin of plant safety by-

   a) Increasing the analytical or safety limit,

   b) Increasing the scope of the specification to include additional plant equipment,

   c) Increasing the applicability of the specification,

   d) Providing additional actions,

   e) Decreasing restoration times,

   f) Imposing new surveillances, or

   g) Decreasing surveillance intervals.

The change is consistent with the safety analysis and licensing basis. Therefore, this change does not involve a reduction in a margin of safety.

IV. SPECIFIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

NSHC LS-1

The LCO and associated surveillances have been revised to be less restrictive. Prior to the proposed change, the requirement for RCS loops OPERABLE was based on Reactor Trip Breaker (RTB) position. The intent of this requirement was to allow for less stringent operating criteria when rod withdrawal events were precluded via the RTBs being open. The proposed specification allows more freedom in how rod withdrawal is precluded and is thus less restrictive. However, the intent of using physical plant characteristics to prevent inadvertent rod withdrawal is not diminished. The specification now acknowledges that the typical rod control system can be effectively disabled by other means than opening the RTBs.

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

   The proposed change does not alter the requirement to preclude rod withdrawal using physical plant characteristics. The specification does not allow administrative control or other means which could be conceived as less stringent. The specification does allow for alternative means to opening the RTBs for precluding rod withdrawal. These means if used would be as effective as opening the RTBs, such as removing power to the rod control system. Therefore there should be no increase in the probability or consequences of a previously evaluated accident.

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

   Inadvertent rod withdrawal accidents have been previously evaluated. This change does not create the possibility of a new or different kind of accident.

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

   The proposed change will preclude rod withdrawal with the same level of assurance that opening of the RTBs provided. No reduction in the margin of safety will result from this change.

IV. SPECIFIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

NSHC LS-2

The LCO has been modified by a note which allows the removal of all RHR loops from operation during planned heatup to MODE 4 from MODE 5 when at least one RCS loop is in operation.

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

   This proposed change adds an additional specific relaxation to allow the use of an operating RCS loop in lieu of an operating RHR loop in MODE 5 during planned heatup in preparation to proceed into MODE 4. The primary functions of the operating RHR loop in MODE 5 are to remove decay heat and to prevent boron stratification. These functions can also be performed by an operating RCS loop which is in fact a normal method of accomplishing the same functions when in MODE 4. In addition, at least one RHR loop must remain OPERABLE during the transition to MODE 4. Because there is no reduction in the heat removal/boron stratification capability or system reliability when the RCS loop is performing these functions, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   The only accidents that are potentially associated with this proposed change, are those related to a loss of decay heat removal capability or to boron stratification. Since the use of an RCS loop in lieu of an RHR loop to perform the heat removal/boron stratification functions does not result in any reduction in performance or reliability, the existing analyses remain valid. Thus the proposed change does not create the possibility of a new or different kind of accident from those previously evaluated.

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

   The proposed change does not affect the acceptance criteria for any analyzed event. The margin of safety established by the LCOs also remains unchanged. Thus there is no reduction in the margin of safety from that previously established.

ENCLOSURE 5A

MARK-UP OF NUREG-1431 SPECIFICATIONS

Industry Traveler Table

Table of NUREG-1431 Specifications which are not applicable

Mark-up

Methodology

Table of Industry Travelers applicable to Section 3.4
(Sample of Proposed Format)

TRAVELER #	STATUS	DIFFERENCE #	COMMENTS
TSTF-04	incorporated	3.4-01	-
TSFT-09	incorporated	3.4-13	-
TSFT-17	not incorporated	N/A	Not yet approved by the NRC.
TSFT-35	incorporated	3.4-17	-

TABLE OF NUREG-1431 SPECIFICATIONS THAT ARE NOT APPLICABLE
(Proposed Format)

Specification #	Specification Title	Comments
3.4-17	RCS Loop Isolation Valves	Plant design does not include RCS loop isolation valves
3.4-18	RCS Isolated Loop Startup	Plant design does not include RCS loop isolation valves

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 RCS Loops – MODES 1 and 2

LCO 3.4.4 Four RCS loops shall be OPERABLE and in operation. B

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of LCO not met.	A.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.4.1 Verify each RCS loop is in operation.	12 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Loops – MODE 3

LCO 3.4.5 Two RCS loops shall be OPERABLE, and either:

a. Two RCS loops shall be in operation when the Rod Control System is capable of rod withdrawal; or

b. One RCS loop shall be in operation when the Rod Control System is not capable of rod withdrawal.

B

----------NOTE----------
All reactor coolant pumps may be de-energized for ≤ 1 hour per 8 hour period provided:

a. No operations are permitted that would cause reduction of the RCS boron concentration; and

b. Core outlet temperature is maintained at least 10°F below saturation temperature.

APPLICABILITY: MODE 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required RCS loop inoperable.	A.1 Restore required RCS loop to OPERABLE status.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 4.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME	
C. One required RCS loop not in operation, and reactor trip breakers closed and Rod Control System capable of rod withdrawal.	C.1 Restore required RCS loop to operation. OR C.2 De-energize all control rod drive mechanisms (CRDMs).	1 hour 1 hour	B
D. ~~Two~~ Four RCS loops inoperable. OR No RCS loop in operation.	D.1 De-energize all CRDMs. AND D.2 Suspend all operations involving a reduction of RCS boron concentration. AND D.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately Immediately Immediately	B-PS

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.5.1	Verify required RCS loops are in operation.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.5.2	Verify steam generator secondary side water levels are ≥ ~~17%~~ 10% for required RCS loops.	12 hours B-PS
SR 3.4.5.3	Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.6 RCS Loops – MODE 4

LCO 3.4.6 Two loops consisting of any combination of RCS loops and residual heat removal (RHR) loops shall be OPERABLE, and one loop shall be in operation.

----------NOTES----------

1. All reactor coolant pumps (RCPs) and RHR pumps may be de-energized for ≤ 1 hour per 8 hour period provided:

   a. No operations are permitted that would cause reduction of the RCS boron concentration; and

   b. Core outlet temperature is maintained at least 10°F below saturation temperature.

