ATTACHMENT A
(Existing Technical Specifications)

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.

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.

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 PART 1 CEA INSERTION LIMIT vs. THERMAL POWER

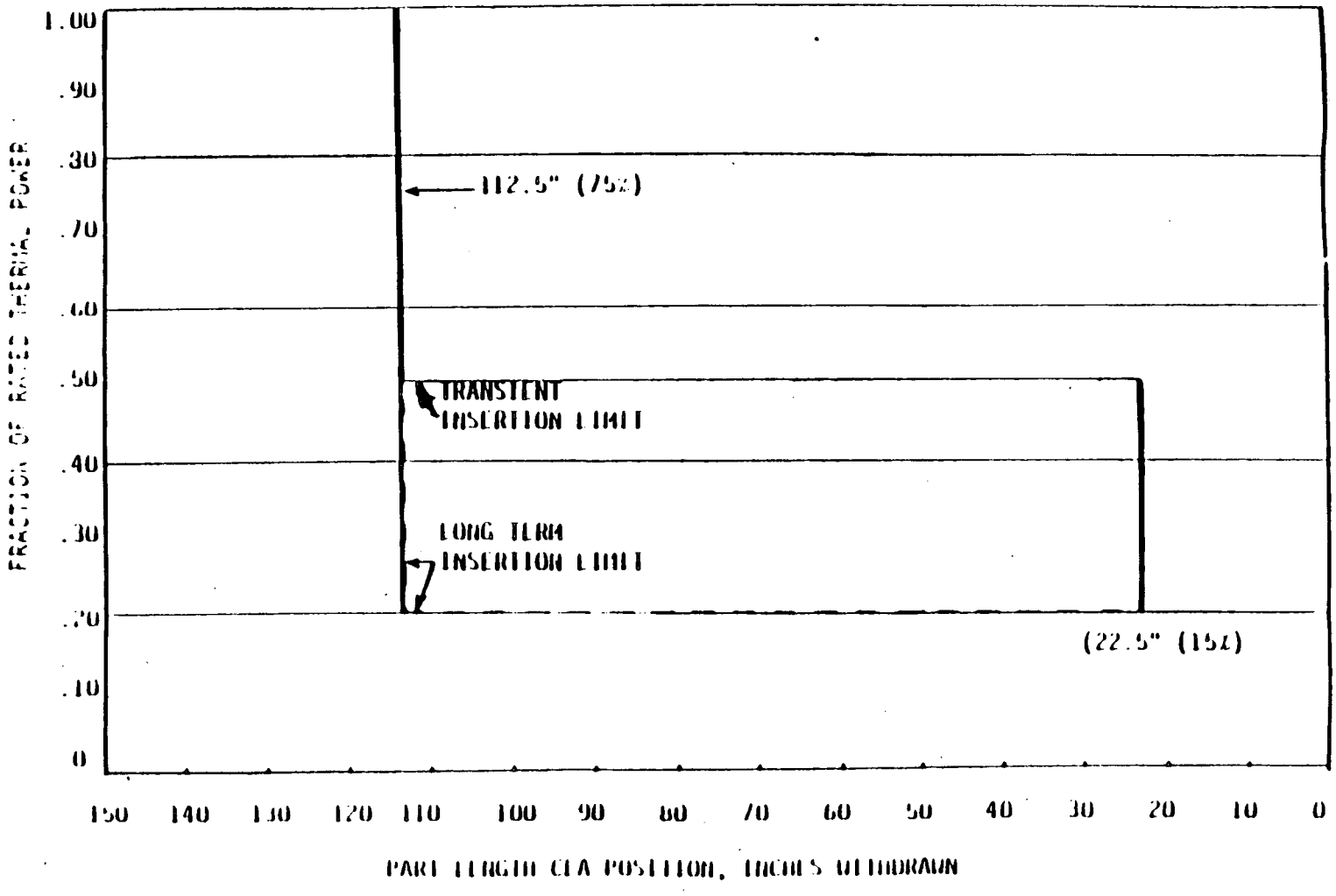

Figure 3.1-3

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SPECIAL TEST EXCEPTIONS

3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION

3.10.2 The 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 wthin 6 hours.

SURVEILLANCE REQUIREMENTS

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 Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.3 and 3.3.3.2 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.

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BORATION SYSTEMS (Continued)

The water volume limits are specified relative to the top of the highest suction connection to the tank. (Water volume below this datum is not considered recoverable for purposes of this specification.) Vortexing, internal structures and instrument error are considered in determining the tank level corresponding to the specified water volume limits.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limits on water volume and boron concentration of the RWST also ensure a pH value of between 8.0 and 10.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The maximum RWST volume is not specified since analysis of pH limits and containment flooding post-LOCA considered RWST overflow conditions.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) the potential effects of CEA misalignments are limited to acceptable levels.

The ACTION statements which permit limited variations from the basic requirements are accompanied by additional restrictions which ensure that the original design criteria are met.

The ACTION statements applicable to a stuck or untrippable, CEA to two or more inoperable CEAs and to a large misalignment (greater than or equal to 19 inches) of two or more CEAs, require a prompt shutdown of the reactor since either of these conditions may be indicative of a possible loss of mechanical functional capability of the CEAs and in the event of a stuck or untrippable CEA, the loss of SHUTDOWN MARGIN.

For small misalignments (less than 19 inches) of the CEAs, there is 1) a small effect on the time dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, 2) a small effect on the available SHUTDOWN MARGIN, and 3) a small effect on the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with small misalignments of CEAs permits a one hour time interval during which attempts may be made to restore the CEA to within its alignment requirements. The one hour time limit is sufficient to (1) identify causes of a misaligned CEA, (2) take appropriate corrective action to realign the CEAs and (3) minimize the effects of xenon redistribution.

MAY 16 1983

AMENDMENT NO. 16

MOVABLE CONTROL ASSEMBLIES (Continued)

The CPCs provide protection to the core in the event of a large misalignment (greater than or equal to 19 inches) of a CEA by applying appropriate penalty factors to the calculation to account for the misaligned CEA. However, this misalignment would cause distortion of the core power distribution. This distribution may, in turn, have a significant effect on 1) the available SHUTDOWN MARGIN, 2) the time dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, and 3) the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with the large misalignment of a CEA requires a prompt realignment of the misaligned CEA.

The ACTION statements applicable to misaligned or inoperable CEAs include requirements to align the OPERABLE CEAs in a given group with the inoperable CEA. Conformance with these alignment requirements bring the core, within a short period of time, to a configuration consistent with that assumed in generating LCO and LSSS setpoints. However, extended operation with CEAs significantly inserted in the core may lead to perturbations in 1) local burnup, 2) peaking factors and 3) available shutdown margin which are more adverse than the conditions assumed to exist in the safety analyses and LCO and LSSS setpoints determination. Therefore, time limits have been imposed on operation with inoperable CEAs to preclude such adverse conditions from developing.

Operability of at least two CEA position indicator channels is required to determine CEA positions and thereby ensure compliance with the CEA alignment and insertion limits. The CEA "Full In" and "Full Out" limits provide an additional independent means for determining the CEA positions when the CEAs are at either their fully inserted or fully withdrawn positions. Therefore, the ACTION statements applicable to inoperable CEA position indicators permit continued operations when the positions of CEAs with inoperable position indicators can be verified by the "Full In" or "Full Out" limits. Setting the "RSPT/CEAC Inoperable" addressable constant in the CPC's to indicate to the CPC's that one or both of the CEAC's is inoperable does not necessarily constitute the inoperability of the RSPT rod indications from the respective CEAC. Operability of the CEAC rod indications is determined from the normal surveillance.

CEA positions and OPERABILITY of the CEA position indicators are required to be verified on a nominal basis of once per 12 hours with more frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied.

The maximum CEA drop time restriction is consistent with the assumed CEA drop time used in the safety analyses. Measurement with T_{avg} greater than or equal to 520°F and with all reactor coolant pumps operating ensures that the measured drop times will be representative of insertion times experienced during a reactor trip at operating conditions.

MAR 21 1985

MOVABLE CONTROL ASSEMBLIES (Continued)

The establishment of LSSS and LCOs require that the expected long and short term behavior of the radial peaking factors be determined. The long term behavior relates to the variation of the steady state radial peaking factors with core burnup and is affected by the amount of CEA insertion assumed, the portion of a burnup cycle over which such insertion is assumed and the expected power level variation throughout the cycle. The short term behavior relates to transient perturbations to the steady-state radial peaks due to radial xenon redistribution. The magnitudes of such perturbations depend upon the expected use of the CEAs during anticipated power reductions and load maneuvering. Analyses are performed based on the expected mode of operation of the NSSS (base load maneuvering, etc.) and from these analyses CEA insertions are determined and a consistent set of radial peaking factors defined. The Long Term Steady State and Short Term Insertion Limits are determined based upon the assumed mode of operation used in the analyses and provide a means of preserving the assumptions on CEA insertions used. The limits specified serve to limit the behavior of the radial peaking factors within the bounds determined from analysis. The actions specified serve to limit the extent of radial xenon redistribution effects to those accomodated in the analyses. The Long and Short Term Insertion Limits of Specification 3.1.3.6 are specified for the plant which has been designed for primarily base loaded operation but which has the ability to accomodate a limited amount of load maneuvering.

The Transient Insertion Limits of Specification 3.1.3.6 and the Shutdown CEA Insertion Limits of Specification 3.1.3.5 ensure that 1) the minimum SHUTDOWN MARGIN is maintained, and 2) the potential effects of a CEA ejection accident are limited to acceptable levels. Long term operation at the Transient Insertion Limits is not permitted since such operation could have effects on the core power distribution which could invalidate assumptions used to determine the behavior of the radial peaking factors.

The Part Length CEA Insertion Limits of Specification 3.1.3.7 ensure that adverse power shapes and rapid local power changes which affect radial peaking factors and DNB considerations do not occur as a result of a part length CEA group covering the same axial segment of the fuel assemblies for an extended period of time during operation.

ATTACHMENT B
(Proposed Technical Specifications)

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 365 Effective Full Power Day Interval.

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 365 Effective Full Power Day Interval.

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.

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 365 EFPD interval, 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.

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PART LENGTH CEA INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.7 The part length CEA group shall be limited to the insertion limits shown on Figure 3.1-3 with PLCEA insertion between the Long Term Steady State Insertion Limit and the Transient Insertion Limit restricted to:

a. $\leq$ 7 Effective Full Power Days per 30 Effective Full Power Day interval, and

b. $\leq$ 14 Effective Full Power Days per 365 Effective Full Power Day interval.

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

ACTION:

a. With the part length CEA groups inserted beyond the Transient Insertion Limit, except for surveillance testing pursuant to specification 4.1.3.1.2, within two hours either:

1. Restore the part length CEA groups to within the limit, or

2. Reduce THERMAL POWER to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the PLCEA group position using Figure 3.1-3.

b. With the part length CEA groups inserted between the Long Term Steady State Insertion Limit and the Transient Insertion Limit for intervals > 7 EFPD per 30 EFPD interval or > 14 EFPD per 365 EFPD interval, either:

1. Restore the part length groups to within the Long Term Steady State Insertion Limit within two hours, or

2. Reduce THERMAL POWER to less than or equal to 20% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.7 The position of the part length CEA groups shall be determined to be within the Transient Insertion Limit at least once per 12 hours. The accumulated time during which the part length CEA groups are inserted beyond the Long Term Steady State Insertion Limit but within the Transient Insertion Limit shall be determined at least once per 24 hours.

* See Special Test Exception 3.10.2.

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

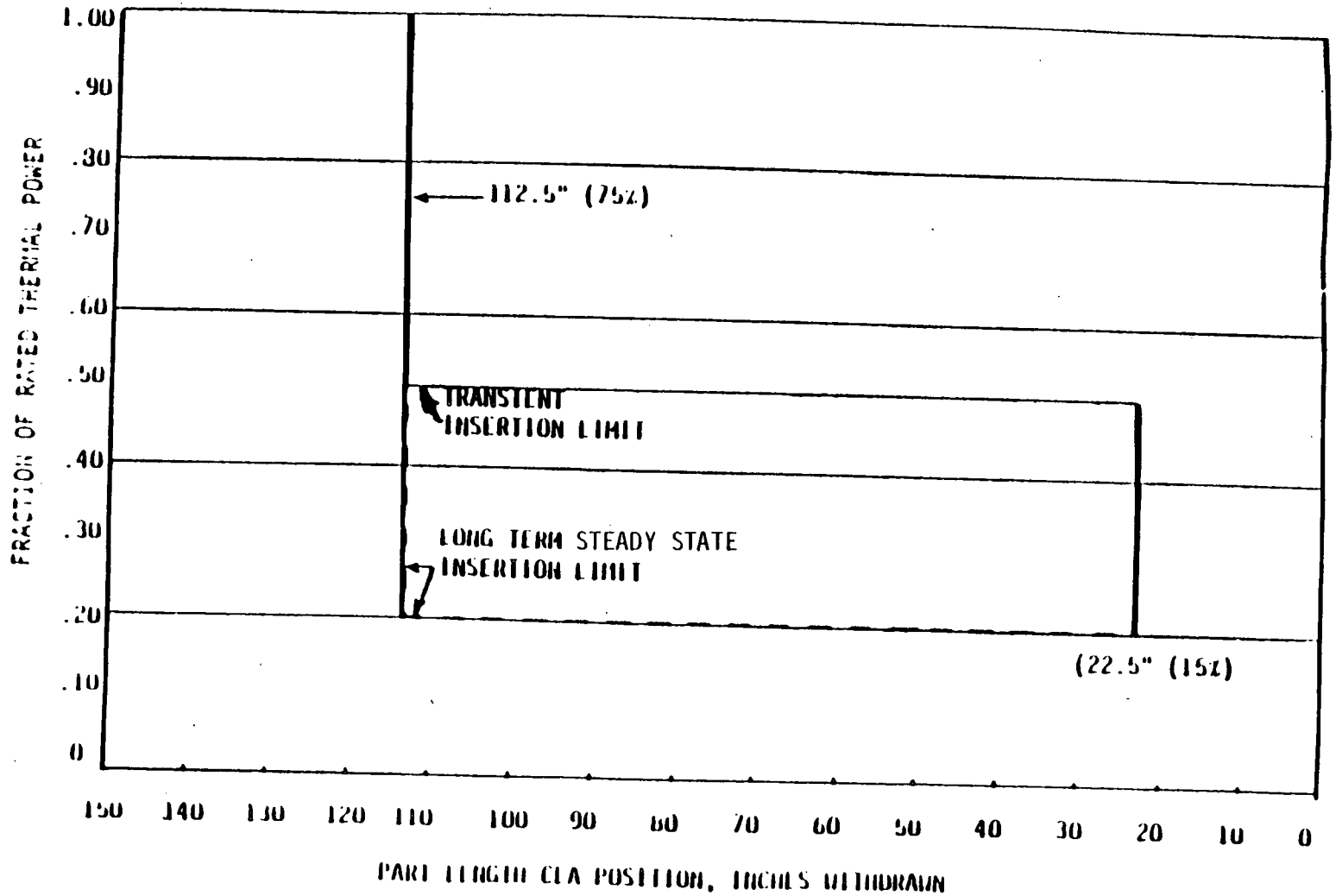

Figure 3.1-3

SPECIAL TEST EXCEPTIONS

3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION

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, 3.1.3.7, 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, 3.1.3.7, 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 wthin 6 hours.

SURVEILLANCE REQUIREMENTS

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, 3.1.3.7, 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 Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.3 and 3.3.3.2 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, 3.1.3.7, 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.

BORATION SYSTEMS (Continued)

The water volume limits are specified relative to the top of the highest suction connection to the tank. (Water volume below this datum is not considered recoverable for purposes of this specification.) Vortexing, internal structures and instrument error are considered in determining the tank level corresponding to the specified water volume limits.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limits on water volume and boron concentration of the RWST also ensure a pH value of between 8.0 and 10.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The maximum RWST volume is not specified since analysis of pH limits and containment flooding post-LOCA considered RWST overflow conditions.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) the potential effects of CEA misalignments are limited to acceptable levels.

The ACTION statements which permit limited variations from the basic requirements are accompanied by additional restrictions which ensure that the original design criteria are met.

The ACTION statements applicable to a stuck or untrippable, CEA to two or more inoperable CEAs and to a large misalignment (greater than or equal to 19 inches) of two or more CEAs, require a prompt shutdown of the reactor since either of these conditions may be indicative of a possible loss of mechanical functional capability of the CEAs and in the event of a stuck or untrippable CEA, the loss of SHUTDOWN MARGIN.

For small misalignments (less than 19 inches) of the CEAs, there is 1) a small effect on the time dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, 2) a small effect on the available SHUTDOWN MARGIN, and 3) a small effect on the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with small misalignments of CEAs permits a one hour time interval during which attempts may be made to restore the CEA to within its alignment requirements. The one hour time limit is sufficient to (1) identify causes of a misaligned CEA, (2) take appropriate corrective action to realign the CEAs and (3) minimize the effects of xenon redistribution.

MOVABLE CONTROL ASSEMBLIES (Continued)

The CPCs provide protection to the core in the event of a large misalignment (greater than or equal to 19 inches) of a CEA by applying appropriate penalty factors to the calculation to account for the misaligned CEA. However, this misalignment would cause distortion of the core power distribution. This distribution may, in turn, have a significant effect on 1) the available SHUTDOWN MARGIN, 2) the time dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, and 3) the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with the large misalignment of a CEA requires a prompt realignment of the misaligned CEA.

