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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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## DEFINITIONS

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### RATED THERMAL POWER

1.24 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3390 MWt.

### REACTOR TRIP SYSTEM RESPONSE TIME

1.25 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until electrical power is interrupted to the CEA drive mechanism. The response time may be measured by any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

### REPORTABLE EVENT

1.26 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

### SHIELD BUILDING INTEGRITY

1.27 SHIELD BUILDING INTEGRITY shall exist when:

- a. Each door in each access opening is closed except when the access opening is being used for normal transit entry and exit, then at least one door shall be closed,
- b. The shield building filtration system is in compliance with the requirements of Specification 3.6.6.1, and
- c. The sealing mechanism associated with each penetration (e.g., welds, bellows, or O-rings) is OPERABLE.

### SHUTDOWN MARGIN

1.28 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all control element assemblies are fully inserted except for the single assembly of highest reactivity worth which is assumed to be fully withdrawn.

## 3/4.1 REACTIVITY CONTROL SYSTEMS

### 3/4.1.1 BORATION CONTROL

#### SHUTDOWN MARGIN - ANY CEA WITHDRAWN

#### LIMITING CONDITION FOR OPERATION

---

3.1.1.1 The SHUTDOWN MARGIN shall be greater than or equal to that specified in the COLR.

APPLICABILITY: MODES 1, 2\*, 3, 4, and 5 with any CEA fully or partially withdrawn.

ACTION:

With the SHUTDOWN MARGIN less than that specified in the COLR, immediately initiate boration to restore SHUTDOWN MARGIN to within limit.

#### SURVEILLANCE REQUIREMENTS

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4.1.1.1.1 With any CEA fully or partially withdrawn, the SHUTDOWN MARGIN shall be determined to be greater than or equal to that specified in the COLR:

- a. Within 1 hour after detection of an inoperable CEA(s) and at least once per 12 hours thereafter while the CEA(s) is inoperable. If the inoperable CEA is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable CEA(s).
- b. When in MODE 1 or MODE 2 with  $K_{eff}$  greater than or equal to 1.0, at least once per 12 hours by verifying that CEA group withdrawal is within the Transient Insertion Limits of Specification 3.1.3.6.
- c. When in MODE 2 with  $K_{eff}$  less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical CEA position is within the limits of Specification 3.1.3.6.

\* See Special Test Exception 3.10.1.

## REACTIVITY CONTROL SYSTEMS

### SHUTDOWN MARGIN - ALL CEAS FULLY INSERTED

#### LIMITING CONDITION FOR OPERATION

---

3.1.1.2 The SHUTDOWN MARGIN shall be greater than or equal to that specified in the COLR.

APPLICABILITY: MODES 3, 4 and 5 with all CEAs fully inserted.

ACTION:

With the SHUTDOWN MARGIN less than that specified in the COLR, immediately initiate boration to restore SHUTDOWN MARGIN to within limit.

#### SURVEILLANCE REQUIREMENTS

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4.1.1.2 With all CEAs fully inserted, the SHUTDOWN MARGIN shall be determined to be greater than or equal to that specified in the COLR, at least once per 24 hours by consideration of the following factors:

1. Reactor Coolant System boron concentration,
2. CEA position,
3. Reactor Coolant System average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration, and
6. Samarium concentration.

## REACTIVITY CONTROL SYSTEMS

### 3/4.1.3 MOVABLE CONTROL ASSEMBLIES

#### CEA POSITION

#### LIMITING CONDITION FOR OPERATION

---

3.1.3.1 All CEAs shall be OPERABLE with each CEA of a given group positioned within 7 inches (indicated position) of all other CEAs in its group.

APPLICABILITY: MODES 1\* and 2\*.

ACTION:

- a. With one or more CEAs inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in at least HOT STANDBY within 6 hours.
- b. With more than one CEA trippable but misaligned from any other CEA in its group by more than 19 inches (indicated position), be in at least HOT STANDBY within 6 hours.
- c. With one CEA trippable but misaligned from any other CEA in its group by more than 19 inches, operation in MODES 1 and 2 may continue, provided that core power is reduced in accordance with the limits specified in the COLR and within 1 hour the misaligned CEA is either:
  1. Restored to OPERABLE status within its above specified alignment requirements, or
  2. Declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. After declaring the CEA inoperable, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6 provided:
    - a) Within 1 hour the remainder of the CEAs in the group with the inoperable CEA shall be aligned to within 7 inches of the inoperable CEA while maintaining the allowable CEA sequence and insertion limits specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation.
    - b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours.