2. No RCP shall be started with any RCS cold leg temperature ≤ ~~275~~°F 350°F unless the secondary side water temperature of each steam generator (SG) is ≤ 50°F above each of the RCS cold leg temperatures. B-PS B

APPLICABILITY: MODE 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required RCS loop inoperable. AND Two RHR loops inoperable.	A.1 Initiate action to restore a second loop to OPERABLE status.	Immediately

(continued)

ACTIONS (continued) CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required RHR loop inoperable. AND Two required RCS loops inoperable.	B.1 Be in MODE 5. ----------NOTE---------- Only required if one RHR Loop is operable. ----------	24 hours
C. Required RCS or RHR loops inoperable. OR No RCS or RHR loop in operation.	C.1 Suspend all operations involving a reduction of RCS boron concentration. AND C.2 Initiate action to restore one loop to OPERABLE status and operation.	Immediately Immediately

3.4-01

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.6.1	Verify one RHR or RCS loop is in operation.	12 hours
SR 3.4.6.2	Verify SG secondary side water levels are ≥ 10% ~~17%~~ for required RCS loops.	12 hours

B-PS

(continued)

000050

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
Sr 3.4.6.3	Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 RCS Loops – MODE 5, Loops Filled

LCO 3.4.7 One residual heat removal (RHR) loop shall be OPERABLE and in operation, and either:

a. One additional RHR loop shall be OPERABLE; or

b. The secondary side water level of at least two steam generators (SGs) shall be ≥ 10% ~~17%~~. B B-PS

----------NOTES----------

1. The RHR pump of the loop in operation may be de-energized for ≤ 1 hour per 8 hour period provided:

   a. No operations are permitted that would cause reduction of the RCS boron concentration; and

   b. Core outlet temperature is maintained at least 10°F below saturation temperature.

2. One required RHR loop may be inoperable for up to 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation.

3. No reactor coolant pump shall be started with one or more RCS cold leg temperatures ≤ ~~275°F~~ 350°F unless the secondary side water temperature of each SG is ≤ 50°F above each of the RCS cold leg temperatures. B-PS B

4. All RHR loops may be removed from operation during planned heatup to MODE 4 when at least one RCS loop is in operation.

APPLICABILITY: MODE 5 with RCS loops filled.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR loop inoperable. AND Required SGs secondary side water levels not within limits.	A.1 Initiate action to restore a second RHR loop to OPERABLE status. OR A.2 Initiate action to restore required SG secondary side water levels to within limits.	Immediately Immediately
B. Required RHR loops inoperable. OR No RHR loop in operation.	B.1 Suspend all operations involving a reduction of RCS boron concentration. AND B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	Verify one RHR loop is in operation.	12 hours
SR 3.4.7.2	Verify SG secondary side water level is ≥ ~~17%~~ 10% in required SGs.	12 hours

B-PS

(continued)

SURVEILLANCE		FREQUENCY
SR 3.4.7.3	Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 RCS Loops – MODE 5, Loops Not Filled

LCO 3.4.8 Two residual heat removal (RHR) loops shall be OPERABLE and one RHR loop shall be in operation.

----------NOTES----------

1. All RHR pumps may be de-energized for ≤ ~~15 minutes when switching from one loop to another~~ 1 hour provided: 3.4-02

   a. The core outlet temperature is maintained > 10°F below saturation temperature. B

   b. No operations are permitted that would cause a reduction of the RCS boron concentration; and

   c. No draining operations to further reduce the RCS water volume are permitted.

2. One RHR loop may be inoperable for ≤ 2 hours for surveillance testing provided that the other RHR loop is OPERABLE and in operation.

APPLICABILITY: MODE 5 with RCS loops not filled.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR loop inoperable.	A.1 Initiate action to restore RHR loop to OPERABLE status.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required RHR loops inoperable. OR No RHR loop in operation.	B.1 Suspend all operations involving reduction in RCS boron concentration. AND B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.8.1	Verify one RHR loop is in operation.	12 hours
SR 3.4.8.2	Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	7 days

MARKUP PROCESS FOR NUREG-1431 SPECIFICATIONS

Enclosure 5A contains an electronic mark-up of NUREG-1431 Revision 1. The purpose of the mark-up is to identify those changes necessary to create a CPSES specific converted TS (by incorporated plant specific values in bracketed areas) and to identify any other changes with a cross-reference to a justification or explanation for the change. Descriptions/justifications for changes are contained in Enclosure 6.

There are four types of changes:

1. Deletions - Material which is removed from NUREG-1431, Rev. 1.

2. Additions - This includes material which is added to NUREG-1431, Rev. 1.

3. Modifications - This includes material which exist in NUREG-1431, Rev. 1 but is being revised for the converted TS.

4. Bracket Inserts - These changes involve the insertion of plant specific information which is presently located in the existing TS into a bracketed portion of NUREG-1431, Rev. 1.

The methodology of identifying the changes is :

Deletions - The portion of the specification which is being deleted in non-bracketed areas of NUREG-1431, Rev. 1 is annotated using the strike-out feature of WordPerfect. The deletions are identified by an item number or a change code in the adjacent right margin.

Additions - The information being added to the non-bracketed portions of NUREG-1431, Rev. 1 is inserted into the specification in the appropriate location and is annotated using the red-line feature of WordPerfect. The addition is identified by an item number or a change code in the adjacent right margin.

Modifications - The information being revised in the non-bracketed portions of NUREG-1431, Rev. 1 is annotated using the strike-out feature of WordPerfect and the revised information is inserted into the specification in the appropriate location and is

annotated using the red-line feature of WordPerfect. The modification is identified by an item number or a change code in the adjacent right margin. A change code of "PS" indicates an obvious plant specific change and is usually reserved for plant specific names of systems and components.

Bracket Inserts - The plant specific information is entered into the bracketed area. If "generic" information had been provided in the bracketed area and that information is not correct for CPSES, the "generic" information is deleted from NUREG-1431, Rev. 1. The brackets provided in NUREG-1431, Rev. 1 are also deleted. "Red-line", "strike-out" and margin codes are as follows:

1. If the bracketed wording or parameter values remain unchanged, the bracketed information is "red-lined" and 'B' (for bracketed information) is used as the margin code.

2. If the bracketed wording or parameter values are changed to the plant specific wording/values in the current specifications, the old bracketed information is "struck-out", the new information is "red-lined" and 'B-PS' (for plant specific bracketed information) is used as a margin code.

Changes which have margin identifiers of letters instead of numbers (i.e., B, B-PS or PS) do not have descriptions/justifications in enclosure 6.

Note: All brackets are removed as part of the mark-up process.

In summary, in the non-bracketed portions of NUREG-1431, Rev. 1, "red-line" is used to annotate new material, "strike-out" is used to annotate deleted material, and identification numbers or change codes are used in the right margin to identify these changes. All changes (i.e., "red-line" or "strike-out" items) have an identification number or a change code.

