

## INDEX

### LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

<u>SECTION</u>		<u>PAGE</u>
3/4.1.3.4	Rod Drop Time.....	3/4 1-22
3/4.1.3.5	Shutdown Rod Insertion Limit.....	3/4 1-23
3/4.1.3.6	Control Rod Insertion Limits.....	3/4 1-23a
 <u>3/4.2 POWER DISTRIBUTION LIMITS</u>		
3/4.2.1	AXIAL FLUX DIFFERENCE.....	3/4 2-1
3/4.2.2	HEAT FLUX HOT CHANNEL FACTOR.....	3/4 2-2
3/4.2.3	NUCLEAR ENTHALPY HOT CHANNEL FACTOR.....	3/4 2-8
3/4.2.4	QUADRANT POWER TILT RATIO.....	3/4 2-10
3/4.2.5	DNB PARAMETERS.....	3/4 2-12
 <u>3/4.3 INSTRUMENTATION</u>		
3/4.3.1	REACTOR TRIP SYSTEM INSTRUMENTATION.....	3/4 3-1
3/4.3.2	ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION.....	3/4 3-14
3/4.3.3	MONITORING INSTRUMENTATION	
3/4.3.3.1	Radiation Monitoring.....	3/4 3-33
3/4.3.3.5	Remote Shutdown Instrumentation.....	3/4 3-44
3/4.3.3.8	Accident Monitoring Instrumentation.....	3/4 3-50

### 3/4.2 POWER DISTRIBUTION LIMITS

#### 3/4.2.1 AXIAL FLUX DIFFERENCE (AFD)

#### LIMITING CONDITION FOR OPERATION

3.2.1 The AFD in % flux difference units shall be maintained within the limits<sup>(1)</sup> specified in the COLR.

APPLICABILITY: MODE 1 with THERMAL POWER  $\geq$  50% RTP<sup>(2)</sup>.

ACTION:

With AFD not within limits, reduce THERMAL POWER to  $<$  50% of RTP within 30 minutes.

#### SURVEILLANCE REQUIREMENTS

4.2.1.1 Verify AFD within limits for each OPERABLE excore channel at least once per 7 days.

---

(1) The AFD shall be considered outside limits when two or more OPERABLE excore channels indicate AFD to be outside limits.

(2) See Special Test Exception 3.10.2

## POWER DISTRIBUTION LIMITS

### 3/4.2.2 HEAT FLUX HOT CHANNEL FACTOR- $F_Q(Z)$

#### LIMITING CONDITION FOR OPERATION

---

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

APPLICABILITY: Mode 1.

#### ACTION:

a. With  $F_Q^C(Z)$  not within limit<sup>(1)</sup>:

1. Reduce THERMAL POWER  $\geq 1\%$  RTP for each  $1\%$   $F_Q^C(Z)$  exceeds the limit within 15 minutes after each  $F_Q^C(Z)$  determination; and
2. Reduce the Power Range Neutron Flux-High Trip Setpoints  $\geq 1\%$  for each  $1\%$   $F_Q^C(Z)$  exceeds the limit within 72 hours after each  $F_Q^C(Z)$  determination; and
3. Reduce the Overpower  $\Delta T$  Trip Setpoints  $\geq 1\%$  for each  $1\%$   $F_Q^C(Z)$  exceeds the limit within 72 hours after each  $F_Q^C(Z)$  determination; and
4. Perform Surveillance Requirements 4.2.2.2 and 4.2.2.3 prior to increasing THERMAL POWER above the limit of Action a.1.
5. Otherwise, be in MODE 2 within the following 6 hours.

b. With  $F_Q^W(Z)$  not within limits<sup>(2)</sup>:

1. Reduce AFD limits  $\geq 1\%$  for each  $1\%$   $F_Q^W(Z)$  exceeds limit within 4 hours; and

---

(1) Action a.4 shall be completed whenever Action a is entered.

(2) Action b.4 shall be completed whenever Action b is entered.