The ACTION statements applicable to misaligned or inoperable CEAs include requirements to align the OPERABLE CEAs in a given group with the inoperable CEA. Conformance with these alignment requirements bring the core, within a short period of time, to a configuration consistent with that assumed in generating LCO and LSSS setpoints. However, extended operation with CEAs significantly inserted in the core may lead to perturbations in 1) local burnup, 2) peaking factors and 3) available shutdown margin which are more adverse than the conditions assumed to exist in the safety analyses and LCO and LSSS setpoints determination. Therefore, time limits have been imposed on operation with inoperable CEAs to preclude such adverse conditions from developing.

Operability of at least two CEA position indicator channels is required to determine CEA positions and thereby ensure compliance with the CEA alignment and insertion limits. The CEA "Full In" and "Full Out" limits provide an additional independent means for determining the CEA positions when the CEAs are at either their fully inserted or fully withdrawn positions. Therefore, the ACTION statements applicable to inoperable CEA position indicators permit continued operations when the positions of CEAs with inoperable position indicators can be verified by the "Full In" or "Full Out" limits. Setting the "RSPT/CEAC Inoperable" addressable constant in the CPC's to indicate to the CPC's that one or both of the CEAC's is inoperable does not necessarily constitute the inoperability of the RSPT rod indications from the respective CEAC. Operability of the CEAC rod indications is determined from the normal surveillance.

CEA positions and OPERABILITY of the CEA position indicators are required to be verified on a nominal basis of once per 12 hours with more frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied.

The maximum CEA drop time restriction is consistent with the assumed CEA drop time used in the safety analyses. Measurement with T_{avg} greater than or equal to 520°F and with all reactor coolant pumps operating ensures that the measured drop times will be representative of insertion times experienced during a reactor trip at operating conditions.

MOVABLE CONTROL ASSEMBLIES (Continued)

The establishment of LSSS and LCOs require that the expected long and short term behavior of the radial peaking factors be determined. The long term behavior relates to the variation of the steady state radial peaking factors with core burnup and is affected by the amount of CEA insertion assumed, the portion of a burnup cycle over which such insertion is assumed and the expected power level variation throughout the cycle. The short term behavior relates to transient perturbations to the steady-state radial peaks due to radial xenon redistribution. The magnitudes of such perturbations depend upon the expected use of the CEAs during anticipated power reductions and load maneuvering. Analyses are performed based on the expected mode of operation of the NSSS (base load maneuvering, etc.) and from these analyses CEA insertions are determined and a consistent set of radial peaking factors defined. The Long Term Steady State and Short Term Insertion Limits are determined based upon the assumed mode of operation used in the analyses and provide a means of preserving the assumptions on CEA insertions used. The limits specified serve to limit the behavior of the radial peaking factors within the bounds determined from analysis. The actions specified serve to limit the extent of radial xenon redistribution effects to those accomodated in the analyses. The Long and Short Term Insertion Limits of Specification 3.1.3.6 are specified for the plant which has been designed for primarily base loaded operation but which has the ability to accomodate a limited amount of load maneuvering.

The Transient Insertion Limits of Specification 3.1.3.6 and the Shutdown CEA Insertion Limits of Specification 3.1.3.5 ensure that 1) the minimum SHUTDOWN MARGIN is maintained, and 2) the potential effects of a CEA ejection accident are limited to acceptable levels. Long term operation at the Transient Insertion Limits is not permitted since such operation could have effects on the core power distribution which could invalidate assumptions used to determine the behavior of the radial peaking factors.

The Part Length CEA Insertion Limits of Specification 3.1.3.7 ensure that adverse power shapes and rapid local power changes which affect radial peaking factors and DNB considerations do not occur as a result of a part length CEA group covering the same axial segment of the fuel assemblies for an extended period of time during operation.

The CEA fully withdrawn position is defined to be greater than or equal to 145 inches. The extreme limits of CEA travel, fully withdrawn and fully inserted, may be described as the upper electrical limit and lower electrical limit respectively.

ATTACHMENT C
(Existing Technical Specifications)

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.

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* See Special Test Exceptions 3.10.2 and 3.10.4.

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

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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 regulatiing 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.

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AMENDMENT NO. 19

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 Part Length CEA Insertion Limit Vs. Thermal Power

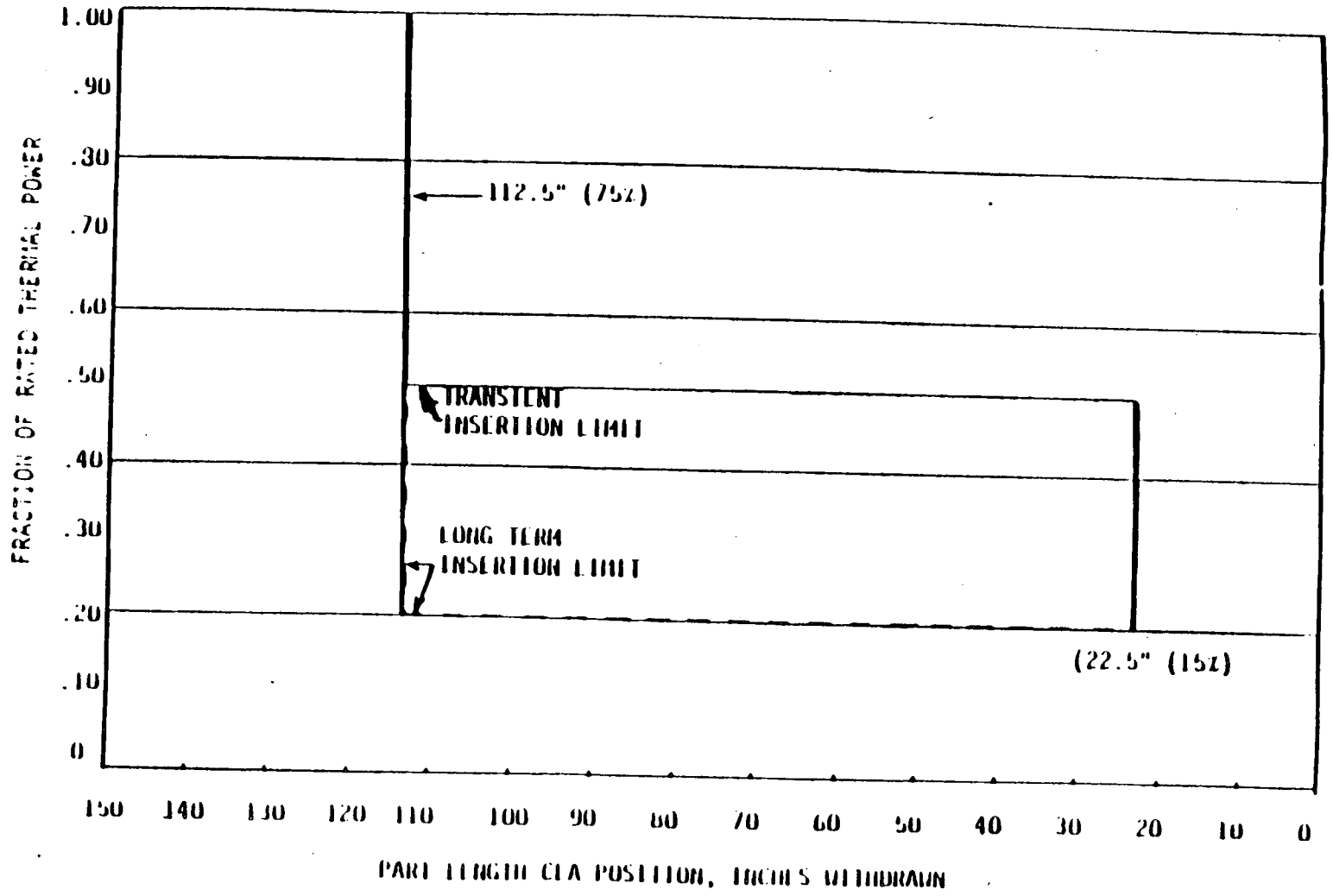

Figure 3.1-3

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AMENDMENT NO. 19

SPECIAL TEST EXCEPTIONS

3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION

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

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 Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.3 and 3.3.3.2 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.

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BORATION SYSTEMS (Continued)

The water volume limits are specified relative to the top of the highest suction connection to the tank. (Water volume below this datum is not considered recoverable for purposes of this specification.) Vortexing, internal structures and instrument error are considered in determining the tank level corresponding to the specified water volume limits.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limits on water volume and boron concentration of the RWST also ensure a pH value of between 8.0 and 10.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The maximum RWST volume is not specified since analysis of pH limits and containment flooding post-LOCA considered RWST overflow conditions.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) the potential effects of CEA misalignments are limited to acceptable levels.

The ACTION statements which permit limited variations from the basic requirements are accompanied by additional restrictions which ensure that the original design criteria are met.

The ACTION statements applicable to a stuck or untrippable CEA, to two or more inoperable CEAs and to a large misalignment (greater than or equal to 19 inches) of two or more CEAs, require a prompt shutdown of the reactor since either of these conditions may be indicative of a possible loss of mechanical functional capability of the CEAs and in the event of a stuck or untrippable CEA, the loss of SHUTDOWN MARGIN.

For small misalignments (less than 19 inches) of the CEAs, there is 1) a small effect on the time-dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, 2) a small effect on the available SHUTDOWN MARGIN, and 3) a small effect on the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with small misalignments of CEAs permits a 1-hour time interval during which attempts may be made to restore the CEA to within its alignment requirements. The 1-hour time limit is sufficient to (1) identify causes of a misaligned CEA, (2) take appropriate corrective action to realign the CEAs and (3) minimize the effects of xenon redistribution.

MOVABLE CONTROL ASSEMBLIES (Continued)

The CPCs provide protection to the core in the event of a large misalignment (greater than or equal to 19 inches) of a CEA by applying appropriate penalty factors to the calculation to account for the misaligned CEA. However, this misalignment would cause distortion of the core power distribution. This distribution may, in turn, have a significant effect on 1) the available SHUTDOWN MARGIN, 2) the time dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, and 3) the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with the large misalignment of a CEA requires a prompt realignment of the misaligned CEA.

The ACTION statements applicable to misaligned or inoperable CEAs include requirements to align the OPERABLE CEAs in a given group with the inoperable CEA. Conformance with these alignment requirements bring the core, within a short period of time, to a configuration consistent with that assumed in generating LCO and LSSS setpoints. However, extended operation with CEAs significantly inserted in the core may lead to perturbations in 1) local burnup, 2) peaking factors and 3) available shutdown margin which are more adverse than the conditions assumed to exist in the safety analyses and LCO and LSSS setpoints determination. Therefore, time limits have been imposed on operation with inoperable CEAs to preclude such adverse conditions from developing.

Operability of at least two CEA position indicator channels is required to determine CEA positions and thereby ensure compliance with the CEA alignment and insertion limits. The CEA "Full In" and "Full Out" limits provide an additional independent means for determining the CEA positions when the CEAs are at either their fully inserted or fully withdrawn positions. Therefore, the ACTION statements applicable to inoperable CEA position indicators permit continued operations when the positions of CEAs with inoperable position indicators can be verified by the "Full In" or "Full Out" limits.

CEA positions and OPERABILITY of the CEA position indicators are required to be verified on a nominal basis of once per 12 hours with more frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied.

The maximum CEA drop time restriction is consistent with the assumed CEA drop time used in the safety analyses. Measurement with T_{avg} greater than or equal to 520°F and with all reactor coolant pumps operating ensures that the measured drop times will be representative of insertion times experienced during a reactor trip at operating conditions.

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MOVABLE CONTROL ASSEMBLIES (Continued)

The establishment of LSSS and LCOs require that the expected long and short term behavior of the radial peaking factors be determined. The long term behavior relates to the variation of the steady-state radial peaking factors with core burnup and is affected by the amount of CEA insertion assumed, the portion of a burnup cycle over which such insertion is assumed and the expected power level variation throughout the cycle. The short term behavior relates to transient perturbations to the steady-state radial peaks due to radial xenon redistribution. The magnitudes of such perturbations depend upon the expected use of the CEAs during anticipated power reductions and load maneuvering. Analyses are performed based on the expected mode of operation of the NSSS (base load maneuvering, etc.) and from these analyses CEA insertions are determined and a consistent set of radial peaking factors defined. The Long Term Steady-State and Short Term Insertion Limits are determined based upon the assumed mode of operation used in the analyses and provide a means of preserving the assumptions on CEA insertions used. The limits specified serve to limit the behavior of the radial peaking factors within the bounds determined from analysis. The actions specified serve to limit the extent of radial xenon redistribution effects to those accommodated in the analyses. The Long and Short Term Insertion Limits of Specification 3.1.3.6 are specified for the plant which has been designed for primarily base loaded operation but which has the ability to accommodate a limited amount of load maneuvering.

The Transient Insertion Limits of Specification 3.1.3.6 and the Shutdown CEA Insertion Limits of Specification 3.1.3.5 ensure that 1) the minimum SHUTDOWN MARGIN is maintained, and 2) the potential effects of a CEA ejection accident are limited to acceptable levels. Long term operation at the Transient Insertion Limits is not permitted since such operation could have effects on the core power distribution which could invalidate assumptions used to determine the behavior of the radial peaking factors.

The Part Length CEA Insertion Limits of Specification 3.1.3.7 ensure that adverse power shapes and rapid local power changes which affect radial peaking factors and DNB considerations do not occur as a result of a part length CEA group covering the same axial segment of the fuel assemblies for an extended period of time during operation.

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ATTACHMENT D
(Proposed Technical Specifications)

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 365 Effective Full Power Day interval.

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 365 Effective Full Power Day interval.

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.

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 365 EFPD interval, 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 regulatiing CEA grouos 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.

PART LENGTH CEA INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

3.1.3.7 The part length CEA group shall be limited to the insertion limits shown on Figure 3.1-3 with PLCEA insertion between the Long Term Steady State Insertion Limit and the Transient Insertion Limit restricted to:

a. $\leq$ 7 Effective Full Power Days per 30 Effective Full Power Day interval, and

b. $\leq$ 14 Effective Full Power Days per 365 Effective Full Power Day interval,

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

ACTION:

a. With the part length CEA groups inserted beyond the Transient Insertion Limit, except for surveillance testing pursuant to specification 4.1.3.1.2, within two hours either:

   1. Restore the part length CEA groups to within the limit, or

   2. Reduce THERMAL POWER to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the PLCEA group position using Figure 3.1-3.

b. With the part length CEA groups inserted between the Long Term Steady State Insertion Limit and the Transient Insertion Limit for intervals > 7 EFPD per 30 EFPD interval or > 14 EFPD per 365 EFPD interval, either:

   1. Restore the part length groups to within the Long Term Steady State Insertion Limit within two hours, or

   2. Reduce THERMAL POWER to less than or equal to 20% of RATED THERMAL POWER within the next 4 hours.

SURVEILLANCE REQUIREMENTS

4.1.3.7 The position of the part length CEA groups shall be determined to be within the Transient Insertion Limit at least once per 12 hours. The accumulated time during which the part length CEA groups are inserted beyond the Long Term Steady State Insertion Limit but within the Transient Insertion Limit shall be determined at least once per 24 hours.

* See Special Test Exception 3.10.2.