Note, NUREG-1431, Rev. 1 is used for all markups. Industry Travelers which are incorporated are indicated using the "redlines", "strike-outs" and margin codes discussed above.

ENCLOSURE 5B

MARK-UP OF NUREG-1431 BASES

Mark-up

Methodology

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.4 RCS Loops – MODES 1 and 2

BASES

BACKGROUND

The primary function of the RCS is removal of the heat generated in the fuel due to the fission process, and transfer of this heat, via the steam generators (SGs), to the secondary plant.

The secondary functions of the RCS include:

a. Moderating the neutron energy level to the thermal state, to increase the probability of fission;

b. Improving the neutron economy by acting as a reflector;

c. Carrying the soluble neutron poison, boric acid;

d. Providing a second barrier against fission product release to the environment; and

e. Removing the heat generated in the fuel due to fission product decay following a unit shutdown.

The reactor coolant is circulated through four loops connected in parallel to the reactor vessel, each containing an SG, a reactor coolant pump (RCP), and appropriate flow and temperature instrumentation for both control and protection. The reactor vessel contains the clad fuel. The SGs provide the heat sink to the isolated secondary coolant. The RCPs circulate the coolant through the reactor vessel and SGs at a sufficient rate to ensure proper heat transfer and prevent fuel damage. This forced circulation of the reactor coolant ensures mixing of the coolant for proper boration and chemistry control.

APPLICABLE SAFETY ANALYSES

Safety analyses contain various assumptions for the design bases accident initial conditions including RCS pressure, RCS temperature, reactor power level, core parameters, and safety system setpoints. The important aspect for this LCO is the reactor coolant forced flow rate, which is represented by the number of RCS loops in service.

BASES (continued)

APPLICABLE SAFETY ANALYSES (continued)

~~Both transient and steady state analyses have been performed to establish the effect of flow on the departure from nucleate boiling (DNB). The transient and accident analyses for the plant have been performed assuming [four] RCS loops are in operation. The majority of the plant safety analyses are based on initial conditions at high core power or zero power. The accident analyses that are most important to RCP operation are the [four] pump coastdown, single pump locked rotor, single pump (broken shaft or coastdown), and rod withdrawal events (Ref. 1).~~

~~Steady state DNB analysis has been performed for the [four] RCS loop operation. For [four] RCS loop operation, the steady state DNB analysis, which generates the pressure and temperature Safety Limit (SL) (i.e., the departure from nucleate boiling ratio (DNBR) limit) assumes a maximum power level of 109% RTP. This is the design overpower condition for [four] RCS loop operation. The value for the accident analysis setpoint of the nuclear overpower (high flux) trip is 107% and is based on an analysis assumption that bounds possible instrumentation errors. The DNBR limit defines a locus of pressure and temperature points that result in a minimum DNBR greater than or equal to the critical heat flux correlation limit.~~

All of the accident/safety analyses performed at full rated thermal power assume that all four RCS loops are in operation as an initial condition. Some accident/safety analyses have been performed at zero power conditions assuming only two RCS loops are in operation to conservatively bound lower modes of operation. The uncontrolled RCCA (Bank) withdrawal from subcritical event is included in this category. While all accident/safety analyses performed at full rated thermal power assume that all the RCS loops are in operation, selected events examine the effects resulting from a loss of RCP operation. These include the complete and partial loss of forced RCS flow, RCP rotor seizure, and RCP shaft break events. For each of these events, it is demonstrated that all the applicable safety criteria are satisfied. For the remaining accident/safety analyses, operation of all four RCS loops during the transient up to the time of reactor trip is assumed thereby ensuring that all the applicable acceptance criteria are satisfied. Those transients analyzed beyond the time of reactor trip were examined assuming that a loss of offsite power occurs which results in the RCPs coasting down.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES (continued)

The plant is designed to operate with all RCS loops in operation to maintain DNBR above the limit value, during all normal operations and anticipated transients. By ensuring heat transfer in the nucleate boiling region, adequate heat transfer is provided between the fuel cladding and the reactor coolant.

RCS Loops – MODES 1 and 2 satisfy Criterion 2 of the NRC Policy Statement.

LCO

The purpose of this LCO is to require an adequate forced flow rate for core heat removal. Flow is represented by the number of RCPs in operation for removal of heat by the SGs. To meet safety analysis acceptance criteria for DNB, four pumps are required at rated power.

An OPERABLE RCS loop consists of an OPERABLE RCP in operation providing forced flow for heat transport and an OPERABLE SG in accordance with the Steam Generator Tube Surveillance Program.

APPLICABILITY

In MODES 1 and 2, the reactor is critical and thus has the potential to produce maximum THERMAL POWER. Thus, to ensure that the assumptions of the accident analyses remain valid, all RCS loops are required to be OPERABLE and in operation in these MODES to prevent DNB and core damage.

The decay heat production rate is much lower than the full power heat rate. As such, the forced circulation flow and heat sink requirements are reduced for lower, noncritical MODES as indicated by the LCOs for MODES 3, 4, and 5.

Operation in other MODES is covered by:

LCO 3.4.5, "RCS Loops – MODE 3";
LCO 3.4.6, "RCS Loops – MODE 4";
LCO 3.4.7, "RCS Loops – MODE 5, Loops Filled";
LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled";
LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level" (MODE 6).

(continued)

BASES (continued)

ACTIONS

A.1

If the requirements of the LCO are not met, the Required Action is to reduce power and bring the plant to MODE 3. This lowers power level and thus reduces the core heat removal needs and minimizes the possibility of violating DNB limits.

The 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 safety systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.4.1

This SR requires verification every 12 hours that each RCS loop is in operation. Verification includes flow rate, temperature, or pump status monitoring, which help ensure that forced flow is providing heat removal while maintaining the margin to DNB. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RCS loop performance.

REFERENCES

1. FSAR, Section 15.

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.5 RCS Loops – MODE 3

BASES

BACKGROUND

In MODE 3, the primary function of the reactor coolant is removal of decay heat and transfer of this heat, via the steam generator (SG), to the secondary plant fluid. The secondary function of the reactor coolant is to act as a carrier for soluble neutron poison, boric acid.