Otherwise, be in at least HOT STANDBY within 6 hours.

\*See Special Test Exceptions 3.10.2 and 3.10.4.

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

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ACTION: (Continued)

- d. With one or more CEAs trippable but misaligned from any other CEAs in its group by more than 7 inches but less than or equal to 19 inches, operation in MODES 1 and 2 may continue, provided that core power is reduced in accordance with the limits specified in the COLR and within 1 hour the misaligned CEA(s) is either:
  - 1. Restored to OPERABLE status within its above specified alignment requirements, or
  - 2. Declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. After declaring the CEA inoperable, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6 provided:
    - a) Within 1 hour the remainder of the CEAs in the group with the inoperable CEA shall be aligned to within 7 inches of the inoperable CEA while maintaining the allowable CEA sequence and insertion limits specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation.
    - b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours.

Otherwise, be in at least HOT STANDBY within the next 6 hours.
- e. With one CEA trippable but inoperable due to causes other than addressed by ACTION a., above, and inserted beyond the Long Term Steady State Insertion Limits but within its above specified alignment requirements, operation in MODES 1 and 2 may continue pursuant to the requirements of Specification 3.1.3.6.
- f. With one CEA trippable but inoperable due to causes other than addressed by ACTION a., above, but within its above specified alignment requirements and either greater than or equal to 145 inches withdrawn or within the Long Term Steady State Insertion Limits if in CEA group 6 or group P, operation in MODES 1 and 2 may continue.
- g. DELETED
- h. With more than one CEA trippable but inoperable due to causes other than addressed by ACTION a., above, restore the inoperable CEAs to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

## REACTIVITY CONTROL SYSTEMS

### SURVEILLANCE REQUIREMENTS

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4.1.3.1.1 The position of each CEA shall be determined to be within 7 inches (indicated position) of all other CEAs in its group at least once per 12 hours except during time intervals when one CEAC is inoperable or when both CEACs are inoperable, then verify the individual CEA positions at least once per 4 hours. |

4.1.3.1.2 Each CEA not fully inserted in the core shall be determined to be OPERABLE by movement of at least 5 inches in any one direction at least once per 92 days. |

## REACTIVITY CONTROL SYSTEMS

### POSITION INDICATOR CHANNELS - SHUTDOWN

#### LIMITING CONDITION FOR OPERATION

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3.1.3.3 At least one CEA Reed Switch Position Transmitter indicator channel shall be OPERABLE for each CEA not fully inserted.

APPLICABILITY: MODES 3\*, 4\*, and 5\*.

ACTION:

With less than the above required position indicator channel(s) OPERABLE, immediately open the reactor trip breakers.

#### SURVEILLANCE REQUIREMENTS

---

4.1.3.3 Each of the above required CEA Reed Switch Position Transmitter indicator channel(s) shall be determined to be OPERABLE by performance of a CHANNEL FUNCTIONAL TEST at least once per 18 months. The provisions of Specification 4.0.4 are not applicable for performance of this surveillance testing.

\*With the reactor trip breakers in the closed position.

## REACTIVITY CONTROL SYSTEMS

### CEA DROP TIME

#### LIMITING CONDITION FOR OPERATION

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3.1.3.4 The arithmetic average of the CEA drop times of all CEAs from a fully withdrawn position, shall be less than or equal to 3.0 seconds; and the individual CEA drop time, from a fully withdrawn position, shall be less than or equal to 3.2 seconds from when the electrical power is interrupted to the CEA drive mechanism until the CEA reaches the 90% insertion position with:

- a. Tavg greater than or equal to 520°F, and
- b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 and 2.

#### ACTION:

- a. With either the average CEA drop time or any individual CEA drop time determined to exceed the above limits, restore the CEA drop time to within the above limits before proceeding to MODE 1 or 2.
- b. With the CEA drop times within limits but determined at less than full reactor coolant flow, operation may proceed provided THERMAL POWER is restricted to less than or equal to the maximum THERMAL POWER level allowable for the reactor coolant pump combination operating at the time of CEA drop time determination.

