

REACTIVITY CONTROL SYSTEMS

POSITION INDICATION SYSTEMS-OPERATING

LIMITING CONDITION FOR OPERATION

3.1.3.2 The Digital Rod Position Indication System and the Demand Position Indication System shall be OPERABLE and capable of determining the control rod positions within ± 12 steps.

13-01-LG

APPLICABILITY: MODES 1 and 2^e

13-06-A

ACTION:

a. With a maximum of one digital rod position indicator per bank group inoperable for one or more groups either:

13-02-LS-15

1. Determine the position of the nonindicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and immediately within 4 hours after any motion of the nonindicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or

13-03-LS-12

2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 8 hours, or

3. Be in HOT STANDBY within the next 6 hours.

13-04-M

b. With more than one digital rod position indicator per bank group inoperable either:

13-05-A

1.a) Determine the position of the nonindicating rods indirectly by the movable incore detectors at least once per 8 hours and immediately within 4 hours after any motion of the nonindicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, and

13-03-LS-12

b) Place the control rods under manual control, and

13-09-LS-25

c) Monitor and record React. or Coolant System average temperature (T_{avg}) at least once per hour, and

13-09-LS-23

d) Restore the digital rod position indicators to OPERABLE status within 24 hours such that a maximum of one digital rod position indicator per bank group is inoperable, or

13-05-A

2. Be in HOT STANDBY within the next 6 hours.

Q31-19

(Retain)

* Separate Condition entry is allowed for each inoperable rod position indicator and each demand position indicator.

13-06-A

CHANGE NUMBER

NSHC

DESCRIPTION

13-08 - Not applicable to WCGS. See Conversion Comparison Table (Enclosure 3B).

Q 3.1-19

13-09

LS-23

Not Used.
Current TS Actions b.1.b and b.1.c of LCO 3.1.3.2 are deleted. SDM is ensured in MODES 1 and 2 by rod position. Multiple inoperable DRPIs will have no impact on SDM in MODES 1 and 2 if the control rod position are verified by alternate means and rod motion is limited consistent with the accident analysis. Deletion of these requirements is consistent with traveler

INSERT 3A-13a

Q 3.1-19

WCG-73, Rev. 1

TR 3.1-006

PSTP-254

14-01

Not applicable to WCGS. See Conversion Comparison Table (Enclosure 3B).

15-01

Not applicable to WCGS. See Conversion Comparison Table (Enclosure 3B). Not Used.

L/D CALL-004

15-02

Not applicable to WCGS. See Conversion Comparison Table (Enclosure 3B).

16-01

LS-14

This TS would be revised to apply to shutdown "banks" instead of shutdown "rods"; this is consistent with NUREG-1431, Rev. 1. The current Action Statement permits one rod to be inserted beyond the limits; the proposed ITS CONDITION A would allow one or more banks to be inserted beyond the limit.

16-02

M

The proposed changes to the Action Statement would require that the shutdown banks be aligned within limits and that SDM be verified or restored. The new Action Statement would extend the time to achieve alignment from 1 to 2 hours as justified in the Bases for ITS 3.1.5. The new Action Statement would establish a Completion Time of 1 hour for verifying and restoring SDM. In the proposed Action Statement, both the realignment and the SDM verification would be required. The current Action Statement provides a 1-hour limit to achieve realignment and effectively applies a 2-hour Completion Time to SDM verification and restoration (which would be performed under the TS for rod group alignment limits). In the current Action Statement, either the realignment or the SDM verification are required. The current Action Statement could, in some circumstance, allow continued POWER OPERATION with a shutdown rod out of alignment because it was written to apply to individual rods and refers to the rod group alignment specification. The new action statement, which applies to shutdown banks, would not permit operation with a shutdown bank outside its

INSERT 3A-13a

3.1-19

The proposed change would delete the Actions to place control rods in manual and record RCS T_{avg} hourly if multiple DRPIs per group are inoperable. Multiple inoperable DRPIs, of themselves, have no impact on SDM in MODES 1 and 2 if the control rod positions are verified by alternate means (e.g., movable incore detectors). The requirement to place control rods in manual may not be appropriate in all situations and may be detrimental for load rejection transients unless operator action is assumed to simulate the rod control system in automatic. Accidents analyzed using the [Revised Thermal Design Procedure (RTDP)] assume that the control rods are in [their most limiting mode]. Automatic rod movement can accommodate a 10% load rejection. Placing rods in manual may impact the load rejection capability assumed when the P-9 setpoint was established at 50% RTP. The steam dump system can accommodate a 40% RTP load rejection and with the rod control system in automatic, a 50% RTP load rejection can be accommodated without a reactor trip. While manual operator action can be just as timely as automatic rod control, there is no need to have this limitation in the Technical Specifications. Corrective actions for excessive rod motion are covered under ITS 3.1.7 Condition C. The requirement to monitor and record T_{avg} hourly is unnecessary given the available indicators and alarms, e.g., $T_{avg} - T_{ref}$ deviation alarm, to alert operators to changing moderator conditions.

