EXCEL

SERVICES CORPORATION

1/12/99 - Courier Package from EXCEL to Debbie Johnson

Date: December 22, 1998

To: Jim W. Davis/Vince Gilbert

From: Donald R. Hoffman

Subject: TSTFs for Transmittal to the NRC

The following new Travelers are attached for transmittal to the NRC:

TSTF-241, Rev. 4
TSTF-258, Rev. 3
Cover pages for TSTF 285

TSTF 241 Rev. 4 is a revision to delete a redundant statement, TSTF 258 Rev. 3 addresses NRC comments to permit NRC approval and the cover pages of TSTF are provided again because the original cover pages of TSTF 285 did not include BWOG and CEOG applicability.

A revised Priority List is not included as the priority of these Travelers are already included in the current priority list and an updated list was just provided to the NRC.

If you have any questions, please call me at (301) 984-4400.

DRH:cl
Enclosure

cc: WOG Mini-Group
CEOG ITS Conversion Task Force
BWOG LWG
BWROG TSICC

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4 601

L-4-1 PT 50 Tech Spec

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Industry/TSTF Standard Technical Specification Change Traveler

Charging Pump Swap LTOP Allowance

Classification: 1) Correct Specifications

NUREGs Affected: ☑ 1430 ☑ 1431 ☑ 1432 ☐ 1433 ☐ 1434

Description:

1. Delete NUREG-1431 and NUREG-1432 LCO 3.4.12 Required Action B.1 Note.
2. Delete NUREG-1430 LCO 3.4.12 Required Action A.1 Note
3. Add new Note to LCO 3.4.12.
4. Move Applicability Note to LCO 3.4.12.
5. Modify Bases accordingly.
6. Clarify Bases discussion of LCO requirement.

Justification:

NUREG-1431 and NUREG-1432 LCO 3.4.12, Required Action B.1, has a Note allowing two charging pumps to be capable of injecting into the RCS for up to 15 minutes during pump swap operations. Likewise, NUREG-1430 LCO 3.4.12, Required Action A.1, has a Note allowing two makeup pumps to be capable of injecting into for the RCS for up to 15 minutes during pump swap operations. This presentation is undesirable since it requires entry into Actions; specifically an action with an "Immediately fix the condition" requirement. The relation between the "15 minutes" allowance in the Note and the "Immediately" could be confusing. Furthermore, 15 minutes is insufficient time to prudently complete the operation of making the charging/makeup pump incapable of injection. Closing and racking out valves, or racking out the pump breaker requires appropriate administrative controls to be followed by Operations personnel. With proper diligence, these actions may not be safely accomplished in 15 minutes in all cases. One hour is reasonable considering the small likelihood of an event during this brief period and the other administrative controls available (e.g., operator action to stop any pump that inadvertently starts.) Therefore, the exception is reformatted as an LCO Note with a 1 hour allowance.

Additionally, the Applicability for LCO 3.4.12 is modified by a Note. This Note allows an exception to the LCO. Thus, it would be more appropriately located under the LCO. This Note was moved to the LCO, and renumbered as Note 2.

The Bases were revised to reflect these changes. Also, an editorial change was made to clarify the Bases discussion for the LCO requirements.

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NRC Contact:	Weston, Mag	301-314-3151	mww@nrc.gov

Revision History

OG Revision 0 Revision Status: Closed

Revision Proposed by:

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 12-Mar-96

Owners Group Comments
Originally accepted on 3/12/96. Withdrawn for futher consideration. Approved with changes on 4/25/96.

Owners Group Resolution: Approved Date: 25-Apr-96

TSTF Review Information

OG Revision 0 Revision Status: Closed

TSTF Received Date: 31-May-96 Date Distributed for Review: 05-Aug-96

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

TSTF Comments on Revision 0:
CEOG - Applicable to CEOG, but CEOG suggests modification. The relationship between the time allowed in the Note and the Action are clear. Moving the allowance to an LCO Note makes tracking of the time awkward. Suggest leaving as Action Note but extending time to 1 hour as suggested. Bases require removing power to the pumps and 1 hour is more appropriate for that action.
BWOG - NA to BWOG. This change would appear to be more "risk" based than deterministic. Should the risk consequences be more clearly discussed?
TSTF - add more information to the justification, move LCO note to an Action. WOG to revise.

TSTF Resolution: Superceeded Date: 05-Feb-98

OG Revision 1 Revision Status: Closed

Revision Proposed by: WOG

Revision Description:
Added the following changes:
Moved the existing Applicability Note to an LCO Note.
This is an editorial change providing a more consistent presentation for this kind of exception.

Owners Group Review Information

Date Originated by OG: 01-Jul-96

Owners Group Comments
(No Comments)

Owners Group Resolution: Rejected Date: 01-Jul-96

OG Revision 2 Revision Status: Active Next Action: NRC

Revision Proposed by: WOG

Revision Description:
Made minor editorial change.
WOG wants the Traveler to be reconsidered by the TSTF.

Owners Group Review Information

Date Originated by OG: 19-Aug-97

Owners Group Comments
Made minor editorial change.
WOG wants the Traveler to be reconsidered by the TSTF.

Owners Group Resolution: Approved Date: 19-Aug-97

TSTF Review Information

TSTF Received Date: 19-Aug-97 Date Distributed for Review: 06-Jan-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

OG Revision 2 **Revision Status: Active** **Next Action: NRC**

Revise the justification to address moving the applicability Note to the LCO. Applicable to all PWRs. Describe the editorial change.

TSTF Resolution: Approved Date: 05-Feb-98

NRC Review Information

NRC Received Date: 29-May-98

NRC Comments:

(No Comments)

Final Resolution: NRC Action Pending Final Resolution Date:

Incorporation Into the NUREGs

File to BBS/LAN Date: TSTF Informed Date: TSTF Approved Date:

NUREG Rev Incorporated:

Affected Technical Specifications

LCO 3.4.12	LTOP System	
	Change Description: Add an LCO NOTE	
LCO 3.4.12 Bases	LTOP System	
Appl. 3.4.12	LTOP System	
	Change Description: Move Applicability Note to LCO Note 2.	
Appl. 3.4.12 Bases	LTOP System	
Action 3.4.12.A Bases	LTOP System	
Action 3.4.12.A	LTOP System	NUREG(s)- 1430 Only
Action 3.4.12.B	LTOP System	NUREG(s)- 1431 1432 Only

Industry/TSTF Standard Technical Specification Change Traveler

Allow time for stabilization after reducing power due to QPTR out of limit

Classification: 3) Improve Specifications

NUREGs Affected: ☐ 1430 ☑ 1431 ☐ 1432 ☐ 1433 ☐ 1434

Description:

NUREG-1431, LCO 3.2.1(A and B), Fq(z), and LCO 3.2.4, Quadrant Power Tilt Ratio, are revised to provide more appropriate Actions and Surveillances.

Justification:

NUREG-1431, LCO 3.2.4, Quadrant Power Tilt Ratio, Required Actions A.1 and A.2 require that Thermal Power be reduced if QPTR is out of limit. Action A.3 requires that the peaking factors be verified within 24 hours and once per 7 days thereafter. LCO 3.2.1 (A and B), Fq(z), also requires a power reduction if Fq(z) is not within limit.

The proposed change will require the Actions A.1, A.2, A.3 and A.4 of LCO 3.2.1A and Actions A.1, A.2, and A.3 of LCO 3.2.1B to be repeated after each subsequent Fq(z) determination if Fq(z) is not within limit. This will ensure that Actions are continued until the parameter is within its limit.

The proposed change will also modify the first performance Frequency of LCO 3.2.4 to require the peaking factors to be verified within 24 hours of achieving equilibrium conditions with Thermal Power reduced by Required Action A.1. In the current Action, a significant fraction of the 24 hours could be spent waiting for the plant to stabilize at the new power level leaving insufficient time to measure and analyze the peaking factors or resulting in the peaking factors being measured when the plant is not stable yielding inaccurate information. Since the peaking factors are of the prime importance, the proposed change will allow sufficient time to obtain an accurate measurement.

It was noted that LCO 3.2.4 Action A.2 contains a redundant action to reduce Thermal Power. This is deleted and the Thermal Power limit of Required Action A.1 is revised to provide the appropriate allowance for subsequent power reductions based on subsequent determination of QPTR.

LCO 3.2.4 Required Action A.5 is revised to add a new Note stating "Required Action A.6 shall be completed if Required Action A.5 is performed." As discussed in Section 1.3 of the ITS, an ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability. Therefore, when Required Action A.5 is completed, QPTR should be back within limit and the LCO may be exited. Adding this Note ensures that the peaking factors are verified after normalization of the excore detectors.

Additionally, LCO 3.2.4 Required Action A.5 is revised to state "Normalize excore detectors to restore QPTR to within limit." NUREG-1431, Rev. 1 Required Action A.5 originally stated, "Calibrate excore detectors to eliminate tilt." Normalization of QPTR to near 1.00 can be accomplished by the use of constants applied to indicated NIS currents. Thus, the absence of a tilt will manifest itself as QPTR = 1.00 rather than zero since quadrant power tilt is expressed as a ratio. Also, from a literal compliance standpoint, the tilt cannot be restored to exactly 1.00. Therefore, Required Action A.5 is modified to state, "Normalize excore detectors to restore QPTR to within limit."

Other wording changes were to LCO 3.2.4 made to make the description and Actions more accurate.

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NRC Contact:	Tjader, Bob	301-314-1187	trt@nrc.gov

Revision History

OG Revision 0 Revision Status: Closed

Revision Proposed by: Byron/Braidwood

OG Revision 0 Revision Status: Closed

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 19-Nov-96

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 19-Nov-96

TSTF Review Information

TSTF Received Date: 22-Nov-96 Date Distributed for Review:

OG Review Completed: ☐ BWOG ☑ WOG ☐ CEOG ☐ BWROG

TSTF Comments:

On hold for WOG Mini-Group Action. Replaced by WOG-95, Revision 1.

TSTF Resolution: Superceeded Date: 27-Oct-97

OG Revision 1 Revision Status: Closed

Revision Proposed by: WOG

Revision Description:
Complete replacement.