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

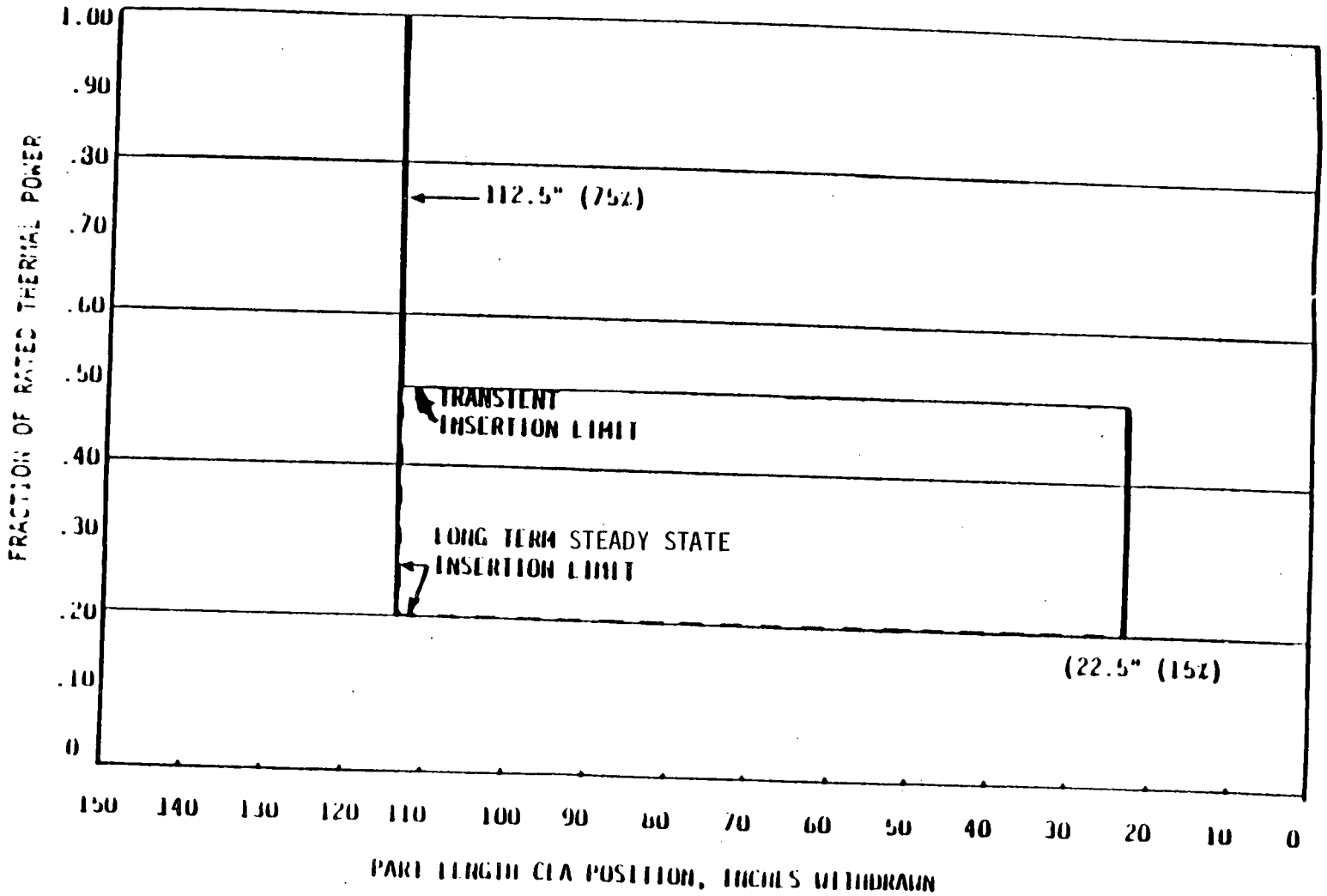

Figure 3.1-3

SPECIAL TEST EXCEPTIONS

3/4.10.2 GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION

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, 3.1.3.7, 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, 3.1.3.7, 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

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, 3.1.3.7, 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 Detector Monitoring System pursuant to the requirements of Specifications 4.2.1.3 and 3.3.3.2 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, 3.1.3.7, 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.

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BORATION SYSTEMS (Continued)

The water volume limits are specified relative to the top of the highest suction connection to the tank. (Water volume below this datum is not considered recoverable for purposes of this specification.) Vortexing, internal structures and instrument error are considered in determining the tank level corresponding to the specified water volume limits.

The OPERABILITY of one boron injection system during REFUELING ensures that this system is available for reactivity control while in MODE 6.

The limits on water volume and boron concentration of the RWST also ensure a pH value of between 8.0 and 10.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components. The maximum RWST volume is not specified since analysis of pH limits and containment flooding post-LOCA considered RWST overflow conditions.

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

The specifications of this section ensure that (1) acceptable power distribution limits are maintained, (2) the minimum SHUTDOWN MARGIN is maintained, and (3) the potential effects of CEA misalignments are limited to acceptable levels.

The ACTION statements which permit limited variations from the basic requirements are accompanied by additional restrictions which ensure that the original design criteria are met.

The ACTION statements applicable to a stuck or untrippable CEA, to two or more inoperable CEAs and to a large misalignment (greater than or equal to 19 inches) of two or more CEAs, require a prompt shutdown of the reactor since either of these conditions may be indicative of a possible loss of mechanical functional capability of the CEAs and in the event of a stuck or untrippable CEA, the loss of SHUTDOWN MARGIN.

For small misalignments (less than 19 inches) of the CEAs, there is 1) a small effect on the time-dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, 2) a small effect on the available SHUTDOWN MARGIN, and 3) a small effect on the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with small misalignments of CEAs permits a 1-hour time interval during which attempts may be made to restore the CEA to within its alignment requirements. The 1-hour time limit is sufficient to (1) identify causes of a misaligned CEA, (2) take appropriate corrective action to realign the CEAs and (3) minimize the effects of xenon redistribution.

MOVABLE CONTROL ASSEMBLIES (Continued)

The CPCs provide protection to the core in the event of a large misalignment (greater than or equal to 19 inches) of a CEA by applying appropriate penalty factors to the calculation to account for the misaligned CEA. However, this misalignment would cause distortion of the core power distribution. This distribution may, in turn, have a significant effect on 1) the available SHUTDOWN MARGIN, 2) the time dependent long term power distributions relative to those used in generating LCOs and LSSS setpoints, and 3) the ejected CEA worth used in the safety analysis. Therefore, the ACTION statement associated with the large misalignment of a CEA requires a prompt realignment of the misaligned CEA.

The ACTION statements applicable to misaligned or inoperable CEAs include requirements to align the OPERABLE CEAs in a given group with the inoperable CEA. Conformance with these alignment requirements bring the core, within a short period of time, to a configuration consistent with that assumed in generating LCO and LSSS setpoints. However, extended operation with CEAs significantly inserted in the core may lead to perturbations in 1) local burnup, 2) peaking factors and 3) available shutdown margin which are more adverse than the conditions assumed to exist in the safety analyses and LCO and LSSS setpoints determination. Therefore, time limits have been imposed on operation with inoperable CEAs to preclude such adverse conditions from developing.

Operability of at least two CEA position indicator channels is required to determine CEA positions and thereby ensure compliance with the CEA alignment and insertion limits. The CEA "Full In" and "Full Out" limits provide an additional independent means for determining the CEA positions when the CEAs are at either their fully inserted or fully withdrawn positions. Therefore, the ACTION statements applicable to inoperable CEA position indicators permit continued operations when the positions of CEAs with inoperable position indicators can be verified by the "Full In" or "Full Out" limits.

CEA positions and OPERABILITY of the CEA position indicators are required to be verified on a nominal basis of once per 12 hours with more frequent verifications required if an automatic monitoring channel is inoperable. These verification frequencies are adequate for assuring that the applicable LCO's are satisfied.

The maximum CEA drop time restriction is consistent with the assumed CEA drop time used in the safety analyses. Measurement with T_{avg} greater than or equal to 520°F and with all reactor coolant pumps operating ensures that the measured drop times will be representative of insertion times experienced during a reactor trip at operating conditions.

MOVABLE CONTROL ASSEMBLIES (Continued)

The establishment of LSSS and LCOs require that the expected long and short term behavior of the radial peaking factors be determined. The long term behavior relates to the variation of the steady-state radial peaking factors with core burnup and is affected by the amount of CEA insertion assumed, the portion of a burnup cycle over which such insertion is assumed and the expected power level variation throughout the cycle. The short term behavior relates to transient perturbations to the steady-state radial peaks due to radial xenon redistribution. The magnitudes of such perturbations depend upon the expected use of the CEAs during anticipated power reductions and load maneuvering. Analyses are performed based on the expected mode of operation of the NSSS (base load maneuvering, etc.) and from these analyses CEA insertions are determined and a consistent set of radial peaking factors defined. The Long Term Steady-State and Short Term Insertion Limits are determined based upon the assumed mode of operation used in the analyses and provide a means of preserving the assumptions on CEA insertions used. The limits specified serve to limit the behavior of the radial peaking factors within the bounds determined from analysis. The actions specified serve to limit the extent of radial xenon redistribution effects to those accommodated in the analyses. The Long and Short Term Insertion Limits of Specification 3.1.3.6 are specified for the plant which has been designed for primarily base loaded operation but which has the ability to accommodate a limited amount of load maneuvering.

The Transient Insertion Limits of Specification 3.1.3.6 and the Shutdown CEA Insertion Limits of Specification 3.1.3.5 ensure that 1) the minimum SHUTDOWN MARGIN is maintained, and 2) the potential effects of a CEA ejection accident are limited to acceptable levels. Long term operation at the Transient Insertion Limits is not permitted since such operation could have effects on the core power distribution which could invalidate assumptions used to determine the behavior of the radial peaking factors.

The Part Length CEA Insertion Limits of Specification 3.1.3.7 ensure that adverse power shapes and rapid local power changes which affect radial peaking factors and DNB considerations do not occur as a result of a part length CEA group covering the same axial segment of the fuel assemblies for an extended period of time during operation.

The CEA fully withdrawn position is defined to be greater than or equal to 145 inches. The extreme limits of CEA travel, fully withdrawn and fully inserted, may be described as the upper electrical limit and lower electrical limit respectively.

DESCRIPTION AND SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-10/15-223, REVISION 1

This is a request to revise Technical Specification 3/4.3.3.8, "Radioactive Liquid Effluent Monitoring Instrumentation."

Existing Specifications

Unit 2: See Attachment A
Unit 3: See Attachment B

Proposed Specifications

Unit 2: See Attachment C
Unit 3: See Attachment D

Description

The proposed change would revise Table 3.3-12 of Technical Specification 3/4.3.3.8, "Radioactive Liquid Effluent Monitoring (RLEM) Instrumentation." Technical Specification 3/4.3.3.8 requires that the RLEM instrumentation channels be operable; and defines a number of functional tests and calibration tests that must be periodically conducted in order to assure such operability. Table 3.3-12 defines the minimum channels operable and actions to be taken to verify operability of each type of RLEM instrumentation. Specifically, Table 3.3-12 requires that the turbine building sumps effluent line monitor (RT-7821) be operable. In the event that it is inoperable, Action 30 specifies that effluent discharges may continue provided the grab samples are periodically taken and analyzed. The proposed change would delete Action 30 and apply Action 29 to the turbine building sumps effluent line monitor. Currently, Action 29 allows releases to continue provided that grab samples be collected and analyzed at least once per 8 hours when the specific activity of the secondary coolant is greater than .01 microcuries/gram or at least once per 24 hours when the specific activity of the secondary coolant is less than or equal to .01 microcuries/gram. The proposed change revises Action 29 to specify that grab samples must be analyzed within 24 hours of collection, to allow releases to continue provided that grab samples be collected at least once per 12 hours when the specific activity of the secondary coolant is greater than .01 microcuries/gram or at least once per 24 hours when the specific activity of the secondary coolant is less than or equal to .01 microcuries/gram. This revision to Action 29 will also revise the sampling frequency of (1) steam generator blowdown effluent line (RT-7817) and (2) steam generator blowdown bypass effluent lines (RT-6759 and RT-6753) when these monitors are inoperable.

Safety Analysis.

The proposed change described above shall be deemed to involve significant hazards considerations if there is a positive finding in any of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of any accident previously evaluated?

   Response: No

   No assumptions are made regarding liquid effluent monitor operability or compensatory actions in any previously analyzed accident. Therefore, the proposed change has no significant impact on the probability or consequences of an accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change does not alter the configuration of the facility; therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

   Response: No

   All effluent monitors affected by the proposed change do not provide radiation level indication and alarm annunciation to enhance safety measures. Instead, they provide only a means for collection and laboratory analysis of required routine samples. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

The Commission has provided guidance concerning the application of standards for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870) of amendments that are considered not likely to involve significant hazards considerations. Example (vi) relates to a change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change are clearly within all acceptance criteria with respect to the system or component specified in the Standard Review Plan (SRP). Example (i) relates to a purely administrative change to technical specifications: for example, a change to achieve consistency throughout the technical specifications, correction of an error, or a change in nomenclature.

In this case, the pertinent acceptance criteria are found in SRP Section 11.5, "Process and Effluent Radiological Monitoring Instrumentation and Sampling Systems." SRP Section 11.5 requires that for all of the samples, a periodic analysis frequency for the collected samples should be specified in the Technical Specifications, NUREG 0472 "Standard Radiological and Effluent Treatment Technical Specifications for Pressurized Water Reactors (SRETS)" providing acceptable models. The proposed change deletes Action 30 and applies Action 29 to the Turbine Building Sumps Effluent Line monitor instead. It also redefines the sampling frequency in Action 29 from an eight (8) hour interval to a twelve (12) hour interval. Since the proposed change to Action 29 specifies a periodic analysis frequency for the collected samples in accordance with SRP Section 11.5 and NUREG 0472 requirements, sampling of effluent releases in (1) Steam Generator Blowdown Effluent Line (RT-1817) and (2) Steam Generator Blowdown Bypass Effluent Lines (RT-6759 and RT-6753) remains unaffected. More important, the sampling requirements are compensatory in nature and are not incorporated in any postulated accident analysis. There is no increase in the probability or consequences of a previously analysed accident. All effluent monitors affected by Action 29 do not provide radiation level indication and alarm annunciation other than a means for collection and laboratory analysis of required routine samples. No safety margin reduction will result in the relaxation of sampling frequencies. Therefore, the deletion of Action 30 and replacement with Action 29 still meets the acceptance criteria of SRP Section 11.5 and it is similar to Example (vi).

Additionally, the proposed change would revise Action 29 that grab samples be analyzed within the following 24 hours. This change is consistent with other section of NUREG 0427. In fact, it makes Action 29 in conformity with other effluent monitoring action statements such as "Condenser Evacuation System and Plant Vent Stack Noble Gas" - Action 37 in Technical Specification which specify both the grab sample frequency and the period during which analysis of samples must be completed. Because this change achieves consistency within the TS, this proposed change is similar to Example (i) of 48 FR 14870.

Safety and Significant Hazards Determination

Based on the Safety Evaluation, it is concluded that: 1) the proposed change does not constitute a significant hazards consideration as defined by 10 CFR 50.92; and 2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and 3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Environmental Statement.

DS:6993F

ATTACHMENT A

UNIT 2 EXISTING SPECIFICATION

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line - 2/3 RT - 7813	1	28
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line - 2 RT - 7817	1	29
c. Turbine Building Sumps Effluent Line - 2 RT - 7821	1	30
d. Steam Generator (E088) Blowdown Bypass Effluent Line - 2RT6759	1	29
e. Steam Generator (E089) Blowdown Bypass Effluent Line - 2RT6753	1	29
2. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	31
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line	1	31
c. Steam Generator (E088) Blowdown Bypass Effluent Line	1	31
d. Steam Generator (E089) Blowdown Bypass Effluent Line	1	31

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TABLE 3.3-12 (Continued)

TABLE NOTATION

ACTION 28 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.3, and

b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 29 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcuries/gram:

a. At least once per 8 hours when the specific activity of the secondary coolant is greater than 0.01 microcuries/gram DOSE EQUIVALENT I-131.

b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microcuries/gram DOSE EQUIVALENT I-131.

ACTION 30 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcuries/ml.

ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves may be used to estimate flow.

ATTACHMENT B

UNIT 3 EXISTING SPECIFICATION

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line - 2/3 RT - 7813	1	28
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line - 3RT - 7817	1	29
c. Turbine Building Sumps Effluent Line - 3RT - 7821	1	30
d. Steam Generator (E088) Blowdown Bypass Effluent Line - 3RT6759	1	29
e. Steam Generator (E089) Blowdown Bypass Effluent Line - 3RT6753	1	29
2. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	31
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line	1	31
c. Steam Generator (E088) Blowdown Bypass Effluent Line	1	31
d. Steam Generator (E089) Blowdown Bypass Effluent Line	1	31

TABLE 3.3-12 (Continued)

TABLE NOTATION

ACTION 28 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.3, and

b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 29 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcuries/gram:

a. At least once per 8 hours when the specific activity of the secondary coolant is greater than 0.01 microcuries/gram DOSE EQUIVALENT I-131.

b. At least once per 24 hours when the specific activity of the secondary coolant is less than or equal to 0.01 microcuries/gram DOSE EQUIVALENT I-131.

ACTION 30 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that, at least once per 8 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcuries/ml.

ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves may be used to estimate flow.

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ATTACHMENT C

UNIT 2 PROPOSED SPECIFICATION

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line - 2/3 RT - 7813	1	28
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line - 2 RT - 7817	1	29
c. Turbine Building Sumps Effluent Line - 2 RT - 7821	1	29
d. Steam Generator (E088) Blowdown Bypass Effluent Line - 2RT6759	1	29
e. Steam Generator (E089) Blowdown Bypass Effluent Line - 2RT6753	1	29
2. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	31
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line	1	31
c. Steam Generator (E088) Blowdown Bypass Effluent Line	1	31
d. Steam Generator (E089) Blowdown Bypass Effluent Line	1	31

TABLE 3.3-12 (Continued)

TABLE NOTATION

ACTION 28 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.3, and

b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 29 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcuries/gram:

a. Collected at least once per 12 hours and analyzed within 24 hours of their collection when the specific activity of the secondary coolant is greater than 0.01 microcuries/gram DOSE EQUIVALENT I-131.

b. Collected at least once per 24 hours and analyzed within 24 hours of their collection when the specific activity of the secondary coolant is less than or equal to 0.01 microcuries/gram DOSE EQUIVALENT I-131.

ACTION 30 - INTENTIONALLY DELETED

ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves may be used to estimate flow.