CONVERSION COMPARISON TABLE - CURRENT TS 3/4.1

TECH SPEC CHANGE		APPLICABILITY			
NUMBER	DESCRIPTION	DIABLO CANYON	COMANCHE PEAK	WOLF CREEK	CALLAWAY
13-02 LS-15	The requirement for inoperable digital rod position indication is changed from "with a maximum of one per bank" to "one per group for one or more groups".	Yes	Yes	Yes	Yes
13-03 LS-12	A 4-hour Completion Time is specified to verify rod position after movement of a rod with inoperable indicators more than 24 steps in one direction.	Yes	Yes	Yes	Yes
13-04 M	A requirement would be added to bring the plant to MODE 3 within 6 hours if the required actions and completion times were not met.	Yes	Yes	Yes	Yes
13-05 A	The proposed change would retain an action statement, currently in the plant TS, that permits continued POWER OPERATION with more than one digital rod position indicator per group inoperable.	No. See CN 13-08-LS-20.	No. See CN 13-08-LS-20.	Yes	Yes
13-06 A	The change would allow separate condition entry for each inoperable DRPI per group or each demand indicator per bank.	No. See CN 13-08-LS-20.	No. See CN 13-08-LS-20.	Yes	Yes
13-07 M	The proposed modifications to the SR would verify agreement between digital and demand indicator systems prior to criticality after each removal of the reactor vessel head instead of every 12 hours. The Frequency change is based on traveler TSTF-89.	Yes	Yes	Yes	Yes
13-08 LS-20	Adds provision, in Callaway's current specifications as revised which, under certain conditions, would allow continued operation with more than one inoperable DRPI per group. <u>This is consistent with traveler WOG-73 TSTF-254</u>	Yes	Yes <u>Q3.1-20</u>	No. Already in current TS.	No. Already in current TS. <u>TR 3.1-006</u>
13-09 <u>LS-23</u>	Current TS ACTIONS b.1.b) and b.1.c) of LCO-3.1.3.2 are deleted. SDM is ensured in MODES 1 and 2 by rod position. Multiple inoperable DRPIs will have no impact on SDM in MODES 1 and 2 if the control rod positions are verified by alternate means and rod motion is limited consistent with the accident analyses. Deletion of these requirements is consistent with traveler <u>WOG-73</u> . <u>Not Used</u>	No. Not in current TS. NA	No. Not in current TS. NA	Yes NA	Yes NA <u>Q3.1-19</u>

TSTF-234 TR 3.1-006

NO SIGNIFICANT HAZARDS CONSIDERATION (NSHC)
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IV. SPECIFIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

NSHC LS-23
10 CFR 50.92 EVALUATION
FOR
TECHNICAL CHANGES THAT IMPOSE LESS RESTRICTIVE
REQUIREMENTS WITHIN THE TECHNICAL SPECIFICATIONS

The proposed change would delete the Actions to place control rods in manual and record RCS T_{avg} hourly if multiple DRPIs per group are inoperable, Actions b.1.b) and b.1.c) of LCO 3.1.3.2. Multiple inoperable DRPIs will have no impact on SDM in Modes 1 and 2 if the control rod positions are verified by alternate means (e.g., movable incore detectors). The requirement to place control rods in manual is not appropriate in all situations and may be detrimental for load rejection transients unless operator action is assumed to simulate the rod control system in automatic. Accidents analyzed using the [Revised Thermal Design Procedure (RTDP)] assume that control rods are in [their most limiting mode]. Automatic rod movement can accommodate a 10% load rejection. The requirement to monitor and record T_{avg} hourly is unnecessary given the available indicators and alarms, e.g., $T_{avg} - T_{ref}$ deviation alarm, to alert operators to changing moderator conditions.

This proposed TS change has been evaluated and it has been 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?

Overall protection system performance will remain within the bounds of the previously performed accident analyses since no hardware changes are proposed.

IV. SPECIFIC NO SIGNIFICANT HAZARDS CONSIDERATIONS

NSHC LS-23
(continued)

The reactivity transients analyzed in USAR Section 15.4 will be unaffected since rod position will be ascertained to be consistent with those will not affect the probability of any event initiators nor will the proposed change affect the ability of any safety-related equipment to perform its intended function. There will be no degradation in the performance of nor an increase in the number of challenges imposed on safety-related equipment assumed to function during an accident situation. Therefore, the proposed 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?

There are no hardware changes nor are there any changes in the method by which any safety-related plant system performs its safety function. This change will not affect the normal method of plant operation. No new accident scenarios, transient precursors, failure mechanisms, or limiting single failures are introduced as a result of this change. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any 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. There will be no effect on the manner in which safety limits or limiting safety system settings are determined nor will there be any effect on those plant systems necessary to assure the accomplishment of protection functions. There will be no impact on any margin of safety.

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

Based on the above evaluation, it is concluded that the activities associated with NSHC "LS-23" resulting in the conversion to the improved TS format satisfy the no significant hazards consideration standards of 10 CFR 50.92(c); and accordingly, a no significant hazards consideration finding is justified.