#### SURVEILLANCE REQUIREMENTS

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4.1.3.4 The CEA drop time shall be demonstrated through measurement prior to reactor criticality:

- a. For all CEAs following each removal and reinstallation of the reactor vessel head,
- b. For specifically affected individual CEAs following any maintenance on or modification to the CEA drive system which could affect the drop time of those specific CEAs, and
- c. At each refueling outage.

## REACTIVITY CONTROL SYSTEMS

### SHUTDOWN CEA INSERTION LIMIT

#### LIMITING CONDITION FOR OPERATION

---

3.1.3.5 All shutdown CEAs shall be withdrawn to greater than or equal to 145 inches.

APPLICABILITY: MODES 1 and 2\*#\*\*.

ACTION:

With a maximum of one shutdown CEA withdrawn to less than 145 inches withdrawn, within 1 hour either:

- a. Withdraw the CEA to greater than or equal to 145 inches, or
- b. Declare the CEA inoperable and determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour and be in at least HOT STANDBY within 6 hours.

#### SURVEILLANCE REQUIREMENTS

---

4.1.3.5 Each shutdown CEA shall be determined to be withdrawn to greater than or equal to 145 inches withdrawn:

- a. Within 15 minutes prior to withdrawal of any CEAs in regulating groups or group P during an approach to reactor criticality, and
- b. At least once per 12 hours thereafter.

\*See Special Test Exception 3.10.2.

#With Keff greater than or equal to 1.0.

\*\*Except for surveillance testing pursuant to Specification 4.1.3.1.2.

## REACTIVITY CONTROL SYSTEMS

### REGULATING AND GROUP P CEA INSERTION LIMITS

#### LIMITING CONDITION FOR OPERATION

---

3.1.3.6 The regulating CEA groups and group P CEAs shall be limited to the withdrawal sequence and to the insertion limits\* specified in the COLR\*\* with CEA insertion between the Long Term Steady State Insertion Limits and the Transient Insertion Limits restricted to:

- a. Less than or equal to 4 hours per 24 hour interval,
- b. Less than or equal to 5 Effective Full Power Days per 30 Effective Full Power Day interval, and
- c. Less than or equal to 14 Effective Full Power Days per calendar year.

APPLICABILITY: MODES 1\*\*\* and 2\*\*\* #.

ACTION:

- a. With the regulating CEA groups or group P CEAs inserted beyond the Transient Insertion Limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, or Reactor Power Cutback, within 2 hours either:
  1. Restore the regulating CEA groups or group P CEAs to within the limits, or
  2. Reduce THERMAL POWER to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the CEA group position using the COLR.
- b. With the regulating CEA groups or group P CEAs inserted between the Long Term Steady State Insertion Limits and the Transient Insertion Limits for intervals greater than 4 hours per 24-hour interval, operation may proceed provided either:
  1. The Short Term Steady State Insertion Limits specified in the COLR are not exceeded, or
  2. Any subsequent increase in THERMAL POWER is restricted to less than or equal to 5% of RATED THERMAL POWER per hour.

---

\*Following a reactor power cutback in which (1) Regulating Groups 5 and/or 6 are dropped or (2) Regulating Groups 5 and/or 6 are dropped and the remaining Regulating Groups (Groups 1, 2, 3, and 4) are sequentially inserted, the Transient Insertion Limit specified in the COLR can be exceeded for up to 2 hours.

\*\*CEAs are fully withdrawn in accordance with the Transient Insertion Limit specified in the COLR when withdrawn to at least 145 inches.

\*\*\*See Special Test Exceptions 3.10.2 and 3.10.4.

#With  $K_{eff}$  greater than or equal to 1.0.

## REACTIVITY CONTROL SYSTEMS

### LIMITING CONDITION FOR OPERATION (Continued)

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#### ACTION: (Continued)

- c. With the regulating CEA groups or group P CEAs inserted between the Long Term Steady State Insertion Limits and the Transient Insertion Limits for intervals greater than 5 EFPD per 30 EFPD interval or greater than 14 EFPD per calendar year, either:
  - 1. Restore the regulating CEA groups or group P CEAs to within the Long Term Steady State Insertion Limits within two hours, or
  - 2. Be in at least HOT STANDBY within 6 hours.