ATTACHMENT D

UNIT 3 PROPOSED SPECIFICATION

TABLE 3.3-12

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE		
a. Liquid Radwaste Effluent Line - 2/3 RT - 7813	1	28
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line - 3RT - 7817	1	29
c. Turbine Building Sumps Effluent Line - 3RT - 7821	1	29
d. Steam Generator (E088) Blowdown Bypass Effluent Line - 3RT6759	1	29
e. Steam Generator (E089) Blowdown Bypass Effluent Line - 3RT6753	1	29
2. FLOW RATE MEASUREMENT DEVICES		
a. Liquid Radwaste Effluent Line	1	31
b. Steam Generator Blowdown (Neutralization Sump) Effluent Line	1	31
c. Steam Generator (E088) Blowdown Bypass Effluent Line	1	31
d. Steam Generator (E089) Blowdown Bypass Effluent Line	1	31

TABLE 3.3-12 (Continued)

TABLE NOTATION

ACTION 28 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases may continue for up to 14 days provided that prior to initiating a release:

a. At least two independent samples are analyzed in accordance with Specification 4.11.1.1.3, and

b. At least two technically qualified members of the Facility Staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

ACTION 29 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are collected and analyzed for gross radioactivity (beta or gamma) at a limit of detection of at least 10^{-7} microcuries/gram:

a. Collected at least once per 12 hours and analyzed within 24 hours of their collection when the specific activity of the secondary coolant is greater than 0.01 microcuries/gram DOSE EQUIVALENT I-131.

b. Collected at least once per 24 hours and analyzed within 24 hours of their collection when the specific activity of the secondary coolant is less than or equal to 0.01 microcuries/gram DOSE EQUIVALENT I-131.

ACTION 30 - INTENTIONALLY DELETED

ACTION 31 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 4 hours during actual releases. Pump curves may be used to estimate flow.

DESCRIPTION OF SAFETY ANALYSIS
OF PROPOSED CHANGE NPF-10/15-225

This is a request to revise Technical Specification 3/4.11.2.1, "Dose Rate," Technical Specification 3/4.11.1.3, "Liquid Waste Treatment," and Technical Specification 3/4.11.2.4, "Gaseous Radwaste Treatment."

Existing Specifications

Unit 2 - See Attachment A
Unit 3 - See Attachment B

Proposed Specifications

Unit 2 - See Attachment C
Unit 3 - See Attachment D

Description

The proposed change would revise the Surveillance Requirements identified by Note "d" of Table 4.11-2 to Technical Specification 3/4.11.2.1, "Dose Rate." It would also redefine the Surveillance Requirements on operability for the Liquid Radwaste Treatment System in Technical Specification 3/4.11.1.3, "Liquid Waste Treatment," as well as those for the Ventilation Exhaust Treatment System and Gaseous Radwaste Treatment System in Technical Specification 3/4.11.2.4, "Gaseous Radwaste Treatment." Surveillance Requirements 4.11.2.1.2 specifies, inter alia, sampling and analysis frequency of radioiodines, tritium, and radioactive materials in particulate form with half lives greater than eight days in gaseous effluents pursuant to Table 4.11-2. Note "d" of Table 4.11-2 states in part that "sampling shall also be performed at least once per 24 hours for at least 7 days following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses shall be completed within 48 hours of changing." The proposed change would revise the requirement to read that "sampling shall also be performed at least once between 28 to 36 hours following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses shall be completed within 48 hours of changing." A corresponding editorial change to replace "24 hours" with "this period" in the last sentence of Note "d" has also been made. The operability requirements for the Liquid Radwaste Treatment System in Surveillance Requirements 4.11.1.3.2 and the Ventilation Exhaust Treatment System/Gaseous Radwaste Treatment System in Surveillance Requirements 4.11.2.4.2 would be modified as well. The existing requirements specify that the appropriate system equipments used to reduce radioactive (gaseous or liquid) effluents be tested for their operability at least 15 minutes when left idle for more than 92 days. The proposed change would exempt these requirements so long as all pertinent technical specifications on the release limits for radioactive effluents are met.

Safety Analysis

The proposed changes discussed above shall be deemed to involve a significant hazards consideration if there is positive finding in any one of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The probability or consequences of an accident is not increased by the proposed change since sampling and analysis frequency is unrelated to any previously evaluated accident and so is the operability of the radwaste treatment equipment.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change does not alter the configuration of the plant or its operation. Thus, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

   Response: No

   The proposed change involves a reduction in sampling and analysis frequency of radioiodines and radioactive gaseous effluents in particulate form. However, the proposed change would not affect any radioactive effluent release limits since sampling and analysis would be performed continuously on a 7 day basis and at least once within the specified time frame for each prescribed operating condition. Furthermore, both liquid and gaseous radwaste treatment systems are not required to control the release of radioactive materials so long as the discharge is kept under the allowable technical specification limits. Hence, there is no reduction in a margin of safety associated with the proposed change.

The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870) of amendments that are considered not likely to involve significant hazards considerations. Example (vi) relates to a change which either may result in some increase to the probability or consequences of a previously analyzed accident or may reduce in

some way a safety margin, but where the results of the change are clearly within all acceptance criteria with respect to the system or component specified in the Standard Review Plan: for example, a change resulting from the application of a refinement of a previously used calculational model or design method. The proposed change is similar to Example (vi) in that it involves a reduction of sampling and analysis frequency of radioiodines and radioactive gaseous effluents in particulate form and a modification to the operability requirements of the radwaste treatment systems in the existing technical specifications without any compromise to safety margin.

In this case, the pertinent acceptance criteria are found in SRP Section 11.5, "Process and Effluent Radiological Monitoring Instrumentation and Sampling Systems." SRP Section 11.5 requires that for all of the samples, a periodic analysis frequency for the collected samples should be specified in the Technical Specifications. The reduction in sampling and analysis frequency will not affect the effectiveness of the radioactive gaseous effluent monitoring instrumentation system and is within the scope of SRP Section 11.5. Gaseous effluents discharged from the facility, i.e., condenser air ejector, steam generator blowdown vent, equipment vents, ventilation exhausts, and plant vent stack, will be constantly monitored. The airborne radiation monitors used in monitoring will initiate containment purge isolation and fuel handling isolation in the event of a postulated accident. Hence, the proposed change would not increase the probability or consequence of any previously evaluated accident and nor would it create a new or different kind of accident resulting from a reduction in sampling and analysis frequency of radioiodines and radioactive gaseous effluents in particulate form.

The proposed change would revise the requirement of a continuous sampling of radioiodines and radioactive gaseous effluents in particulate form on a 24 hour basis during the first seven day period after shutdown, startup or THERMAL POWER change exceeding 15% of RATED THERMAL POWER in one hour with a subsequent analysis performed within 48 hours. The revision would reduce the frequency of sampling to only once between 28 to 36 hours with a corresponding analysis within 48 hours for each prescribed condition identified above. Since radioiodines and principal gamma emitters tend to peak out within the first 36 hours in each situation, any sampling taken during this time period will provide a better indication of the peak concentration of those radioactive materials presented in gaseous effluents. Thus, it is not necessary to sample every 24 hours for at least 7 days as required by the existing Technical Specification to determine the peak dose rate.

The radwaste treatment systems identified in Technical Specifications 3/4.11.1.3 and 3/4.11.2.4 are used to reduce the radioactive materials in liquid or gaseous effluents prior to their discharge when the projected doses of these radioactive effluents from the site exceed the technical specification limits. As a result, it is not critical to monitor the operability of the appropriate system equipment as specified in the current Surveillance Requirements when there is no need to use them. The proposed change would therefore exempt the unnecessary testing of equipment operability when the radwaste treatment systems remain idle so long as radioactive

materials to be discharged do not exceed the technical specification dose limits. In case there is a need to operate these radwaste treatment systems for reduction of radioactive materials, which are subsequently found to be inoperable, all radioactive effluents can be stored temporarily on site without any discharge to the environment while the affected equipment is being repaired and restored to their OPERABLE status. Hence, there is no anticipated reduction in a margin of safety with respect to a modification of operability requirements for the radwaste treatment equipment.

In summary, the proposed change would not modify or alter the once per 7 day overall sampling frequency set forth in Note "d" of Table 4.11-2. If the results of any subsequent sampling and analysis obtained seven days later indicate that the specified dose limits for radioiodines and radioactive gaseous effluents in particulate form have been exceeded, the release rate of these radioactive materials will be curtailed in accordance with the ACTION statement. Likewise, the proposed change would not increase the potential of any inadvertent release of radioactive materials resulting from the exemption of operability requirements for the radwaste treatment systems. Thus, the proposed change will not involve a decrease in any margin of safety and is therefore in compliance with Example (vi) of 48 FR 14870.

Safety and Significant Hazards Determination

Based on the above Safety Analysis, it is concluded that: (1) there is a reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (2) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

SPWu:8018F

ATTACHMENT A

Existing Technical Specifications, Unit 2

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate in unrestricted areas due to radioactive materials released in gaseous effluents from the site (see Figure 5.1-3) shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and

b. For all radioiodines, tritium and for all radioactive materials in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to any organ.

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, immediately decrease the release rate to within the above limit(s).

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM.

4.11.2.1.2 The dose rate due to radioiodines, tritium and radioactive materials in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11-2.

TABLE 4.11-2

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml)[a]
A. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters[g]	1×10^{-4}
B. Containment Purge 42 inch	P Each Purge[b,c]	P Each Purge[b]	Principal Gamma Emitters[g]	1×10^{-4}
			H-3	1×10^{-6}
8 inch	M[b] Grab Sample	M[b]	Principal Gamma Emmitters[g]	1×10^{-4}
			H-3	1×10^{-6}
C. 1. Condenser Evacuation System	M[b] Grab Sample	M[b]	Principal Gamma Emitters[g]	1×10^{-4}
			H-3	1×10^{-6}
2. Plant Vent Stack	W[b,e]	W[b]		
D. All Release Types as listed in B and C above.	Continuous[f] Sampler	W[d] Charcoal Sample	I-131	1×10^{-12}
			I-133	1×10^{-10}
	Continuous[f] Sampler	W[d] Particulate Sample	Principal Gamma Emitters[g] (I-131, Others)	1×10^{-11}
	Continuous[f] Sampler	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
	Continuous[f] Sampler	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}
	Continuous[f] Monitor	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	1×10^{-6}
E. Incinerated Oil[h]	Each batch[i] Grab Sample	Each batch[i]	Principal Gamma Emitters[g]	5×10^{-7}

TABLE 4.11-2 (Continued)

TABLE NOTATION

a. The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above (as microcurie per unit mass or volume),

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute),

E is the counting efficiency (as counts per transformation),

V is the sample size (in units of mass or volume),

2.22×10^6 is the number of transformations per minute per microcurie,

Y is the fractional radiochemical yield (when applicable),

λ is the radioactive decay constant for the particular radionuclide, and

Δt is the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples).

The value of s_b used in the calculation of the LLD for a particular measurement system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance.

In calculating the LLD for a radionuclide determine by gamma ray spectrometry, the background should include the typical contributions of other radionuclides normally present in the samples. Typical values of E, V, Y and Δt should be used in the calculation.

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of the measurement system and not as a posteriori (after the fact) limit for a particular measurement.*

*For a more complete discussion of the LLD, and other detection limits, see the following:
(1) HASL Procedures Manual, HASL-300 (revised annually).
(2) Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry" Anal. Chem. 40, 586-93 (1968).
(3) Hartwell, J. K., "Detection Limits for Radioisotopic Counting Techniques," Atlantic Richfield Hanford Company Report ARH-2537 (June 22, 1972).

TABLE 4.11-2 (Continued)

TABLE NOTATION

b. Analyses shall also be performed following shutdown, startup, or a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a 1-hour period.

c. Tritium grab samples shall be taken at least once per 24 hours when the refueling canal is flooded.

d. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing (or after removal from sampler). Sampling shall also be performed at least once per 24 hours for at least 7 days following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses shall be completed within 48 hours of changing. When samples collected for 24 hours are analyzed, the corresponding LLD's may be increased by a factor of 10.

e. Tritium grab samples shall be taken at least once per 7 days from the ventilation exhaust from the spent fuel pool area, whenever spent fuel is in the spent fuel pool.

f. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

g. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measureable and identifiable, together with the above nuclides, shall also be identified and reported.

h. Incinerated oil may be discharged at points other than the plant vent stack. Release shall be accounted for based on pre-release grab sample data.

i. Samples for incinerated oil releases shall be collected from representative samples of filtered oil in liquid form.

RADIOACTIVE EFFLUENTS

LIQUID WASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.1.3 The liquid radwaste treatment system shall be OPERABLE. The appropriate portions of the system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from the site (see Figure 5.1-4) when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the liquid radwaste treatment system inoperable for more than 31 days or with radioactive liquid waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.1.3.2 The liquid radwaste treatment system shall be demonstrated OPERABLE by operating the liquid radwaste treatment system equipment for at least 15 minutes at least once per 92 days unless the liquid radwaste system has been utilized to process radioactive liquid effluents during the previous 92 days.

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*Per reactor unit

RADIOACTIVE EFFLUENTS

GASEOUS RADWASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.2.4 The GASEOUS RADWASTE TREATMENT SYSTEM and the VENTILATION EXHAUST TREATMENT SYSTEM shall be OPERABLE. The appropriate portions of the GASEOUS RADWASTE TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected gaseous effluent air doses due to gaseous effluent releases from the site (see Figure 5.1-3), when averaged over 31 days, would exceed 0.2 mrad for gamma radiation and 0.4 mrad for beta radiation. The appropriate portions of the VENTILATION EXHAUST TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses due to gaseous effluent releases from the site (see Figure 5.1-3) when averaged over 31 days would exceed 0.3 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the GASEOUS RADWASTE TREATMENT SYSTEM and/or the VENTILATION EXHAUST TREATMENT SYSTEM inoperable for more than 31 days or with gaseous waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.4.1 Doses due to gaseous releases from the site shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.2.4.2 The GASEOUS RADWASTE TREATMENT SYSTEM and VENTILATION EXHAUST TREATMENT SYSTEM shall be demonstrated OPERABLE by operating the GASEOUS RADWASTE TREATMENT SYSTEM equipment and VENTILATION EXHAUST TREATMENT SYSTEM equipment for at least 15 minutes, at least once per 92 days unless the appropriate system has been utilized to process radioactive gaseous effluents during the previous 92 days.

*These doses are per reactor unit.

ATTACHMENT B

Existing Technical Specifications, Unit 3

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate in unrestricted areas due to radioactive materials released in gaseous effluents from the site (see Figure 5.1-3) shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and

b. For all radioiodines, tritium and for all radioactive materials in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to any organ.

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, immediately decrease the release rate to within the above limit(s).

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM.

4.11.2.1.2 The dose rate due to radioiodines, tritium and radioactive materials in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11-2.

TABLE 4.11-2

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml)[a]
A. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters[g]	$1x10^{-4}$
B. Containment Purge 42 inch	P Each Purge[b,c]	P Each Purge[b]	Principal Gamma Emitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
8 inch	M[b] Grab Sample	M[b]	Principal Gamma Emmitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
C. 1. Condenser Evacuation System	M[b] Grab Sample	M[b]	Principal Gamma Emitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
2. Plant Vent Stack	W[b,e]	W[b]		
D. All Release Types as listed in B and C above.	Continuous[f] Sampler	W[d] Charcoal Sample	I-131	$1x10^{-12}$
			I-133	$1x10^{-10}$
	Continuous[f] Sampler	W[d] Particulate Sample	Principal Gamma Emitters[g] (I-131, Others)	$1x10^{-11}$
	Continuous[f] Sampler	M Composite Particulate Sample	Gross Alpha	$1x10^{-11}$
	Continuous[f] Sampler	Q Composite Particulate Sample	Sr-89, Sr-90	$1x10^{-11}$
	Continuous[f] Monitor	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	$1x10^{-6}$
E. Incinerated Oil[h]	Each batch[i] Grab Sample	Each batch[i]	Principal Gamma Emitters[g]	$5x10^{-7}$

TABLE 4.11-2 (Continued)

TABLE NOTATION

a. The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above (as microcurie per unit mass or volume),

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute),

E is the counting efficiency (as counts per transformation),

V is the sample size (in units of mass or volume),

2.22×10^6 is the number of transformations per minute per microcurie,

Y is the fractional radiochemical yield (when applicable),

λ is the radioactive decay constant for the particular radionuclide, and

Δt is the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples).

The value of s_b used in the calculation of the LLD for a particular measurement system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance.

In calculating the LLD for a radionuclide determined by gamma ray spectrometry, the background should include the typical contributions of other radionuclides normally present in the samples. Typical values of E, V, Y and Δt should be used in the calculation.

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of the measurement system and not as a posteriori (after the fact) limit for a particular measurement.*

*For a more complete discussion of the LLD, and other detection limits, see the following:
(1) HASL Procedures Manual, HASL-300 (revised annually).
(2) Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry" Anal. Chem. 40, 586-93 (1968).
(3) Hartwell, J. K., "Detection Limits for Radioisotopic Counting Techniques," Atlantic Richfield Hanford Company Report ARH-2537 (June 22, 1972).

TABLE 4.11-2 (Continued)

TABLE NOTATION

b. Analyses shall also be performed following shutdown, startup, or a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.

c. Tritium grab samples shall be taken at least once per 24 hours when the refueling canal is flooded.

d. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing (or after removal from sampler). Sampling shall also be performed at least once per 24 hours for at least 7 days following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses shall be completed within 48 hours of changing. When samples collected for 24 hours are analyzed, the corresponding LLD's may be increased by a factor of 10.

e. Tritium grab samples shall be taken at least once per 7 days from the ventilation exhaust from the spent fuel pool area, whenever spent fuel is in the spent fuel pool.

f. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

g. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measureable and identifiable, together with the above nuclides, shall also be identified and reported.

h. Incinerated oil may be discharged at points other than the plant vent stack. Release shall be accounted for based on pre-release grab sample data.

i. Samples for incinerated oil releases shall be collected from representative samples of filtered oil in liquid form.