Owners Group Review Information

Date Originated by OG: 27-Oct-97

Owners Group Comments
Superceded by Rev. 2

Owners Group Resolution: Superceeded Date: 20-Nov-97

OG Revision 2 Revision Status: Closed

Revision Proposed by: WOG

Revision Description:
Added TSTF-109 to "until 12 hours . . ." to SR 3.2.4.2, deleted "within" in A.6, made change to A.3 Bases, added statement to A.5 Bases, made changes to A.6 "achieving equilibrium conditions at RTP", changed Note 2 to A.5 to "whenever" from "if", changed Bases A.6, revised A.6 to delete the "or" and added "not to exceed" and made one paragraph.

Owners Group Review Information

Date Originated by OG: 20-Nov-97

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 20-Nov-97

TSTF Review Information

OG Revision 2 Revision Status: Closed

TSTF Received Date: 20-Nov-97 Date Distributed for Review: 06-Jan-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

2/5/98 - WOG only. Approved.

TSTF Resolution: Approved Date: 05-Feb-98

NRC Review Information

NRC Received Date: 10-Mar-98

NRC Comments:

The proposed changes are unnecessary; changes to A.1 and A.2 are merely another way of presenting the same sequence of actions.
7/16/98 - Reviewer recommends rejection. Don't like the RA A.1 and A.2 rewrite. Bob Tjader to get back to Denny B by 10/5/98.
Denny B. to discuss with NRC further on 11/2/98.

Final Resolution: Superceded by Revision Final Resolution Date: 28-May-98

TSTF Revision 1 Revision Status: Closed

Revision Proposed by: WOG

Revision Description:
TSTF-241, Revision 1 developed to delete all the other WOG modified changes that were included for ease of review (TSTF-109, TSTF-110, and WOG-105) and their descriptions to provide for consistency in the way that TSTFs are developed; i.e., each TSTF stands on its own. No other changes were made.

Owners Group Review Information

Date Originated by OG: 23-Feb-98

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 23-Feb-98

TSTF Review Information

TSTF Received Date: 23-Feb-98 Date Distributed for Review: 28-May-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

Incorporate editorial changes from Westinghouse 6/24 meeting. Restore SR 3.2.4.2 Note and Bases back to NUREG Rev 1 wording (except for the inequality correction). Delete the sentence in description making reference to TSTFs and WOGs. Delete the "s" on limits in A.5. Restore the "or more" and delete the "is" and restore "are" and restore the "s" on channels. B3.2-48, SR 3.2.4.2. Restore the "when", restore the "or more" and restore the "s" on channels and delete the "is" and restore "are".

TSTF Resolution: Approved Date: 10-Jul-98

TSTF Revision 2 Revision Status: Closed

Revision Proposed by: WOG

TSTF Revision 2 — Revision Status: Closed

Revision Description:
Minor corrections to Description, Justification and markup. Restore SR 3.2.4.2 Note and Bases back to NUREG Rev 1 wording (except for the inequality correction).

TSTF Review Information

TSTF Received Date: 10-Jul-98 Date Distributed for Review: 10-Jul-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 10-Jul-98

NRC Review Information

NRC Received Date: 25-Sep-98

NRC Comments:

11/12/98 - NRC comments received and incorporated in Revision 3. TSTF to provide by 11/20/98. NRC to approve by 11/30/98.

Final Resolution: Superceded by Revision Final Resolution Date: 16-Nov-98

TSTF Revision 3 — Revision Status: Closed

Revision Proposed by: WOG

Revision Description:
TSTF-241 is revised based on discussions with the NRC. The Required Actions of LCO 3.2.1A and 3.2.1B were revised to require that the corrective actions be repeated after each subsequent Fq(z) measurement that is not within limit. The Bases were revised to reflect the changes to the Actions.

TSTF Review Information

TSTF Received Date: 16-Nov-98 Date Distributed for Review: 16-Nov-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

WOG-only Traveler. Change approved by WOG chairman.

TSTF Resolution: Approved Date: 16-Nov-98

NRC Review Information

NRC Received Date: 20-Nov-98

NRC Comments:

(No Comments)

Final Resolution: Superceded by Revision Final Resolution Date: 22-Dec-98

TSTF Revision 4 — Revision Status: Active — Next Action: NRC

Revision Proposed by: WOG

TSTF Revision 4 **Revision Status: Active** **Next Action: NRC**

Revision Description:
Eliminates a redundant statement from LCO 3.2.4, Required Action A.2. Required Action A.1 is applicable after each QPTR determination. As a result, the Required Action A.2 action to reduce thermal power is redundant the Required Action A.1 action.

TSTF Review Information

TSTF Received Date: 17-Dec-98 Date Distributed for Review: 17-Dec-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 17-Dec-98

NRC Review Information

NRC Received Date: 24-Dec-98

NRC Comments:

(No Comments)

Final Resolution: NRC Action Pending Final Resolution Date:

Incorporation Into the NUREGs

File to BBS/LAN Date: TSTF Informed Date: TSTF Approved Date:

NUREG Rev Incorporated:

Affected Technical Specifications

Action 3.2.1B	Fq(z) (Fq Methodology)
Action 3.2.1A	Fq(z) (Fxy Methodology)
Action 3.2.1B Bases	Fq(z) (Fq Methodology)
Action 3.2.1A Bases	Fq(z) (Fxy Methodology)
Action 3.2.4.A	Quadrant Power Tilt Ratio
Action 3.2.4.A Bases	Quadrant Power Tilt Ratio
SR 3.2.4.1	Quadrant Power Tilt Ratio
SR 3.2.4.1 Bases	Quadrant Power Tilt Ratio
SR 3.2.4.2	Quadrant Power Tilt Ratio
SR 3.2.4.2 Bases	Quadrant Power Tilt Ratio

TSTF-241, Rev 4

3.2 POWER DISTRIBUTION LIMITS

3.2.1A Heat Flux Hot Channel Factor ($F_Q(Z)$) (F_{xy} Methodology)

LCO 3.2.1A $F_Q(Z)$ shall be within the limits specified in the COLR.

APPLICABILITY: MODE 1.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. $F_Q(Z)$ not within limit.	A.1	Reduce THERMAL POWER ≥ 1% RTP for each 1% $F_Q(Z)$ exceeds limit.	15 minutes, after each $F_Q(Z)$ determination
	AND		
	A.2	Reduce AFD acceptable operation limits by the percentage $F_Q(Z)$ exceeds limit.	4 hours
	AND		
	A.3	Reduce Power Range Neutron Flux – High trip setpoints ≥ 1% for each 1% $F_Q(Z)$ exceeds limit.	8 hours
	AND		
	A.4	Reduce Overpower ΔT trip setpoints ≥ 1% for each 1% $F_Q(Z)$ exceeds limit.	72 hours
	AND		

(continued)

TSTF-241, Rev 4

3.2 POWER DISTRIBUTION LIMITS

3.2.1B Heat Flux Hot Channel Factor ($F_Q(Z)$) (F_Q Methodology)

LCO 3.2.1B $F_Q(Z)$, as approximated by $F_Q^C(Z)$ and $F_Q^W(Z)$, shall be within the limits specified in the COLR.

APPLICABILITY: MODE 1.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. $F_Q^C(Z)$ not within limit.	A.1	Reduce THERMAL POWER ≥ 1% RTP for each 1% $F_Q^C(Z)$ exceeds limit.	15 minutes after each $F_Q^C(Z)$ determination
	AND		
	A.2	Reduce Power Range Neutron Flux – High trip setpoints ≥ 1% for each 1% $F_Q^C(Z)$ exceeds limit.	8 hours
	AND		
	A.3	Reduce Overpower ΔT trip setpoints ≥ 1% for each 1% $F_Q^C(Z)$ exceeds limit.	72 hours
	AND		
	A.4	Perform SR 3.2.1.1.	Prior to increasing THERMAL POWER above the limit of Required Action A.1

(continued)

TSTF 241
REV 4

3.2 POWER DISTRIBUTION LIMITS

3.2.4 QUADRANT POWER TILT RATIO (QPTR)

LCO 3.2.4 The QPTR shall be ≤ 1.02.

APPLICABILITY: MODE 1 with THERMAL POWER > 50% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. QPTR not within limit.	A.1 Reduce THERMAL POWER ≥ 3% from RTP for each 1% of QPTR > 1.00.	2 hours after each QPTR determination
	AND	
	A.2 Perform SR 3.2.4.1 and reduce THERMAL POWER ≥ 3% from RTP for each 1% of QPTR > 1.00.	Once per 12 hours after achieving equilibrium conditions from a THERMAL POWER reduction per Required Action A.1
	AND	
	A.3 Perform SR 3.2.1.1 and SR 3.2.2.1.	24 hours AND Once per 7 days thereafter
	AND	
	A.4 Reevaluate safety analyses and confirm results remain valid for duration of operation under this condition.	Prior to increasing THERMAL POWER above the limit of Required Action A.1
	AND	

(continued)

TSTF 241
Rev 4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.5 --------NOTES-------- 1. Perform Required Action A.5 only after Required Action A.4 is completed. 2. Required Action A.6 shall be completed whenever Required Action A.5 is performed. ---------- ~~Calibrate excore detectors to show zero QPTR.~~ Normalize excore detectors to restore QPTR to within limit.	Prior to increasing THERMAL POWER above the limit of Required Action A.1
	AND	
	A.6 --------NOTE--------- Perform Required Action A.6 only after Required Action A.5 is completed. ---------- Perform SR 3.2.1.1 and SR 3.2.2.1.	Within 24 hours after ~~reaching~~ achieving equilibrium conditions at RTP ~~OR~~ ~~Within~~ 48 hours after increasing THERMAL POWER above the limit of Required Action A.1 not to exceed
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to ≤ 50% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.4.1	----------NOTES---------- 1. With input from one Power Range Neutron Flux channel inoperable and THERMAL POWER ≤ 75% RTP, the remaining three power range channels can be used for calculating QPTR. 2. SR 3.2.4.2 may be performed in lieu of this Surveillance if adequate Power Range Neutron Flux channel inputs are not OPERABLE. ----------	
	Verify QPTR is within limit by calculation.	7 days AND Once within 12 hours and every 12 hours thereafter with the QPTR alarm inoperable
SR 3.2.4.2	----------NOTE---------- Only required to be performed if input from one or more Power Range Neutron Flux channels are inoperable with THERMAL POWER ≥ 75% RTP. ----------	
	Verify QPTR is within limit using the movable incore detectors.	Once within 12 hours AND 12 hours thereafter

INSERT A1

The maximum allowable power level initially determined by Required Action A.1 may be affected by subsequent determinations of $F_Q(Z)$ and would require power reductions within 15 minutes of the $F_Q(Z)$ determination, if necessary to comply with the decreased maximum allowable power level. Decreases in $F_Q(Z)$ would allow increasing the maximum allowable power level and increasing power up to this revised limit.