The reactor coolant is circulated through four RCS loops, connected in parallel to the reactor vessel, each containing an SG, a reactor coolant pump (RCP), and appropriate flow, pressure, level, and temperature instrumentation for control, protection, and indication. The reactor vessel contains the clad fuel. The SGs provide the heat sink. The RCPs circulate the water through the reactor vessel and SGs at a sufficient rate to ensure proper heat transfer and prevent fuel damage.

In MODE 3, RCPs are used to provide forced circulation for heat removal during heatup and cooldown. The MODE 3 decay heat removal requirements are low enough that a single RCS loop with one RCP running is sufficient to remove core decay heat. However, two RCS loops are required to be OPERABLE to ensure redundant capability for decay heat removal.

APPLICABLE SAFETY ANALYSES

Whenever the reactor trip breakers (RTBs) are in the closed position and the control rod drive mechanisms (CRDMs) are energized, an inadvertent rod withdrawal from subcritical, resulting in a power excursion, is possible. Such a transient could be caused by a malfunction of the rod control system. In addition, the possibility of a power excursion due to the ejection of an inserted control rod is possible with the breakers closed or open. Such a transient could be caused by the mechanical failure of a CRDM.

Therefore, in MODE 3 with RTBs in the closed position and Rod Control System capable of rod withdrawal, accidental control rod withdrawal from subcritical is postulated and requires at least two RCS loops to be OPERABLE and in operation to ensure that the accident analyses limits are met. For those conditions when

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

the Rod Control System is not capable of rod withdrawal, two RCS loops are required to be OPERABLE, but only one RCS loop is required to be in operation to be consistent with MODE 3 accident analyses.

Failure to provide decay heat removal may result in challenges to a fission product barrier. The RCS loops are part of the primary success path that functions or actuates to prevent or mitigate a Design Basis Accident or transient that either assumes the failure of, or presents a challenge to, the integrity of a fission product barrier.

RCS Loops – MODE 3 satisfy Criterion 3 of the NRC Policy Statement.

LCO

The purpose of this LCO is to require that at least two RCS loops be OPERABLE. In MODE 3 with the RTBs in the closed position and Rod Control System capable of rod withdrawal, two RCS loops must be in operation. Two RCS loops are required to be in operation in MODE 3 with RTBs closed and Rod Control System capable of rod withdrawal due to the postulation of a power excursion because of an inadvertent control rod withdrawal. The required number of RCS loops in operation ensures that the Safety Limit criteria will be met for all of the postulated accidents.

With the RTBs in the open position, or the CRDMs de-energized, the Rod Control System is not capable of rod withdrawal; therefore, only one RCS loop in operation is necessary to ensure removal of decay heat from the core and homogenous boron concentration throughout the RCS. An additional RCS loop is required to be OPERABLE to ensure that ~~safety analyses limits are met~~redundancy for heat removal is maintained.

The Note permits all RCPs to be de-energized for ≤ 1 hour per 8 hour period. The purpose of the Note is to perform tests that are ~~designed to validate various accident analyses values~~required to be performed without flow or pump noise. One of these tests is validation of the pump coastdown curve used as input to a number of accident analyses including a loss of flow accident. This test is generally performed in MODE 3 during the initial startup testing program, and as such should only be performed once. If, however, changes are made to the RCS that would cause a change to the flow characteristics of the RCS, the input

(continued)

BASES

LCO (continued)

values of the coastdown curve must be revalidated by conducting the test again. ~~Another test performed during the startup testing program is the validation of rod drop times during cold conditions, both with and without flow.~~

~~The no flow test may be performed in MODE 3, 4, or 5 and requires that the pumps be stopped for a short period of time. The Note permits the de-energizing of the pumps in order to perform this test and validate the assumed analysis values. As with the validation of the pump coastdown curve, this test should be performed only once unless the flow characteristics of the RCS are changed. The 1 hour time period specified is adequate to perform the desired tests, and operating experience has shown that boron stratification is not a problem during this short period with no forced flow.~~

Utilization of the Note is permitted provided the following conditions are met, along with any other conditions imposed by ~~initial startup~~ test procedures:

a. No operations are permitted that would dilute the RCS boron concentration, thereby maintaining the margin to criticality. Boron reduction is prohibited because a uniform concentration distribution throughout the RCS cannot be ensured when in natural circulation; and

b. Core outlet temperature is maintained at least 10°F below saturation temperature, so that no vapor bubble may form and possibly cause a natural circulation flow obstruction.

An OPERABLE RCS loop consists of one OPERABLE RCP and one OPERABLE SG in accordance with the Steam Generator Tube Surveillance Program, which has the minimum water level specified in SR 3.4.5.2. An RCP is OPERABLE if it is capable of being powered and is able to provide forced flow if required.

APPLICABILITY

In MODE 3, this LCO ensures forced circulation of the reactor coolant to remove decay heat from the core and to provide proper boron mixing. The most stringent condition of the LCO, that is, two RCS loops OPERABLE and two RCS loops in operation, applies to MODE 3 with RTBs in the closed position. The least stringent

(continued)

BASES

APPLICABILITY (continued)

condition, that is, two RCS loops OPERABLE and one RCS loop in operation, applies to MODE 3 with the RTBs open.

Operation in other MODES is covered by:

LCO 3.4.4, "RCS Loops – MODES 1 and 2";
LCO 3.4.6, "RCS Loops – MODE 4";
LCO 3.4.7, "RCS Loops – MODE 5, Loops Filled";
LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled";
LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level" (MODE 6).

ACTIONS

A.1

If one required RCS loop is inoperable, redundancy for heat removal is lost. The Required Action is restoration of the required RCS loop to OPERABLE status within the Completion Time of 72 hours. This time allowance is a justified period to be without the redundant, nonoperating loop because a single loop in operation has a heat transfer capability greater than that needed to remove the decay heat produced in the reactor core and because of the low probability of a failure in the remaining loop occurring during this period.

B.1

If restoration is not possible within 72 hours, the unit must be brought to MODE 4. In MODE 4, the unit may be placed on the Residual Heat Removal System. The additional Completion Time of 12 hours is compatible with required operations to achieve cooldown and depressurization from the existing plant conditions in an orderly manner and without challenging plant systems.

C.1 and C.2

If the required RCS loop is not in operation, and the RTBs are closed and Rod Control System capable of rod withdrawal,

(continued)

BASES

ACTIONS

C.1 and C.2 (continued)

the Required Action is either to restore the required RCS loop to operation or to de-energize all CRDMs by opening the RTBs or de-energizing the motor generator (MG) sets. When the RTBs are in the closed position and Rod Control System capable of rod withdrawal, it is postulated that a power excursion could occur in the event of an inadvertent control rod withdrawal. This mandates having the heat transfer capacity of two RCS loops in operation. If only one loop is in operation, the RTBs must be opened. The Completion Times of 1 hour to restore the required RCS loop to operation or de-energize all CRDMs is adequate to perform these operations in an orderly manner without exposing the unit to risk for an undue time period.

