



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

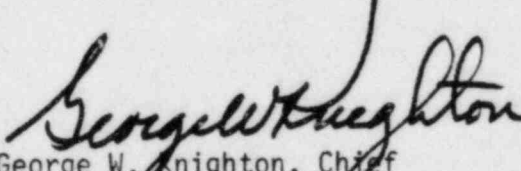
Amendment No. 30
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The applications for amendment to the license for San Onofre Nuclear Generating Station, Unit 2 (the facility) filed by the Southern California Edison Company on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and The City of Anaheim, California (licensees) dated April 10, August 1 and August 7, 1984, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the applications, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

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- E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-10 is hereby amended to read as follows:
- (2) Technical Specifications
- The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 30, are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 9, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 30

FACILITY OPERATING LICENSE NO. NPF-10

DOCKET NO. 50-361

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Also to be replaced are the following overleaf pages to the amended pages.

<u>Amendment Pages</u>	<u>Overleaf Pages</u>
3/4 1-15	-
3/4 1-16	-
3/4 1-17a	3/4 1-17
3/4 1-22	3/4 1-21
3/4 1-23	3/4 1-24
3/4 1-25	-
3/4 1-26	-

Pages 3/4 1-18 and 3/4 1-19 are reissued without change.

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

CEA POSITION

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full length (shutdown and regulating) CEAs, and all part length CEAs which are inserted in the core, 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 full length 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 full length or part length CEA inoperable or 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 full length or part length CEA 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 Figure 3.1-1A and that within one 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 one 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 shown on Figure 3.1-2; 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

ACTION: (Continued)

- d. With one or more full length or part length CEAs 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 Figure 3.1-1A and that within one 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 one 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 shown on Figure 3.1-2; 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.
- e. With one full length CEA 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 full length CEA inoperable due to causes other than addressed by ACTION a. above, but within its above specified alignment requirements and either withdrawn to greater than or equal to 145 inches or within the Long Term Steady State Insertion Limits if in full length CEA group 6, operation in MODES 1 and 2 may continue.
- g. With one part length CEA inoperable and inserted in the core, operation may continue provided the alignment of the inoperable part length CEA is maintained within 7 inches (indicated position) of all other part length CEAs in its group.

REACTIVITY CONTROL SYSTEMS

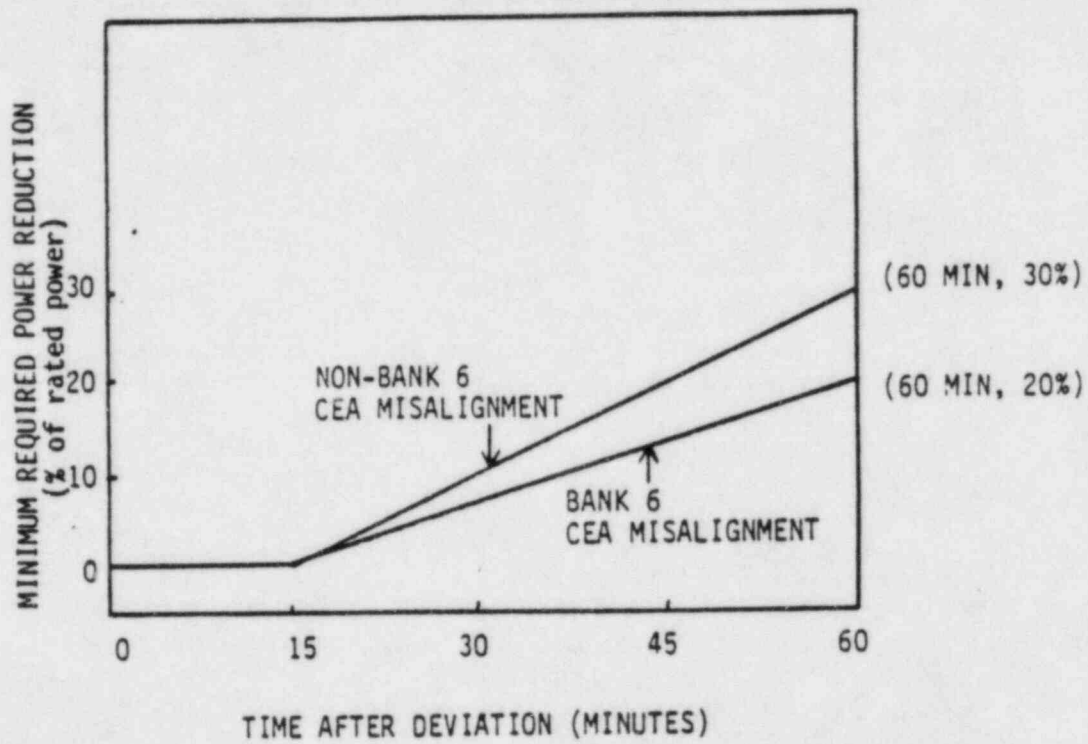
SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length and part length 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 full length CEA not fully inserted and each part length CEA which is 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 31 days.