## POWER DISTRIBUTION LIMITS

### LIMITING CONDITION FOR OPERATION (continued)

2. Reduce the Power Range Neutron Flux-High Trip Setpoints  $\geq 1\%$  for each 1% that the maximum allowable power of the AFD limits is reduced within 72 hours; and
3. Reduce the Overpower  $\Delta T$  Trip Setpoints  $\geq 1\%$  for each 1% that the maximum allowable power of the AFD limits is reduced within 72 hours; and
4. Perform Surveillance Requirements 4.2.2.2 and 4.2.2.3 prior to increasing THERMAL POWER above the maximum allowable power of the AFD limits.
5. Otherwise, be in MODE 2 within the following 6 hours.

### SURVEILLANCE REQUIREMENTS

- 4.2.2.1 The provisions of Specification 4.0.4 are not applicable.
- 4.2.2.2  $F_Q^C(Z)$  shall be verified to be within the limit according to the following schedule<sup>(3)</sup>:
  - a. Once after each refueling prior to THERMAL POWER exceeding 75% RTP; and
  - b. Once within 12 hours after achieving equilibrium conditions after exceeding, by  $\geq 10\%$  RTP, the THERMAL POWER at which  $F_Q^C(Z)$  was last verified; and
  - c. At least once per 31 Effective Full Power Days thereafter.

---

(3) During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.

## POWER DISTRIBUTION LIMITS

### SURVEILLANCE REQUIREMENTS (continued)

- 4.2.2.3  $F_Q^W(Z)$  shall be verified to be within the limit<sup>(4)</sup> according to the following schedule<sup>(3)</sup>:
- Once after each refueling prior to THERMAL POWER exceeding 75% RTP; and
  - Once within 12 hours after achieving equilibrium conditions after exceeding, by  $\geq 10\%$  RTP, the THERMAL POWER at which  $F_Q^W(Z)$  was last verified; and
  - At least once per 31 Effective Full Power Days, thereafter.
- 
- (3) During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.
- (4) If measurements indicate that the maximum over  $z$  of  $[F_Q^C(Z)/K(Z)]$  has increased since the previous evaluation  $F_Q^C(Z)$ :
- Increase  $F_Q^W(Z)$  by the greater of a factor of 1.02 or by an appropriate factor specified in the COLR and reverify  $F_Q^W(Z)$  is within limits, or
  - Repeat Surveillance Requirement 4.2.2.3 once per 7 Effective Full Power Days until Note (4)a above is met or two successive flux maps indicate that the maximum over  $z$  of  $[F_Q^C(Z)/K(Z)]$  has not increased.

## POWER DISTRIBUTION LIMITS

### 3/4.2.3 NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR - $F_{\Delta H}^N$

#### LIMITING CONDITION FOR OPERATION

---

3.2.3  $F_{\Delta H}^N$  shall be limited by the following relationship:

$$F_{\Delta H}^N \leq CF_{\Delta H} [1 + PF_{\Delta H} (1-P)]$$

where:  $CF_{\Delta H}$  =  $F_{\Delta H}^N$  limit at RATED THERMAL POWER provided in the CORE OPERATING LIMITS REPORT,

$PF_{\Delta H}$  = The Power Factor multiplier for  $F_{\Delta H}^N$  provided in the CORE OPERATING LIMITS REPORT, and

$$P = \frac{\text{THERMAL POWER}}{\text{RATED THERMAL POWER}}$$

APPLICABILITY: MODE 1.

#### ACTION:

With  $F_{\Delta H}^N$  exceeding its limits:

- a. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to  $\leq 55\%$  of RATED THERMAL POWER within the next 4 hours.
- b. Demonstrate thru in-core mapping that  $F_{\Delta H}^N$  is within its limit within 24 hours after exceeding the limit or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next 2 hours, and
- c. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER, subsequent POWER OPERATION may proceed provided that  $F_{\Delta H}^N$  is demonstrated through in-core mapping to be within its limit at a nominal 50% of RATED THERMAL POWER prior to exceeding this THERMAL power, at a nominal 75% of RATED THERMAL POWER prior to exceeding this THERMAL power and within 24 hours after attaining 95% or greater RATED THERMAL POWER.