RADIOACTIVE EFFLUENTS

LIQUID WASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.1.3 The liquid radwaste treatment system shall be OPERABLE. The appropriate portions of the system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from the site (see Figure 5.1-4) when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the liquid radwaste treatment system inoperable for more than 31 days or with radioactive liquid waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.1.3.2 The liquid radwaste treatment system shall be demonstrated OPERABLE by operating the liquid radwaste treatment system equipment for at least 15 minutes at least once per 92 days unless the liquid radwaste system has been utilized to process radioactive liquid effluents during the previous 92 days.

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*Per reactor unit

RADIOACTIVE EFFLUENTS

GASEOUS RADWASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.2.4 The GASEOUS RADWASTE TREATMENT SYSTEM and the VENTILATION EXHAUST TREATMENT SYSTEM shall be OPERABLE. The appropriate portions of the GASEOUS RADWASTE TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected gaseous effluent air doses due to gaseous effluent releases from the site (see Figure 5.1-3), when averaged over 31 days, would exceed 0.2 mrad for gamma radiation and 0.4 mrad for beta radiation. The appropriate portions of the VENTILATION EXHAUST TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses due to gaseous effluent releases from the site (see Figure 5.1-3) when averaged over 31 days would exceed 0.3 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the GASEOUS RADWASTE TREATMENT SYSTEM and/or the VENTILATION EXHAUST TREATMENT SYSTEM inoperable for more than 31 days or with gaseous waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.4.1 Doses due to gaseous releases from the site shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.2.4.2 The GASEOUS RADWASTE TREATMENT SYSTEM and VENTILATION EXHAUST TREATMENT SYSTEM shall be demonstrated OPERABLE by operating the GASEOUS RADWASTE TREATMENT SYSTEM equipment and VENTILATION EXHAUST TREATMENT SYSTEM equipment for at least 15 minutes, at least once per 92 days unless the appropriate system has been utilized to process radioactive gaseous effluents during the previous 92 days.

* These doses are per reactor unit.

ATTACHMENT C

Proposed Technical Specifications, Unit 2

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate in unrestricted areas due to radioactive materials released in gaseous effluents from the site (see Figure 5.1-3) shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and

b. For all radioiodines, tritium and for all radioactive materials in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to any organ.

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, immediately decrease the release rate to within the above limit(s).

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM.

4.11.2.1.2 The dose rate due to radioiodines, tritium and radioactive materials in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11-2.

TABLE 4.11-2

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml)[a]
A. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters[g]	1×10^{-4}
B. Containment Purge 42 inch	P Each Purge[b,c]	P Each Purge[b]	Principal Gamma Emitters[g]	1×10^{-4}
			H-3	1×10^{-6}
8 inch	M[b] Grab Sample	M[b]	Principal Gamma Emmitters[g]	1×10^{-4}
			H-3	1×10^{-6}
C. 1. Condenser Evacuation System	M[b] Grab Sample	M[b]	Principal Gamma Emitters[g]	1×10^{-4}
2. Plant Vent Stack	W[b,e]	W[b]	H-3	1×10^{-6}
D. All Release Types as listed in B and C above.	Continuous[f] Sampler	W[d] Charcoal Sample	I-131	1×10^{-12}
			I-133	1×10^{-10}
	Continuous[f] Sampler	W[d] Particulate Sample	Principal Gamma Emitters[g] (I-131, Others)	1×10^{-11}
	Continuous[f] Sampler	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
	Continuous[f] Sampler	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}
	Continuous[f] Monitor	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	1×10^{-6}
E. Incinerated Oil[h]	Each batch[i] Grab Sample	Each batch[i]	Principal Gamma Emitters[g]	5×10^{-7}

TABLE 4.11-2 (Continued)

TABLE NOTATION

a. The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above (as microcurie per unit mass or volume),

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute),

E is the counting efficiency (as counts per transformation),

V is the sample size (in units of mass or volume),

2.22×10^6 is the number of transformations per minute per microcurie,

Y is the fractional radiochemical yield (when applicable),

λ is the radioactive decay constant for the particular radionuclide, and

Δt is the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples).

The value of s_b used in the calculation of the LLD for a particular measurement system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance.

In calculating the LLD for a radionuclide determine by gamma ray spectrometry, the background should include the typical contributions of other radionuclides normally present in the samples. Typical values of E, V, Y and Δt should be used in the calculation.

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of the measurement system and not as a posteriori (after the fact) limit for a particular measurement.*

*For a more complete discussion of the LLD, and other detection limits, see the following:
(1) HASL Procedures Manual, HASL-300 (revised annually).
(2) Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry" Anal. Chem. 40, 586-93 (1968).
(3) Hartwell, J. K., "Detection Limits for Radioisotopic Counting Techniques," Atlantic Richfield Hanford Company Report ARH-2537 (June 22, 1972).

TABLE 4.11-2 (Continued)

TABLE NOTATION

b. Analyses shall also be performed following shutdown, startup, or a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a 1-hour period.

c. Tritium grab samples shall be taken at least once per 24 hours when the refueling canal is flooded.

d. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing (or after removal from sampler). Sampling shall also be performed at least once between 28 to 36 hours following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses shall be completed within 48 hours of changing. When samples collected for this period are analyzed, the corresponding LLD's may be increased by a factor of 10.

e. Tritium grab samples shall be taken at least once per 7 days from the ventilation exhaust from the spent fuel pool area, whenever spent fuel is in the spent fuel pool.

f. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

g. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measureable and identifiable, together with the above nuclides, shall also be identified and reported.

h. Incinerated oil may be discharged at points other than the plant vent stack. Release shall be accounted for based on pre-release grab sample data.

i. Samples for incinerated oil releases shall be collected from representative samples of filtered oil in liquid form.

RADIOACTIVE EFFLUENTS

LIQUID WASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.1.3 The liquid radwaste treatment system shall be OPERABLE. The appropriate portions of the system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from the site (see Figure 5.1-4) when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the liquid radwaste treatment system inoperable for more than 31 days or with radioactive liquid waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.1.3.2 The installed Liquid Radwaste Treatment System shall be considered OPERABLE by meeting Specifications 3.11.1.1 and 3.11.1.2.

*Per reactor unit

FEE

RADIOACTIVE EFFLUENTS

GASEOUS RADWASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.2.4 The GASEOUS RADWASTE TREATMENT SYSTEM and the VENTILATION EXHAUST TREATMENT SYSTEM shall be OPERABLE. The appropriate portions of the GASEOUS RADWASTE TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected gaseous effluent air doses due to gaseous effluent releases from the site (see Figure 5.1-3), when averaged over 31 days, would exceed 0.2 mrad for gamma radiation and 0.4 mrad for beta radiation. The appropriate portions of the VENTILATION EXHAUST TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses due to gaseous effluent releases from the site (see Figure 5.1-3) when averaged over 31 days would exceed 0.3 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the GASEOUS RADWASTE TREATMENT SYSTEM and/or the VENTILATION EXHAUST TREATMENT SYSTEM inoperable for more than 31 days or with gaseous waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.4.1 Doses due to gaseous releases from the site shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.2.4.2 The installed VENTILATION EXHAUST TREATMENT SYSTEM and GASEOUS RADWASTE TREATMENT SYSTEM shall be considered OPERABLE by meeting Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

*These doses are per reactor unit.

ATTACHMENT D

Proposed Technical Specifications, Unit 3

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate in unrestricted areas due to radioactive materials released in gaseous effluents from the site (see Figure 5.1-3) shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and

b. For all radioiodines, tritium and for all radioactive materials in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to any organ.

APPLICABILITY: At all times

ACTION:

With the dose rate(s) exceeding the above limits, immediately decrease the release rate to within the above limit(s).

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM.

4.11.2.1.2 The dose rate due to radioiodines, tritium and radioactive materials in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11-2.

TABLE 4.11-2

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml)[a]
A. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters[g]	$1x10^{-4}$
B. Containment Purge 42 inch	P Each Purge[b,c]	P Each Purge[b]	Principal Gamma Emitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
8 inch	M[b] Grab Sample	M[b]	Principal Gamma Emmitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
C. 1. Condenser Evacuation System	M[b] Grab Sample	M[b]	Principal Gamma Emitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
2. Plant Vent Stack	W[b,e]	W[b]		
D. All Release Types as listed in B and C above.	Continuous[f] Sampler	W[d] Charcoal Sample	I-131	$1x10^{-12}$
			I-133	$1x10^{-10}$
	Continuous[f] Sampler	W[d] Particulate Sample	Principal Gamma Emitters[g] (I-131, Others)	$1x10^{-11}$
	Continuous[f] Sampler	M Composite Particulate Sample	Gross Alpha	$1x10^{-11}$
	Continuous[f] Sampler	Q Composite Particulate Sample	Sr-89, Sr-90	$1x10^{-11}$
	Continuous[f] Monitor	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	$1x10^{-6}$
E. Incinerated Oil[h]	Each batch[i] Grab Sample	Each batch[i]	Principal Gamma Emitters[g]	$5x10^{-7}$

TABLE 4.11-2 (Continued)

TABLE NOTATION

a. The LLD is the smallest concentration of radioactive material in a sample that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above (as microcurie per unit mass or volume),

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute),

E is the counting efficiency (as counts per transformation),

V is the sample size (in units of mass or volume),

2.22×10^6 is the number of transformations per minute per microcurie,

Y is the fractional radiochemical yield (when applicable),

λ is the radioactive decay constant for the particular radionuclide, and

Δt is the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples).

The value of s_b used in the calculation of the LLD for a particular measurement system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverified theoretically predicted variance.

In calculating the LLD for a radionuclide determined by gamma ray spectrometry, the background should include the typical contributions of other radionuclides normally present in the samples. Typical values of E, V, Y and Δt should be used in the calculation.

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of the measurement system and not as a posteriori (after the fact) limit for a particular measurement.*

*For a more complete discussion of the LLD, and other detection limits, see the following:
(1) HASL Procedures Manual, HASL-300 (revised annually).
(2) Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry" Anal. Chem. 40, 586-93 (1968).
(3) Hartwell, J. K., "Detection Limits for Radioisotopic Counting Techniques," Atlantic Richfield Hanford Company Report ARH-2537 (June 22, 1972).

TABLE 4.11-2 (Continued)

TABLE NOTATION

b. Analyses shall also be performed following shutdown, startup, or a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.

c. Tritium grab samples shall be taken at least once per 24 hours when the refueling canal is flooded.

d. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing (or after removal from sampler). Sampling shall also be performed at least once between 28 to 36 hours following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses shall be completed within 48 hours of changing. When samples collected for this period are analyzed, the corresponding LLD's may be increased by a factor of 10.

e. Tritium grab samples shall be taken at least once per 7 days from the ventilation exhaust from the spent fuel pool area, whenever spent fuel is in the spent fuel pool.

f. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

g. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measureable and identifiable, together with the above nuclides, shall also be identified and reported.

h. Incinerated oil may be discharged at points other than the plant vent stack. Release shall be accounted for based on pre-release grab sample data.

i. Samples for incinerated oil releases shall be collected from representative samples of filtered oil in liquid form.

LIMITING CONDITION FOR OPERATION

3.11.1.3 The liquid radwaste treatment system shall be OPERABLE. The appropriate portions of the system shall be used to reduce the radioactive materials in liquid wastes prior to their discharge when the projected doses due to the liquid effluent from the site (see Figure 5.1-4) when averaged over 31 days, would exceed 0.06 mrem to the total body or 0.2 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the liquid radwaste treatment system inoperable for more than 31 days or with radioactive liquid waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days pursuant to Specification 6.9.2 a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.1.3.1 Doses due to liquid releases shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.1.3.2 The installed Liquid Radwaste Treatment System shall be considered OPERABLE by meeting Specifications 3.11.1.1 and 3.11.1.2.

*Per reactor unit

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GASEOUS RADWASTE TREATMENT

LIMITING CONDITION FOR OPERATION

3.11.2.4 The GASEOUS RADWASTE TREATMENT SYSTEM and the VENTILATION EXHAUST TREATMENT SYSTEM shall be OPERABLE. The appropriate portions of the GASEOUS RADWASTE TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected gaseous effluent air doses due to gaseous effluent releases from the site (see Figure 5.1-3), when averaged over 31 days, would exceed 0.2 mrad for gamma radiation and 0.4 mrad for beta radiation. The appropriate portions of the VENTILATION EXHAUST TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses due to gaseous effluent releases from the site (see Figure 5.1-3) when averaged over 31 days would exceed 0.3 mrem to any organ.*

APPLICABILITY: At all times.

ACTION:

a. With the GASEOUS RADWASTE TREATMENT SYSTEM and/or the VENTILATION EXHAUST TREATMENT SYSTEM inoperable for more than 31 days or with gaseous waste being discharged without treatment and in excess of the above limits, in lieu of any other report required by Specification 6.9.1, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which includes the following information:

   1. Identification of the inoperable equipment or subsystems and the reason for inoperability,

   2. Action(s) taken to restore the inoperable equipment to OPERABLE status, and

   3. Summary description of action(s) taken to prevent a recurrence.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.4.1 Doses due to gaseous releases from the site shall be projected at least once per 31 days, in accordance with the ODCM.

4.11.2.4.2 The installed VENTILATION EXHAUST TREATMENT SYSTEM and GASEOUS RADWASTE TREATMENT SYSTEM shall be considered OPERABLE by meeting Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

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* These doses are per reactor unit.

DESCRIPTION OF PROPOSED CHANGE NPF-10/15-226
AND SAFETY ANALYSIS

This is a request to revise License Conditions 2.C(14) for Unit 2 and 2.C(12) for Unit 3 and 2.G and and delete Technical Specifications 3/4.3.3.7, "Fire Detection Instrumentation," 3/4.7.8, "Fire Suppression Systems," 3/4.7.9, "Fire Rated Assemblies" and 6.2.2.e "Unit Staff - Fire Brigade."

Existing License Conditions and Technical Specifications

Unit 2:

(14) Fire Protection (Section 9.5.1, SER, SSER #4, SSER #5, Section 1.12, SSER #5)

a. SCE shall maintain in effect and fully implement all provisions of the approved Fire Protection Plan as amended through Amendment 10 and the NRC staff's Fire Protection Review described in the SER and Supplements 4 and 5 to the SER. Only those deviations from the Fire Protection Plan that violate the requirements of Section III.G, III.J and III.O of Appendix R to 10 CFR 50 and are not otherwise subject to Technical Specifications Limiting Conditions for Operation shall be reported in accordance with License Condition 2.G.

b. Prior to exceeding five (5) percent power, SCE shall install and make operable fixed emergency lighting in access and egress routes to safe shutdown areas. The lighting units shall be sealed-beam units with 8-hour minimum battery power supplies.

c. Prior to exceeding five (5) percent power, SCE shall identify and describe any deviations of the San Onofre 2 fire protection system from the acceptance criteria of Section 9.5.1 of the Standard Review Plan (NUREG-0800, dated July 1981).

d. Prior to fuel loading, SCE shall complete inspection of all Unit 2 and Common Area fire seals, and shall repair deficient seals or implement compensatory measures as defined in the Technical Specifications.

G. SCE shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(22), E, and F of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Region V, or his designee, no later than the first working day following the violation, with a written followup report within fourteen (14) days.

Existing Unit 2 Technical Specifications - See Attachment "A"

Unit 3:

(12) Fire Protection (Section 9.5.1, SER, SSER #4, SSER #5, Section 1.12, SSER #5)

a. SCE shall maintain in effect and fully implement all provisions of the approved Fire Protection Plan as amended through Amendment 12 and the NRC staff's Fire Protection Review described in the SER, Supplements 4 and 5 to the SER, and in the Safety Evaluation issued with this license. In addition, SCE shall meet the technical requirements of Section III.G, "Fire Protection of Safe Shutdown Capability;" III.J, "Emergency Lighting" and III.O, "Oil Collection System for Reactor Coolant Pump" of Appendix R to 10 CFR 50. Only those deviations from the Fire Protection Plan that violate the requirements of Section III.G, III.J and III.O of Appendix R to 10 CFR 50 and are not otherwise subject to Technical Specifications Limiting Conditions for Operation shall be reported in accordance with License Condition 2.G.

b. Prior to exceeding five (5) percent power, SCE shall complete the installation of the following items and shall submit a license amendment request to add items 1, 3 and 5 to the Technical Specifications (Appendix A to this license).

1. Provide fire detection in fire zones 11, 28, 45, 62 and 72.

2. Install metal shrouding on the AFW turbine lube oil system.

3. Install additional sprinklers in the AFW pump room.

4. Provide a 1 1/2 hour fire damper for one of the three charging pump rooms.

5. Provide fire detection and portable extinguishers in the technical support center.

G. SCE shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(22), E, and F of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Region V, or his designee, no later than the first working day following the violation, with a written followup report within fourteen (14) days.

Existing Unit 3 Technical Specifications - See Attachment "B"

Proposed License Conditions

Unit 2:

2.C(14) Fire Protection

SCE shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report and Updated Fire Hazards Analysis and as approved in the Safety Evaluation Report issued with this amendment. SCE may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

G. SCE shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(13) and C(15) through C(22), E, and F of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Region V, or his designee, no later than the first working day following the violation, with a written followup report within fourteen (14) days.