FIGURE 3.1 - 1A

Required Power Reduction after CEA Deviation*



* When core power is reduced to 60% of rated power per this limit curve, further reduction is not required by this specification.

REACTIVITY CONTROL SYSTEMS

POSITION INDICATOR CHANNELS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.3.2 At least two of the following three CEA position indicator channels shall be OPERABLE for each CEA:

- a. CEA Reed Switch Position Transmitter (RSPT 1) with the capability of determining the absolute CEA positions within 5 inches,
- b. CEA Reed Switch Position Transmitter (RSPT 2) with the capability of determining the absolute CEA positions within 5 inches, and
- c. The CEA pulse counting position indicator channel.

APPLICABILITY: MODES 1 and 2.

ACTION:

With a maximum of one CEA per CEA group having only one of the above required CEA position indicator channels OPERABLE, within 6 hours either:

- a. Restore the inoperable position indicator channel to OPERABLE status, or
- b. Be in at least HOT STANDBY, or
- c. Position the CEA group(s) with the inoperable position indicator(s) at its fully withdrawn position while maintaining the requirements of Specifications 3.1.3.1 and 3.1.3.6. Operation may then continue provided the CEA group(s) with the inoperable position indicator(s) is maintained fully withdrawn, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2, and each CEA in the group(s) is verified fully withdrawn at least once per 12 hours thereafter by its "Full Out" limit.

SURVEILLANCE REQUIREMENTS

4.1.3.2 Each of the above required position indicator channels shall be determined to be OPERABLE by verifying that for the same CEA, the position indicator channels agree within 5 inches of each other at least once per 12 hours.

REACTIVITY CONTROL SYSTEMS

POSITION INDICATOR CHANNEL - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.3.3 At least one CEA Reed Switch Position Transmitter indicator channel shall be OPERABLE for each shutdown, regulating or part length 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.

* With the reactor trip breakers in the closed position.

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, except for surveillance testing pursuant to Specification 4.1.3.1.2, within one hour either:

- a. Withdraw the CEA to greater than or equal to 145 inches, or
- b. Declare the CEA inoperable and apply Specification 3.1.3.1.

SURVEILLANCE REQUIREMENTS

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

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

* See Special Test Exception 3.10.2.

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

REACTIVITY CONTROL SYSTEMS

REGULATING CEA INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6

- a. When COLSS is in-service, the regulating CEA groups shall be limited to the withdrawal sequence and to the insertion limits shown on Figure 3.1-2. The CEA insertion between the Long Term Steady State Insertion Limits and the Transient Insertion Limits is restricted to:
 1. Less than or equal to 4 hours per 24 hour interval,
 2. Less than or equal to 5 Effective Full Power Days per 30 Effective Full Power Day Interval, and
 3. Less than or equal to 14 Effective Full Power Days per calendar year.

- b. When COLSS is out-of-service, the regulating CEA groups shall be limited to the Short Term Steady State Insertion Limit shown on Figure 3.1-2. The CEA insertion between the Long Term Steady State Insertion Limits and the Short Term Steady State Insertion Limits is restricted to:
 1. Less than or equal to 4 hours per 24 hour interval,
 2. Less than or equal to 5 Effective Full Power Days per 30 Effective Full Power Day Interval, and
 3. Less than or equal to 14 Effective Full Power Days per calendar year.