D.1, D.2, and D.3

If four RCS loops are inoperable or no RCS loop is in operation, except as during conditions permitted by the Note in the LCO section, all CRDMs must be de-energized by opening the RTBs or de-energizing the MG sets. All operations involving a reduction of RCS boron concentration must be suspended, and action to restore one of the RCS loops to OPERABLE status and operation must be initiated. Boron dilution requires forced circulation for proper mixing, and opening the RTBs or de-energizing the MG sets removes the possibility of an inadvertent rod withdrawal. The immediate Completion Time reflects the importance of maintaining operation for heat removal. The action to restore must be continued until one loop is restored to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

SR 3.4.5.1

This SR requires verification every 12 hours that the required loops are in operation. Verification may include~~s~~ flow rate, temperature, ~~and~~or pump status monitoring, which help ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RCS loop performance.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.5.2

SR 3.4.5.2 requires verification of SG OPERABILITY. SG OPERABILITY is verified by ensuring that the secondary side narrow range water level is ≥ 10% for required RCS loops. If the SG secondary side narrow range water level is < 10%, the tubes may become uncovered and the associated loop may not be capable of providing the heat sink for removal of the decay heat. The 12 hour Frequency is considered adequate in view of other indications available in the control room to alert the operator to a loss of SG level.

SR 3.4.5.3

Verification that the required RCPs are OPERABLE ensures that safety analyses limits are met. The requirement also ensures that an additional RCP can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power availability to the required RCPs.

REFERENCES

None.

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.6 RCS Loops – MODE 4

BASES

BACKGROUND

In MODE 4, the primary function of the reactor coolant is the removal of decay heat and the transfer of this heat to either the steam generator (SG) secondary side coolant or the component cooling water via the residual heat removal (RHR) heat exchangers. The secondary function of the reactor coolant is to act as a carrier for soluble neutron poison, boric acid.

The reactor coolant is circulated through four RCS loops connected in parallel to the reactor vessel, each loop containing an SG, a reactor coolant pump (RCP), and appropriate flow, pressure, level, and temperature instrumentation for control, protection, and indication. The RCPs circulate the coolant through the reactor vessel and SGs at a sufficient rate to ensure proper heat transfer and to prevent boric acid stratification.

In MODE 4, either RCPs or RHR loops can be used to provide forced circulation. The intent of this LCO is to provide forced flow from at least one RCP or one RHR loop for decay heat removal and transport. The flow provided by one RCP loop or RHR loop is adequate for decay heat removal. The other intent of this LCO is to require that two paths be available to provide redundancy for decay heat removal.

APPLICABLE SAFETY ANALYSES

In MODE 4, RCS circulation is considered in the determination of the time available for mitigation of the accidental boron dilution event. The RCS and RHR loops provide this circulation.

RCS Loops – MODE 4 have been identified in the NRC Policy Statement as important contributors to risk reduction.

LCO

The purpose of this LCO is to require that at least two loops be OPERABLE in MODE 4 and that one of these loops be in operation. The LCO allows the two loops that are required to be OPERABLE to consist of any combination of RCS

(continued)

BASES

LCO (continued)

loops and RHR loops. Any one loop in operation provides enough flow to remove the decay heat from the core with forced circulation. An additional loop is required to be OPERABLE to provide redundancy for heat removal.

Note 1 permits all RCPs or RHR pumps to be de-energized for ≤ 1 hour per 8 hour period. The purpose of the Note is to permit tests that are required to be performed without flow or pump noise~~designed to validate various accident analyses values. One of the tests performed during the startup testing program is the validation of rod drop times during cold conditions, both with and without flow. The no flow test may be performed in MODE 3, 4, or 5 and requires that the pumps be stopped for a short period of time. The Note permits the de-energizing of the pumps in order to perform this test and validate the assumed analysis values. If changes are made to the RCS that would cause a change to the flow characteristics of the RCS, the input values must be revalidated by conducting the test again.~~ The 1 hour time period is adequate to perform the test, and operating experience has shown that boron stratification is not a problem during this short period with no forced flow.

Utilization of Note 1 is permitted provided the following conditions are met along with any other conditions imposed by ~~initial startup~~ test procedures:

a. No operations are permitted that would dilute the RCS boron concentration, therefore maintaining the margin to criticality. Boron reduction is prohibited because a uniform concentration distribution throughout the RCS cannot be ensured when in natural circulation; and

b. Core outlet temperature is maintained at least 10°F below saturation temperature, so that no vapor bubble may form and possibly cause a natural circulation flow obstruction.

Note 2 requires that the secondary side water temperature of each SG be ≤ 50°F above each of the RCS cold leg temperatures before the start of an RCP with any RCS cold leg temperature ≤ 350°F. This restraint is to prevent a low temperature overpressure event due to a thermal transient when an RCP is started.

An OPERABLE RCS loop comprises an OPERABLE RCP and an OPERABLE SG in accordance with the Steam Generator Tube

(continued)

BASES

LCO (continued)

Surveillance Program, which has the minimum water level specified in SR 3.4.6.2.

Similarly for the RHR System, an OPERABLE RHR loop comprises an OPERABLE RHR pump capable of providing forced flow to an OPERABLE RHR heat exchanger. RCPs and RHR pumps are OPERABLE if they are capable of being powered and are able to provide forced flow if required. An RHR loop is in operation when the pump is operating and providing forced flow through the loop. Because a loop can be operating without being OPERABLE, the LCO requires at least one loop OPERABLE and in operation.

APPLICABILITY

In MODE 4, this LCO ensures forced circulation of the reactor coolant to remove decay heat from the core and to provide proper boron mixing. One loop of either RCS or RHR provides sufficient circulation for these purposes. However, two loops consisting of any combination of RCS and RHR loops are required to be OPERABLE to meet single failure considerations.

Operation in other MODES is covered by:

LCO 3.4.4, "RCS Loops – MODES 1 and 2";
LCO 3.4.5, "RCS Loops – MODE 3";
LCO 3.4.7, "RCS Loops – MODE 5, Loops Filled";
LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled";
LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level" (MODE 6).