Unit 3:

2.C(12) Fire Protection

SCE shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report and Updated Fire Hazards Analysis and as approved in the Safety Evaluation Report issued with this amendment. SCE may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

G. SCE shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(11) and C(13) through C(22), E, and F of this license within 24 hours by telephone and confirm by telegram, mailgram, or facsimile transmission to the NRC Regional Administrator, Region V, or his designee, no later than the first working day following the violation, with a written followup report within fourteen (14) days.

Proposed Technical Specifications

Unit 2: See Attachment "C"

Unit 3: See Attachment "D"

Description

The proposed change would revise License Conditions 2.C(14) for Unit 2 and 2.C(12) for Unit 3 and 2.G and would delete Technical Specifications 3/4.3.3.7, "Fire Detection Instrumentation," 3/4.7.8, "Fire Suppression Systems," 3/4.7.9, "Fire Rated Assemblies," associated bases, and fire protection references in Section 6.2.2 "Unit Staff." The proposed change would remove implementation of the fire protection program from technical specifications consistent with NRC Generic Letter 86-10 dated April 24, 1986. The fire protection program as described in the Updated Final Safety Analysis Report and Updated Fire Hazards Analysis will continue to be implemented by controlled station procedures. The proposed change does not reduce any existing fire protection program requirements or commitments and, therefore, does not reduce the level of fire protection provided. As a result of this change, SCE will be able to make changes to those aspects of the fire protection program currently addressed by technical specifications without a license amendment or prior NRC approval under the authority of 10 CFR 50.59, provided that the proposed change does not involve an unreviewed safety question.

Specific changes to the license conditions and technical specifications and their effects are described as follows:

A) Revision of License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3

License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 requires SCE to fully implement and maintain in effect all provisions of the NRC approved fire protection plan as discussed in the Safety Evaluation Reports associated with the issuance of the licenses. The license conditions also requires SCE to meet the technical requirements of 10 CFR 50, Appendix R, Section III.G, "Fire Protection of Safe Shutdown Capability;" III.J, "Emergency Lighting;" and III.O, "Oil Collection System for Reactor Coolant Pump." The license conditions specified that certain inspections and modifications of fire protection design features and comparisons of the fire protection program with NRC Standard Review Plan (SRP) acceptance criteria prior to exceeding five percent power. The current license condition exempts, from the reporting requirements specified by License Condition 2.G, deviations from the fire protection program which violated the requirements of 10 CFR 50, Appendix R, Section III.G, J and O unless they are not otherwise subject to technical specification requirements.

The existing license condition references specific amendments to the fire protection program which were reviewed and approved by NRC. References to specific amendments are no longer appropriate since the fire protection program is described in the FSAR and FHA which are updated annually in accordance with 10 CFR 50.71(e). The fire protection program as reflected in these documents is currently undergoing NRC staff review, approval of which will be reflected in the SER issued with this amendment.

The proposed change will require SCE to implement and maintain in effect the fire protection program described in the Updated FSAR and Updated FHA as approved in the SER issued with this amendment. The proposed license condition will allow changes to be made without prior NRC approval under the authority of 10 CFR 50.59 provided that the changes do not involve an unreviewed safety question, that is, the changes do not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Future changes to the approved program within this authority will be reported annually as required by 10 CFR 50.59 and reflected in the annual updates of the FSAR and FHA required by 10 CFR 50.71(e). Changes involving unreviewed safety questions will require NRC review and approval in accordance with 10 CFR 50.59 prior to implementation.

The proposed change will delete references to modifications and inspections of fire protection features and comparisons with SRP acceptance criteria which were required prior to initially exceeding 5% power since these actions were completed during the first cycle of plant operation.

B) License Condition 2.G

License condition requires that violations of license condition be reported within 24 hours to the NRC Regional Administrator with written followup within 14 days. Deviations from the fire protection program required by License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 are currently exempted from 2.G reportability unless they violate the provisions of 10 CFR 50, Appendix R, Sections III.G, J or O and are not otherwise covered by technical specification requirements. The proposed change would revise License Condition 2.G to exempt deviations from the fire protection program which could be interpreted as failure to comply with License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 from reportability under License Condition 2.G. Deviations from the fire protection program continue to be subject to the reporting requirements of 10 CFR 50.72 and 50.73 as appropriate.

C) Fire Protection Technical Specifications

TS 3/4.3.3.7, "Fire Detection Instrumentation," specifies the numbers, types and locations of fire detection instrumentation required to be operable, periodic testing required to verify operability and compensatory measures to be implemented when the minimum operability requirements are not met.

TS 3/4.7.8.1, "Fire Suppression Water System" specifies the number and type of fire pumps, size and number of fire water supplies and flow paths required to be operable to distribute water to the fire suppression systems throughout the plant. T/S. 3.4.7.8.1 defines surveillance tests to verify operability of the fire suppression water system and actions to be taken when the minimum operability requirements are not met.

TS 3/4.7.8.2, "Spray and/or Sprinkler Systems," defines the number and locations of fire protection spray and sprinkler systems required to be operable, periodic testing to verify operability and actions to be taken when the minimum operability requirements are not met.

TS 3/4.7.8.3, "Fire Hose Stations," define the numbers and locations of fire hose stations required to be operable, periodic surveillance testing to verify operability and actions to be taken in the event the minimum operability requirements are not met.

TS 3/4.7.9, "Fire Rated Assemblies" requires all fire rated assemblies (e.g., walls, floors/ceilings, cable tray enclosures and other fire barriers) separating safety related fire areas or separating portions of redundant systems important to safe shutdown as well as sealing devices for fire rated assembly penetrations be operable. TS 3/4.7.9 defines periodic inspections to verify the integrity of fire rated assemblies and actions to be taken should the requirements not be met.

These specifications are intended to ensure the implementation and maintenance of fire protection design features (e.g., detection, suppression and fire barriers) described in the fire protection program (UFSAR and UFHA). The Technical Specifications cover a subset of fire protection design features described in the UFHA and UFSAR. The technical specifications include only aspects of the fire protection program described in UFSAR/UFHA which protect safety related equipment in the event of a fire. The UFSAR and UFHA also describe many fire protection design features which do not protect safety related equipment and are not subject to existing technical specifications. The proposed change would delete these technical specifications and associated bases. However, implementation and maintenance in effect of the fire protection program as described in the UFSAR and UFHA required by proposed License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 will continue to require operability of the fire protection design features covered by these technical specifications. Periodic testing and inspection of the fire protection design features and actions to be taken in the event of inoperability equivalent to existing technical specifications action and surveillance requirements will be specified in controlled plant procedures for those fire protection design features covered by existing technical specifications or determined to be required to preserve safe shutdown capability as a result of the current NRC fire protection review. The proposed change does not elevate the importance of fire protection systems currently not subject to technical specifications or impose the equivalent of technical specification requirements on them.

The proposed change will allow changes to be made without prior NRC approval under the authority of 10 CFR 50.59 as provided by the proposed License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 and discussed above. Thus, technical specification changes and license amendments would not be required for future changes to those aspects of the fire protection program which would no longer be covered by the technical specifications when the proposed change is approved.

The proposed change also revises TS 6.2.2, "Unit Staff." TS 6.2.2.e identifies the requirements for a fire brigade. The proposed change deletes TS 6.2.2.e. The fire brigade composition is defined by the fire protection program described in the UFSAR and UFHA. Maintenance of the fire brigade will continue to be required by proposed License Condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 as discussed above.

Safety Analysis

The proposed changes discussed above shall be deemed to involve a significant hazards consideration if there is positive finding in any one of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No

   The proposed change removes technical specifications related to fire protection. Implementation of the fire protection program including those specific requirements covered by existing technical specifications will continue to be required by the proposed license condition as described above. Since existing requirements remain in effect, the proposed change does not in itself increase the probability or consequences of any previously evaluated accident. The proposed change affects the administrative process for future changes to those aspects of the fire protection program covered by existing technical specifications. Future changes may be made without prior NRC approval as permitted by 10 CFR 50.59; only those changes determined to involve unreviewed safety questions will require prior NRC approval. This process for changes is consistent with NRC Generic Letter 86-10 and provides adequate assurance that the effectiveness of the fire protection program will not be significantly reduced as a result of the proposed change. Accordingly, the proposed change described above does not significantly increase the probability or consequences of any previously analyzed accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No

   The proposed change described above does not affect the configuration of the plant or its operation. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Will operation of the facility in accordance with this proposed change involve a significant reduction in a margin of safety?

   Response: No

   The proposed change does not reduce fire protection program requirements. The proposed change only affects the administrative process for changes to the program. The controls instituted by the proposed change are consistent with NRC Generic Letter 86-10. Therefore, the proposed change does not result in a significant reduction in a margin of safety.

The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870) of amendments that are considered not likely to involve significant hazards considerations. Example (vii) relates to a change which makes a license conform to changes in the regulations, where the license change results in very minor changes to facility operations clearly in keeping with the regulations. In this case NRC Generic Letter 86-10, "Implementation of Fire Protection Requirements" provides pertinent guidance relative to above described proposed changes and implementation of the NRC fire protection regulations. Specifically, Generic Letter 86-10 allows licensees to delete fire protection related technical specifications provided that a license condition requires implementation and maintenance in effect of the approved fire protection program to be referenced by the license condition. Further Generic Letter 86-10 requires incorporation of the fire protection program into the FSAR and provides for future changes to the fire protection program without prior NRC approval as provided by the license condition and in accordance with 10 CFR 50.59.

The proposed change would revise the license condition 2.C(14) for Unit 2 and 2.C(12) for Unit 3 to require implementation and maintenance in effect of the approved fire protection program which is described in the Updated FSAR and Updated FHA. The UFHA is considered to be part of the UFSAR and is updated annually in accordance with 10 CFR 50.71(e). The proposed license condition would allow SCE to make changes to the approved fire protection program without prior NRC approval provided that those changes do not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. The proposed license condition is consistent with the standard license condition provided by Generic Letter 86-10.

The proposed change would also delete existing technical specifications relating to implementation of the fire protection program. Those aspects of the fire protection program covered by existing technical specification will continue to be implemented by controlled procedures. Deletion of the technical specification requirements as described above is consistent with Generic Letter 86-10.

Because the proposed change described above makes the license conform to the current interpretation of NRC fire protection regulations, the proposed change is similar to example (vii) of 48 FR 14870 and does not involve significant hazard considerations.

Safety and Significant Hazards Determination

Based on the above Safety Analysis, it is concluded that: (1) there is a reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (2) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

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ATTACHMENT "A"

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-11:

a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.7.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.7.3 The non-supervised circuits associated with detector alarms between the instruments and the control room shall be demonstrated OPERABLE at least once per 31 days.

4.3.3.7.4 Following a seismic event (basemat acceleration greater than or equal to 0.05 g):

a. Within 2 hours each zone shown in Table 3.3-11 shall be inspected for fires, and

b. Within 72 hours an engineering evaluation shall be performed to verify the OPERABILITY of the fire detection system in each zone shown in Table 3.3-11.

TABLE 3.3-11

FIRE DETECTION INSTRUMENTS
MINIMUM INSTRUMENTS OPERABLE*

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
1	Containment						
	Cable Tray Areas Elev 63'3"			10			
	Cable Tray Areas Elev 45'			9			
	Cable Tray Areas Elev 30'			4			
	Elevator Machinery Room			1			
	Combustible Oil Area Two steam generator rooms						32
	Charcoal Filter Area Elev 45'	2					
2	Penetration Elev 63'6"			12			
4	New Fuel Storage Area and Spent Fuel Pool Areas						
	Spent Fuel Pool		4				
	New Fuel Pool		3				
5	Control Building Elev 70'						
	Cable Riser Gallery Rm 423			2			24
	Cable Riser Gallery Rm 449			3			24
6	Control Building Elev 70'						
	Radiation Chemical Lab Rms 421, 420	1					
7	Radwaste Elev 63'6"						
	Chemical Storage Area Rm 503			1			
	Radwaste Control Panel Rm 513			1			
	Storage Area Rm 523			1			
	Hot Machine Shop	1					
8	Radwaste Elev 63'6"						
	Waste Decay Tank Rms 511A		None				
9	Fuel Handling Building Elev 45'						
	Emgy. A.C. Unit Rm 303-Train A	1		1			
	Emgy. A.C. Unit Rm 302-Train B	1		1			
10	Penetration Elev 45'			6			

*The fire detection instruments located within the Containment are not required to be OPERABLE during the performance of Type A Containment Leakage Rate Tests.

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
11	S.E.B. Roof and Main Steam Relief Valves			2 (Note 1)			
12	Control Building Elev 50'						
	Cable Riser Gallery Rm 305			3		42	
	Cable Riser Gallery Rm 315			3		40	
13A	Control Building Elev 50'						
	Emgy. HVAC Unit Rm 309A	1					
13B	Control Building Elev 50'						
	Emgy. HVAC Unit Rm 309B	1					
14	Radwaste Elev 24'						
	Boric Acid Makeup Tank Rm 204B	None					
	Boric Acid Makeup Tank Rm 204A	None					
15	Control Building Elev 50'						
	ESF Switchgear Rm 308A			2			
	ESF Switchgear Rm 308B			2			
16	Radwaste Elev 37' & 50'						
	Ion Exchangers	None					
17	Diesel Generator Building						
	Train A			3			4
	Train B			3			4
18	Diesel Fuel Oil Storage Tank Underground Vaults	None					
20	Condensate Storage Tank T-121	None					
21	Nuclear Storage Tank T-104	None					
22	Auxiliary Feedwater Pump Room			2		9 (Note 2)	6
23	Fuel Handling Bldg Elev 30'						
	Spent Fuel Pools Heat Exchange Room 209	None					
28	Penetration Elev. 30'	2				8 (Note 1)	

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
29	Control Building Elev 30'						
	Cable Riser Gallery Rm 236			3			51
	Cable Riser Gallery Rm 224			3			52
30	Electrical Tunnel Elev 30'6"			13			50
31	Control Building Elev 30'			29			
32A	Control Building Elev 30'						
	Fan Room Rm 219 & Corridor Rm 221	2		1			
32B	Control Building Elev 30'						
	Fan Room Rm 233 & Corridor Rm 234	2		1			
34	Radwaste Elev 9' & 24'						
	Secondary Radwaste Tank Rms 126A,B & 127A,B	None					
35	Radwaste Elev 9' & 24'						
	Spent Resin Tank Rms 125A,B	None					
36	Fuel Handling Building Elev 17'6"						
	Spent Fuel Pool Pump Rm 107			2			
37	Radwaste Elev 24'						
	Letdown Heat Exchanger Rms 209A,B	None					
38	Radwaste Elev 24'						
	Letdown Control Valve Rms 218A,B	None					
39	Radwaste Elev 24'						
	Filter Crvd Tank Rm 216	None					
40	Radwaste Elev 9' & 24'						
	Primary Radwaste Tank Rms 211A,D	None					
41	Control Building Elev 9'						
	Cable Spreading Rm 111A			17			36
	Cable Spreading Rm 111B			14			36
42	Control Building Elev 9'						
	Cable Riser Gallery Rm 110			6			44
	Cable Riser Gallery Rm 112			6			39

TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
43	Control Building Elev 9'						
	Emgy. Chiller Rm 115			2			
	Emgy. Chiller Rm 117			2			
44	Intake Structure						
	Pump Rm T2-106			4			
	Pump Rm T3-106			4			
45	Penetration Area Elev 9' & 15'						
	Piping Penetration Area 15'			6 (Note 1)			
48	Safety Equipment Building 9'						
	CCW HX and Piping Rm 022-025	None					
50	Radwaste Elev 9'						
	Charging Pump Rms 106A-F			6			
51	Radwaste Elev 9'						
	Boric Acid Makeup Tank Rms 105A-D	None					
53	Electrical Tunnel Elev 9'6", 11'6", (-) 2'6"			21		54	
54	Safety Eqpmt Bldg Elev 15'6" & 8'						
	Shutdown HX Rms 003, 004, 016, 018	None					
55	Safety Eqpmt Bldg Elev 8'						
	Chemical Storage Tank Rm 019			1			
56	Safety Eqpmt Bldg Elev 8'						
	Component Cooling Water Surge Tank Rms 020, 021	None					
57	Safety Eqpmt Bldg Elev 15'6"						
	Pump Rm 005			1			
58	Radwaste Elev 37'						
	Reactor Trip System Rms 308A-D, 309-A-C			9			
59	Safety Eqpmt Bldg Elev 15'6"						
	Pump Rm 001			1			

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
60	Safety Eqpmt Bldg Elev 15'6" Pump Rm 015			1			
61	Safety Eqpmt Bldg Elev 15'6" Component Cooling Water Pump Rms 006, 007, 008			3			
62	Radwaste Elev 50' Volume Control Valve Rooms			2 (Note 1)			
63	Control Building Elev 50' Corridor			12			
64	Control Building Elev 50' Vital Power Distribution Rms 310A-H			8			
65	Control Building Elev 50' Battery Rms 306B-J			8			
66	Control Building Elev 50' Evacuation Rm 311			1			
67	Radwaste Elev 63'6" Cable Riser Gallery Rm 506A			2			4
	Cable Riser Gallery Rm 506B			2			4
68	Penetration 9' - 63'6" Cable Riser Shaft			1			21
69	Safety Eqpmt Bldg Elev 5'3" Salt Water Cooling Piping Rm 010	None					
70	Radwaste Elev 24' Duct Shaft Rms 222A,B	None					
72	Control Building Elev 70' Corridor 401			4 (Note 1)			
75	Refueling Water Storage Tank T-005	None					
76	Refueling Water Storage Tank T-006	None					

TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
78	Control Building Elev 9' Corridor Rm 105						4
79	Control Building Elev 50' ESF Switchgear Rm 302A						2
	ESF Switchgear Rm 302B						2
80	Radwaste Elev 37' & 50' Duct Shaft Rms	None					
81	Radwaste Elev 63'6" Duct Shaft Rms 527A,B	None					
83	Salt Water Cooling Tunnel						6*
84	Safety Eqpmt Bldg Elev 8' HVAC Rm 017						3
Technical Support Center (TSC) 5							1 (note 1)

*3 in UNIT 2, 3 in UNIT 3

Notes

1. On completion of DCP 2-403E
2. On completion of DCP 2-122M

PLANT SYSTEMS

3/4.7.8 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.8.1 The fire suppression water system shall be OPERABLE with:

a. Two electric motor-driven fire pumps, each with a capacity of 1500 gpm and one diesel-driven fire pump with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,

b. Two separate water supplies, each with a minimum contained volume of 300,000 gallons, and

c. An OPERABLE flow path capable of taking suction from each water supply and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the first valve upstream of the water flow alarm device on each spray and/or sprinkler or fire hose station required to be OPERABLE per Specifications 3.7.8.2 and 3.7.8.3.