INDUSTRY TRAVELERS APPLICABLE TO SECTION 3.1

<u>TRAVELER #</u>	<u>STATUS</u>	<u>DIFFERENCE #</u>	<u>COMMENTS</u>
TSTF-9, Rev. 1	Incorporated	3.1-1	NRC approved.
TSTF-12, Rev. 1	Incorporated	3.1-15	NRC approved. ITS Special Test Exceptions 3.1.10 is retained and renumbered as 3.1.8, consistent with this traveler and TSTF-136.
TSTF-13, Rev. 1	Incorporated	3.1-4	NRC approved.
TSTF-14, Rev. 1 2	Incorporated	3.1-13	NRC approved. TR 3.1-005
TSTF-15, Rev. 1	Incorporated	NA	NRC approved.
TSTF-89	Incorporated	3.1-8	NRC approved.
TSTF-107, Rev. 1	Incorporated	3.1-6	. Q 3.1-15
TSTF-108, Rev. 1	Not incorporated Incorporated	NA 3.1-21	Not NRC approved as of traveler cutoff date. TR 3.1-001
TSTF-110, Rev. 1 2	Incorporated	3.1-10	NRC approved. TR 3.1-004
TSTF-136	Incorporated	3.1-9, 3.1-15	NRC approved. TR 3.1-006
TSTF-141	Not incorporated	NA	Disagree with change; traveler issued after cutoff date
TSTF-142	Not incorporated Incorporated	NA 3.1-22	Traveler issued after cutoff date NRC approved. TR 3.1-003
WOG-73, Rev. 1	Incorporated	3.1-7	Q 3.1-19
WOG-LATER	Incorporated	3.1-16	Mini-group #89 Q 3.1-25

TSTF-234 TR 3.1-006

3.1 REACTIVITY CONTROL SYSTEMS

3.1.87 Rod Position Indication

LCO 3.1.87 The Digital Rod Position Indication (DRPI) System and the Demand Position Indication System shall be OPERABLE.

B-PS

APPLICABILITY: MODES 1 and 2.

ACTIONS

.....NOTE.....
Separate Condition entry is allowed for each inoperable rod position indicator ~~per group~~ and each demand position indicator ~~per bank~~.
.....

3.1.87
ED
3.1-19

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One DRPI per group inoperable for one or more groups.	A.1 Verify the position of the rods with inoperable position indicators <u>indirectly</u> by using movable incore detectors.	Once per 8 hours
	OR A.2 Reduce THERMAL POWER to \leq 50% RTP.	8 hours

B-PS

3.1-12

B.1 Place the control rods under manual control. 3.1.87
 AND
 B.2 Monitor and record RCS Tavg. Once per 1 hour

3.1-9
Q3.1-A

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>B. More than one DRPI per group inoperable for one or more groups.</p>	<p><u>B.7.3</u> Q3.1-19 Verify the position of the rods with inoperable position indicators indirectly by using movable incore detectors.</p> <p>AND</p> <p><u>B.7.4</u> Q3.1-19 Restore inoperable position indicators to OPERABLE status such that a maximum of one DRPI per group is inoperable.</p>	<p>Once per 8 hours <u>3.1-7</u> <u>3.1-12</u></p> <p>24 hours</p>
<p>B-C. One or more rods with inoperable position indicators DRPIs have been moved in excess of 24 steps in one direction since the last determination of the rod's position.</p>	<p>B-C.1 Verify the position of the rods with inoperable position indicators indirectly by using movable incore detectors.</p> <p>OR</p> <p>B-C.2 Reduce THERMAL POWER to ≤ 50% RTP.</p>	<p>4 hours <u>B</u> <u>3.1-17</u> <u>3.1-12</u></p> <p>8 hours</p>

BASES

ACTIONS

A.1 (continued)

simultaneously having a rod significantly out of position and an event sensitive to that rod position is small.

A.2

Reduction of THERMAL POWER to $\leq 50\%$ RTP puts the core into a condition where rod position is not significantly affecting core peaking factors (Ref. 32).

The allowed Completion Time of 8 hours is reasonable, based on operating experience, for reducing power to $\leq 50\%$ RTP from full power conditions without challenging plant systems and allowing for rod position determination by Required Action A.1 above.

INSERT B 3.1-48

~~B.1, and B.2, B.3 and B.4~~

Q 3.1-19

When more than one DRPI per group fails, the position of the rod(s) can still be determined by use of the moveable incore detectors. Based on experience, normal power operation does not require excessive movement of banks. If one or more banks has been significantly moved, the Required Action of C.1 or C.2 is required. Therefore, verification of RCCA position within the Completion Time of 8 hours is adequate for allowing continued full power operation for up to 24 hours since the probability of simultaneously having a rod significantly out of position and an event sensitive to that position is small.

B.1 and B.2, C.1 and C.2

These Required Actions clarify that when one or more rods with inoperable ~~position indicators~~ DRPIs have been moved in excess of 24 steps in one direction, since the position was last determined, the Required Actions of A.1 and ~~A.2, and B.1, as applicable,~~ are still appropriate but must be initiated promptly under Required Action ~~B.1~~ C.1 to begin indirectly verifying that these rods are still properly positioned, relative to their group positions.