APPLICABILITY: MODES 1* and 2*#.

ACTION:

When COLSS is in service and

- a. With the regulating CEA groups inserted beyond the Transient Insertion Limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, within two hours either:
 1. Restore the regulating CEA groups 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 above figure.

* See Special Test Exceptions 3.10.2 and 3.10.4.

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

REACTIVITY CONTROL SYSTEMS

ACTION: (Continued)

- b. With the regulating CEA groups 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 of Figure 3.1-2 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.
- c. With the regulating CEA groups 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 groups to within the Long Term Steady State Insertion Limits within two hours, or
 - 2. Be in at least HOT STANDBY within 6 hours.

When COLSS is out of service and the regulating CEA groups are inserted beyond the Short Term Steady State Insertion Limit except for Surveillance testing pursuant to Specification 4.1.3.1.2, within two hours either:

- a. Restore the regulating CEA group to within the limit, or
- b. Reduce thermal power to less than or equal to the fraction of Rated Thermal Power which is allowed by the CEA group position and the Short Term Steady State Insertion Limit.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each regulating CEA group 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 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.

Figure 3.1-2

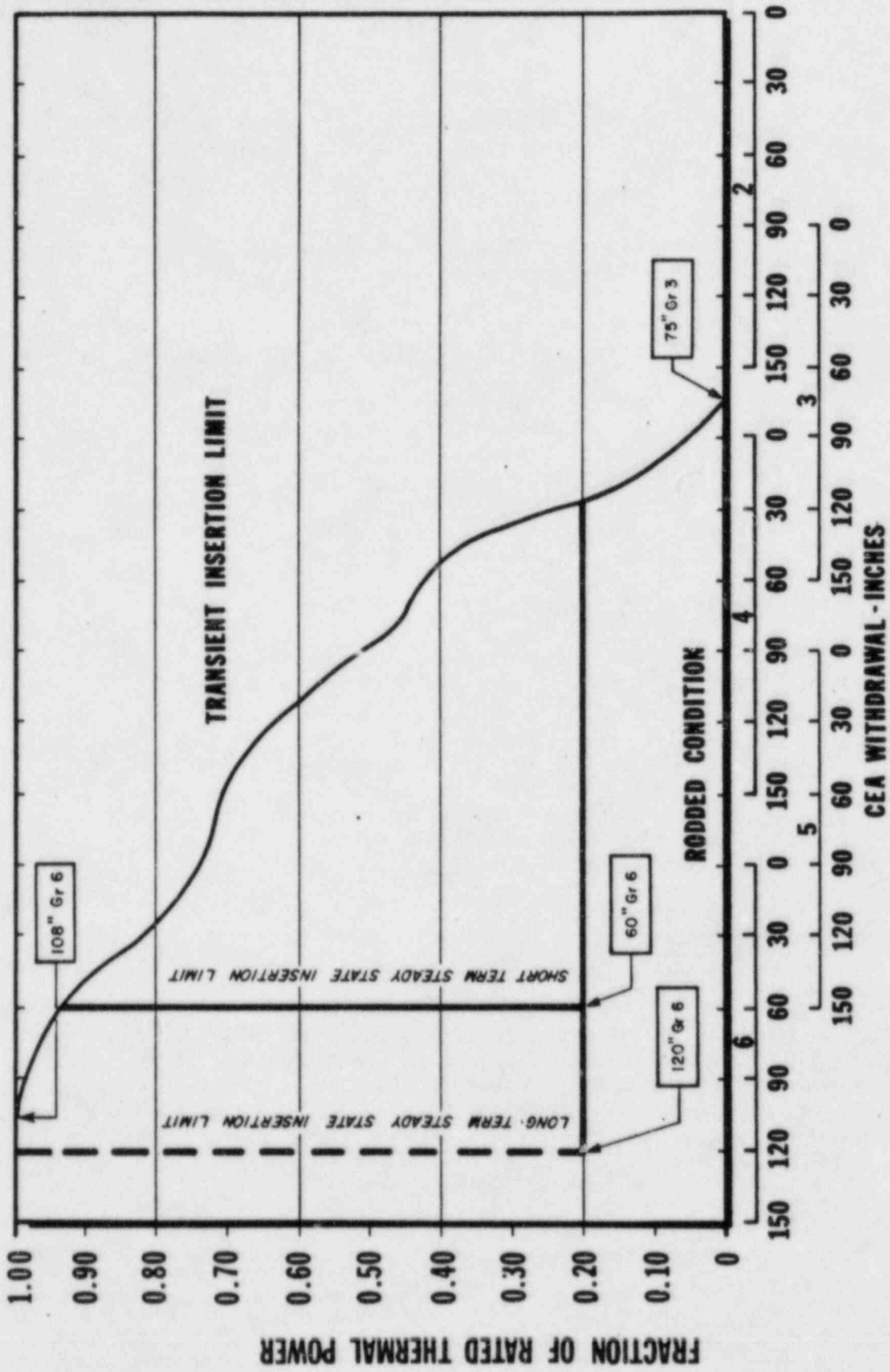


Figure 3.1-2

REACTIVITY CONTROL SYSTEMS

PART LENGTH CEA INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.7 The position of the part length CEA group shall be restricted to prevent the neutron absorber section of the part length CEA group from covering the same axial segment of the fuel assemblies for a period in excess of 7 EFPD out of any 30 EFPD period. The position of the part length CEA group shall also be limited to the insertion limits shown on Figure 3.1-3.

APPLICABILITY: MODES 1 and 2.

ACTION:

With the neutron absorber section of the part length CEA group covering any same axial segment of the fuel assemblies for a period exceeding 7 EFPD out of any 30 EFPD period, either:

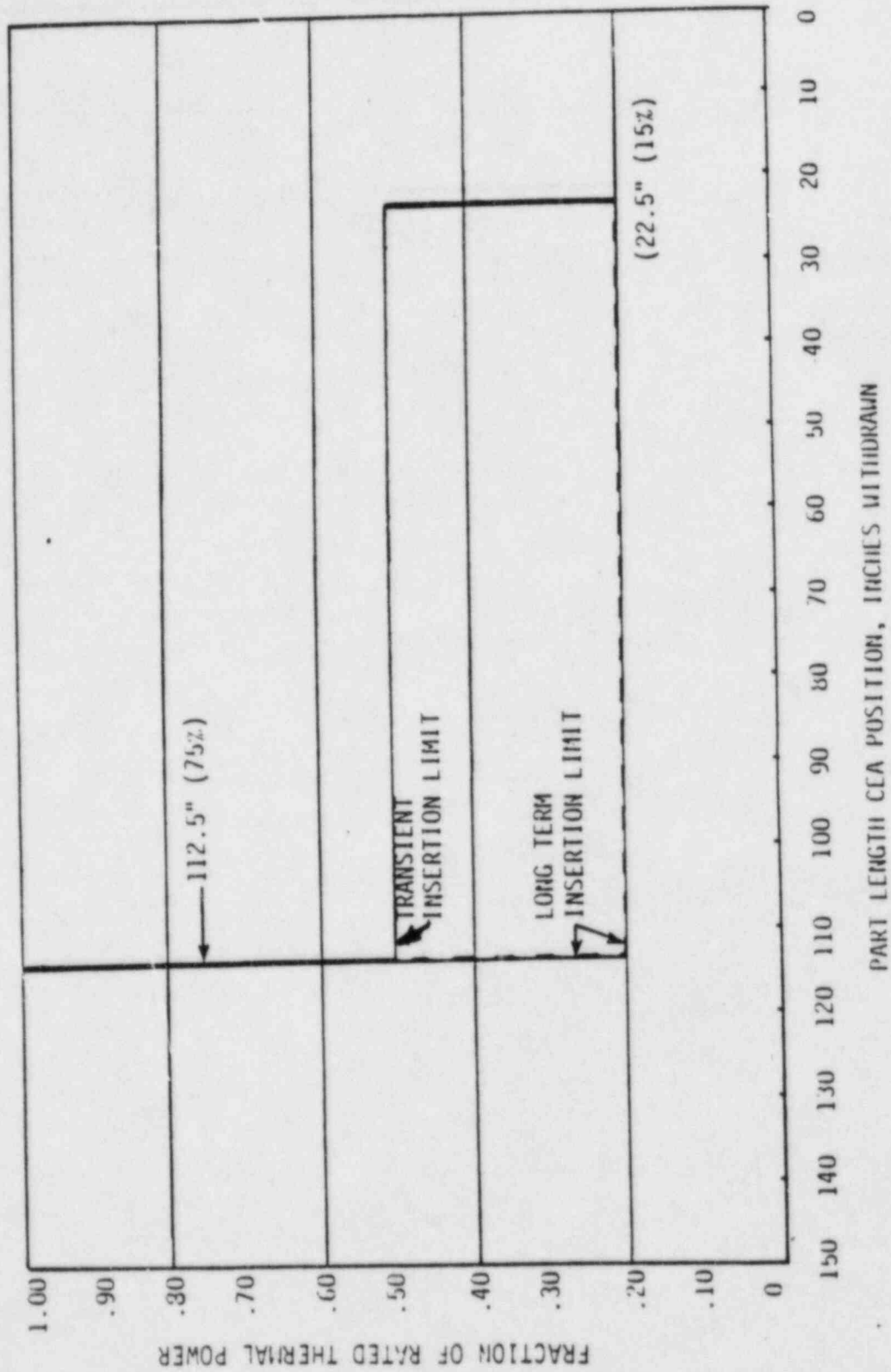
- a. Reposition the part length CEA group to ensure no neutron absorber section of the part length CEA group is covering the same axial segment of the fuel assemblies within 2 hours, or
- b. Be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.7 The position of the part length CEA group shall be determined at least once per 12 hours.