APPLICABILITY: At all times.

ACTION:

a. With one required electric motor-driven/diesel-driven pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

b. With the fire suppression water system otherwise inoperable, establish a backup fire suppression water system within 24 hours.

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SURVEILLANCE REQUIREMENTS

4.7.8.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the contained water supply volume.

b. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor driven pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.

d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying performance of the fire pumps as follows:

a. Diesel engine drive pump develops at least 2500 gpm at a system head of 283 feet.

b. Electric motor driven pumps each develop at least 1500 gpm at a system head of 289 ft.

2. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and

3. Verifying that each fire suppression pump starts (sequentially) to maintain the fire suppression water system pressure greater than or equal to 95 psig.

f. At least once per 3 years by performance of a system flush.

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SURVEILLANCE REQUIREMENTS (Continued)

g. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

4.7.8.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1. The diesel fuel oil day storage tank contains at least 225 gallons of fuel, and

2. The diesel starts from ambient conditions and operates for at least 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM D975-1977 when checked for viscosity, water and sediment.

c. At least once per 18 months during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

4.7.8.1.3 The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The overall battery voltage is greater than or equal to 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.8.2 The spray and/or sprinkler systems listed in Table 3.7-5 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the spray/sprinkler system is required to be OPERABLE.

ACTION:

a. With one or more of the above required spray and/or sprinkler systems inoperable, within 1 hour establish a continuous fire watch with backup fire suppression equipment for those areas outside containment in which redundant systems or components could be damaged; for other areas outside containment, establish an hourly fire watch patrol.

b. With one or more of the above required spray and/or sprinkler systems inside containment inoperable, restore the system to OPERABLE status within 24 hours or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.8.2 Each of the above required spray and/or sprinkler systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) outside of containment in the flow path is in its correct position.

b. At least once per 31 days during each COLD SHUTDOWN or REFUELING by verifying that each valve (manual, power operated or automatic) inside containment in the flow path is in its correct position.

c. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the system, and:

a) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and

b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

2. By a visual inspection of the dry pipe spray and wet pipe spray sprinkler headers to verify their integrity, and

3. By a visual inspection of each spray/sprinkler head to verify the spray pattern is not obstructed.

e. At least once per 3 years by performing an air flow test through each open head spray/sprinkler header and verifying each open head spray/sprinkler nozzle is unobstructed.

TABLE 3.7-5

Safety Related Spray and/or Sprinkler Systems

Hazard	Location	No. of Systems	System Type
Reactor Coolant Pumps	Containment	4	Deluge-Water Spray
R.R. Tunnel	Fuel Hand. Bldg.	1	Wet Pipe
Truck Ramp	Radwaste Bldg.	1	Wet Pipe
Cable Tunnel	Section 1	1	Deluge-Water Spray
Cable Tunnel	Section 2	1	Deluge-Water Spray
Cable Tunnel	Section 3	1	Deluge-Water Spray
Cable Tunnel	Section 4	1	Deluge-Water Spray
Cable Tunnel	Section 5	1	Deluge-Water Spray
Cable Tunnel	Section 6	1	Deluge-Water Spray
Cable Tunnel	Section 7	1	Deluge-Water Spray
Cable Tunnel	Section 8	1	Deluge-Water Spray
Cable Tunnel	Section 9	1	Deluge-Water Spray
Cable Tunnel	Section 10	1	Deluge-Water Spray
Cable Tunnel Riser	Fuel Hand. Bldg.	1	Deluge-Water Spray
Cable Gallery	Radwaste Bldg.	2*	Deluge-Water Spray
Cable Risers El. 9 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Risers El. 30 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Risers El. 50 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Risers El. 70 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Spreading Room	Control Bldg.	4*	Deluge-Water Spray
Emergency A.C. Unit - Train A	Fuel Handling Bldg.	1**	Deluge-Water Spray
Emergency A.C. Unit - Train B	Fuel Handling Bldg.	1**	Deluge-Water Spray
Diesel Generator	DG Building	2	Pre-action Sprinkler
HVAC Room 309A; Corridor 303	Control Bldg. 50'	1	Wet Pipe
Auxiliary Feedwater Pump Room	Tank Bldg. 30'	1	Pre-action Sprinkler
		1#	Deluge-Water Spray
Fan Room 233 and Corridor 234	Control Bldg. 30'	1	Wet Pipe
Salt Water Cooling Pumps and Salt Water Cooling Tunnel	Intake Structure	1	Wet Pipe
CCW Heat Exchangers and Piping Room; A/C Room 017	Safety Equipment Bldg.	1	Wet Pipe
Corridor 401	Control Bldg. 70'	1	Wet Pipe
Corridor 105	Control Bldg. 9'	1	Wet Pipe

*One half of these systems are designated Unit 3, but are required to be OPERABLE for Unit 2 operation.
**Charcoal filter deluge systems are manually actuated.
#On Completion of DCP 2-122M.

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FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.8.3 The fire hose stations shown in Table 3.7-6 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

a. With one or more of the fire hose stations shown in Table 3.7-6 inoperable, route a fire hose to provide equivalent nozzle flow capacity to the unprotected area(s) from an OPERABLE hose station or alternate fire water supply, within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise provide the additional hose within 24 hours. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to operating technicians, plant equipment, or the hose itself, a fire hose shall be stored in an area easily accessible to the unprotected area. Signs identifying the purpose and location of the fire hose and related valves shall be mounted above the hose and at the inoperable hose station.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.8.3 Each of the fire hose stations shown in Table 3.7-6 shall be demonstrated OPERABLE:

a. At least once per 31 days by visual inspection of the stations accessible during plant operation to assure all required equipment is at the station.

b. At least once per 18 months by:

   1. Visual inspection of the stations not accessible during plant operations to assure all required equipment is at the station.

   2. Removing the hose for inspection and re-racking, and

   3. Inspecting all gaskets and replacing any degraded gaskets in the couplings.

c. At least once per 3 years by:

   1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.

   2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

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TABLE 3.7-6

FIRE HOSE STATIONS

LOCATION	ELEVATION	STATION NUMBER
Containment Bldg. - Unit 2	63'-6"	130
Containment Bldg. - Unit 2	63'-6"	1
Containment Bldg. - Unit 2	63'-6"	8
Containment Bldg. - Unit 2	45'-0"	2
Containment Bldg. - Unit 2	45'-0"	5
Containment Bldg. - Unit 2	45'-0"	9
Containment Bldg. - Unit 2	30'-0"	3
Containment Bldg. - Unit 2	30'-0"	6
Containment Bldg. - Unit 2	30'-0"	10
Containment Bldg. - Unit 2	17'-6"	4
Containment Bldg. - Unit 2	17'-6"	7
Containment Bldg. - Unit 2	17'-6"	11
Electrical Penetration Area - Unit 2	45'-0"	120
Electrical Penetration Area - Unit 2	45'-0"	121
Electrical Penetration Area - Unit 2	63'-6"	122
Electrical Penetration Area - Unit 2	63'-6"	123
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	9'-0"	109
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	9'-0"	114
Cable Spreading Room-Auxiliary Bldg. Control Area	9'-0"	108
Cable Spreading Room-Auxiliary Bldg. Control Area	9'-0"	113
Cable Spreading Room Corridor-Auxiliary Bldg. Control Area	9'-0"	48
Cable Spreading Room Corridor-Auxiliary Bldg. Control Area	9'-0"	60
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	30'-0"	110
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	30'-0"	115
Corridor (North)-Auxiliary Bldg. Control Area	30'-0"	49
Corridor (South)-Auxiliary Bldg. Control Area	30'-0"	61
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	50'-0"	111
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	50'-0"	116
Corridor (North)-Auxiliary Bldg. Control Area	50'-0"	50
Corridor (South)-Auxiliary Bldg. Control Area	50'-0"	62
HVAC Room Corridor-Auxiliary Bldg. Control Area	50'-0"	56
HVAC Room Corridor-Auxiliary Bldg. Control Area	50'-0"	57
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	70'-0"	112
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	70'-0"	117
Fuel Handling Bldg.-Unit 2	63'-6"	118
Fuel Handling Bldg.-Unit 2	63'-6"	119

PLANT SYSTEMS

3/4.7.9 FIRE RATED ASSEMBLIES

LIMITING CONDITION FOR OPERATION

3.7.9 All fire rated assemblies (walls, floor/ceilings, cable tray enclosures and other fire barriers) separating safety related fire areas or separating portions of redundant systems important to safe shutdown within a fire area and all sealing devices in fire rated assembly penetrations (fire doors, fire windows, fire dampers, cable, ventilation duct, and piping penetration seals) shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more of the above required fire rated assemblies and/or sealing devices inoperable, within 1 hour either establish a continuous fire watch on at least one side of the affected assembly, or verify the OPERABILITY of the fire detectors on at least one side of the inoperable assembly and establish an hourly fire watch patrol.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.1 Each of the above required fire doors shall be verified OPERABLE by:

a. Verifying at least once per 24 hours the position of each closed fire door and that doors with automatic hold-open and release mechanisms are free of obstructions.

b. Verifying at least once per 7 days the position of each locked closed fire door.

c. Performing a CHANNEL FUNCTIONAL TEST at least once per 31 days of the fire door supervision system.

d. Inspecting at least once per 6 months the automatic hold-open, release and closing mechanism and latches.

e. Performing a functional test at least once per 18 months of automatic hold open, release, closing mechanisms and latches.

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SURVEILLANCE REQUIREMENTS

4.7.9.2 At least once per 18 months the above required fire rated assemblies and penetration sealing devices other than fire doors shall be verified OPERABLE by:

a. Performing a visual inspection of the exposed surfaces of each fire rated assembly.

b. Performing a visual inspection of each fire window/fire damper/and associated hardware.

c. Performing a visual inspection of at least 10% of each type (mechanical and electrical) of sealed penetration. If apparent changes in appearance or abnormal degradations are found, a visual inspection of an additional 10% of each type of sealed penetration shall be made. This inspection process shall continue until a 10% sample with no apparent changes in appearance or abnormal degradation is found. Samples shall be selected such that each penetration seal will be inspected at least once per 15 years.

room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.

The OPERABILITY of the remote shutdown instrumentation in Panel L411 ensures that sufficient capability is available to permit shutdown and maintenance of COLD SHUTDOWN of the facility in the event of a fire in the cable spreading room, control room or remote shutdown panel, L042.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG 0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations".

3/4.3.3.7 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

Since the fire detectors are non-seismic, a plant visual inspection for fires is required within two hours following an earthquake ($\geq$ 0.02g). Since safe shutdown systems are protected by seismic Category I barriers rated at two and three hours, any fire after an earthquake should be detected by this inspection before safe shutdown systems would be affected. Additionally, to verify the continued OPERABILITY of fire detection systems after an earthquake, an engineering evaluation of the fire detection instrumentation in the required zones is required to be performed within 72 hours following an earthquake.

SNUBBERS (Continued)

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

3/4.7.7 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e. sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shield mechanism.

3/4.7.8 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met.

FIRE SUPPRESSION SYSTEMS (Continued)

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. The requirement for a twenty-four hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the nuclear plant.

The San Onofre Unit 2&3 fire pumps and water supplies, supply water to the San Onofre Unit 1 fire system.

3/4.7.9 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensure that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers, fire barrier penetrations for conduits, cable trays and piping, fire windows, fire dampers, and fire doors are periodically inspected to verify their OPERABILITY.

6.1 RESPONSIBILITY

6.1.1 The Station Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Supervisor (or during his absence from the Control Room Area, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice-President of Nuclear Operations shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown in Figure 6.2-1.

UNIT STAFF

6.2.2 The Unit organization shall be as shown in Figure 6.2-2 and:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

b. At least one licensed Reactor Operator shall be 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 shall be in the Control Room area identified as such on Table 6.2-1.

c. A health physics technician[#] shall be on site when fuel is in the reactor.

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

e. A site Fire Brigade of at least 5 members shall be maintained onsite at all times.[#] The Fire Brigade shall not include the Shift Supervisor and the 2 other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency.

[#]The health physics technician and Fire Brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.

ATTACHMENT "B"

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the fire detection instrument is required to be OPERABLE.

ACTION:

With the number of OPERABLE fire detection instrument(s) less than the minimum number OPERABLE requirement of Table 3.3-11:

a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, unless the instrument(s) is located inside the containment, then inspect the containment at least once per 8 hours or monitor the containment air temperature at least once per hour at the locations listed in Specification 4.6.1.5.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments which are accessible during plant operation shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST. Fire detectors which are not accessible during plant operation shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST during each COLD SHUTDOWN exceeding 24 hours unless performed in the previous 6 months.

4.3.3.7.2 The NFPA Standard 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.7.3 The non-supervised circuits associated with detector alarms between the instruments and the control room shall be demonstrated OPERABLE at least once per 31 days.

4.3.3.7.4 Following a seismic event (basemat acceleration greater than or equal to 0.05 g):

a. Within 2 hours each zone shown in Table 3.3-11 shall be inspected for fires, and

b. Within 72 hours an engineering evaluation shall be performed to verify the OPERABILITY of the fire detection system in each zone shown in Table 3.3-11.

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TABLE 3.3-11

FIRE DETECTION INSTRUMENTS
MINIMUM INSTRUMENTS OPERABLE*

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
1	Containment						
	Cable Tray Areas Elev 63'3"			10			
	Cable Tray Areas Elev 45'			9			
	Cable Tray Areas Elev 30'			4			
	Elevator Machinery Room			1			
	Combustible Oil Area						
	Two steam generator rooms						32
	Charcoal Filter Area						
	Elev 45'	2					
2	Penetration						
	Elev 63'6"			12			
4	New Fuel Storage Area and Spent Fuel Pool Areas						
	Spent Fuel Pool		4				
	New Fuel Pool		3				
5	Control Building Elev 70'						
	Cable Riser Gallery Rm 423			2			24
	Cable Riser Gallery Rm 449			3			24
6	Control Building Elev 70'						
	Radiation Chemical Lab Rms 421, 420	1					
7	Radwaste Elev 63'6"						
	Chemical Storage Area Rm 503			1			
	Radwaste Control Panel Rm 513			1			
	Storage Area Rm 523			1			
	Hot Machine Shop	1					
8	Radwaste Elev 63'6"						
	Waste Decay Tank Rms 511A	None					
9	Fuel Handling Building Elev 45'						
	Emgy. A.C. Unit Rm 309-Train A	1		1			
	Emgy. A.C. Unit Rm 302-Train B	1		1			
10	Penetration						
	Elev 45'			6			

* The fire detection instruments located within the Containment are not required to be OPERABLE during the performance of Type A Containment Leakage Rate Tests.