(continued)

Placing the Rod Control System in manual assures unplanned rod motion will not occur. The Immediate Completion Time for placing the Rod Control System in manual reflects the urgency with which unplanned rod motion must be prevented while in this Condition. Monitoring and recording reactor coolant system T_{avg} help to assure that significant changes in power distribution and SDM are avoided. The once per hour Completion Time is acceptable because only minor fluctuations in RCS temperature are expected at steady state plant operating conditions.

CHANGE
NUMBER

JUSTIFICATION

statement, it may be possible for those unfamiliar with the DRPI design to interpret the LCO as applying to all channels of DRPI.

3.1-6

ITS LCO 3.1.4 would be split into two separate statements to clarify that the alignment limit is separate from OPERABILITY of the control rod. The CONDITION A wording is broadened from "untrippable" to "inoperable" to ensure the CONDITION encompasses all causes of inoperability. Previous wording was ambiguous for rods that, for instance, had slow drop times but were still trippable. These slow rods are inoperable rods, and the change clarifies the appropriate ACTIONS. The Bases are changed to reflect the changes to the LCO and CONDITION A. These changes are based on traveler TSTF-107.

3.1-7

This change to the ISTS would incorporate, into LCO 3.1.7, an Action Statement that was previously approved as part of the Callaway and Wolf Creek licensing basis, as revised in Enclosure 2. The Action Statement would permit continued POWER OPERATION for up to 24 hours with more than one Digital Rod Position Indicator per rod group inoperable. The Action Statement specifies additional required actions beyond those applicable to the condition of one DRPI channel per group inoperable. The Bases for this change also would be incorporated into the Bases for the plant ITS. These changes are consistent with traveler TSTF-234 WOG-73, Rev. 1. The note under the ACTIONS is changed to be consistent with the new Required Actions.

Q3.1-19

Q3.1-19

3.1-8

The Frequency for ITS SR 3.1.7.1 for comparing DRPI and group demand position would be changed from 18 Months to "Once prior to criticality after each removal of the reactor vessel head." This change makes it clear that the surveillance must be performed each time the head is removed and that it is not tied to an absolute time interval. This change is based on traveler TSTF-89.

3.1-9

This change would eliminate ISTS 3.1.2 because the SDM requirements for MODE 5 have been incorporated into Specification 3.1.1 in accordance with traveler TSTF-136. Traveler TSTF-9, Rev.1, relocated values for SDM to the COLR which removed the only difference between ISTS LCO 3.1.1 and ISTS LCO 3.1.2. Differences above and below 200°F will be addressed in the COLR. Subsequent sections have been renumbered.

3.1-10

Several surveillances (e.g., rod position deviation monitor and rod insertion limit monitor in this section) contain actions in the form of increased surveillance frequency to be performed in the event of inoperable alarms. These actions are moved from the

**CONVERSION COMPARISON TABLE FOR DIFFERENCES FROM NUREG-1431
SECTION 3.1**

DIFFERENCE FROM NUREG-1431		APPLICABILITY			
NUMBER	DESCRIPTION	DIABLO CANYON	COMANCHE PEAK	WOLF CREEK	CALLAWAY
3.1-7	An Action Statement that was previously approved as part of the current licensing basis of Callaway and Wolf Creek would be added to Improved TS 3.1.7. <u>as revised in Enclosure 2.</u> The Action Statement would permit operation for up to 24 hours with more than one Digital Rod Position Indicator per group inoperable.	Yes <u>Q 3.1-19</u>	Yes	Yes	Yes
3.1-8	In accordance with traveler TSTF-89, the requirement to compare DRPI against group demand position would be required whenever the reactor vessel head is removed, not every 18 months.	Yes	Yes	Yes	Yes
3.1-9	This change would eliminate ISTS 3.1.2 because the SDM requirements for MODE 5 have been incorporated into Specification 3.1.1 in accordance with traveler TSTF-136.	Yes	Yes	Yes	Yes
3.1-10	Several surveillances (e.g., rod position deviation monitor and rod insertion limit monitor in this section) contain actions in the form of increased surveillance frequency to be performed in the event of inoperable alarms. These actions are relocated from the TS to licensee controlled documents. This is consistent with traveler TSTF-110. <u>227</u>	Yes <u>TR 31-004</u>	Yes	Yes	Yes
3.1-11	Not used.	N/A	N/A	N/A	N/A
3.1-12	The Required Actions for inoperable DRPI are revised per the current licensing basis to note that the use of movable incore detectors for rod position verification is an indirect assessment at best. The position of some rods can not be ascertained by this method.	Yes	Yes	Yes	Yes

ADDITIONAL INFORMATION COVER SHEET

ADDITIONAL INFORMATION NO: Q 3.2-3

APPLICABILITY: CA, CP, DC, WC

REQUEST: ITS 3.2.1 Heat Flux Hot Channel Factor
CTS 3/4.2.2 Heat Flux Hot Channel Factor (All FLOG Plants)
DOC 02-06-A
JFD 3.2-12
ITS SR 3.2.1.1 & 3.2.1.2 Frequency

Comment: The ITS SR frequency has been changed from the STS frequency of 12 hours to 24 hours. This is based upon the incorrect justification that the CTS would allow 24 hours based upon ITS SR 3.0.3, since the CTS does not specify a frequency. Adopt the STS SR frequency of 12 hours.