Figure 3.1-3

Figure 3.1-3 PART I CEA INSERTION LIMIT vs. THERMAL POWER





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SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

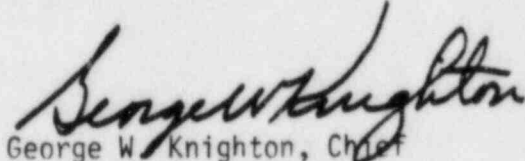
Amendment No. 19
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:

- A. The applications for amendment to the license for San Onofre Nuclear Generating Station, Unit 3 (the facility) filed by the Southern California Edison Company on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and The City of Anaheim, California (licensees) dated April 10, August 1 and August 7, 1984, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;
- B. The facility will operate in conformity with the applications, as amended, the provisions of the Act, and the regulations of the Commission;
- C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
- D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

- E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Facility Operating License No. NPF-15 is hereby amended to read as follows:
- (2) Technical Specifications
- The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 19, are hereby incorporated in the license. SCE shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.
3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



George W. Knighton, Chief
Licensing Branch No. 3
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance. January 9, 1985

- 3 -

ATTACHMENT TO LICENSE AMENDMENT NO. 19FACILITY OPERATING LICENSE NO. NPF-15DOCKET NO. 50-362

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change. Also to be replaced are the following overleaf pages to the amended pages.

<u>Amendment Pages</u>	<u>Overleaf Pages</u>
3/4 1-15	-
3/4 1-16	-
3/4 1-17a	3/4 1-17
3/4 1-22	3/4 1-21
3/4 1-23	3/4 1-24
3/4 1-25	-
3/4 1-26	-

Page 3/4 1-18 is reissued without change.

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

CEA POSITION

LIMITING CONDITION FOR OPERATION

3.1.3.1 All full length (shutdown and regulating) CEAs, and all part length CEAs which are inserted in the core, 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 full length 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 full length or part length CEA inoperable or 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 full length or part length CEA 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 Figure 3.1-1A and that within one 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 one 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 shown on Figure 3.1-2; 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

ACTION: (Continued)

- d. With one or more full length or part length CEAs 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 Figure 3.1-1A and that within one 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 one 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 shown on Figure 3.1-2; 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.
- e. With one full length CEA 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 full length CEA inoperable due to causes other than addressed by ACTION a. above, but within its above specified alignment requirements and either withdrawn to greater than or equal to 145 inches or within the Long Term Steady State Insertion Limits if in full length CEA group 6, operation in MODES 1 and 2 may continue.
- g. With one part length CEA inoperable and inserted in the core, operation may continue provided the alignment of the inoperable part length CEA is maintained within 7 inches (indicated position) of all other part length CEAs in its group.