INSERT A2

The maximum allowable AFD acceptable operation limit initially determined by Required Action A.2 may be affected by subsequent determinations of $F_Q(Z)$ and would require AFD acceptable operation limit reductions within 4 hours of the $F_Q(Z)$ determination, if necessary to comply with the decreased AFD acceptable operation limit. Decreases in $F_Q(Z)$ would allow increasing the AFD acceptable operation limit.

INSERT A3

The maximum allowable Power Range Neutron Flux – High trip setpoints initially determined by Required Action A.3 may be affected by subsequent determinations of $F_Q(Z)$ and would require Power Range Neutron Flux – High trip setpoint reductions within 8 hours of the $F_Q(Z)$ determination, if necessary to comply with the decreased maximum allowable Power Range Neutron Flux – High trip setpoints. Decreases in $F_Q(Z)$ would allow increasing the maximum allowable Power Range Neutron Flux – High trip setpoints.

INSERT A4

The maximum allowable Overpower ΔT trip setpoints initially determined by Required Action A.4 may be affected by subsequent determinations of $F_Q(Z)$ and would require Overpower ΔT trip setpoint reductions within 72 hours of the $F_Q(Z)$ determination, if necessary to comply with the decreased maximum allowable Overpower ΔT trip setpoints. Decreases in $F_Q(Z)$ would allow increasing the maximum Overpower ΔT trip setpoints.

APPLICABILITY (continued)

reactor coolant to require a limit on the distribution of core power.

ACTIONS

A.1

Reducing THERMAL POWER by ≥ 1% for each 1% by which $F_0(Z)$ exceeds its limit maintains an acceptable absolute power density. The Completion Time of 15 minutes provides an acceptable time to reduce power in an orderly manner and without allowing the plant to remain in an unacceptable condition for an extended period of time.

Insert A1

A.2

When core peaking factors are sufficiently high that LCO 3.2.3 does not permit operation at RTP, the Acceptable Operation Limits for AFD are scaled down. This percentage reduction is equal to the amount, expressed as a percentage, by which $F_0(Z)$ exceeds its specified limit. This ensures a near constant maximum linear heat rate in units of kilowatts per foot at the acceptable operation limits. The Completion Time of 4 hours for the change in setpoints is sufficient, considering the small likelihood of a severe transient in this relatively short time period, and the preceding prompt reduction in THERMAL POWER in accordance with Required Action A.1.

Insert A2

A.3

A reduction of the Power Range Neutron–High trip setpoints by ≥ 1% for each 1% by which $F_0(Z)$ exceeds its specified limit, is a conservative action for protection against the consequences of severe transients with unanalyzed power distributions. The Completion Time of 8 hours is sufficient, considering the small likelihood of a severe transient in this period, and the preceding prompt reduction in THERMAL POWER in accordance with Required Action A.1.

Insert A3

(continued)

TSTF-241, Rev 4

BASES

ACTIONS (continued)

A.4

Reduction in the Overpower ΔT trip setpoints by ≥ 1% for each 1% by which $F_0(Z)$ exceeds its limit, is a conservative action for protection against the consequences of severe transients with unanalyzed power distributions. The Completion Time of 72 hours is sufficient considering the small likelihood of a severe transient in this period, and the preceding prompt reduction in THERMAL POWER in accordance with Required Action A.1.

Insert A4

A.5

Verification that $F_0(Z)$ has been restored to within its limit by performing SR 3.2.1.1 and SR 3.2.1.2 prior to increasing THERMAL POWER above the limit imposed by Required Action A.1 ensures that core conditions during operation at higher power levels are consistent with safety analyses assumptions.

B.1

If the Required Actions of A.1 through A.4 cannot be met within their associated Completion Times, the plant must be placed in a MODE or condition in which the LCO requirements are not applicable. This is done by placing the plant in at least MODE 2 within 6 hours.

This allowed Completion Time is reasonable based on operating experience regarding the amount of time it takes to reach MODE 2 from full power operation in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.2.1.1

Verification that $F_0(Z)$ is within its limit involves increasing the measured values of $F_0(Z)$ to allow for manufacturing tolerance and measurement uncertainties and then making a comparison with the limits. These limits are provided in the COLR. Specifically, the measured value of the Heat Flux Hot Channel Factor (F_Q^M) is increased by 3% to account for fuel manufacturing tolerances and by 5% for flux

(continued)

INSERT B1

The maximum allowable power level initially determined by Required Action A.1 may be affected by subsequent determinations of $F_Q^C(Z)$ and would require power reductions within 15 minutes of the $F_Q^C(Z)$ determination, if necessary to comply with the decreased maximum allowable power level. Decreases in $F_Q^C(Z)$ would allow increasing the maximum allowable power level and increasing power up to this revised limit.

INSERT B2

The maximum allowable Power Range Neutron Flux – High trip setpoints initially determined by Required Action A.3 may be affected by subsequent determinations of $F_Q^C(Z)$ and would require Power Range Neutron Flux – High trip setpoint reductions within 8 hours of the $F_Q^C(Z)$ determination, if necessary to comply with the decreased maximum allowable Power Range Neutron Flux – High trip setpoints. Decreases in $F_Q^C(Z)$ would allow increasing the maximum allowable Power Range Neutron Flux – High trip setpoints.

INSERT B3

The maximum allowable Overpower ΔT trip setpoints initially determined by Required Action A.4 may be affected by subsequent determinations of $F_Q^C(Z)$ and would require Overpower ΔT trip setpoint reductions within 72 hours of the $F_Q^C(Z)$ determination, if necessary to comply with the decreased maximum allowable Overpower ΔT trip setpoints. Decreases in $F_Q^C(Z)$ would allow increasing the maximum Overpower ΔT trip setpoints.

LCO (continued)

The expression for $F_Q^W(Z)$ is:

$$F_Q^W(Z) = F_Q^C(Z)\ W(Z)$$

where W(Z) is a cycle dependent function that accounts for power distribution transients encountered during normal operation. W(Z) is included in the COLR.

The $F_Q(Z)$ limits define limiting values for core power peaking that precludes peak cladding temperatures above 2200°F during either a large or small break LOCA:

This LCO requires operation within the bounds assumed in the safety analyses. Calculations are performed in the core design process to confirm that the core can be controlled in such a manner during operation that it can stay within the LOCA $F_Q(Z)$ limits. If $F_Q(Z)$ cannot be maintained within the LCO limits, reduction of the core power is required.

Violating the LCO limits for $F_Q(Z)$ produces unacceptable consequences if a design basis event occurs while $F_Q(Z)$ is outside its specified limits.

APPLICABILITY

The $F_Q(Z)$ limits must be maintained in MODE 1 to prevent core power distributions from exceeding the limits assumed in the safety analyses. Applicability in other MODES is not required because there is either insufficient stored energy in the fuel or insufficient energy being transferred to the reactor coolant to require a limit on the distribution of core power.

ACTIONS

A.1

Reducing THERMAL POWER by ≥ 1% RTP for each 1% by which $F_Q^C(Z)$ exceeds its limit, maintains an acceptable absolute power density. $F_Q^C(Z)$ is $F_Q^M(Z)$ multiplied by a factor accounting for manufacturing tolerances and measurement uncertainties. $F_Q^M(Z)$ is the measured value of $F_Q(Z)$. The Completion Time of 15 minutes provides an acceptable time to reduce power in an orderly manner and without allowing the plant to remain in an unacceptable condition for an extended period of time.

Insert B1

(continued)

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Insert B-A.1

The maximum allowable power level initially determined by Required Action A.1 may be affected by subsequent determinations of QPTR. Increases in QPTR would require power reduction within 2 hours of QPTR determination, if necessary to comply with the decreased maximum allowable power level. Decreases in QPTR would allow increasing the maximum allowable power level and increasing power up to this revised limit.

Insert Note 2

Note 2 states that if Required Action A.5 is performed, then Required Action A.6 shall be performed. Required Action A.5 normalizes the excore detectors to restore QPTR to within limits, which restores compliance with LCO 3.2.4. Thus, Note 2 prevents exiting the Actions prior to completing flux mapping to verify peaking factors, per Required Action A.6.

ACTIONS

A.1 (continued)

time to identify the cause and correct the tilt. Note that the power reduction itself may cause a change in the tilted condition.

INSERT B-A.1

A.2

After completion of Required Action A.1, the QPTR alarm may still be in its alarmed state. As such, any additional changes in the QPTR are detected by requiring a check of the QPTR once per 12 hours thereafter. ~~If the QPTR continues to increase, THERMAL POWER has to be reduced accordingly.~~ A 12 hour Completion Time is sufficient because any additional change in QPTR would be relatively slow.

A.3

The peaking factors $F^N_{\Delta H}$ and $F_Q(Z)$ are of primary importance in ensuring that the power distribution remains consistent with the initial conditions used in the safety analyses. Performing SRs on $F^N_{\Delta H}$ and $F_Q(Z)$ within the Completion Time of 24 hours, after achieving equilibrium conditions from a Thermal Power reduction per Required Action A.1, ensures that these primary indicators of power distribution are within their respective limits. A Completion Time of 24 hours takes into consideration the rate at which peaking factors are likely to change, and the time required to stabilize the plant and perform a flux map. If these peaking factors are not within their limits, the Required Actions of these Surveillances provide an appropriate response for the abnormal condition. If the QPTR remains above its specified limit, the peaking factor surveillances are required each 7 days thereafter to evaluate $F^N_{\Delta H}$ and $F_Q(Z)$ with changes in power distribution. Relatively small changes are expected due to either burnup and xenon redistribution or correction of the cause for exceeding the QPTR limit.

Equilibrium conditions are achieved when the core is sufficiently stable at intended operating conditions to support flux mapping.