### SURVEILLANCE REQUIREMENTS

---

4.1.3.6 The position of each regulating CEA group and CEA group P shall be determined to be within the Transient Insertion Limits at least once per 12 hours except during time intervals when the PDIL Auctioneer Alarm Circuit is inoperable, then verify the individual CEA positions at least once per 4 hours. The accumulated times during which the regulating CEA groups or CEA group P are inserted beyond the Long Term Steady State Insertion Limits but within the Transient Insertion Limits shall be determined at least once per 24 hours.

THIS PAGE IS NOT USED.

## POWER DISTRIBUTION LIMITS

### 3/4.2.3 AZIMUTHAL POWER TILT - $T_q$

#### LIMITING CONDITION FOR OPERATION

---

3.2.3 The AZIMUTHAL POWER TILT ( $T_q$ ) shall be less than or equal to the FOLLOWING LIMITS:

- a. AZIMUTHAL POWER TILT Allowance used in the Core Protection Calculators (CPCs) and
- b. the limit specified in the COLR.

APPLICABILITY: MODE 1 above 20% of RATED THERMAL POWER.\*

#### ACTION:

- a. With the measured AZIMUTHAL POWER TILT determined to exceed the AZIMUTHAL POWER TILT Allowance used in the CPCs within 2 hours either correct the power tilt or adjust the AZIMUTHAL POWER TILT Allowance used in the CPCs to greater than or equal to the measured value.
- b. With the measured AZIMUTHAL POWER TILT determined to exceed the limit specified in the COLR:
  1. Due to misalignment of a CEA, within 30 minutes verify that the Core Operating Limit Supervisory System (COLSS) (when COLSS is being used to monitor the core power distribution per Specifications 4.2.1.2 and 4.2.4.2) is detecting the CEA misalignment.
  2. Verify that the AZIMUTHAL POWER TILT is within its limit within 2 hours (24 hours for a CEA misalignment event) or reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within the next 2 hours and reduce the Linear Power Level - High trip setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.
  3. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the AZIMUTHAL POWER TILT is verified within its limit at least once per hour for 12 hours or until verified acceptable at 95% or greater RATED THERMAL POWER.

\*See Special Test Exception 3.10.2.

TABLE 3.3-1 (Continued)

ACTION STATEMENTS

2. Within 4 hours:
  - a) All CEA groups are withdrawn to and subsequently maintained at the "Full Out" position, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2 or for control when CEA group 6 may be inserted no further than 127.5 inches withdrawn.
  - b) The "RSPT/CEAC Inoperable" addressable constant in the CPCs is set to the inoperable status.
  - c) The Control Element Drive Mechanism Control System (CEDMCS) is placed in and subsequently maintained in the "Off" mode except during CEA group 6 motion permitted by a) above, when the CEDMCS may be operated in either the "Manual Group" or "Manual Individual" mode.
  
3. At least once per 4 hours, all CEAs are verified fully withdrawn except during surveillance testing pursuant to Specification 4.1.3.1.2 or during insertion of CEA group 6 as permitted by 2.a) above, then verify at least once per 4 hours that the inserted CEAs are aligned within 7 inches (indicated position) of all other CEAs in its group.

ACTION 7 - With three or more auto restarts of one non-bypassed calculator during a 12-hour interval, demonstrate calculator OPERABILITY by performing a CHANNEL FUNCTIONAL TEST within the next 24 hours.

ACTION 8 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement restore the inoperable channel to OPERABLE status within 48 hours or open the reactor trip breakers within the next hour.

### 3/4.9 REFUELING OPERATIONS

#### 3/4.9.1 BORON CONCENTRATION

##### LIMITING CONDITION FOR OPERATION

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3.9.1 With the reactor vessel head closure bolts less than fully tensioned or with the head removed, the boron concentration of all filled portions of the Reactor Coolant System and the refueling canal shall be maintained uniform and sufficient to ensure that the more restrictive of the reactivity conditions specified in the COLR is met.

APPLICABILITY: MODE 6\*.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes and initiate action to restore boron concentration to within COLR limits.