## POWER DISTRIBUTION LIMITS

### 3/4.2.4 QUADRANT POWER TILT RATIO (QPTR)

#### LIMITING CONDITION FOR OPERATION

---

3.2.4 The QUADRANT POWER TILT RATIO shall be less than or equal to 1.02.

APPLICABILITY: MODE 1 greater than 50 percent of RATED THERMAL POWER.<sup>(1)</sup>

ACTION: With the QPTR not within the limit:

- a. Within 2 hours, reduce THERMAL POWER greater than or equal to 3 percent from RATED THERMAL POWER (RTP) for each 1 percent of QPTR greater than 1.00, and
- b. Within 12 hours and once per 12 hours thereafter, perform Surveillance Requirement 4.2.4 and reduce THERMAL POWER greater than or equal to 3 percent from RTP for each 1 percent of QPTR greater than 1.00, and
- c. Within 24 hours and once per 7 days thereafter, perform Surveillance Requirements 4.2.2.2, 4.2.2.3, and 4.2.3.1, and
- d. Prior to increasing THERMAL POWER above the limit of ACTION a or b above, re-evaluate the safety analyses and confirm the results remain valid for the duration of operation under this condition, and
- e. After ACTION d above is completed and prior to increasing THERMAL POWER above the limit of ACTION a or b above, normalize the excore detectors to show a QPTR less than or equal to 1.02, and
- f. After ACTION e above is completed and within 24 hours after reaching RTP or within 48 hours after increasing THERMAL POWER above the limit of ACTION a or b above, perform Surveillance Requirements 4.2.2.2, 4.2.2.3, and 4.2.3.1.
- g. Otherwise, reduce THERMAL POWER to less than or equal to 50 percent RTP within 4 hours.

---

(1) See Special Test Exception 3.10.2.

TABLE 4.3-1 (Continued)

NOTATION

- (1) - If not performed in previous 31 days.
- (2) - Heat balance only, above 15 percent of RATED THERMAL POWER.
- (3) - At least once every 31 Effective Full Power Days (EFPD) compare incore to excore axial imbalance above 50 percent of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.
- (4) - (Not Used)
- (5) - Each train tested every other month.
- (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Below P-10.
- (8) - Below P-6, not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 12 hours after entry into MODE 3.
- (9) - (Not Used)
- (10) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
- (11) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
- (12) - Local manual shunt trip prior to placing breaker in service.
- (13) - Automatic undervoltage trip.
- (14) - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
- (15) - Surveillance Requirements need not be performed on alternate detectors until connected and required for OPERABILITY.

6.9.3 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

----- NOTE -----  
A single submittal may be made for a multi-unit station. The submittal should combine those sections that are 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 Annual Radioactive Effluent Release Report covering the operation of the unit during the previous year shall be submitted prior to May 1 of each year 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 (PCP) and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I Section IV.B.1.

6.9.4 DELETED

6.9.5 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:
  - 2.1.1 Reactor Core Safety Limits
  - 3.1.3.5 Shutdown Rod Insertion Limits
  - 3.1.3.6 Control Rod Insertion Limits
  - 3.2.1 Axial Flux Difference-Relaxed Axial Offset Control
  - 3.2.2 Heat Flux Hot Channel Factor- $F_Q(Z)$
  - 3.2.3 Nuclear Enthalpy Rise Hot Channel Factor- $F_{\Delta H}^N$
  - 3.2.5 DNB Parameters
  - 3.3.1.1 Reactor Trip System Instrumentation -  
Overtemperature and Overpower  $\Delta T$  Setpoint  
Parameter Values

CORE OPERATING LIMITS REPORT (Continued)

- 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:

WCAP-9272-P-A, "WESTINGHOUSE RELOAD SAFETY EVALUATION METHODOLOGY," July 1985 (Westinghouse Proprietary).

WCAP-8745-P-A, Design Bases for the Thermal Overtemperature  $\Delta T$  and Thermal Overpower  $\Delta T$  trip functions, September 1986.

WCAP-12945-P-A, Volume 1 (Revision 2) and Volumes 2 through 5 (Revision 1), "Code Qualification Document for Best Estimate LOCA Analysis," March 1988 (Westinghouse Proprietary).

WCAP-10216-P-A, Revision 1A, "Relaxation of Constant Axial Offset Control- $F_0$  Surveillance Technical Specification," February 1994.