A.4

Although $F^N_{\Delta H}$ and $F_Q(Z)$ are of primary importance as initial conditions in the safety analyses, other changes in the power distribution may occur as the QPTR limit is exceeded

(continued)

ACTIONS

A.4 (continued)

and may have an impact on the validity of the safety analysis. A change in the power distribution can affect such reactor parameters as bank worths and peaking factors for rod malfunction accidents. When the QPTR exceeds its limit, it does not necessarily mean a safety concern exists. It does mean that there is an indication of a change in the gross radial power distribution that requires an investigation and evaluation that is accomplished by examining the incore power distribution. Specifically, the core peaking factors and the quadrant tilt must be evaluated because they are the factors that best characterize the core power distribution. This re-evaluation is required to ensure that, before increasing THERMAL POWER to above the limit of Required Action A.1, the reactor core conditions are consistent with the assumptions in the safety analyses.

Normalization is accomplished in such a manner that the indicated QPTR following normalization is near 1.00.

A.5

If the QPTR has exceeded the 1.02 limit and a re-evaluation of the safety analysis is completed and shows that safety requirements are met, the excore detectors are ~~recalibrated to show a zero QPTR~~ prior to increasing THERMAL POWER to above the limit of Required Action A.1. This is done to detect any subsequent significant changes in QPTR.

normalized to restore QPTR to within limits

Note 1

Required Action A.5 is modified by ~~a~~ two Notes ~~that~~ states that the QPT is not ~~zeroed out~~ until after the re-evaluation of the safety analysis has determined that core conditions at RTP are within the safety analysis assumptions (i.e., Required Action A.4). ~~This Note is~~ intended to prevent any ambiguity about the required sequence of actions.

restored to within limits

INSERT Note 2

These Notes are

A.6

Once the flux tilt is ~~zeroed out~~ (i.e., Required Action A.5 is performed), it is acceptable to return to full power operation. However, as an added check that the core power distribution ~~at RTP~~ is consistent with the safety analysis assumptions, Required Action A.6 requires verification that $F_Q(Z)$ and $F^N_{\Delta H}$ are within their specified limits within 24 hours of ~~reaching RTP~~. As an added precaution, if the

achieving equilibrium conditions at RTP.

(continued)

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BASES

ACTIONS

A.6 (continued)

equilibrium conditions at

core power does not reach RTP within 24 hours, but is increased slowly, then the peaking factor surveillances must be performed within 48 hours ~~of the time when the ascent to power was begun~~. These Completion Times are intended to allow adequate time to increase THERMAL POWER to above the limit of Required Action A.1, while not permitting the core to remain with unconfirmed power distributions for extended periods of time.

after increasing THERMAL POWER above the limit of Required Action A.1.

Required Action A.6 is modified by a Note that states that the peaking factor surveillances may only be done after the excore detectors have been ~~calibrated to show zero tilt~~ (i.e., Required Action A.5). The intent of this Note is to have the peaking factor surveillances performed at operating power levels, which can only be accomplished after the excore detectors are ~~calibrated to show zero tilt~~ and the core returned to power.

normalized to restore QPTR to within limits

B.1

If Required Actions A.1 through A.6 are not completed within their associated Completion Times, the unit must be brought to a MODE or condition in which the requirements do not apply. To achieve this status, THERMAL POWER must be reduced to < 50% RTP within 4 hours. The allowed Completion Time of 4 hours is reasonable, based on operating experience regarding the amount of time required to reach the reduced power level without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.2.4.1

SR 3.2.4.1 is modified by two Notes. Note 1 allows QPTR to be calculated with three power range channels if THERMAL POWER is ~~<~~ ≤ 75% RTP and the input from one Power Range Neutron Flux channel is inoperable. Note 2 allows performance of SR 3.2.4.2 in lieu of SR 3.2.4.1 if more than one input from Power Range Neutron Flux channels are inoperable.

This Surveillance verifies that the QPTR, as indicated by the Nuclear Instrumentation System (NIS) excore channels, is

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.2.4.1 (continued)

within its limits. The Frequency of 7 days when the QPTR alarm is OPERABLE is acceptable because of the low probability that this alarm can remain inoperable without detection.

When the QPTR alarm is inoperable, the Frequency is increased to 12 hours. This Frequency is adequate to detect any relatively slow changes in QPTR, because for those causes of QPT that occur quickly (e.g., a dropped rod), there typically are other indications of abnormality that prompt a verification of core power tilt.

SR 3.2.4.2

This Surveillance is modified by a Note, which states that it is required only when the input from one or more Power Range Neutron Flux channels are inoperable and the THERMAL POWER is $\geq$ 75% RTP.

With an NIS power range channel inoperable, tilt monitoring for a portion of the reactor core becomes degraded. Large tilts are likely detected with the remaining channels, but the capability for detection of small power tilts in some quadrants is decreased. Performing SR 3.2.4.2 at a Frequency of 12 hours provides an accurate alternative means for ensuring that any tilt remains within its limits.

For purposes of monitoring the QPTR when one power range channel is inoperable, the moveable incore detectors are used to confirm that the normalized symmetric power distribution is consistent with the indicated QPTR and any previous data indicating a tilt. The incore detector monitoring is performed with a full incore flux map or two sets of four thimble locations with quarter core symmetry. The two sets of four symmetric thimbles is a set of eight unique detector locations. These locations are C-8, E-5, E-11, H-3, H-13, L-5, L-11, and N-8 for three and four loop cores.

The symmetric thimble flux map can be used to generate symmetric thimble "tilt." This can be compared to a reference symmetric thimble tilt, from the most recent full

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.2.4.2 (continued)

incore monitoring of

core flux map, to generate an incore QPTR. Therefore, QPTR can be used to confirm that QPTR is within limits.

With one NIS channel inoperable, the indicated tilt may be changed from the value indicated with all four channels OPERABLE. To confirm that no change in tilt has actually occurred, which might cause the QPTR limit to be exceeded, the incore result may be compared against previous flux maps either using the symmetric thimbles as described above or a complete flux map. Nominally, quadrant tilt from the Surveillance should be within 2% of the tilt shown by the most recent flux map data.

REFERENCES

1. 10 CFR 50.46.

2. Regulatory Guide 1.77, Rev [0], May 1974.

3. 10 CFR 50, Appendix A, GDC 26.

Industry/TSTF Standard Technical Specification Change Traveler

Changes to Section 5.0, Administrative Controls

Classification: 3) Improve Specifications

NUREGs Affected: ☑ 1430 ☑ 1431 ☑ 1432 ☑ 1433 ☑ 1434

Description:

This proposed traveler supersedes travelers TSTF-86 (rejected by NRC and TSTF accepted), TSTF-121, TSTF-167 (rejected by NRC) and WOG-108 (Action Item 147). This traveler is based on the recommendations (with some exceptions noted below) in the April 9, 1997 letter from C. Grimes (NRC) to J. Davis (NEI). This traveler proposes the following changes:

1) Revise Administrative Control 5.2.2, Unit Staff, to delete item b, revises item e eliminating specific details for working hour limits, and revises item g to clarify the requirements for the Shift Technical Advisor function,
2) Inserts brackets around entire second sentence in 5.3.1 and adds 5.3.2, Unit Staff Qualifications to retain elements required in TS by regulations,
3) Revises Section 5.5.4 to be consistent with the intent of 10 CFR 20
4) Revises Section 5.6.4 to be consistent with Generic Letter 97-04, and
5) Revises Section 5.7 in accordance with 10 CFR 20.1601(c)

Justification:

See attached justification.

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Revision History

OG Revision 0 Revision Status: Closed

Revision Proposed by: Wolf Creek

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 20-Nov-97

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 20-Nov-97

TSTF Review Information

TSTF Received Date: 20-Nov-97 Date Distributed for Review: 06-Jan-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

Look at CEOG change to titles, Make indicated changes,
Add SR 3.0.3 to 5.5.4,
Clearly indicate or annotate the differences of the proposed TSTF versus the 4/9/97 letter.

TSTF Resolution: Approved Date: 05-Feb-98

NRC Review Information

OG Revision 0 Revision Status: Closed

NRC Received Date: 19-Mar-98

NRC Comments:

4/21/98 - Under NRC review.
6/11/98 - NRC Comments:
5.7.2d.2 and 5.7.2d.3(ii)
The proposed change is not acceptable for high radiation areas with dose rates in excess of 1 R/hr. The STS provides several options for licensees to use and provides adequate flexibility while still maintaining an adequate level of control over workers in high radiation areas. The proposed changes will reduce the level of control maintained by the TS.

5.7.1e and 5.7.2e
The proposed change to "..when the knowledge of the dose rates must be made to the worker." is not accepted. The STS provides appropriate controls to ensure workers are adequately controlled and protected while working in high radiation areas. The STS allows time for the RP technician to evaluate the radiological hazard and brief the workers about the radiological conditions in the work area prior to the workers entering the high radiation area. The control is required to ensure that workers do not focus solely on the work to be performed but remain informed about radiological conditions. However, there has been alternate wording to the STS proposed by a licensee that was accepted by the staff in a licensee amendment. The approved alternate wording follows: "Except for individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination and knowledge does not require documentation prior to initial entry." This alternate wording may be proposed by licensees in lieu of the STS. However, the wording of the STS will remain as issued.

We agree with the comment in 5.7.2.a.1, however, we do not fully understand it since the proposed words are the same as the standard TS (perhaps the standard TS was missing the [ ] for the designated positions).

5.7.2a
The proposed change to substitute the word "inadvertent" for "unauthorized" is not accepted. High radiation area controls are divided into distinct modes of control; areas below 1 R/hr where barricades are acceptable to prevent inadvertent entry and areas above 1 R/hr where the radiological [hazard] is significantly greater and thus requires the use of locked doors which are not only intended to prevent inadvertent but to ensure that unauthorized entry is prevented. The use of the word "unauthorized" is expressly used to denote the extra controls that are required for high radiation areas greater than 1 R/hr. Regulatory Guide 8.38 does discuss the use of physical barriers to prevent unauthorized entry. The word "unauthorized" will continue to be used.

5.7.2a.2
The comment is not accepted. The STS does not imply that an area would be locked so as to prevent personnel from exiting the area. The STS is designed to be very clear and literal. The NRC and the licensee will recognize that a locked door will be "unlocked" when workers enter or exit the area, and this action would not result in a NOV. The standard TS wording will not be changed.