ACTIONS

A.1

If one required RCS loop is inoperable and two RHR loops are inoperable, redundancy for heat removal is lost. Action must be initiated to restore a second RCS or RHR loop to OPERABLE status. The immediate Completion Time reflects the importance of maintaining the availability of two paths for heat removal.

B.1

If one required RHR loop is OPERABLE and in operation and there are no RCS loops OPERABLE, an inoperable RCS or RHR

(continued)

BASES

ACTIONS

B.1 (continued)

loop must be restored to OPERABLE status to provide a redundant means for decay heat removal.

If the parameters that are outside the limits cannot be restored, the unit must be brought to MODE 5 within 24 hours. Bringing the unit to MODE 5 is a conservative action with regard to decay heat removal. With only one RHR loop OPERABLE, redundancy for decay heat removal is lost and, in the event of a loss of the remaining RHR loop, it would be safer to initiate that loss from MODE 5 (≤ 200°F) rather than MODE 4 (200 to 350°F). The Completion Time of 24 hours is a reasonable time, based on operating experience, to reach MODE 5 from MODE 4 in an orderly manner and without challenging plant systems.

C.1 and C.2

If no loop is OPERABLE or in operation, except during conditions permitted by Note 1 in the LCO section, all operations involving a reduction of RCS boron concentration must be suspended and action to restore one RCS or RHR loop to OPERABLE status and operation must be initiated. Boron dilution requires forced circulation for proper mixing, and the margin to criticality must not be reduced in this type of operation. The immediate Completion Times reflect the importance of maintaining operation for decay heat removal. The action to restore must be continued until one loop is restored to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

SR 3.4.6.1

This SR requires verification every 12 hours that one RCS or RHR loop is in operation. Verification may include flow rate, temperature, or pump status monitoring, which help ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RCS and RHR loop performance.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.4.6.2

SR 3.4.6.2 requires verification of SG OPERABILITY. SG OPERABILITY is verified by ensuring that the secondary side narrow range water level is ≥ 10%. If the SG secondary side narrow range water level is < 10%, the tubes may become uncovered and the associated loop may not be capable of providing the heat sink necessary for removal of decay heat. The 12 hour Frequency is considered adequate in view of other indications available in the control room to alert the operator to the loss of SG level.

SR 3.4.6.3

Verification that the required pump is OPERABLE ensures that an additional RCS or RHR pump can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power available to the required pump. The Frequency of 7 days is considered reasonable in view of other administrative controls available and has been shown to be acceptable by operating experience.

REFERENCES

None.

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.7 RCS Loops – MODE 5, Loops Filled

BASES

BACKGROUND

In MODE 5 with the RCS loops filled, the primary function of the reactor coolant is the removal of decay heat and transfer of this heat either to the steam generator (SG) secondary side coolant or the component cooling water via the residual heat removal (RHR) heat exchangers. While the principal means for decay heat removal is via the RHR System, the SGs are specified as a backup means for redundancy. Even though the SGs cannot produce steam in this MODE, they are capable of being a heat sink due to their large contained volume of secondary water. As long as the SG secondary side water is at a lower temperature than the reactor coolant, heat transfer will occur. The rate of heat transfer is directly proportional to the temperature difference. The secondary function of the reactor coolant is to act as a carrier for soluble neutron poison, boric acid.

In MODE 5 with RCS loops filled, the reactor coolant is circulated by means of two RHR loops connected to the RCS, each loop containing an RHR heat exchanger, an RHR pump, and appropriate flow and temperature instrumentation for control, protection, and indication. One RHR pump circulates the water through the RCS at a sufficient rate to prevent boric acid stratification.

The number of loops in operation can vary to suit the operational needs. The intent of this LCO is to provide forced flow from at least one RHR loop for decay heat removal and transport. The flow provided by one RHR loop is adequate for decay heat removal. The other intent of this LCO is to require that a second path be available to provide redundancy for heat removal.

The LCO provides for redundant paths of decay heat removal capability. The first path can be an RHR loop that must be OPERABLE and in operation. The second path can be another OPERABLE RHR loop or maintaining two SGs with secondary side water levels above 10% to provide an alternate method for decay heat removal.

(continued)

BASES (continued)

APPLICABLE SAFETY ANALYSES

In MODE 5, RCS circulation is considered in the determination of the time available for mitigation of the accidental boron dilution event. The RHR loops provide this circulation.

RCS Loops – MODE 5 (Loops Filled) have been identified in the NRC Policy Statement as important contributors to risk reduction.

LCO

The purpose of this LCO is to require that at least one of the RHR loops be OPERABLE and in operation with an additional RHR loop OPERABLE or two SGs with secondary side water level ≥ 10%. One RHR loop provides sufficient forced circulation to perform the safety functions of the reactor coolant under these conditions. An additional RHR loop is required to be OPERABLE to meet single failure considerations. However, if the standby RHR loop is not OPERABLE, an acceptable alternate method is two SGs with their secondary side water levels ≥ 10%. Should the operating RHR loop fail, the SGs could be used to remove the decay heat.

Note 1 permits all RHR pumps to be de-energized ≤ 1 hour per 8 hour period. The purpose of the Note is to permit tests that are required to be performed without flow or pump noise. ~~designed to validate various accident analyses values. One of the tests performed during the startup testing program is the validation of rod drop times during cold conditions, both with and without flow. The no flow test may be performed in MODE 3, 4, or 5 and requires that the pumps be stopped for a short period of time. The Note permits de-energizing of the pumps in order to perform this test and validate the assumed analysis values. If changes are made to the RCS that would cause a change to the flow characteristics of the RCS, the input values must be revalidated by conducting the test again.~~ The 1 hour time period is adequate to perform the test, and operating experience has shown that boron stratification is not likely during this short period with no forced flow.

Utilization of Note 1 is permitted provided the following conditions are met, along with any other conditions imposed by ~~initial startup~~ test procedures:

(continued)

BASES

LCO (continued)

a. No operations are permitted that would dilute the RCS boron concentration, therefore maintaining the margin to criticality. Boron reduction is prohibited because a uniform concentration distribution throughout the RCS cannot be ensured when in natural circulation; and

b. Core outlet temperature is maintained at least 10°F below saturation temperature, so that no vapor bubble may form and possibly cause a natural circulation flow obstruction.

Note 2 allows one RHR loop to be inoperable for a period of up to 2 hours, provided that the other RHR loop is OPERABLE and in operation. This permits periodic surveillance tests to be performed on the inoperable loop during the only time when such testing is safe and possible.