WCAP-14565-P-A, "VIPRE-01 Modeling and Qualification for Pressurized Water Reactor Non-LOCA Thermal-Hydraulic Safety Analysis," October 1999.

WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," April 1995 (Westinghouse Proprietary).

WCAP-15025-P-A, "Modified WRB-2 Correlation, WRB-2M, for Predicting Critical Heat Flux in 17x17 Rod Bundles with Modified LPD Mixing Vane Grids," April 1999.

As described in reference documents listed above, when an initial assumed power level of 102% of rated thermal power is specified in a previously approved method, 100.6% of rated thermal power may be used when input for reactor thermal power measurement of feedwater flow is by the leading edge flow meter (LEFM).

Caldon, Inc. Engineering Report-80P, "Improving Thermal Power Accuracy and Plant Safety While Increasing Operating Power Level Using the LEFM<sup>TM</sup> System," Revision 0, March 1997.

### 3/4.2 POWER DISTRIBUTION LIMITS

#### 3/4.2.1 AXIAL FLUX DIFFERENCE (AFD)

#### LIMITING CONDITION FOR OPERATION

3.2.1 The AFD in % flux difference units shall be maintained within the limits<sup>(1)</sup> specified in the COLR.

APPLICABILITY: MODE 1 with THERMAL POWER  $\geq$  50% RTP<sup>(2)</sup>.

#### ACTION:

With AFD not within limits, reduce THERMAL POWER to  $<$  50% of RTP within 30 minutes.

#### SURVEILLANCE REQUIREMENTS

4.2.1.1 Verify AFD within limits for each OPERABLE excore channel at least once per 7 days.

(1) The AFD shall be considered outside limits when two or more OPERABLE excore channels indicate AFD to be outside limits.

(2) See Special Test Exception 3.10.2.

## POWER DISTRIBUTION LIMITS

### HEAT FLUX HOT CHANNEL FACTOR- $F_Q(Z)$

#### LIMITING CONDITION FOR OPERATION

---

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

APPLICABILITY: MODE 1

ACTION:

a. With  $F_Q^C(Z)$  not within limit<sup>(1)</sup>:

1. Reduce THERMAL POWER  $\geq 1\%$  RTP for each  $1\%$   $F_Q^C(Z)$  exceeds the limit within 15 minutes after each  $F_Q^C(Z)$  determination; and
2. Reduce the Power Range Neutron Flux-High Trip Setpoints  $\geq 1\%$  for each  $1\%$   $F_Q^C(Z)$  exceeds the limit within 72 hours after each  $F_Q^C(Z)$  determination; and
3. Reduce the Overpower  $\Delta T$  Trip Setpoints  $\geq 1\%$  for each  $1\%$   $F_Q^C(Z)$  exceeds the limit within 72 hours after each  $F_Q^C(Z)$  determination; and
4. Perform Surveillance Requirements 4.2.2.2 and 4.2.2.3 prior to increasing THERMAL POWER above the limit of Action a.1.
5. Otherwise, be in MODE 2 within the following 6 hours.

b. With  $F_Q^W(Z)$  not within limits<sup>(2)</sup>:

1. Reduce AFD limits  $\geq 1\%$  for each  $1\%$   $F_Q^W(Z)$  exceeds limit within 4 hours; and

---

(1) Action a.4 shall be completed whenever Action a is entered.

(2) Action b.4 shall be completed whenever Action b is entered.

## POWER DISTRIBUTION LIMITS

### LIMITING CONDITION FOR OPERATION (Continued)

2. Reduce the Power Range Neutron Flux-High Trip Setpoints  $\geq 1\%$  for each 1% that the maximum allowable power of the AFD limits is reduced within 72 hours; and
3. Reduce the Overpower  $\Delta T$  Trip Setpoints  $\geq 1\%$  for each 1% that the maximum allowable power of the AFD limits is reduced within 72 hours; and
4. Perform Surveillance Requirements 4.2.2.2 and 4.2.2.3 prior to increasing THERMAL POWER above the maximum allowable power of the AFD limits.
5. Otherwise, be in MODE 2 within the following 6 hours.