FLOG RESPONSE: (original) The change descriptions (DOC 2-06-A & JFD 3.2-12) will be revised to provide a basis for the 24 hours that is predicated on the time required to perform the surveillance. DOC 2-06-A is also revised to be DOC 2-06-M because this change is more restrictive than the CTS.

Callaway and Wolf Creek are incorporating this change (DOC 02-06-A, JFD 3.2-12) in lieu of maintaining CTS which did not specify any completion time. DOC 02-13-LG (applicable to Callaway only) and JFD 3.2-17 are no longer used.

FLOG RESPONSE: (supplement) As discussed in a telecon with the NRC staff on October 1, 1998, additional justification for the basis of the 24 hour surveillance frequency has been added to JFD 3.2-12.

Additionally, this item is related to Comment Number Q 3.2-7 for Callaway and Wolf Creek. No additional response is required for Comment Number Q 3.2-7.

ATTACHED PAGES:

Attachment No. 8, CTS 3/4.2 - ITS 3.2
Encl. 6A 3

The note and Frequency for SR 3.2.4.2 are revised consistent with typical presentation formats that provide for a period of time after establishing conditions.

CHANGE NUMBER

JUSTIFICATION

3.2-12

Not applicable to WCGS. See Conversion Comparison Table (Enclosure 68) INSERT 6A-3a

Q3.2-3
Q3.2-7

3.2-13

This change retains the CTS for the performance of peaking factor determinations following plant shutdowns. The CTS, through the exemption to specification 4.0.4, allows prerequisite plant conditions to be obtained prior to requiring that the surveillance be completed. INSERT 6A-3b

Q3.2-4

3.2-14

This change retains the Wolf Creek CTS for the completion time for Required Action 3.2.2 A.2. This Completion Time was approved in License Amendment 61. This change is based on the time required to reduce power, establish equilibrium conditions, and obtain a flux map.

3.2-15

This change incorporates industry traveler TSTF-109. Action A.2 would require the QPTR be determined rather than performing a specific surveillance because more than one surveillance can be used to determine QPTR. SR 3.2.4.1 was revised to retain allowance that SR 3.2.4.2 may be performed in lieu of SR 3.2.4.1.

~~The note for SR 3.2.4.2 is changed to require performance if one "or more" QPTR inputs are inoperable.~~ These changes are acceptable because they clarify the ISTS regarding frequency and use of incore flux monitoring for QPTR measurement. The changes reflect that incore detectors provide an acceptable QPTR determination during all plant conditions.

Q3.2-10

3.2-16

This change would require that both transient and static F_0 measurements be determined when performed for Required Actions 3.2.4 A.3 and 3.2.4 A.6. The intent of the Required Actions is to verify that is within its limit. $F_0(Z)$ is approximated by $F_0^c(Z)$ (which is obtained via SR 3.2.1.1) and $F_0^m(Z)$ (which is obtained via SR 3.2.1.2). Thus, both $F_0^c(Z)$ and $F_0^m(Z)$ must be established to verify $F_0(Z)$. This change is consistent with traveler WOG-105.

3.2-17

~~The Frequency requirement for performing F_0 measurements has been revised to conform to CTS which do not specify a Completion Time. Current practice is to perform the measurements as soon as practical. The ITS SR Completion Times are based on what is a normally reasonable Completion Time for performing a flux map; however, if problems occur, the plant may be forced to reduce power or shutdown. This would subject the plant to a transient condition without sufficient safety basis. Therefore, maintaining the current TS requirement is acceptable because it~~

Not used.

Q3.2-3
Q3.2-7

The required time for completion of a flux map for determination of the heat flux hot channel factor is changed from 12 hours to 24 hours after achieving equilibrium conditions. The proposed change affects SR 3.2.1.1 and SR 3.2.1.2. A flux map is taken after a power level increase greater than a specified amount to verify FQ is within limits and to provide assurance that FQ will remain within limits until the next required flux map is taken. Based on plant experience, the flux maps taken during power ascension provide a high degree of confidence that FQ will be within limits at the next power plateau. As such, the exact time period allowed for performance of the surveillance, after reaching equilibrium, is not a significant safety consideration. The proposed time (24 hours) is a reasonable time period for obtaining and evaluating a flux map and then completing the procedural steps associated with this surveillance. Further, the 24 hour time period provides a reasonable limit on the length of time that the plant can operate in an unconfirmed condition.

The note was incorporated to address the rare situation where, during a mid-cycle shutdown, through further review of the previous surveillance, it was determined that the surveillance was invalid; or the required surveillance frequency is not met due to the shutdown.. The amended Note would be required to return the reactor to a power level at which a new surveillance could be performed.

ADDITIONAL INFORMATION COVER SHEET

ADDITIONAL INFORMATION NO: CA-3.5-002

APPLICABILITY: CA, CP, DC, WC

REQUEST (original): Revise ITS 3.5.4 Bases to indicate that the RWST LCO, by virtue of its temperature, volume, and boron concentration limits, also satisfies Criterion 2 (initial conditions of accident analyses).