5.7.2f
The comment in not clear. The STS control is offered to licensees as a "relief" from 10 CFR Part 20. If a licensee has a special need; a custom TS can be proposed and justified for the staff's consideration. The standard TS wording will not be changed.

Final Resolution: Superceded by Revision Final Resolution Date: 11-Jun-98

TSTF Revision 1 Revision Status: Closed

Revision Proposed by: WOG

TSTF Revision 1 Revision Status: Closed

Revision Description:
Revised to Address NRC Comments:
5.7.2d.2 and 5.7.2d.3(ii) - Comment accepted.

5.7.1e and 5.7.2e - Comment accepted, except did not incorporate the following sentence: "These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination and knowledge does not require documentation prior to initial entry." This information was considered to be of a level of detail below that normally included in the Administrative Controls.

5.7.2.a.1 - Brackets removed.

5.7.2a - Comment accepted.

5.7.2a.2 - Comment accepted.

5.7.2f - Information added to the justification to address comment.

TSTF Review Information

TSTF Received Date: 22-Sep-98 Date Distributed for Review: 23-Sep-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 23-Sep-98

NRC Review Information

NRC Received Date: 25-Sep-98

NRC Comments:
(No Comments)

Final Resolution: Superceded by Revision Final Resolution Date:

TSTF Revision 2 Revision Status: Closed

Revision Proposed by: NRC

Revision Description:
Revised changes to 5.7.1e and 5.7.2e per NRC comments to include the sentences, "These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry."

TSTF Review Information

TSTF Received Date: 26-Oct-98 Date Distributed for Review: 26-Oct-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 26-Oct-98

TSTF Revision 2 Revision Status: Closed

NRC Review Information

NRC Received Date: 28-Oct-98

NRC Comments:

11/12/98 - Rad Protection Branch agrees with Rad Areas position of TSTF-258. Human Factors Branch insists that a sentence requiring the Plant Manager approve overtime limits on a routine basis be reinstated in the TS requirement. B. Tjader to setup a meeting for 12/16 or 12/17 to discuss and resolve.
12/16/98 - NRC requested revision.

Final Resolution: Superceded by Revision Final Resolution Date:

TSTF Revision 3 Revision Status: Active Next Action: NRC

Revision Proposed by: TSTF

Revision Description:
Revised changes to 5.2.2.e to address NRC concerns regarding independent review of procedures to ensure overtime limits are maintained. The deleted sentence is replaced with the statement "Controls shall be included in the procedures to require a periodic independent review be conducted to ensure that excessive hours have not been assigned." As used in this application, the term independent is to only ensure the review is performed by individual (s) different than the individual (s) actually authorizing the over time. As used in this application, the term "periodic frequency" shall be based on plant experience, outage frequencies, and other management review practices. While no changes were made to the pages, there was discussion of and agreement by the NRC and the Industry that the meaning of the term "designee" as it is used in this section permits the designee to either be a permanent position or a temporary position to satisfy the requirements.

TSTF Review Information

TSTF Received Date: 17-Dec-98 Date Distributed for Review: 17-Dec-98

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:

(No Comments)

TSTF Resolution: Approved Date: 18-Dec-98

NRC Review Information

NRC Received Date: 24-Dec-98

NRC Comments:

(No Comments)

Final Resolution: NRC Action Pending Final Resolution Date:

Incorporation Into the NUREGs

File to BBS/LAN Date: TSTF Informed Date: TSTF Approved Date:

NUREG Rev Incorporated:

Affected Technical Specifications

5.2.2 Administrative Controls, Unit Staff

5.3.1	Administrative Controls, Unit Staff Qualifications
5.5.4	Administrative Controls, Radioactive Effluent Controls Program
5.6.4	Administrative Controls, Monthly Operating Reports
5.7	Administrative Controls, High Radiation Area

Justification:

1. Changes to Section 5.2, Organization

a. The requirements of 10 CFR 50.54(m)(2)(iii) and 50.54(k) adequately provide for shift manning. These regulations, 50.54(m)(2)(iii), require "when a nuclear power unit is in an operational mode other than cold shutdown or refueling, as defined by the unit's technical specifications, each licensee shall have a person holding a senior operator license for the nuclear power unit in the control room at all times. In addition to this senior operator, for each fueled nuclear power unit, a licensed operator or senior operator shall be present at the controls at all times." Further, 50.54(k) requires "An operator or senior operator licensed pursuant to part 55 of this chapter shall be present at the controls at all times during the operation of the facility." The ISTS 5.2.2.b requirements will be met through compliance with these regulations and is not required to be reiterated in the ISTS.

In the April 9, 1997 letter from C. Grimes to J. Davis, the staff proposed revising 5.2.2.c by adding "Shift crew composition shall meet the requirements stipulated herein and in 10 CFR 50.54(m)." Adding this sentence is a duplicative of the code of federal regulations since all licensees are required to meet 10 CFR 50.54.

b. Section 5.2.2.e. is revised from specific working hour limits to administrative procedures to control working hours. The proposed changes will provide reasonable assurance that impaired performance caused by excessive working hours will not jeopardize safe plant operation. Specific working hour limits are not otherwise required to be in the technical specifications under 10 CFR 50.36(c)(5). Specific controls for working hours of reactor plant staff are described in procedures that require a deliberate decision making process to minimize the potential for impaired personnel performance, and that established procedure control processes will provide sufficient control for changes to that procedure. These changes are consistent with the recommendations in the April 9, 1997 letter from C. Grimes to J. Davis. Additionally, the statement "Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the [Plant Superintendent] or his designee to ensure that excessive hours have not been assigned." is being deleted. There is no guidance in Generic Letter 82-12 that discusses these additional controls. The additional requirement to have the Plant Manager (or his designee) review individual overtime on a monthly bases is unnecessary since sufficient administrative controls and policies exist, as well as the role of the individuals supervisors in supervising personnel prevent excessive or abuse of overtime.

c. Section 5.2.2.g is revised to eliminate the title of "Shift Technical Advisor (STA)." STAs are not used at all plants (the function may be fulfilled by one of the other on-shift individuals). Therefore, 5.2.2.g is revised so that it does not imply that the STA and the Shift Supervisor must be different individuals. Option 1 of the Commission Policy Statement on Engineering Expertise on Shift is satisfied by assigning an individual with specified educational qualifications to each operating crew as one of the SROs (preferably the shift supervisor) required by 10 CFR 50.54(m)(2)(i) to provide the technical expertise on shift. However, the 5.2.2.g wording of, "the STA shall provide ... support to the Shift Supervisor...", is considered to be easily misinterpreted to require separate individuals. Therefore, the wording is revised so that the STA function may be provided by either a separate individual or the individual who also fulfills another role in the shift command structure.

2. **Changes to 5.3, Unit Staff Qualifications**.

a. In Section 5.3.1, the second sentence is bracketed in its entirety. There may be cases were the entire unit staff are covered by the standard specified in the first sentence or there may be specific exceptions for specific positions that could then be specified by bracketing the entire sentence.

b. Definitions in 10 CFR 55.4 state: "Actively performing the functions of an operator or senior operator means that an individual has a position on the shift crew that requires the individual to be licensed as defined in the facility's technical specifications, and that ...." Adding paragraph 5.3.2 ensures that there is no misunderstanding when complying with 10 CFR 55.4 requirements. Adding this paragraph is consistent with the recommendations in the April 9, 1997 letter from C. Grimes to J. Davis.

c. .. The April 9, 1997 letter from C. Grimes to J. Davis proposed a Reviewers Note in conjunction with the addition of paragraph 5.3.2. The Reviewer's Note stated: "The minimum staffing requirements stipulated in 10 CFR 50.54(m), for unit members actively performing the functions of an operator or senior operator, can be exceeded by stipulating the enhanced staffing requirements in paragraph 5.3.2." This Reviewer's Note is not required based on the discussions in Generic Letter 87-16 (Transmittal of NUREG-1262) which indicated that facilities can take credit for more than the minimum number of watchstanders required by Technical Specifications provided that there are administrative controls which assure that functions and duties are divided and rotated in a manner which provides each watchstander meaningful and significant opportunity to maintain proficiency in the performance of the functions of an operator and/or senior operator as appropriate. By stipulating enhanced staffing requirements in paragraph 5.3.2, when a licensee decided to change its staffing requirements, a license amendment request would have to be submitted, reviewed and approved before the staffing requirements could be made which may not be timely and is an unnecessary burden on the licensee's and NRC's resources.

3. **Changes to 5.5.4, Radioactive Effluent Controls Program.**

- After issuance of Generic Letter 89-01, 10 CFR 20 was updated. The NRC issued a draft Generic Letter, 93-XX, on proposed changes to STS NUREGS base on the new 10 CFR 20. The proposed changes are consistent with the draft generic letter and the April 9, 1997 letter from C. Grimes to J. Davis with some exceptions noted below. The proposed changes maintain the same overall level of effluent control while retaining the operational flexibility that exists with current TS under the previous 10 CFR 20. This limitation (i.e., less than 10 times the concentration values...) provides reasonable assurance that the levels of radioactive materials in bodies of water in Unrestricted Areas will result in exposures within (1) the Section II.A design objectives of appendix I to 10 CFR Part 50 and (2) restrictions authorized by 10 CFR 20.1301(e). These changes are intended to eliminate possible confusion or improper implementation of the revised 10 CFR 20 requirements. The recommendations in the April 9, 1997 letter uses the term "total body" in reference to the noble gas dose rate. This limit is based on the dosimetry of ICRP 2, and the correct term is "whole body" as shown in NUREG-1301, Specification 3.11.2.1, page 45. Additionally, some minor editorial changes were made from the recommendations in the April 9, 1997 letter.
- The provisions of SR 3.0.2 are applied to the Radioactive Effluent Controls Program surveillance frequencies (5.5.4e.) to allow for scheduling flexibility. SR 3.0.2 permits a 25% extension of the interval specified in the Frequency (31 days). Allowing a 25% extension in

the frequency of performing the monthly cumulative dose and projected dose calculation for the current quarter/year will have no affect on outcome of the calculations.