##### SURVEILLANCE REQUIREMENTS

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4.9.1.1 The more restrictive of the above two reactivity conditions shall be determined prior to:

- a. Removing or unbolting the reactor vessel head, and
- b. Withdrawal of any CEA in excess of 3 feet from its fully inserted position within the reactor pressure vessel.

4.9.1.2 The boron concentration of the Reactor Coolant System and the refueling canal shall be determined by chemical analysis at least once per 72 hours.

\*The reactor shall be maintained in MODE 6 whenever fuel is in the reactor vessel with the reactor vessel head closure bolts less than fully tensioned or with the head removed.

### 3/4.10 SPECIAL TEST EXCEPTIONS

#### 3/4.10.1 SHUTDOWN MARGIN

#### LIMITING CONDITION FOR OPERATION

---

3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 or 3.1.1.2 may be suspended for measurement of CEA worth and SHUTDOWN MARGIN provided reactivity equivalent to at least the highest estimated CEA worth is available for trip insertion from OPERABLE CEA(s).

APPLICABILITY: MODES 2 AND 3\*.

ACTION:

- a. With any CEA not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate boration to restore the SHUTDOWN MARGIN required by Specification 3.1.1.1. |
- b. With all CEAs fully inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate boration to restore the SHUTDOWN MARGIN required by Specification 3.1.1.2. |

#### SURVEILLANCE REQUIREMENTS

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4.10.1.1 The position of each CEA required either partially or fully withdrawn shall be determined at least once per 2 hours. |

4.10.1.2 Each CEA not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

\*Operation in MODE 3 shall be limited to 6 consecutive hours.

## SPECIAL TEST EXCEPTIONS

### 3/4.10.2 MODERATOR TEMPERATURE COEFFICIENT, GROUP HEIGHT, INSERTION, AND POWER DISTRIBUTION LIMITS

#### LIMITING CONDITION FOR OPERATION

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3.10.2 The moderator temperature coefficient, group height, insertion, and power distribution limits of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.2, 3.2.3, 3.2.7, and the Minimum Channels OPERABLE requirement of Functional Unit 15 of Table 3.3-1 may be suspended during the performance of PHYSICS TESTS provided:

- a. The THERMAL POWER is restricted to the test power plateau which shall not exceed 85% of RATED THERMAL POWER, and
- b. The limits of Specification 3.2.1 are maintained and determined as specified in Specification 4.10.2.2 below.

APPLICABILITY: MODES 1 and 2.

#### ACTION:

With any of the limits of Specification 3.2.1 being exceeded while the requirements of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.2, 3.2.3, 3.2.7, and the Minimum Channels OPERABLE requirement of Functional Unit 15 of Table 3.3-1 are suspended, either:

- a. Reduce THERMAL POWER sufficiently to satisfy the requirements of Specification 3.2.1, or
- b. Be in HOT STANDBY within 6 hours.

#### SURVEILLANCE REQUIREMENTS

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4.10.2.1 The THERMAL POWER shall be determined at least once per hour during PHYSICS TESTS in which the requirements of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.2, 3.2.3, 3.2.7, or the Minimum Channels OPERABLE requirement of Functional Unit 15 of Table 3.3-1 are suspended and shall be verified to be within the test power plateau.

4.10.2.2 The linear heat rate shall be determined to be within the limits of Specification 3.2.1 by monitoring it continuously with the Incore Detection Monitoring System pursuant to the requirements of Specifications 4.2.1.2 during PHYSICS TESTS above 5% of RATED THERMAL POWER in which the requirements of Specifications 3.1.1.3, 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.2, 3.2.3, 3.2.7, or the Minimum Channels OPERABLE requirement of Functional Unit 15 of Table 3.3-1 are suspended.

## DESIGN FEATURES

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### 5.3 REACTOR CORE

#### FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 217 fuel assemblies with each fuel assembly containing a maximum of 236 fuel rods clad with Zircaloy-4. Each fuel rod shall have a nominal active fuel length of 150 inches and contain a nominal total weight of 1830 grams uranium. The initial core loading shall have a maximum enrichment of 2.91 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading. Assemblies shall have a maximum nominal enrichment of 5.0 weight percent U-235 and meet the final storage requirements described in Section 5.6.