REQUEST (revised): Revise various additional ITS Bases regarding the correct application of Criterion 2 of 10CFR50.36(c)(2)(ii). These changes are consistent with the attachment to a May 9, 1988 letter from T.E. Murley (NRC) to R.A. Newton (WOG) entitled "NRC Staff Review of NSSS Vendor Owners Groups' Application of the Commission's Interim Policy Statement Criteria to Standard Technical Specifications."

1. Revise ITS 3.5.1 Bases to indicate that the Accumulators LCO, by virtue of its pressure, volume, and boron concentration limits, also satisfies Criterion 2 (initial conditions of accident analyses).

2. Revise ITS 3.5.4 Bases to indicate that the RWST LCO, by virtue of its temperature, volume, and boron concentration limits, also satisfies Criterion 2 (initial conditions of accident analyses).

3. Revise ITS 3.6.7 Bases to indicate that the Recirculation Fluid pH Control (RFPC) System, by virtue of its TSP-C depth limit which ensures a minimum equilibrium sump pH of 7.1, also satisfies Criterion 2 (initial conditions of accident analyses). (Callaway only)

4. Revise ITS 3.7.6 Bases to indicate that the CST (and FWST for DCPD) LCO, by virtue of its water volume limit, also satisfies Criterion 2 (initial conditions of accident analyses).

ATTACHED PAGES:

Attachment 11, CTS 3/4.5 -- ITS 3.5
Encl. 5B B 3.5-4, B 3.5-29

Attachment 13, CTS 3/4.7 - ITS 3.7
Encl. 5B B 3.7-43

BASES

APPLICABLE
SAFETY ANALYSES
(continued)

For both the large and small break LOCA analyses, a nominal contained accumulator water volume is used. The contained water volume is the same as the available deliverable volume for the accumulators, since the accumulators are emptied, once discharged. For small breaks, an increase in water volume is a peak clad temperature penalty. For large breaks, an increase in water volume can be either a peak clad temperature penalty or benefit, depending on downcomer filling and subsequent spill through the break during the core reflooding portion of the transient. The analysis makes a conservative assumption with respect to ignoring or taking credit for line water volume from the accumulator to the check valve. The safety analysis assumes values of ~~[6468] gallons and [6879] gallons~~. To allow for instrument inaccuracy, an accumulator volume ranging between values of 6520 ~~6122~~ gallons and 6820-6594 gallons is specified.

The minimum boron concentration ~~setpoint limit~~ is used in the post LOCA boron concentration calculation. The calculation is performed to assure reactor subcriticality in a post LOCA environment. Of particular interest is the large break LOCA, since no credit is taken for control rod assembly insertion. A reduction in the accumulator minimum boron concentration would produce a subsequent reduction in the available containment sump boron concentration for post LOCA shutdown and an increase in the maximum sump pH. The maximum boron concentration is used in determining the cold leg to hot leg recirculation injection switchover time and minimum sump pH.

The large and small break LOCA analyses are performed at the minimum nitrogen cover pressure, since sensitivity analyses have demonstrated that higher nitrogen cover pressure results in a computed peak clad temperature benefit. The maximum nitrogen cover pressure limit prevents accumulator relief valve actuation, and ultimately preserves accumulator integrity.

The effects on containment mass and energy releases from the accumulators are accounted for in the appropriate analyses (Refs. ² and ³).

CA 3.5-001

The accumulators satisfy Criterion 3 of the NRC Policy Statement 10 CFR 50.36 (c)(2)(ii).

Criterion 2 and CA 3.5-002

(continued)

BASES

APPLICABLE
SAFETY ANALYSES
(continued)

The upper limit on boron concentration of 2200-2500 ppm is within the values used to determine the maximum allowable time to switch to hot leg recirculation following a LOCA. The purpose of switching from cold leg to hot leg injection recirculation is to avoid boron precipitation in the core following the accident.

↳ "recirculation" in NUREG Q3.5G-1

~~In the ECCS analysis.~~ In the minimum containment pressure analysis for ECCS performance evaluation, the containment spray temperature is assumed to be equal to the RWST lower temperature limit of 35-37°F. If the lower temperature limit is violated, the containment spray further reduces containment pressure, which decreases the ~~rate at which steam can be vented out the break~~ core flooding rate and increases peak clad temperature. The upper temperature limit of 100°F is used in the small break LOCA analysis and containment OPERABILITY analysis. Exceeding this temperature will result in a higher peak clad temperature, because there is less heat transfer from the core to the injected water for the small break LOCA and higher containment pressures due to reduced containment spray cooling capacity. For the containment response following an MSLB, the lower limit on boron concentration and the upper limit on RWST water temperature are used to maximize the total energy release to containment.

The RWST satisfies Criterion 3 of ~~the NRC Policy Statement 10 CFR 50.36 (c)(2)(ii).~~

↳ Criterion 2 ~~nd~~

↳ CA 3.5-002

LCO

The RWST ensures that an adequate supply of borated water is available to cool and depressurize the containment in the event of a Design Basis Accident (DBA), to cool and cover the core in the event of a LOCA, to maintain the reactor subcritical following a DBA, and to ensure adequate level in the containment sump to support ECCS and Containment Spray System pump operation in the recirculation mode.

To be considered OPERABLE, the RWST must meet the water volume, boron concentration, and temperature limits established in the SRs.