REACTIVITY CONTROL SYSTEMS

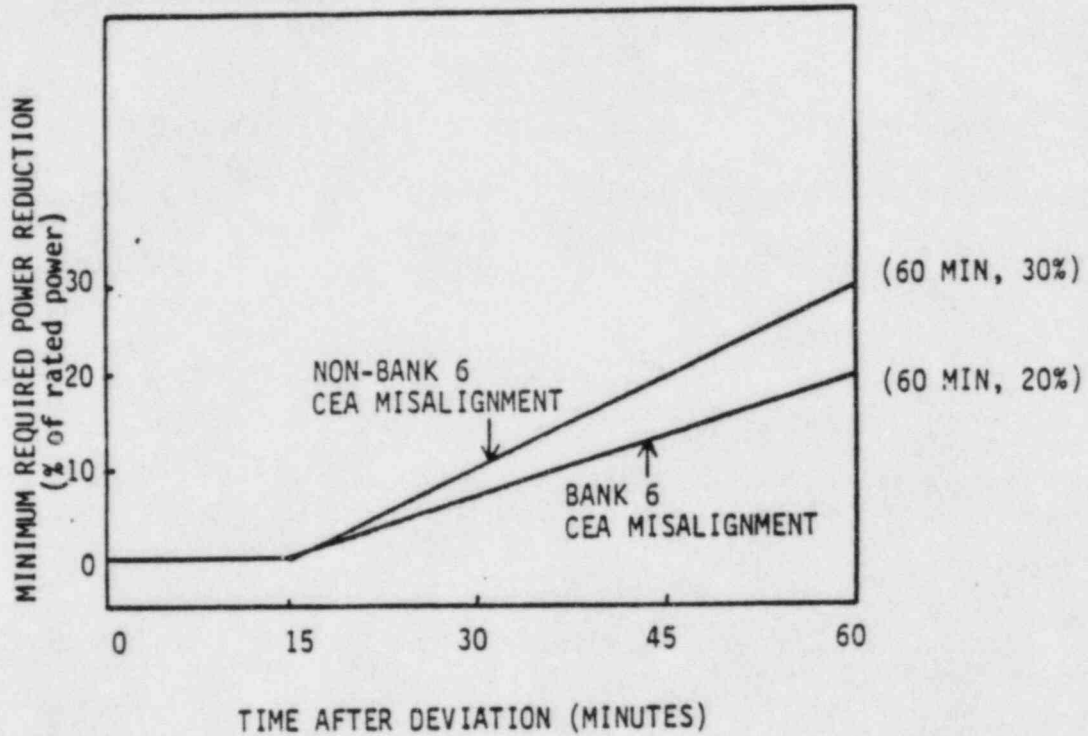
SURVEILLANCE REQUIREMENTS

4.1.3.1.1 The position of each full length and part length 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 full length CEA not fully inserted and each part length CEA which is 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 31 days.

FIGURE 3.1-1A

Required Power Reduction After CEA Deviation*



* When core power is reduced to 60% of rated power per this limit curve, further reduction is not required by this specification.

REACTIVITY CONTROL SYSTEMS

POSITION INDICATOR CHANNELS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.3.2 At least two of the following three CEA position indicator channels shall be OPERABLE for each CEA:

- a. CEA Reed Switch Position Transmitter (RSPT 1) with the capability of determining the absolute CEA positions within 5 inches,
- b. CEA Reed Switch Position Transmitter (RSPT 2) with the capability of determining the absolute CEA positions within 5 inches, and
- c. The CEA pulse counting position indicator channel.

APPLICABILITY: MODES 1 and 2.