#### CONTROL ELEMENT ASSEMBLIES

5.3.2 The reactor core shall contain 87 control element assemblies.

### 5.4 REACTOR COOLANT SYSTEM

#### DESIGN PRESSURE AND TEMPERATURE

5.4.1 The Reactor Coolant System is designed and shall be maintained:

- a. In accordance with the code requirements specified in Section 5.2 of the FSAR with allowance for normal degradation pursuant of the applicable Surveillance Requirements,
- b. For a pressure of 2500 psia, and
- c. For a temperature of 650°F, except for the pressurizer and surge line which is 700°F.

#### VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 11,800 +600, -0 cubic feet at a nominal  $T_{avg}$  of 582.1°F.

### 5.5 METEOROLOGICAL TOWERS LOCATION

5.5.1 The primary and backup meteorological towers shall be located as shown on Figure 5.1-1.

## ADMINISTRATIVE CONTROLS

### INDUSTRIAL SURVEY OF TOXIC OR HAZARDOUS CHEMICALS REPORT

6.9.1.9 Surveys and analyses of major industries in the vicinity of Waterford 3 which could have significant inventories of toxic chemicals onsite to determine impact on safety shall be performed and submitted to the Commission at least once every 4 years.

6.9.1.10 A survey of major pipelines ( $\geq 4$  inches) within a 2-mile radius of Waterford 3, which contain explosive or flammable materials and may represent a hazard to Waterford 3, including scaled engineering drawings or maps which indicate the pipeline locations, shall be performed and submitted to the Commission at least once every 4 years.

### CORE OPERATING LIMITS REPORT COLR

6.9.1.11 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT prior to each reload cycle or any remaining part of a reload cycle.

6.9.1.11.1 The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC as follows:

- 1) "The ROCS and DIT Computer Codes for Nuclear Design," CENPD-266-P-A, April 1983; and "C-E Methodology for Core Designs Containing Gadolinia-Urania Burnable Absorber," CENPD-275-P-A, May 1988. (Methodology for Specifications 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.3 for MTC, 3.1.3.6 for Regulating and group P CEA Insertion Limits, 3.1.2.9 Boron Dilution (Calculation of CBC & IBW), and 3.9.1 Boron Concentration).
- 2) "C-E Method for Control Element Assembly Ejection Analysis," CENPD-0190-A, January 1976. (Methodology for Specification 3.1.3.6 for Regulating and group P CEA Insertion Limits and 3.2.3 for Azimuthal Power Tilt).
- 3) "Modified Statistical Combination of Uncertainties" CEN-356(V)-P-A, May 1988. (Methodology for Specification 3.2.4 for DNBR Margin and 3.2.7 for ASI).
- 4) "Calculative Methods for the C-E Large Break LOCA Calculation Model For The Analysis of C-E and W Designed NSSS," CENPD-132, Supplement 3-P-A, June 1985. (Methodology for Specification 3.1.1.3 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt and 3.2.7 for ASI).
- 5) "Calculative Methods for the ABB CE Small Break LOCA Evaluation Model," CENPD-137-P, August 1974: Supplement 2-P-A, April 1998. (Methodology for Specification 3.1.1.3 for MTC, 3.2.1 for Linear Heat Rate, 3.2.3 for Azimuthal Power Tilt and 3.2.7 for ASI).

## ADMINISTRATIVE CONTROLS

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### CORE OPERATING LIMITS REPORT COLR (Continued)

6) "CESEC - Digital Simulation for a Combustion Engineering Nuclear Steam Supply System," CENPD-107, December 1981. (Methodology for Specification 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.3 for MTC, 3.1.3.1 for Movable Control Assemblies - CEA Position, 3.1.3.6 for Regulating and group P CEA Insertion Limits, and 3.2.3 for Azimuthal Power Tilt).

7) "Qualification of Reactor Physics Methods for the Pressurized Water Reactors of the Entergy System," ENEAD-01-P, Revision 0. (Methodology for Specifications 3.1.1.1 and 3.1.1.2 for Shutdown Margins, 3.1.1.3 for MTC, 3.1.3.6 for Regulating and group P CEA Insertion Limits, 3.1.2.9 Boron Dilution (Calculation of CBC & IBW), and 3.9.1 Boron Concentration).

6.9.1.11.2 The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.1.11.3 The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

### SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator of the Regional Office of the NRC within the time period specified for each report.

6.10 Not Used