APPLICABILITY

In MODES 1, 2, 3, and 4, RWST OPERABILITY requirements are dictated by ECCS and Containment Spray System OPERABILITY requirements. Since

(continued)

BASES

APPLICABLE
SAFETY ANALYSES
(continued)

contained water volume limit includes an allowance for water not useable because of tank discharge line location or other physical characteristics. Additional details regarding the design of the AFW system can be found in USAR 10.4.9.

WCC 3.7-002

The CST satisfies Criterion 3 and 4 of the NRC NRC Policy Statement 10 CFR 50.36 (c)(2)(ii).

Criteria 2, 3,

CA 3.5-002

LCO

To satisfy ~~accident~~ analysis assumptions, the CST must contain sufficient cooling water to remove decay heat for four hours following a reactor trip from 102% RTP, and then to cool down the RCS to RHR entry conditions, assuming a coincident loss of offsite power and the most adverse single failure. ~~In doing this, it must retain sufficient water to ensure adequate net positive suction head for the AFW pumps during cooldown, as well as account for any losses from the steam driven AFW pump turbine, or before isolating AFW to a broken line.~~

The CST level required is equivalent to a usable volume of $\geq 281,000$ gallons, which is based on holding the unit in MODE 3 for 4 hours, followed by a cooldown to RHR entry conditions at 50°F/hour. This basis is established in Reference 4 and exceeds the volume required by the accident analysis.

The OPERABILITY of the CST is determined by maintaining the tank level at or above the minimum required level.

APPLICABILITY

In MODES 1, 2, and 3, ~~and in MODE 4, when steam generator is being relied upon for heat removal,~~ the CST is required to be OPERABLE.

In MODES 4, 5, or 6, the CST is not required because the AFW System is not required.

ACTIONS

A.1 and A.2

If the CST level is not within limits, the OPERABILITY of the backup ESW supply should be verified by administrative means within 4 hours

(continued)

ADDITIONAL INFORMATION COVER SHEET

ADDITIONAL INFORMATION NO: NR 5.0-001

APPLICABILITY: CA, CP, DC, WC

REQUEST: The NRC requested the following:

For the following plants (and CTS sections), the applications identify the CTS requirements are being relocated to the FSAR: CW (6.2.3, ISEG; 6.5, review and audit; 6.10.1, record retention); CP (none); DC (6.10.1, record retention); and WC (6.2.3, ISEG; 6.5, review and audit; 6.8.2.3, procedure changes; 6.10.1, record retention). We discussed relocations to the QA plan with Ray Smith (QA branch) several weeks ago. The staff needs to have the licensees identify that these requirements are going to the QA plan and thus controlled by 50.54(a). The DOCs for relocating the above CTS sections are 1-04-LG and 3-09-LG. These DOCs only state the relocation is to the FSAR. The relocation should be to the QA plan.

FLOG RESPONSE: Enclosure 3A and 3B has been updated to reflect the location of subject relocated items.

ATTACHED PAGES:

Attachment 18, CTS 6.0 - ITS 5.0

Encl. 3A	8
Encl. 3B	1, 7

CHANGE
NUMBER

NSHC

DESCRIPTION

1431, Rev. 1, to delete the term "Annual" and modify the submittal date. This change provides a reference to 10 CFR 50.36a since 10 CFR specifies that the report must be submitted annually and include the results from the previous 12 months of operation.

03-07

A

CTS [6.9.1.6], "Annual Radiological Environmental Operating Report" is revised to include specific details concerning the contents of the report. This change is consistent with NUREG-1431, Rev. 1.

03-08

A

CTS Specifications [6.9.1.8, 6.9.1.9 and 6.9.2] are revised to delete the reference to submittal location for the monthly report, core operating limits report and special reports. The requirements related to report submittal are contained in 10 CFR. Since conformance to 10 CFR is a condition of the license, specific identification of this requirement in the TS would be duplicative and is not necessary. Since the plant requirements remain the same, the change is considered an administrative change. This change is consistent with NUREG-1431, Rev. 1.

03-09

LG

The record retention requirements are moved to the USAR and implementing procedures. The removal of this detail from the CTS is consistent with NUREG-1431. The requirement for retention of records related to activities affecting quality is contained in 10 CFR 50, Appendix B, Criteria XVII and other sections of 10 CFR 50 that are applicable to the plant (i.e., 50.71, etc.). Post-completion review of records does not directly assure operation of the facility in a safe manner, as the activities described in the documents have already been performed. By retaining these requirements in plant procedures and licensee controlled documents, any changes in these record retention requirements will be adequately controlled under the provisions of 10 CFR 50.59 and the applicable regulations.