Note 3 requires that the secondary side water temperature of each SG be ≤ 50°F above each of the RCS cold leg temperatures before the start of a reactor coolant pump (RCP) with an RCS cold leg temperature ≤ 350°F. This restriction is to prevent a low temperature overpressure event due to a thermal transient when an RCP is started.

Note 4 provides for an orderly transition from MODE 5 to MODE 4 during a planned heatup by permitting removal of RHR loops from operation when at least one RCS loop is in operation. This Note provides for the transition to MODE 4 where an RCS loop is permitted to be in operation and replaces the RCS circulation function provided by the RHR loops.

RHR pumps are OPERABLE if they are capable of being powered and are able to provide flow if required. An OPERABLE SG can perform as a heat sink when it has an adequate water level and is OPERABLE in accordance with the Steam Generator Tube Surveillance Program.

APPLICABILITY

In MODE 5 with RCS loops filled, this LCO requires forced circulation of the reactor coolant to remove decay heat from the core and to provide proper boron mixing. One loop of RHR provides sufficient circulation for these purposes. However, one additional RHR loop is required to be OPERABLE.

(continued)

BASES

APPLICABILITY (continued)

or the secondary side water level of at least two SGs is required to be ≥ 10%.

Operation in other MODES is covered by:

LCO 3.4.4, "RCS Loops – MODES 1 and 2";
LCO 3.4.5, "RCS Loops – MODE 3";
LCO 3.4.6, "RCS Loops – MODE 4";
LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled";
LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level" (MODE 6).

ACTIONS

A.1 and A.2

If one RHR loop is inoperable and the required SGs have secondary side water levels < 10%, redundancy for heat removal is lost. Action must be initiated immediately to restore a second RHR loop to OPERABLE status or to restore the required SG secondary side water levels. Either Required Action A.1 or Required Action A.2 will restore redundant heat removal paths. The immediate Completion Time reflects the importance of maintaining the availability of two paths for heat removal.

B.1 and B.2

If no RHR loop is in operation, except during conditions permitted by Notes 1 and 4, or if no loop is OPERABLE, all operations involving a reduction of RCS boron concentration must be suspended and action to restore one RHR loop to OPERABLE status and operation must be initiated. To prevent boron dilution, forced circulation is required to provide proper mixing and preserve the margin to criticality in this type of operation. The immediate Completion Times reflect the importance of maintaining operation for heat removal.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.4.7.1

This SR requires verification every 12 hours that the required loop is in operation. Verification may includes flow rate, temperature, or pump status monitoring, which help ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RHR loop performance.

SR 3.4.7.2

Verifying that at least two SGs are OPERABLE by ensuring their secondary side narrow range water levels are ≥ 10% ensures an alternate decay heat removal method in the event that the second RHR loop is not OPERABLE. If both RHR loops are OPERABLE, this Surveillance is not needed. The 12 hour Frequency is considered adequate in view of other indications available in the control room to alert the operator to the loss of SG level.

SR 3.4.7.3

Verification that a second RHR pump is OPERABLE ensures that an additional pump can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power available to the RHR pump. If secondary side water level is ≥ 10% in at least two SGs, this Surveillance is not needed. The Frequency of 7 days is considered reasonable in view of other administrative controls available and has been shown to be acceptable by operating experience.

REFERENCES None.

B 3.4 REACTOR COOLANT SYSTEM (RCS)

B 3.4.8 RCS Loops – MODE 5, Loops Not Filled

BASES

BACKGROUND

In MODE 5 with the RCS loops not filled, the primary function of the reactor coolant is the removal of decay heat generated in the fuel, and the transfer of this heat to the component cooling water via the residual heat removal (RHR) heat exchangers. The steam generators (SGs) are not available as a heat sink when the loops are not filled. The secondary function of the reactor coolant is to act as a carrier for the soluble neutron poison, boric acid.

In MODE 5 with loops not filled, only RHR pumps can be used for coolant circulation. The number of pumps in operation can vary to suit the operational needs. The intent of this LCO is to provide forced flow from at least one RHR pump for decay heat removal and transport and to require that two paths be available to provide redundancy for heat removal.

APPLICABLE SAFETY ANALYSES

In MODE 5, RCS circulation is considered in the determination of the time available for mitigation of the accidental boron dilution event. The RHR loops provide this circulation. The flow provided by one RHR loop is adequate for heat removal and for boron mixing.

RCS loops in MODE 5 (loops not filled) have been identified in the NRC Policy Statement as important contributors to risk reduction.

LCO

The purpose of this LCO is to require that at least two RHR loops be OPERABLE and one of these loops be in operation. An OPERABLE loop is one that has the capability of transferring heat from the reactor coolant at a controlled rate. Heat cannot be removed via the RHR System unless forced flow is used. A minimum of one running RHR pump meets the LCO requirement for one loop in operation. An additional RHR loop is required to be OPERABLE to meet single failure considerations.

(continued)

BASES

LCO (continued)

Note 1 permits all RHR pumps to be de-energized for ≤ 1 hour ~~15 minutes when switching from one loop to another~~. The circumstances for stopping both RHR pumps are to be limited to situations when the outage time is short and core outlet temperature is maintained > 10°F below saturation temperature. The Note prohibits boron dilution or draining operations when RHR forced flow is stopped.

Note 2 allows one RHR loop to be inoperable for a period of ≤ 2 hours, provided that the other loop is OPERABLE and in operation. This permits periodic surveillance tests to be performed on the inoperable loop during the only time when these tests are safe and possible.

An OPERABLE RHR loop is comprised of an OPERABLE RHR pump capable of providing forced flow to an OPERABLE RHR heat exchanger. RHR pumps are OPERABLE if they are capable of being powered and are able to provide flow if required.

APPLICABILITY

In MODE 5 with loops not filled, this LCO requires core heat removal and coolant circulation by the RHR System.

Operation in other MODES is covered by:

LCO 3.4.4, "RCS Loops – MODES 1 and 2";
LCO 3.4.5, "RCS Loops – MODE 3";
LCO 3.4.6, "RCS Loops – MODE 4";
LCO 3.4.7, "RCS Loops – MODE 5, Loops Filled";
LCO 3.9.5, "Residual Heat Removal (RHR) and Coolant Circulation – High Water Level" (MODE 6); and
LCO 3.9.6, "Residual Heat Removal (RHR) and Coolant Circulation – Low Water Level" (MODE 6).