ACTION:

With a maximum of one CEA per CEA group having only one of the above required CEA position indicator channels OPERABLE, within 6 hours either:

- a. Restore the inoperable position indicator channel to OPERABLE status, or
- b. Be in at least HOT STANDBY, or
- c. Position the CEA group(s) with the inoperable position indicator(s) at its fully withdrawn position while maintaining the requirements of Specifications 3.1.3.1 and 3.1.3.6. Operation may then continue provided the CEA group(s) with the inoperable position indicator(s) is maintained fully withdrawn, except during surveillance testing pursuant to the requirements of Specification 4.1.3.1.2, and each CEA in the group(s) is verified fully withdrawn at least once per 12 hours thereafter by its "Full Out" limit.

SURVEILLANCE REQUIREMENTS

4.1.3.2 Each of the above required position indicator channels shall be determined to be OPERABLE by verifying that for the same CEA, the position indicator channels agree within 5 inches of each other at least once per 12 hours.

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, except for surveillance testing pursuant to Specification 4.1.3.1.2, within one hour either:

- a. Withdraw the CEA to greater than or equal to 145 inches, or
- b. Declare the CEA inoperable and apply Specification 3.1.3.1.

SURVEILLANCE REQUIREMENTS

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

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

* See Special Test Exception 3.10.2.

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

REACTIVITY CONTROL SYSTEMS

REGULATING CEA INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.6

- a. When COLSS is in-service, the regulating CEA groups shall be limited to the withdrawal sequence and to the insertion limits shown on Figure 3.1-2. The CEA insertion between the Long Term Steady State Insertion Limits and the Transient Insertion Limits is restricted to:
1. Less than or equal to 4 hours per 24 hour interval,
 2. Less than or equal to 5 Effective Full Power Days per 30 Effective Full Power Day interval, and
 3. Less than or equal to 14 Effective Full Power Days per calendar year.
- a. When COLSS is out-of-service, the regulating CEA groups shall be limited to the Short Term Steady State Insertion Limit shown on Figure 3.1-2. The CEA insertion between the Long Term Steady State Insertion Limits and the Short Term Steady State Insertion Limits is restricted to:
1. Less than or equal to 4 hours per 24 hour interval,
 2. Less than or equal to 5 Effective Full Power Days per 30 Effective Full Power Day interval, and
 3. Less than or equal to 14 Effective Full Power Days per calendar year.

APPLICABILITY: MODES 1* and 2*#.

ACTION:

When COLSS is in service and

- a. With the regulating CEA groups inserted beyond the Transient Insertion Limits, except for surveillance testing pursuant to Specification 4.1.3.1.2, within two hours either:
1. Restore the regulating CEA groups 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 above figure.

* See Special Test Exceptions 3.10.2 and 3.10.4.

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

REACTIVITY CONTROL SYSTEMS

ACTION: (Continued)

- b. With the regulating CEA groups 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 of Figure 3.1-2 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.

- c. With the regulating CEA groups 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 groups to within the Long Term Steady State Insertion Limits within two hours, or
 2. Be in at least HOT STANDBY within 6 hours.