NR50-001

a licensee controlled document

in a

50.54(a)

03-10

LG

The Radiation Protection Program is moved to the USAR consistent with NUREG-1431. This program requires procedures to be prepared for personnel radiation protection consistent with 10 CFR Part 20. These procedures are for the protection of nuclear plant personnel and have no impact on nuclear safety or the health and safety of the public. Requirements to have procedures to implement 10 CFR Part 20 are contained in 10 CFR 20.1101(b). Periodic review of these procedures is

CONVERSION COMPARISON TABLE - CURRENT TS 6.0

TECH SPEC CHANGE		APPLICABILITY			
NUMBER	DESCRIPTION	DIABLO CANYON	COMANCHE PEAK	WOLF CREEK	CALLAWAY
01-01 A	The "Responsibility" section is revised to delete the requirement to issue a management directive annually (i.e., control room command function). The TS already adequately defines the function and, therefore, the management directive is redundant.	Yes	Yes	Yes	Yes
01-02 A	The "Plant/Unit Staff" section is revised to reflect the shift crew composition table removal (if applicable), non-licensed personnel, and changes made to the section to be on a unit basis vs. plant basis. Various editorial changes are made to accomplish the removal of the table and revisions to be consistent with NUREG-1431 and current plant practice.	Yes	No. CTS already incorporates changes.	Yes	Yes
01-03 A	The requirement for an SRO to be present during fuel handling and to supervise all core alterations is not retained in ITS. This requirement essentially duplicates the regulation in 10 CFR 50.54(m)(2)(iv).	Yes	No. Deleted per CTS Amendment 50/36	Yes	Yes NR 5.0-001
01-04 LG	The details of the review and audit, the independent safety engineering group, and training functions are removed from the CTS. Those items not specifically covered by a regulation are moved to licensee controlled documents; otherwise the requirements are deleted.	No. Deleted per LAR 117/115.	No. Deleted per CTS Amendment 50/36	Yes. Move to USAR ^a (training functions) and QA Plan in Chapter 17 of USAR.	Yes. Move to FSAR and QAM QA Plan in Chapter 17 of FSAR. Review and audit deleted per Amendment 107.
01-05 A	The requirement for the presence of an RO or an SRO in the control room is deleted from the TS since the requirement is adequately controlled by 10 CFR 50.54(m)(2)(iii).	Yes	Yes	Yes	Yes
01-06 LG	The details regarding the minimum shift crew requirements have been removed from the CTS because they are redundant to 10 CFR 50.54(k), (l), and (m) with the exception of the requirement for non-licensed operators. The minimum shift crew requirements will be moved to a licensee controlled document.	Yes. Move to FSAR	No. CTS already contains changes.	Yes. Move to USAR.	Yes. Move to FSAR.

CONVERSION COMPARISON TABLE - CURRENT TS 6.0

TECH SPEC CHANGE		APPLICABILITY			
NUMBER	DESCRIPTION	DIABLO CANYON	COMANCHE PEAK	WOLF CREEK	CALLAWAY
03-08 A	CTS Specification [6.9.1.8, 6.9.1.9 and 6.9.2] are revised to delete the reference to submittal location for the monthly report, core operating limits report and special reports. <i>a licensee controlled document.</i>	Yes	Yes	Yes	Yes <i>NR 5.0-001</i>
03-09 LG	The record retention requirements are moved to the FSAR and implementing procedures. <i>the FSAR and</i> The requirement for retention of records related to activities affecting quality is contained in 10 CFR 50, Appendix B, Criteria XVII and other sections of 10 CFR 50 that are applicable to the plant (i.e., 50.71, etc.).	<i>Yes - QA Plan in Chapter 17 of the FSAR.</i>	<i>Yes - QA Plan in Chapter 17 of the FSAR.</i>	<i>Yes - QA Plan in Chapter 17 of the USAR.</i>	<i>Yes - QA Plan in Chapter 17 of the FSAR.</i>
03-10 LG	The Radiation Protection Program is moved to the USAR. This program requires procedures to be prepared for personnel radiation protection consistent with 10 CFR Part 20. Periodic review of these procedures is required by 10 CFR 20.1101(c).	Yes	No. Deleted from CTS per Amendment 50/36	Yes	Yes
03-11 A	The High Radiation Area section is revised to be consistent with the new Part 20 requirements. Changes are non-technical to add clarification.	Yes	Yes	Yes	Yes
03-12 LG	The Process Control Program (PCP) section is proposed to be moved outside the CTS. The PCP implements the requirements of 10 CFR 20, 10 CFR 61, and 10 CFR 71.	Yes. Move to FSAR.	No. Deleted from CTS per Amendment 50/36	Yes. Move to USAR.	Yes. Move to FSAR.
03-13 M	The following report[s] will be added to the ITS Administrative Controls section: "Reactor Coolant System (RCS) Pressure and Temperature Limits Report (PTLR)" and ["Post Accident Monitoring (PAM) Report".]	Yes	Yes	Yes	Yes
03-14 M	Shutdown margin values would be moved to COLR per traveler TSTF-9. In addition, moderator temperature coefficient limits would also be moved to the COLR.	Yes	No. Already part of CTS.	Yes	Yes

LIST OF COMMITMENTS

The following table identifies those actions committed to by Wolf Creek Nuclear Operating Corporation (WCNOC) in this document. Any other statements in this submittal are provided for information purposes and are not considered to be commitments. Please direct questions regarding these commitments to Mr. Michael J. Angus, Manager Licensing and Corrective Action at Wolf Creek Generating Station, (316) 364-8831, extension 4077.

COMMITMENT	Due Date/Event
A supplement to Reference 3 will be provided at a later date.	Prior to issuance of SER.