3. **Changes to 5.6.4, Monthly Operating Reports.** The reporting of pressurizer safety and relief valve failures and challenges is based on the guidance in NUREG-0694, "TMI-Related Requirements for New Operating Licensees." The guidance of NUREG-0694 states: "Assure that any failure of a PORV or safety valve to close will be reported to the NRC promptly. All challenges to the PORVs or safety valves should be documented in the annual report." NRC Generic Letter 97-02, "Revised Contents of the Monthly Operating Report" requests the submittal of less information in the monthly operating report. The generic letter identifies what needs to be reported to support the NRC Performance Indicator Program, and availability and capacity statistics. The generic letter does not specifically identify the need to report challenges to the pressurizer safety and relief valves. Mr. Marcel Harper, NRC (AEOD) was contacted and he indicated that this information was not required for the Performance Indicator Program and therefore would not need to be reported. Based on this information, it is acceptable to delete the requirement to provide documentation of all challenges to the pressurizer power operated relief valves or pressurizer safety valves.

5. **Changes to 5.7, High Radiation Area.** Section 5.7 is revised in accordance with 10 CFR 20.1601(c) and updates the acceptable alternate controls to those given in 10 CFR 20.1601. These changes are consistent (with the exception provided below) with the draft Generic Letter (93-XX) on proposed changes to STS NUREGs based on the new 10 CFR 20 and the letter from C. Grimes, NRC, to J. Davis, NEI dated April 9, 1997. (The NRC proposed version of Section 5.7 provided in the April 9, 1997 letter is included in this traveler with the recommended changes marked.)

   - Changes to 5.7.1d.4.(ii): In the event that communications are lost between an individual worker, and the Radiation Protection staff providing the remote surveillance, the worker should be able to continue to work in the area provided that the worker can communicate with other workers in the same area who are working on the same job and under the same RWP, and provided that the communications remain satisfactory between these workers and the RP staff providing the remote surveillance..

   - Changes to 5.7.1.e and 5.7.2.e: Revised to allow any individual or group of individuals to enter a high-high radiation area (dose rates > 1 Rem/hr at 30 cm) when accompanied by an individual qualified in radiation protection procedures with a radiation dose rate monitoring device. The qualified individual is responsible for providing positive control and shall perform periodic radiation surveillances at the frequency specified in the RWP. Furthermore, these continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry. Many plant's CTS requirements allow this option, which compliments the plant's practices of requiring qualified individual escort at all times during the work in a high-high radiation area. This option would provide adequate protection while (keeping with ALARA practices) minimizing exposure to the qualified individual.

   - Changes to 5.7.2a: Section 5.7.2a is revised to state "Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a

locked or continuously guarded door or gate ..." This change is consistent with RG 8.38 Section 2.5 which indicates that the use of a locked door or one control point where positive control over personnel entry is exercised. Posting an individual to monitor a door provides positive controls over a high radiation area.

- Changes to 5.7.2.a.1: The Shift Foreman is only one of the many possible operations shift management positions who may be designated for the key control function. This change is similar to the wording of the NRC 7-28-95 letter to the Owner's Group Chairmen which identifies key control responsibility with the "shift supervisor, radiation protection manager, or his or her designee."

- Changes to 5.7.2f. (deleting "that is controlled as a high radiation area"): The 5.7.2.f provision has applied (in previous STS as well as ISTS NUREGs) without the added constraint of having the larger area controlled as a high radiation area. It is not always practical to control such areas as a High Radiation Area (outside of these High-High Radiation Areas). The proposed change to the NRC proposed Model Specification would restore the requirement as it exists in ISTS NUREG Rev1.

INSERT A

The controls shall include guidelines on working hours that ensure adequate shift coverage shall be maintained without routine heavy use of overtime.

INSERT B

5.3.2 For the purpose of 10 CFR 55.4, a licensed Senior Reactor Operator (SRO) and a licensed reactor operator (RO) are those individuals who, in addition to meeting the requirements of TS 5.3.1, perform the functions described in 10 CFR 50.54(m).

INSERT C

to ten times the concentration values in Appendix B, Table 2, Column 2 to 10 CFR 20.1001-20.2402.

INSERT D

shall be in accordance with the following:

1. For noble gases: a dose rate ≤ 500 mrem/yr to the whole body and a dose rate ≤ 3000 mrem/yr to the skin, and

2. For iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days: a dose rate ≤ 1500 mrem/yr to any organ;

INSERT E

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Radioactive Effluent Controls Program surveillance frequency.

INSERT G

Controls shall be included in the procedures to require a periodic independent review be conducted to ensure that excessive hours have not been assigned.

INSERT F

5.0 ADMINISTRATIVE CONTROLS

5.7 High Radiation Area

As provided in paragraph 20.1601(c) of 10 CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10 CFR Part 20:

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation

a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.

b. Access to, and activities in, each such area shall be controlled by means of Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.

c. Individuals qualified in radiation protection procedures and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.

d. Each individual or group entering such an area shall possess:

1. A radiation monitoring device that continuously displays radiation dose rates in the area; or

2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

3. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area, or

(continued)

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5.7 High Radiation Area

5.7.1 High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation (continued)

4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

(i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

(ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with individuals in the area who are covered by such surveillance.

e. Except for individuals qualified in radiation protection procedures, or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them. These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

INSERT F

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5.7 High Radiation Area

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation

a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked or continuously guarded door or gate that prevents unauthorized entry, and, in addition:

1. All such door and gate keys shall be maintained under the administrative control of the shift supervisor, radiation protection manager, or his or her designee.

2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.

b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.

c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are otherwise following plant radiation protection procedures for entry to, exit from, and work in such areas.

d. Each individual or group entering such an area shall possess:

1. A radiation monitoring device that continuously integrates the radiation rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

(continued)

INSERT F

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5.7 High Radiation Area

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation (continued)

2. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area, or

3. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

   (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

   (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area.

4. In those cases where options (2) and (3), above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle, a radiation monitoring device that continuously displays radiation dose rates in the area.

e. Except for individuals qualified in radiation protection procedures, or personnel continuously escorted by such individuals, entry into such areas shall be made only after dose rates in the area have been determined and

(continued)

INSERT F TSTF-258, Rev 3

entry personnel are knowledgeable of them. . These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

(continued)

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5.7 High Radiation Area

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from any Surface Penetrated by the Radiation, but less than 500 rads/hour at 1 Meter from the Radiation Source or from any Surface Penetrated by the Radiation (continued)

f. Such individual areas that are within a larger area where no enclosure exists for the purpose of locking and where no enclosure can reasonably be constructed around the individual area need not be controlled by a locked door or gate, nor continuously guarded, but shall be barricaded, conspicuously posted, and a clearly visible flashing light shall be activated at the area as a warning device.

5.2.2 Unit Staff (continued)

shall be assigned for each control room from which a reactor is operating in MODES 1, 2, 3, or 4.

[Two unit sites with both units shutdown or defueled require a total of three non-licensed operators for the two units.]

b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3, or 4, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room.

b g. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.g f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

c d. A [Health Physics Technician] shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

e d. Administrative procedures shall be developed and implemented to limit the working hours of personnel unit staff who perform safety related functions (e.g., licensed Senior Reactor Operators (SROs), licensed Reactor Operators (ROs), health physicists, auxiliary operators, and key maintenance personnel).

[Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an [8 or 12] hour day, nominal 40 hour week while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:]

(continued)

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5.2.2 Unit Staff (continued)

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;

2. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Insert A

Any deviation from the above guidelines shall be authorized in advance by the [Plant Superintendent] or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures, and with documentation of the basis for granting the deviation.

Insert G

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the [Plant Superintendent] or his designee to ensure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

OR

The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12).

e. f. The [Operations Manager or Assistant Operations Manager] shall hold an SRO license.

An individual

f. g. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

This individual

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5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

Reviewer's Note: Minimum qualifications for members of the unit staff shall be specified by use of an overall qualification statement referencing an ANSI Standard acceptable to the NRC staff or by specifying individual position qualifications. Generally, the first method is preferable; however, the second method is adaptable to those unit staffs requiring special qualification statements because of unique organizational structures.

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of [Regulatory Guide 1.8, Revision 2, 1987, or more recent revisions, or ANSI Standard acceptable to the NRC staff]. (C) The staff not covered by (1) [Regulatory Guide 1.8] (2) shall meet or exceed the minimum qualifications of (2) [Regulations, Regulatory Guides, or ANSI Standards acceptable to NRC staff].

Insert B →

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5.5.4 Radioactive Effluent Controls Program (continued)

be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ~~10 CFR 20, Appendix B, Table 2, Column 2;~~ Insert C

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary conforming to the dose associated with 10 CFR 20, Appendix B, Table 2, Column 1; (from the site; at or; Insert D)

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

(continued)

5.5 Programs and Manuals

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5.5.4 Radioactive Effluent Controls Program (continued)

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

j. Limitations on the annual dose or dose commitment to any member of the public, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190. (beyond the site boundary)

Insert E

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the FSAR, Section [ ], cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with [Regulatory Guide 1.35, Revision 3, 1989].

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Reactor Coolant Pump Flywheel Inspection Program

This program shall provide for the inspection of each reactor coolant pump flywheel per the recommendation of Regulatory position c.4.b of Regulatory Guide 1.14, Revision 1, August 1975.

(continued)

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5.6 Reporting Requirements (continued)

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the pressurizer power operated relief valves or pressurizer safety valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

[Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling System (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heat up, cooldown, low temperature operation, criticality, and hydrostatic

(continued)

Insert F

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5.0 ADMINISTRATIVE CONTROLS

[5.7 High Radiation Area]

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., [Health Physics Technicians]) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the [Radiation Protection Manager] in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels ≥ 1000 mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the Shift Foreman on duty or health physics supervision. Doors shall remain locked except during periods of access by personnel

(continued)

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[5.7 High Radiation Area]

5.7.2 (continued)

under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

5.7.3 For individual high radiation areas with radiation levels of > 1000 mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

5.2 Organization

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5.2.2 Unit Staff (continued)

shall be assigned for each control room from which a reactor is operating in MODES 1, 2, 3, or 4.

[Two unit sites with both units shutdown or defueled require a total of three non-licensed operators for the two units.]

b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3, or 4, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room.

c. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

d. A [Health Physics Technician] shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

e. Administrative procedures shall be developed and implemented to limit the working hours of personnel who perform safety related functions (e.g., licensed Senior Reactor Operators (SROs), licensed Reactor Operators (ROs), health physicists, auxiliary operators, and key maintenance personnel).

[Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an [8 or 12] hour day, nominal 40 hour week while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;]

(continued)

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5.2 Organization

5.2.2 Unit Staff (continued)

2. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Insert A

Any deviation from the above guidelines shall be authorized in advance by the [Plant Superintendent] or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Insert G

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the [Plant Superintendent] or his designee to ensure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

OR

The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12).

e. f. The [Operations Manager or Assistant Operations Manager] shall hold an SRO license.

An individual

f. g. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

This individual

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5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

Reviewer's Note: Minimum qualifications for members of the unit staff shall be specified by use of an overall qualification statement referencing an ANSI Standard acceptable to the NRC staff or by specifying individual position qualifications. Generally, the first method is preferable; however, the second method is adaptable to those unit staffs requiring special qualification statements because of unique organizational structures.

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of [Regulatory Guide 1.8, Revision 2, 1987, or more recent revisions, or ANSI Standard acceptable to the NRC staff]. (L) The staff not covered by (1) Regulatory Guide 1.8 (2) shall meet or exceed the minimum qualifications of (3) Regulations, Regulatory Guides, or ANSI Standards acceptable to NRC staff].

Insert B →

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5.5.4 Radioactive Effluent Controls Program (continued)

be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ~~10 CFR 20, Appendix B, Table 2, Column 2;~~ Insert C

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas beyond the site boundary, conforming to the dose associated with ~~10 CFR 20, Appendix B, Table 2, Column 1,~~ at or Insert D

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

(continued)

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5.5 Programs and Manuals

5.5.4 Radioactive Effluent Controls Program (continued)

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

j. Limitations on the annual dose or dose commitment to any member of the public beyond the site boundary due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

Insert E

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the FSAR, Section [ ], cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with [Regulatory Guide 1.35, Revision 3, 1989].

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Reactor Coolant Pump Flywheel Inspection Program

This program shall provide for the inspection of each reactor coolant pump flywheel per the recommendations of Regulatory. Position c.4.b of Regulatory Guide 1.14, Revision 1, August 1975.

(continued)

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5.6 Reporting Requirements (continued)

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience[, including documentation of all challenges to the pressurizer power operated relief valves or pressurizer safety valves,] shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

[Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heat up, cooldown, low temperature operation, criticality, and hydrostatic

(continued)

Insert F

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[5.7 High Radiation Area]

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., [Health Physics Technicians]) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the [Radiation Protection Manager] in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels ≥ 1000 mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the Shift Foreman on duty or health physics supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in

(continued)

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[5.7 High Radiation Area]

5.7.2 (continued)

the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

5.7.3 For individual high radiation areas with radiation levels of > 1000 mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

5.2 Organization

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5.2.2 Unit Staff (continued)

shall be assigned for each control room from which a reactor is operating in MODES 1, 2, 3, or 4.

[Two unit sites with both units shutdown or defueled require a total of three non-licensed operators for the two units.]

b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3, or 4, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room.

c. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.b for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

d. A [Health Physics Technician] shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

e. Administrative procedures shall be developed and implemented to limit the working hours of personnel who perform safety related functions (e.g., licensed Senior Reactor Operators (SROs), licensed Reactor Operators (ROs), health physicists, auxiliary operators, and key maintenance personnel).

[Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an [8 or 12] hour day, nominal 40 hour week while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;]

(continued)

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5.2 Organization

5.2.2 Unit Staff (continued)

2. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Insert A

Any deviation from the above guidelines shall be authorized in advance by the [Plant Superintendent] or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Insert G

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the [Plant Superintendent] or his designee to ensure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

OR

The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12).

e. The [Operations Manager or Assistant Operations Manager] shall hold an SRO license.

An individual

f. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

g.

This individual

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5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

Reviewer's Note: Minimum qualifications for members of the unit staff shall be specified by use of an overall qualification statement referencing an ANSI Standard acceptable to the NRC staff or by specifying individual position qualifications. Generally, the first method is preferable; however, the second method is adaptable to those unit staffs requiring special qualification statements because of unique organizational structures.

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of [Regulatory Guide 1.8, Revision 2, 1987, or more recent revisions, or ANSI Standard acceptable to the NRC staff]. The staff not covered by [Regulatory Guide 1.8] shall meet or exceed the minimum qualifications of [Regulations, Regulatory Guides, or ANSI Standards acceptable to NRC staff].

C

Insert B

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5.5.4 Radioactive Effluent Controls Program (continued)

achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ~~10 CFR 20, Appendix B, Table 2, Column 2;~~ Insert C

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary conforming to the dose associated with ~~10 CFR 20, Appendix B, Table 2, Column 1;~~ from the site, at or Insert D

(continued)

5.5 Programs and Manuals

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5.5.4 Radioactive Effluent Controls Program (continued)

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

j. Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

Insert E

, beyond the site boundary,

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the FSAR Section [ ] cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with [Regulatory Guide 1.35, Revision 3, 1989].

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Reactor Coolant Pump Flywheel Inspection Program

This program shall provide for the inspection of each reactor coolant pump flywheel per the recommendations of regulatory position c.4.b of Regulatory Guide 1.14, Revision 1, August 1975.

(continued)

5.6 Reporting Requirements

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5.6.2 Annual Radiological Environmental Operating Report (continued)

(ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements [in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979]. [The report shall identify the TLD results that represent collocated dosimeters in relation to the NRC TLD program and the exposure period associated with each result.] In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

---NOTE---
A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the pressurizer

(continued)

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5.6 Reporting Requirements

5.6.4 Monthly Operating Reports (continued)

~~power operated relief valves or pressurizer safety valves,~~] shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

[Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any mid cycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heatup, cooldown, low temperature operation, criticality, and hydrostatic

(continued)

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5.0 ADMINISTRATIVE CONTROLS (Insert F)

[5.7 High Radiation Area]

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., [Health Physics Technicians]) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the [Radiation Protection Manager] in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels ≥ 1000 mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the Shift Foreman on duty or health physics supervision. Doors shall remain locked except during periods of access by personnel

(continued)

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[5.7 High Radiation Area]

5.7.2 (continued)

under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

5.7.3 For individual high radiation areas with radiation levels of > 1000 mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

5.2.2 Unit Staff (continued)

shall be assigned for each control room from which a reactor is operating in MODES 1, 2, or 3.

[Two unit sites with both units shutdown or defueled require a total of three non-licensed operators for the two units.]

b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room.

Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.g for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

A [Health Physics Technician] shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

[e. Administrative procedures shall be developed and implemented to limit the working hours of unit staff personnel who perform safety related functions (e.g., licensed SROs Senior Reactor Operators (SROs), licensed ROs Reactor Operators (ROs), health physicists, auxiliary operators, and key maintenance personnel).

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an [8 or 12] hour day, nominal 40 hour week while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;]

(continued)

5.2 Organization

5.2.2 Unit Staff (continued)

2. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Insert A → the [Plant Superintendent's]

Any deviation from the above guidelines shall be authorized in advance by the [Plant Superintendent] or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Insert G →

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the [Plant Superintendent] or his designee to ensure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

working hour; shall not be

OR

The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12).

e f. The [Operations Manager or Assistant Operations Manager] shall hold an SRO license.

f g. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

unit operations shift crew

An individual

This individual

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5.0 ADMINISTRATIVE CONTROLS

5.3 Unit Staff Qualifications

Reviewer's Note: Minimum qualifications for members of the unit staff shall be specified by use of an overall qualification statement referencing an ANSI Standard acceptable to the NRC staff or by specifying individual position qualifications. Generally, the first method is preferable; however, the second method is adaptable to those unit staffs requiring special qualification statements because of unique organizational structures.

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of [Regulatory Guide 1.8, Revision 2, 1987, or more recent revisions, or ANSI Standard acceptable to the NRC staff]. The staff not covered by [Regulatory Guide 1.8] shall meet or exceed the minimum qualifications of [Regulations, Regulatory Guides, or ANSI Standards acceptable to NRC staff].

Insert B

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5.5 Programs and Manuals

5.5.4 Radioactive Effluent Controls Program (continued)

achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ~~10 CFR 20, Appendix B, Table 2, Column 2~~; Insert C

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary ~~conforming to the dose associated with 10 CFR 20, Appendix B, Table 2, Column 1~~; Insert D

from the site

at or

(continued)

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5.5 Programs and Manuals

5.5.4 Radioactive Effluent Controls Program (continued)

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

j. Limitations on the annual dose or dose commitment to any member of the public beyond the site boundary, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190; and

k. Limitations on venting and purging of the Mark II containment through the Standby Gas Treatment System to maintain releases as low as reasonably achievable (in BWR/4s with Mark II containments).

Insert E

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the FSAR Section [ ], cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with [Regulatory Guide 1.35, Revision 3, 1989].

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

(continued)

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5.6.2 Annual Radiological Environmental Operating Report (continued)

(ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements [in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979]. [The report shall identify the TLD results that represent collocated dosimeters in relation to the NRC TLD program and the exposure period associated with each result.] In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

---NOTE---
A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, ~~including documentation of all challenges to the safety/relief~~

(continued)

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5.6 Reporting Requirements

5.6.4 Monthly Operating Reports (continued)

~~valves,~~ shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced nere.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

[Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heatup, cooldown, low temperature operation, critically, and hydrostatic testing as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

(continued)

Insert f

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[5.7 High Radiation Area]

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., [Health Physics Technicians]) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the [Radiation Protection Manager] in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels ≥ 1000 mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the Shift Foreman on duty or health physics supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in the immediate work

(continued)

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[5.7 High Radiation Area]

5.7.2 (continued)

areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

5.7.3 For individual high radiation areas with radiation levels of > 1000 mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

5.2 Organization

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5.2.2 Unit Staff (continued)

shall be assigned for each control room from which a reactor is operating in MODES 1, 2, or 3.