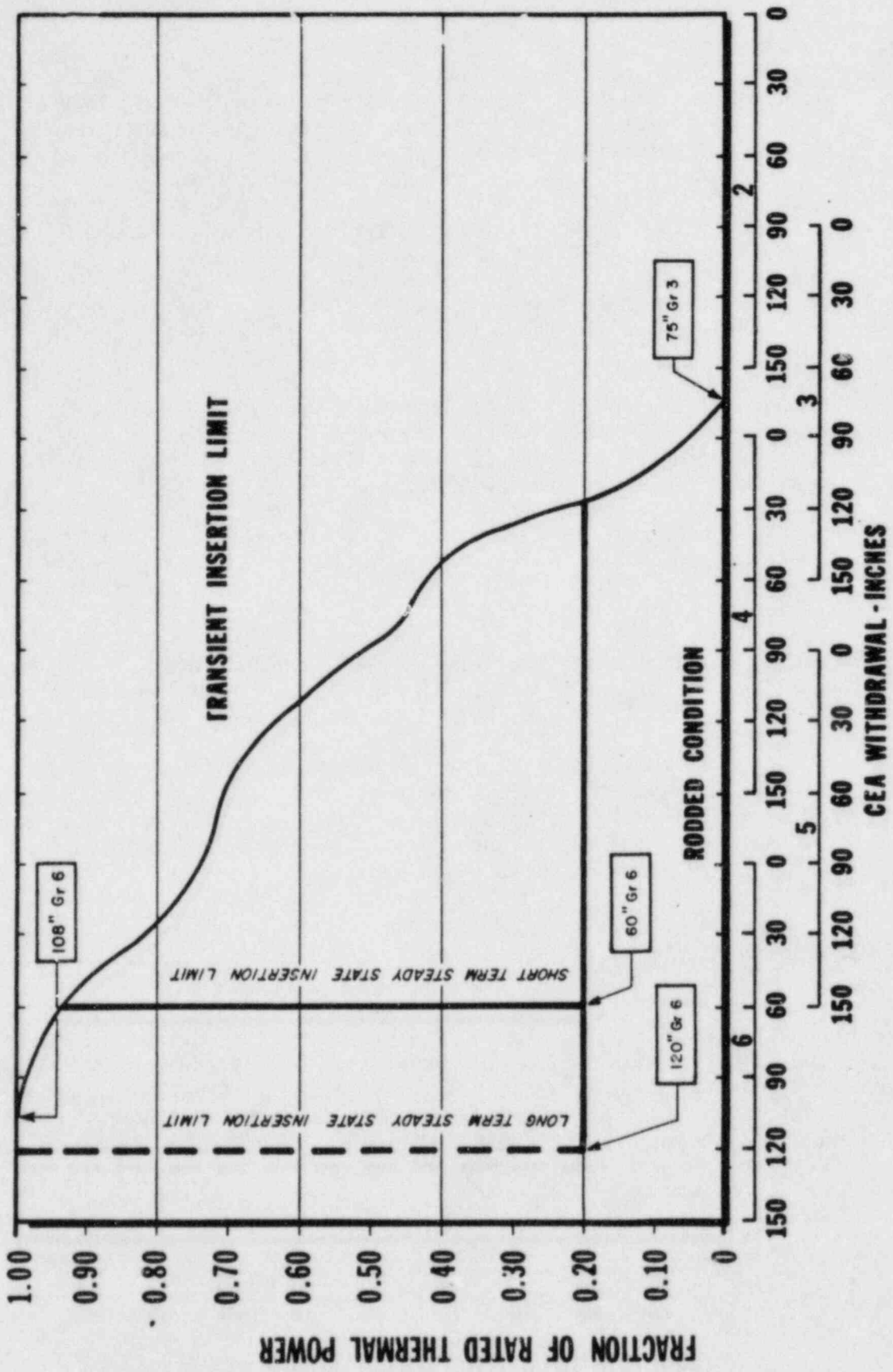
When COLSS is out of service and the regulating CEA groups are inserted beyond the Short Term Steady State Insertion Limit except for surveillance testing pursuant to Specification 4.1.3.1.2, within two hours either:

- a. Restore the regulating CEA group to within the limit, or
- b. Reduce thermal power to less than or equal to that fraction of Rated Thermal Power which is allowed by the CEA group position and the Short Term Steady State Insertion Limit.

SURVEILLANCE REQUIREMENTS

4.1.3.6 The position of each regulating CEA group 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 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.

Figure 3.1-2
 CEA insertion limits vs fraction
 of allowable thermal power



REACTIVITY CONTROL SYSTEMS

PART LENGTH CEA INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.7 The position of the part length CEA group shall be restricted to prevent the neutron absorber section of the part length CEA group from covering the same axial segment of the fuel assemblies for a period in excess of 7 EFPD out of any 30 EFPD period. The position of the part length CEA group shall also be limited to the insertion limits shown in Figure 3.1-3.

APPLICABILITY: MODES 1 and 2.

ACTION:

With the neutron absorber section of the part length CEA group covering any same axial segment of the fuel assemblies for a period exceeding 7 EFPD out of any 30 EFPD period, either:

- a. Reposition the part length CEA group to ensure no neutron absorber section of the part length CEA group is covering the same axial segment of the fuel assemblies within 2 hours, or
- b. Be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.7 The position of the part length CEA group shall be determined at least once per 12 hours.

Figure 3.1-3

FIGURE 3.1-3 Part Length CEA Insertion Limit Vs. Thermal Power