### SURVEILLANCE REQUIREMENTS

- 4.2.2.1 The provisions of Specification 4.0.4 are not applicable.
- 4.2.2.2  $F_Q^C(Z)$  shall be verified to be within the limit according to the following schedule<sup>(3)</sup>:
  - a. Once after each refueling prior to THERMAL POWER exceeding 75% RTP; and
  - b. Once within 12 hours after achieving equilibrium conditions after exceeding, by  $\geq 10\%$  RTP, the THERMAL POWER at which  $F_Q^C(Z)$  was last verified; and
  - c. At least once per 31 Effective Full Power Days thereafter.

---

(3) During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.

## POWER DISTRIBUTION LIMITS

### SURVEILLANCE REQUIREMENTS (Continued)

- 4.2.2.3  $F_Q^W(Z)$  shall be verified to be within the limit<sup>(4)</sup> according to the following schedule<sup>(3)</sup>:
- Once after each refueling prior to THERMAL POWER exceeding 75% RTP; and
  - Once within 12 hours after achieving equilibrium conditions after exceeding, by  $\geq 10\%$  RTP, the THERMAL POWER at which  $F_Q^W(Z)$  was last verified; and
  - At least once per 31 Effective Full Power Days, thereafter.
- 
- (3) During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.
- (4) If measurements indicate that the maximum over  $z$  of  $[F_Q^C(Z)/K(Z)]$  has increased since the previous evaluation  $F_Q^C(Z)$ :
- Increase  $F_Q^W(Z)$  by the greater of a factor of 1.02 or by an appropriate factor specified in the COLR and reverify  $F_Q^W(Z)$  is within limits, or
  - Repeat Surveillance Requirement 4.2.2.3 once per 7 Effective Full Power Days until Note (4)a above is met or two successive flux maps indicate that the maximum over  $z$  of  $[F_Q^C(Z)/K(Z)]$  has not increased.

## POWER DISTRIBUTION LIMITS

### NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR - $F_{\Delta H}^N$

#### LIMITING CONDITION FOR OPERATION

---

3.2.3  $F_{\Delta H}^N$  shall be limited by the following relationship:

$$F_{\Delta H}^N \leq CF_{\Delta H} [1 + PF_{\Delta H} (1-P)]$$

where:  $CF_{\Delta H}$  = The  $F_{\Delta H}^N$  limit at RATED THERMAL POWER provided in the CORE OPERATING LIMITS REPORT,

$PF_{\Delta H}$  = The Power Factor multiplier for  $F_{\Delta H}^N$  provided in the CORE OPERATING LIMITS REPORT, and

$$P = \frac{\text{THERMAL POWER}}{\text{RATED THERMAL POWER}}$$

APPLICABILITY: MODE 1

#### ACTION:

With  $F_{\Delta H}^N$  exceeding its limit:

- a. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to  $\leq 55\%$  of RATED THERMAL POWER within the next 4 hours.
- b. Demonstrate through in-core mapping that  $F_{\Delta H}^N$  is within its limit within 24 hours after exceeding the limit or reduce THERMAL POWER to less than 5 percent of RATED THERMAL POWER within the next 2 hours, and
- c. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER, subsequent POWER OPERATION may proceed provided that  $F_{\Delta H}^N$  is demonstrated through in-core mapping to be within its limit at a nominal 50 percent of RATED THERMAL POWER prior to exceeding this THERMAL power, at a nominal 75 percent of RATED THERMAL POWER prior to exceeding this THERMAL power and within 24 hours after attaining 95 percent or greater RATED THERMAL POWER.

## POWER DISTRIBUTION LIMITS

### QUADRANT POWER TILT RATIO (QPTR)

#### LIMITING CONDITION FOR OPERATION

---

3.2.4 The QUADRANT POWER TILT RATIO shall be less than or equal to 1.02.

APPLICABILITY: MODE 1, greater than 50 percent of RATED THERMAL POWER. <sup>(1)</sup>

ACTION: With the QPTR not within the limit:

- a. Within 2 hours, reduce THERMAL POWER greater than or equal to 3 percent from RATED THERMAL POWER (RTP) for each 1 percent of QPTR greater than 1.00, and
- b. Within 12 hours and once per 12 hours thereafter, perform Surveillance Requirement 4.2.4 and reduce THERMAL POWER greater than or equal to 3 percent from RTP for each 1 percent of QPTR greater than 1.00, and
- c. Within 24 hours and once per 7 days thereafter, perform Surveillance Requirements 4.2.2.2, 4.2.2.3, and 4.2.3.1, and
- d. Prior to increasing THERMAL POWER above the limit of ACTION a or b above, re-evaluate the safety analyses and confirm the results remain valid for the duration of operation under this condition, and
- e. After ACTION d above is completed and prior to increasing THERMAL POWER above the limit of ACTION a or b above, normalize the excore detectors to show a QPTR less than or equal to 1.02, and
- f. After ACTION e above is completed and within 24 hours after reaching RTP or within 48 hours after increasing THERMAL POWER above the limit of ACTION a or b above, perform Surveillance Requirements 4.2.2.2, 4.2.2.3, and 4.2.3.1.
- g. Otherwise, reduce THERMAL POWER to less than or equal to 50 percent RTP within 4 hours.

---

(1) See Special Test Exception 3.10.2.

TABLE 4.3-1 (Continued)

TABLE NOTATION

- (1) - If not performed in previous 31 days.
- (2) - Heat balance only, above 15 percent of RATED THERMAL POWER.
- (3) - At least once every 31 Effective Full Power Days (EFPD) compare incore to excore axial imbalance above 50 percent of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.
- (4) - (Not Used).
- (5) - Each train tested every other month on a STAGGERED TEST BASIS.
- (6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.
- (7) - Below P-10.
- (8) - Below P-6, not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 12 hours after entry into MODE 3.
- (9) - (Not Used)
- (10) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).
- (11) - The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.
- (12) - Local manual shunt trip prior to placing breaker in service.
- (13) - Automatic undervoltage trip.
- (14) - With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.
- (15) - Surveillance Requirements need not be performed on alternate detectors until connected and required for OPERABILITY.

## ADMINISTRATIVE CONTROLS

### REPORTING REQUIREMENTS (Continued)

#### 6.9.4 DELETED

#### 6.9.5 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:

2.1.1 Reactor Core Safety Limits

3.1.3.5 Shutdown Rod Insertion Limits

3.1.3.6 Control Rod Insertion Limits

3.2.1 Axial Flux Difference-Relaxed Axial Offset Control

3.2.2 Heat Flux Hot Channel Factor- $F_Q(Z)$

3.2.3 Nuclear Enthalpy Rise Hot Channel Factor- $F_{\Delta H}^N$

3.2.5 DNB Parameter

3.3.1.1 Reactor Trip System Instrumentation -  
Overtemperature and Overpower  $\Delta T$  setpoint  
parameter values

- 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:

WCAP-9272-P-A, "WESTINGHOUSE RELOAD SAFETY EVALUATION METHODOLOGY," July 1985 (Westinghouse Proprietary).

## ADMINISTRATIVE CONTROLS

### REPORTING REQUIREMENTS (Continued)

WCAP-8745-P-A, "Design Bases for the Thermal Overtemperature  $\Delta T$  and Thermal Overpower  $\Delta T$  Trip Functions," September 1986.

WCAP-12945-P-A, Volume 1 (Revision 2) and Volumes 2 through 5 (Revision 1), "Code Qualification Document for Best Estimate LOCA Analysis," March 1998 (Westinghouse Proprietary).

WCAP-10216-P-A, Revision 1A, "Relaxation of Constant Axial Offset Control- $F_0$  Surveillance Technical Specification," February 1994.

WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," April 1995 (Westinghouse Proprietary).

As described in reference documents listed above, when an initial assumed power level of 102% of rated thermal power is specified in a previously approved method, 100.6% of rated thermal power may be used when input for reactor thermal power measurement of feedwater flow is by the leading edge flow meter (LEFM).

Caldon, Inc. Engineering Report-80P, "Improving Thermal Power Accuracy and Plant Safety While Increasing Operating Power Level Using the LEFMV<sup>TM</sup> System," Revision 0, March 1997.

Caldon, Inc. Engineering Report-160P, "Supplement to Topical Report ER-80P: Basis for a Power Uprate With the LEFMV<sup>TM</sup> System," Revision 0, May 2000.