Two unit sites with both units shutdown or defueled require a total of three non-licensed operators for the two units.

b. At least one licensed Reactor Operator (RO) shall be present in the control room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, or 3, at least one licensed Senior Reactor Operator (SRO) shall be present in the control room.

b → g. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and 5.2.2.a and 5.2.2.f for a period of time not be exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

c → d. A [Health Physics Technician] shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

d → e. Administrative procedures shall be developed and implemented to limit the working hours of unit staff personnel who perform safety related functions (e.g., licensed SROs, licensed ROs, health physicists, auxiliary operators, and key maintenance personnel). Senior Reactor Operators (SROs) Reactor Operators (ROs)

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work an [8 or 12] hour day, nominal 40 hour week, while the unit is operating. However, in the event that unforeseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

(continued)

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5.2 Organization

5.2.2 Unit Staff (continued)

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;

2. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Insert A

the [Plant Superintendent's]

Any deviation from the above guidelines shall be authorized in advance by the [Plant Superintendent] or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation.

Insert G

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the [Plant Superintendent] or his designee to ensure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

working hour

shall not be

OR

The amount of overtime worked by unit staff members performing safety related functions shall be limited and controlled in accordance with the NRC Policy Statement on working hours (Generic Letter 82-12).

e f. The [Operations Manager or Assistant Operations Manager] shall hold an SRO license.

unit operations shift crew

f g. The Shift Technical Advisor (STA) shall provide advisory technical support to the Shift Supervisor (SS) in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. In addition, the STA shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.

An individual

This individual

5.0 ADMINISTRATIVE CONTROLS

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5.3 Unit Staff Qualifications

Reviewer's Note: Minimum qualifications for members of the unit staff shall be specified by use of an overall qualification statement referencing an ANSI Standard acceptable to the NRC staff or by specifying individual position qualifications. Generally, the first method is preferable; however, the second method is adaptable to those unit staffs requiring special qualification statements because of unique organizational structures.

5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of [Regulatory Guide 1.8, Revision 2, 1987, or more recent revisions, or ANSI Standard acceptable to the NRC staff]. The staff not covered by [Regulatory Guide 1.8] shall meet or exceed the minimum qualifications of [Regulations, Regulatory Guides, or ANSI Standards acceptable to NRC staff].

Insert B

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5.5.4 Radioactive Effluent Controls Program (continued)

the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to ~~10 CFR 20, Appendix B, Table 2, Column 2;~~ Insert C

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from each unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

e. Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary conforming to the dose associated with ~~10 CFR 20, Appendix B, Table 2, Column 1;~~ Insert D (from the site; at or)

h. Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each

(continued)

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5.5 Programs and Manuals

5.5.4 Radioactive Effluent Controls Program (continued)

unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

i. Limitations on the annual and quarterly doses to a member of the public from iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half lives > 8 days in gaseous effluents released from each unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

j. Limitations on the annual dose or dose commitment to any member of the public, due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.

, beyond the site boundary,

Insert E

5.5.5 Component Cyclic or Transient Limit

This program provides controls to track the FSAR, Section [ ], cyclic and transient occurrences to ensure that components are maintained within the design limits.

5.5.6 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containments, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. The program shall include baseline measurements prior to initial operations. The Tendon Surveillance Program, inspection frequencies, and acceptance criteria shall be in accordance with [Regulatory Guide 1.35, Revision 3, 1989].

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Tendon Surveillance Program inspection frequencies.

5.5.7 Inservice Testing Program

This program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components including applicable supports. The program shall include the following:

(continued)

5.6 Reporting Requirements

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5.6.2 Annual Radiological Environmental Operating Report (continued)

(ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements [in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979]. [The report shall identify the TLD results that represent collocated dosimeters in relation to the NRC TLD program and the exposure period associated with each result.] In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.3 Radioactive Effluent Release Report

---NOTE---
A single submittal may be made for a multiple unit station. The submittal should combine sections common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

The Radioactive Effluent Release Report covering the operation of the unit shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR 50, Appendix I, Section IV.B.1.

5.6.4 Monthly Operating Reports

Routine reports of operating statistics and shutdown experience, ~~including documentation of~~ all challenges to ~~the safety/relief~~

(continued)

5.6 Reporting Requirements

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5.6.4 Monthly Operating Reports (continued)

~~valves,~~ shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report.

5.6.5 CORE OPERATING LIMITS REPORT (COLR)

a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:

[The individual specifications that address core operating limits must be referenced here.]

b. The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC, specifically those described in the following documents:

[Identify the Topical Report(s) by number, title, date, and NRC staff approval document, or identify the staff Safety Evaluation Report for a plant specific methodology by NRC letter and date.]

c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.

d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

5.6.6 Reactor Coolant System (RCS) PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)

a. RCS pressure and temperature limits for heatup, cooldown, low temperature operation, criticality, and hydrostatic testing as well as heatup and cooldown rates shall be established and documented in the PTLR for the following:

(continued)

Insert f

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5.0 ADMINISTRATIVE CONTROLS

[5.7 High Radiation Area]

5.7.1 Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures (e.g., [Health Physics Technicians]) or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates ≤ 1000 mrem/hr, provided they are otherwise following plant radiation protection procedures for entry into such high radiation areas.

Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device that continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

c. An individual qualified in radiation protection procedures with a radiation dose rate monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the [Radiation Protection Manager] in the RWP.

5.7.2 In addition to the requirements of Specification 5.7.1, areas with radiation levels ≥ 1000 mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the Shift Foreman on duty or health physics supervision. Doors shall remain locked except during periods of access by personnel

(continued)

[5.7 High Radiation Area]

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5.7.2 (continued)

under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

5.7.3 For individual high radiation areas with radiation levels of > 1000 mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.

Proposed Section 5.7 from the April 9, 1997 C. Grimes letter, marked to show differences from TSTF-258

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5.0
ADMINISTRATIVE CONTROLS

5.7
High Radiation Area

As provided in paragraph 20.1601(c) of 10 CFR Part 20, the following controls shall be applied to high radiation areas in place of the controls required by paragraph 20.1601(a) and (b) of 10 CFR Part 20:

5.7.1
High Radiation Areas with Dose Rates Not Exceeding 1.0 rem/hour at 30 Centimeters from the Radiation Source or from Any Surface Penetrated by the Radiation:

a. Each entryway to such an area shall be barricaded and conspicuously posted as a high radiation area. Such barricades may be opened as necessary to permit entry or exit of personnel or equipment.

b. Access to, and activities in, each such area shall be controlled by means of Radiation Work Permit (RWP) or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.

c. Individuals qualified in radiation protection procedures (e.g., health physics technicians) and personnel continuously escorted by such individuals may be exempted from the requirement for an RWP or equivalent while performing their assigned duties provided that they are following plant radiation protection procedures for entry to, exit from, and work in such areas.

otherwise →

d. Each individual or group entering such an area shall possess:

1. A radiation monitoring device that continuously displays radiation dose rates in the area; or

Continued

5.7 High Radiation Area

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5.7.1 (continued)

2. A radiation monitoring device that continuously integrates the radiation dose rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

information

3. A radiation monitoring device that continuously transmits dose rate and cumulative dose to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area, or

4. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

   (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

   (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with and control every individual in the area.

individuals in the area who are covered by such surveillance.

or personnel continuously escorted by such individuals,

e. Except for individuals qualified in radiation protection procedures, entry into such areas shall be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

5.7.2 High Radiation Areas with Dose Rates Greater than 1.0 rem/hour at 30 Centimeters from the Radiation Source or from Any Surface Penetrated by the Radiation, but Less than 500 rads/hour at 1 Meter from the Radiation Source or from Any Surface Penetrated by the Radiation:

a. Each entryway to such an area shall be conspicuously posted as a high radiation area and shall be provided with a locked

Continued

These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.

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5.7 High Radiation Area

5.7.2 (continued) door or gate that prevents unauthorized entry, and, in addition:

1. All such door and gate keys shall be maintained under the administrative control of the shift supervisor, radiation protection manager, or his or her designee.

2. Doors and gates shall remain locked except during periods of personnel or equipment entry or exit.

b. Access to, and activities in, each such area shall be controlled by means of an RWP or equivalent that includes specification of radiation dose rates in the immediate work area(s) and other appropriate radiation protection equipment and measures.

c. Individuals qualified in radiation protection procedures may be exempted from the requirement for an RWP or equivalent while performing radiation surveys in such areas provided that they are following plant radiation protection procedures for entry to, exit from, and work in such areas.

d. Each individual or group entering such an area shall possess:

1. A radiation monitoring device that continuously integrates the radiation rates in the area and alarms when the device's dose alarm setpoint is reached, with an appropriate alarm setpoint, or

2. A radiation monitoring device that continuously transmits dose rate and cumulative dose information to a remote receiver monitored by radiation protection personnel responsible for controlling personnel radiation exposure within the area with the means to communicate with and control every individual in the area, or

Continued

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5.7 High Radiation Area

5.7.2 (continued)

3. A self-reading dosimeter (e.g., pocket ionization chamber or electronic dosimeter) and,

   (i) Be under the surveillance, as specified in the RWP or equivalent, while in the area, of an individual qualified in radiation protection procedures, equipped with a radiation monitoring device that continuously displays radiation dose rates in the area; who is responsible for controlling personnel exposure within the area, or

   (ii) Be under the surveillance as specified in the RWP or equivalent, while in the area, by means of closed circuit television, of personnel qualified in radiation protection procedures, responsible for controlling personnel radiation exposure in the area, and with the means to communicate with ~~and control every individual in the area~~ individuals in the area who are covered by such surveillance, or

<STET MODEL>

4. In those cases where options (2) and (3), above, are impractical or determined to be inconsistent with the "As Low As is Reasonably Achievable" principle, a radiation monitoring device that continuously displays radiation dose rates in the area.

e. Except for individual qualified in radiation protection procedures, entry into such areas ~~shall~~ be made only after dose rates in the area have been determined and entry personnel are knowledgeable of them.

, or personnel continuously escorted by such individuals,

f. Such individual areas that are within a larger area ~~that is controlled as a high radiation area,~~ where no enclosure exists for the purpose of locking and where no enclosure can reasonable be constructed around the individual area need not be controlled by a locked door or gate, but shall be barricaded, ~~and conspicuous,~~ a clearly visible flashing light shall be activated at the area as a warning device.

<NEW Rev 1 wording>

conspicuously posted, and a

nor continously guarded

These continuously escorted personnel will receive a pre-job briefing prior to entry into such areas. This dose rate determination, knowledge, and pre-job briefing does not require documentation prior to initial entry.