ACTIONS

A.1

If only one RHR loop is OPERABLE and in operation, redundancy for RHR is lost. Action must be initiated to restore a second loop to OPERABLE status. The immediate Completion Time reflects the importance of maintaining the availability of two paths for heat removal.

(continued)

BASES

ACTIONS (continued)

B.1 and B.2

If no required RHR loops are OPERABLE or in operation, except during conditions permitted by Note 1, all operations involving a reduction of RCS boron concentration must be suspended and action must be initiated immediately to restore an RHR loop to OPERABLE status and operation. Boron dilution requires forced circulation for uniform dilution, and the margin to criticality must not be reduced in this type of operation. The immediate Completion Time reflects the importance of maintaining operation for heat removal. The action to restore must continue until one loop is restored to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

SR 3.4.8.1

This SR requires verification every 12 hours that one loop is in operation. Verification may includes flow rate, temperature, or pump status monitoring, which help ensure that forced flow is providing heat removal. The Frequency of 12 hours is sufficient considering other indications and alarms available to the operator in the control room to monitor RHR loop performance.

SR 3.4.8.2

Verification that the required number of pumps are OPERABLE ensures that additional pumps can be placed in operation, if needed, to maintain decay heat removal and reactor coolant circulation. Verification is performed by verifying proper breaker alignment and power available to the required pumps. The Frequency of 7 days is considered reasonable in view of other administrative controls available and has been shown to be acceptable by operating experience.

REFERENCES

None.

MARK-UP OF NUREG 1431 BASES

Enclosure 5B contains an electronic mark-up of the Bases portion of NUREG 1431, REV. 1. The Bases is descriptive in nature but provides significant clarification and, in some cases, technical information which supports the specifications. The version in the NUREG is generic while the CPSES converted TS version has been made plant specific.

To the extent possible, the words of NUREG 1431, REV. 1 are retained to maximize standardization. Where the existing words in the NUREG are incorrect or misleading, they have been corrected. In addition, descriptions have been added to cover plant specific portions of the specifications.

The changes are processed as follows:

There are four types of changes:

1. Deletions - Material which is removed from NUREG-1431, Rev. 1 Bases.

2. Additions - This includes material which is added to NUREG-1431, Rev. 1 Bases.

3. Modifications - This includes material which exist in NUREG-1431, Rev. 1 Bases but is being revised for the converted TS.

4. Bracket Inserts - These changes involve the insertion of plant specific information which is presently located in the existing TS into a bracketed portion of NUREG-1431, Rev. 1 Bases.

The methodology of identifying the changes is :

Deletions - The portion of the specification which is being deleted in non-bracketed areas of NUREG-1431, Rev. 1 Bases is annotated using the strike-out feature of WordPerfect. The deletions are <u>not</u> identified by an item number or a change code in the adjacent right margin.

Additions - The information being added to the non-bracketed portions of NUREG-1431, Rev. 1 Bases is inserted into the Bases in the appropriate location and is annotated using the red-line feature of WordPerfect. The addition is <u>not</u> identified by an item number or a change code in the adjacent right margin.

Modifications - The information being revised in the non-bracketed portions of NUREG-1431, Rev. 1 Bases is annotated using the strike-out feature of WordPerfect and the revised information is inserted

into the Bases in the appropriate location and is annotated using the red-line feature of WordPerfect. The modification is not identified by an item number or a change code in the adjacent right margin.

Bracket Inserts - The plant specific information is entered into the bracketed area. If "generic" information had been provided in the bracketed area and that information is not correct for CPSES, the "generic" information is deleted. The brackets are also deleted. An identification number to cross-reference to an explanation or justification is not provided.

Note: All brackets are deleted from the mark-up of NUREG-1431, Rev. 1 Bases.

In summary, in the non-bracketed portions of the NUREG-1431, Rev. 1 Bases, "red-line" is used to annotate new material, "strike-out" is used to annotate deleted material The insertion of plant specific information into the bracketed portions of NUREG-1431, Rev. 1 does not use the red-line or strike-out features of WordPerfect. Neither identification numbers nor change codes are used to identify changes in the Bases.

ENCLOSURE 6

JUSTIFICATION FOR DIFFERENCES TO NUREG-1431

Differences

Commonality Table (Proposed Format)

JUSTIFICATION FOR DIFFERENCES FROM NUREG-1431

NUREG-1431 Section 3.4.4 through 3.4.8

This enclosure contains a brief discussion/justification for each marked-up technical change to NUREG-1431 Revision 1 to make them specific to CPSES or to incorporate generic changes resulting from the Industry/NRC generic change process. The change numbers are referenced directly from the NUREG-1431 mark-ups.

CHANGE NUMBER	JUSTIFICATION
3.4-01	Adds note for REQUIRED ACTION B.1 indicating that cooldown to MODE 5 is only required if an RHR loop is operable. Without the note REQUIRED ACTION B.1 could not be performed for one possible configuration of the applicable condition. This is consistent with industry traveler TSFT-039.
3.4-02	The current CPSES technical specifications allow 1 hour for the de-energization of all RHR pumps. As this is the current licensing basis of CPSES the change is acceptable.

COMMONALITY TABLE
FOR
CONVERTED TS SECTION 3.4.1

Change #	CPSES	WNOC	Callaway	Diablo
3.4-01	X	X	X	X
3.4-02	X	X	X	-
3.4-03	-	X	X	-

MEETING ATTENDEES

NRC

T. Polich	NRC/NRR/PD 4-1	301-415-1038	0-13-H-3
W. Beckner	NRC/NRR/PD 4-1	301-415-1302	0-13-H-3
J. Stone	NRC/NRR/PD 4-2	301-415-3063	0-13-E-16
S. Bloom	NRC/NRR/PD 4-2	301-415-1313	0-13-E-16
N. Gilles	NRC/NRR/TSB	301-415-1180	0-11-E-22
C. Grimes	NRC/NRR/TSB	301-415-1161	0-11-E-22
A. DeAgazio	NRC/NRR/PD 1-3	301-415-1448	0-14-C-7

Utilities

D. Woodlan	TU Electric	214-812-8225
D. Shafer	Union Electric	314-554-3104
S. Wideman	WCNOC	316-364-4037
P. Nugent	Pacific Gas & Electric	805-545-4872

Public

B. Beuchel	NAESLO	603-474-9521
J. Peschel	NAESLO	603-474-9521

ATTACHMENT 2