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
11	S.E.B. Roof and Main Steam Relief Valves	None			2 (Note 1)		
12	Control Building Elev 50'						
	Cable Riser Gallery Rm 305				3		42
	Cable Riser Gallery Rm 315				3		40
13A	Control Building Elev 50'						
	Emgy. HVAC Unit Rm 309A	1					
13B	Control Building Elev 50'						
	Emgy. HVAC Unit Rm 309B	1					
14	Radwaste Elev 24'						
	Boric Acid Makeup Tank Rm 204B	None					
	Boric Acid Makeup Tank Rm 204A	None					
15	Control Building Elev 50'						
	ESF Switchgear Rm 308A				2		
	ESF Switchgear Rm 308B				2		
16	Radwaste Elev 37' & 50'						
	Ion Exchangers	None					
17	Diesel Generator Building						
	Train A				3		4
	Train B				3		4
18	Diesel Fuel Oil Storage Tank Underground Vaults	None					
20	Condensate Storage Tank T-121	None					
21	Nuclear Storage Tank T-104	None					
22	Auxiliary Feedwater Pump Room				2	9 (Note 2)	6
23	Fuel Handling Bldg Elev 30'						
	Spent Fuel Pools Heat Exchange Room 209	None					
28	Penetration Elev. 30'	2			8 (Note 1)		

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
29	Control Building Elev 30'						
	Cable Riser Gallery Rm 236			3			51
	Cable Riser Gallery Rm 224			3			52
30	Electrical Tunnel Elev 30'6"			13			50
31	Control Building Elev 30'			29			
32A	Control Building Elev 30'						
	Fan Room Rm 219 & Corridor Rm 221	2		1			
32B	Control Building Elev 30'						
	Fan Room Rm 233 & Corridor Rm 234	2		1			
34	Radwaste Elev 9' & 24'						
	Secondary Radwaste Tank Rms 126A,B & 127A,B	None					
35	Radwaste Elev 9' & 24'						
	Spent Resin Tank Rms 125A,B	None					
36	Fuel Handling Building Elev 17'6"						
	Spent Fuel Pool Pump Rm 107			2			
37	Radwaste Elev 24'						
	Letdown Heat Exchanger Rms 209A,B	None					
38	Radwaste Elev 24'						
	Letdown Control Valve Rms 218A,B	None					
39	Radwaste Elev 24'						
	Filter Crvd Tank Rm 216	None					
40	Radwaste Elev 9' & 24'						
	Primary Radwaste Tank Rms 211A,D	None					
41	Control Building Elev 9'						
	Cable Spreading Rm 111A			17			36
	Cable Spreading Rm 111B			14			36
42	Control Building Elev 9'						
	Cable Riser Gallery Rm 110			6			44
	Cable Riser Gallery Rm 112			6			39

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
43	Control Building Elev 9'						
	Emgy. Chiller Rm 115			2			
	Emgy. Chiller Rm 117			2			
44	Intake Structure						
	Pump Rm T2-106			4			
	Pump Rm T3-106			4			
45	Penetration Area Elev 9' & 15'						
	Piping Penetration Area 15'			6 (Note 1)			
48	Safety Equipment Building 9'						
	CCW HX and Piping Rm 022-025	None					
50	Radwaste Elev 9'						
	Charging Pump Rms 106A-F			6			
51	Radwaste Elev 9'						
	Boric Acid Makeup Tank Rms 105A-D	None					
53	Electrical Tunnel Elev 9'6", 11'6", (-) 2'6"			21			54
54	Safety Eqpmt Bldg Elev 15'6" & 8'						
	Shutdown HX Rms 003, 004, 016, 018	None					
55	Safety Eqpmt Bldg Elev 8'						
	Chemical Storage Tank Rm 019			1			
56	Safety Eqpmt Bldg Elev 8'						
	Component Cooling Water Surge Tank Rms 020, 021	None					
57	Safety Eqpmt Bldg Elev 15'6"						
	Pump Rm 005			1			
58	Radwaste Elev 37'						
	Reactor Trip System Rms 308A-D, 309-A-C			9			
59	Safety Eqpmt Bldg Elev 15'6"						
	Pump Rm 001			1			

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
60	Safety Eqpmt Bldg Elev 15'6" Pump Rm 015			1			
61	Safety Eqpmt Bldg Elev 15'6" Component Cooling Water Pump Rms 006, 007, 008			3			
62	Radwaste Elev 50' Volume Control Valve Rooms			2 (Note 1)			
63	Control Building Elev 50' Corridor			12			
64	Control Building Elev 50' Vital Power Distribution Rms 310A-H			8			
65	Control Building Elev 50' Battery Rms 306B-J			8			
66	Control Building Elev 50' Evacuation Rm 311			1			
67	Radwaste Elev 63'6" Cable Riser Gallery Rm 506A			2			4
	Cable Riser Gallery Rm 506B			2			4
68	Penetration 9' - 63'6" Cable Riser Shaft			1			21
69	Safety Eqpmt Bldg Elev 5'3" Salt Water Cooling Piping Rm 010	None					
70	Radwaste Elev 24' Duct Shaft Rms 222A,B	None					
72	Control Building Elev 70' Corridor 401			4 (Note 3)			
75	Refueling Water Storage Tank T-005	None					
76	Refueling Water Storage Tank T-006	None					

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TABLE 3.3-11 (Continued)

Zone	Instrument Location	Early Warning HEAT	Early Warning FLAME	Early Warning SMOKE	Actuation HEAT	Actuation FLAME	Actuation SMOKE
78	Control Building Elev 9'						
	Corridor Rm 105						4
79	Control Building Elev 50'						
	ESF Switchgear Rm 302A						2
	ESF Switchgear Rm 302B						2
80	Radwaste Elev 37' & 50'						
	Duct Shaft Rms	None					
81	Radwaste Elev 63'6"						
	Duct Shaft Rms 527A,B	None					
83	Salt Water Cooling Tunnel						6*
84	Safety Eqpmt Bldg Elev 8'						
	HVAC Rm 017						3
Technical Support Center (TSC)		5					1 (Note 3)

*3 in UNIT 2, 3 in UNIT 3

Notes

1. On completion of DCP 3-403E
2. On completion of DCP 3-122M
3. On completion of DCP 2-403E

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3/4.7.8 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.8.1 The fire suppression water system shall be OPERABLE with:

a. Two electric motor-driven fire pumps, each with a capacity of 1500 gpm and one diesel-driven fire pump with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,

b. Two separate water supplies, each with a minimum contained volume of 300,000 gallons, and

c. An OPERABLE flow path capable of taking suction from each water supply and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the first valve upstream of the water flow alarm device on each spray and/or sprinkler or fire hose station required to be OPERABLE per Specifications 3.7.8.2 and 3.7.8.3.

APPLICABILITY: At all times.

ACTION:

a. With one required electric motor-driven/diesel-driven pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or provide an alternate backup pump or supply. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

b. With the fire suppression water system otherwise inoperable, establish a backup fire suppression water system within 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.8.1.1 The fire suppression water system shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying the contained water supply volume.

b. At least once per 31 days on a STAGGERED TEST BASIS by starting each electric motor-driven pump and operating it for at least 15 minutes on recirculation flow.

c. At least once per 31 days by verifying that each valve (manual, power-operated or automatic) in the flow path is in its correct position.

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SURVEILLANCE REQUIREMENTS (Continued)

d. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

e. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its operating sequence, and:

1. Verifying performance of the fire pumps as follows:

a. Diesel engine-driven pump develops at least 2500 gpm at a system head of 283 feet.

b. Electric motor-driven pumps each develop at least 1500 gpm at a system head of 289 ft.

2. Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel, and

3. Verifying that each fire suppression pump starts (sequentially) to maintain the fire suppression water system pressure greater than or equal to 95 psig.

f. At least once per 3 years by performance of a system flush.

g. At least once per 3 years by performing a flow test of the system in accordance with Chapter 5, Section 11 of the Fire Protection Handbook, 14th Edition, published by the National Fire Protection Association.

4.7.8.1.2 The fire pump diesel engine shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying:

1. The diesel fuel oil day storage tank contains at least 225 gallons of fuel, and

2. The diesel starts from ambient conditions and operates for at least 30 minutes on recirculation flow.

b. At least once per 92 days by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-1975, is within the acceptable limits specified in Table 1 of ASTM D975-1977 when checked for viscosity, water and sediment.

c. At least once per 18 months during shutdown, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

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SURVEILLANCE REQUIREMENTS (Continued)

4.7.8.1.3 The fire pump diesel starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The electrolyte level of each battery is above the plates, and

2. The overall battery voltage is greater than or equal to 24 volts.

b. At least once per 92 days by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

1. The batteries, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration, and

2. The battery-to-battery and terminal connections are clean, tight, free of corrosion, and coated with anti-corrosion material.

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PLANT SYSTEMS

SPRAY AND/OR SPRINKLER SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.8.2 The spray and/or sprinkler systems listed in Table 3.7-5 shall be OPERABLE.

APPLICABILITY: Whenever equipment protected by the spray/sprinkler system is required to be OPERABLE.

ACTION:

a. With one or more of the above required spray and/or sprinkler systems inoperable, within 1 hour establish a continuous fire watch with back-up fire suppression equipment for those areas outside containment in which redundant systems or components could be damaged; for other areas outside containment, establish an hourly fire watch patrol.

b. With one or more of the above required spray and/or sprinkler systems inside containment inoperable, restore the system to OPERABLE status within 24 hours or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 7 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.8.2 Each of the above required spray and/or sprinkler systems shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power-operated or automatic) outside of containment in the flow path is in its correct position.

b. At least once per 31 days during each COLD SHUTDOWN or REFUELING by verifying that each valve (manual, power-operated or automatic) inside containment in the flow path is in its correct position.

c. At least once per 12 months by cycling each testable valve in the flow path through at least one complete cycle of full travel.

d. At least once per 18 months:

1. By performing a system functional test which includes simulated automatic actuation of the system, and:

a) Verifying that the automatic valves in the flow path actuate to their correct positions on a test signal, and

b) Cycling each valve in the flow path that is not testable during plant operation through at least one complete cycle of full travel.

2. By a visual inspection of the dry pipe spray and wet pipe spray sprinkler headers to verify their integrity, and

SURVEILLANCE REQUIREMENTS (Continued)

3. By a visual inspection of each spray/sprinkler head to verify the spray pattern is not obstructed.

e. At least once per 3 years by performing an air flow test through each open head spray/sprinkler header and verifying each open head spray/sprinkler nozzle is unobstructed.

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TABLE 3.7-5

Safety Related Spray and/or Sprinkler Systems

Hazard	Location	No. of Systems	System Type
Reactor Coolant Pumps	Containment	4	Deluge-Water Spray
R.R. Tunnel	Fuel Hand. Bldg.	1	Wet Pipe
Truck Ramp	Radwaste Bldg.	1	Wet Pipe
Cable Tunnel	Section 1	1	Deluge-Water Spray
Cable Tunnel	Section 2	1	Deluge-Water Spray
Cable Tunnel	Section 3	1	Deluge-Water Spray
Cable Tunnel	Section 4	1	Deluge-Water Spray
Cable Tunnel	Section 5	1	Deluge-Water Spray
Cable Tunnel	Section 6	1	Deluge-Water Spray
Cable Tunnel	Section 7	1	Deluge-Water Spray
Cable Tunnel	Section 8	1	Deluge-Water Spray
Cable Tunnel	Section 9	1	Deluge-Water Spray
Cable Tunnel	Section 10	1	Deluge-Water Spray
Cable Tunnel Riser	Fuel Hand Bldg.	1	Deluge-Water Spray
Cable Gallery	Radwaste Bldg.	2*	Deluge-Water Spray
Cable Risers El. 9 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Risers El. 30 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Risers El. 50 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Risers El. 70 ft.	Control Bldg.	2*	Deluge-Water Spray
Cable Spreading Room	Control Bldg.	4*	Deluge-Water Spray
Emergency A.C. Unit - Train A	Fuel Handling Bldg.	1**	Deluge-Water Spray
Emergency A.C. Unit - Train B	Fuel Handling Bldg.	1**	Deluge-Water Spray
Diesel Generator	DG Bldg.	2	Pre-Action Sprinkler
HVAC Room 309A and 309D Corridors 301 and 303	Control Building 50'	1	Wet Pipe
Auxiliary Feedwater Pump	Tank Building 30'	1	Pre-action Sprinkler
Fan Room 233 and Corridor 234	Control Building 30'	1#	Deluge-Water Spray Wet Pipe
Salt Water Cooling Pumps	Intake Structure	1	Wet Pipe
Salt Water Cooling Tunnel			
CCW Heat Exchangers and Piping Room; A/C Room 017	Safety Equipment Bldg.	1	Wet Pipe
Corridor 401	Control Building 70'	1	Wet Pipe
Corridor 105	Control Building 9'	1	Wet Pipe

*One half of these Systems are designated Unit 3 but are required to be OPERABLE for Unit 2 operation.

**Charcoal filter deluge systems are manually actuated.

#On Completion of DCP 3-122M

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FIRE HOSE STATIONS

LIMITING CONDITION FOR OPERATION

3.7.8.3 The fire hose stations shown in Table 3.7-6 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

a. With one or more of the fire hose stations shown in Table 3.7-6 inoperable, route a fire hose to provide equivalent nozzle flow capacity to the unprotected area(s) from an OPERABLE hose station or alternate fire water supply, within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise provide the additional hose within 24 hours. Where it can be demonstrated that the physical routing of the fire hose would result in a recognizable hazard to operating technicians, plant equipment, or the hose itself, a fire hose shall be stored in an area easily accessible to the unprotected area. Signs identifying the purpose and location of the fire hose and related valves shall be mounted above the hose and at the inoperable hose station.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.8.3 Each of the fire hose stations shown in Table 3.7-6 shall be demonstrated OPERABLE:

a. At least once per 31 days by visual inspection of the stations accessible during plant operation to assure all required equipment is at the station.

b. At least once per 18 months by:

   1. Visual inspection of the stations not accessible during plant operations to assure all required equipment is at the station.
   2. Removing the hose for inspection and re-racking, and
   3. Inspecting all gaskets and replacing any degraded gaskets in the couplings.

c. At least once per 3 years by:

   1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
   2. Conducting a hose hydrostatic test at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

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TABLE 3.7-6

FIRE HOSE STATIONS

LOCATION	ELEVATION	STATION NUMBER
Containment Bldg. - Unit 3	63'-6"	131
Containment Bldg. - Unit 3	63'-6"	67
Containment Bldg. - Unit 3	63'-6"	74
Containment Bldg. - Unit 3	45'-0"	68
Containment Bldg. - Unit 3	45'-0"	70
Containment Bldg. - Unit 3	45'-0"	73
Containment Bldg. - Unit 3	30'-0"	64
Containment Bldg. - Unit 3	30'-0"	66
Containment Bldg. - Unit 3	30'-0"	72
Containment Bldg. - Unit 3	17'-6"	65
Containment Bldg. - Unit 3	17'-6"	69
Containment Bldg. - Unit 3	17'-6"	71
Electrical Penetration Area - Unit 3	45'-0"	124
Electrical Penetration Area - Unit 3	45'-0"	125
Electrical Penetration Area - Unit 3	63'-6"	126
Electrical Penetration Area - Unit 3	63'-6"	127
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	9'-0"	109
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	9'-0"	114
Cable Spreading Room-Auxiliary Bldg. Control Area	9'-0"	108
Cable Spreading Room-Auxiliary Bldg. Control Area	9'-0"	113
Cable Spreading Room Corridor-Auxiliary Bldg. Control Area	9'-0"	48
Cable Spreading Room Corridor-Auxiliary Bldg. Control Area	9'-0"	60
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	30'-0"	110
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	30'-0"	115
Corridor (North)-Auxiliary Bldg. Control Area	30'-0"	49
Corridor (South)-Auxiliary Bldg. Control Area	30'-0"	61
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	50'-0"	111
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	50'-0"	116
Corridor (North)-Auxiliary Bldg. Control Area	50'-0"	50
Corridor (South)-Auxiliary Bldg. Control Area	50'-0"	62
HVAC Room Corridor-Auxiliary Bldg. Control Area	50'-0"	56
HVAC Room Corridor-Auxiliary Bldg. Control Area	50'-0"	57
Cable Riser Gallery (North)-Auxiliary Bldg. Control Area	70'-0"	112
Cable Riser Gallery (South)-Auxiliary Bldg. Control Area	70'-0"	117
Fuel Handling Bldg.-Unit 3	63'-6"	128
Fuel Handling Bldg.-Unit 3	63'-6"	129

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PLANT SYSTEMS

3/4.7.9 FIRE RATED ASSEMBLIES

LIMITING CONDITION FOR OPERATION

3.7.9 All fire rated assemblies (walls, floor/ceilings, cable tray enclosures and other fire barriers) separating safety-related fire areas or separating portions of redundant systems important to safe shutdown within a fire area and all sealing devices in fire rated assembly penetrations (fire doors, fire windows, fire dampers, cable, ventilation duct, and piping penetration seals) shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more of the above required fire rated assemblies and/or sealing devices inoperable, within 1 hour either establish a continuous fire watch on at least one side of the affected assembly, or verify the OPERABILITY of the fire detectors on at least one side of the inoperable assembly and establish an hourly fire watch patrol.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.9.1 Each of the above required fire doors shall be verified OPERABLE by:

a. Verifying at least once per 24 hours the position of each closed fire door and that doors with automatic hold-open and release mechanisms are free of obstructions.

b. Verifying at least once per 7 days the position of each locked closed fire door.

c. Performing a CHANNEL FUNCTIONAL TEST at least once per 31 days of the fire door supervision system.

d. Inspecting at least once per 6 months the automatic hold-open, release, and closing mechanism and latches.

e. Performing a functional test at least once per 18 months of the automatic hold-open, release, closing mechanisms and latches.

SURVEILLANCE REQUIREMENTS

4.7.9.2 At least once per 18 months the above required fire rated assemblies and penetration sealing devices other than fire doors shall be verified OPERABLE by:

a. Performing a visual inspection of the exposed surfaces of each fire rated assembly.

b. Performing a visual inspection of each fire window/fire damper/ and associated hardware.

c. Performing a visual inspection of at least 10% of each type (mechanical and electrical) of sealed penetration. If apparent changes in appearance or abnormal degradations are found, a visual inspection of an additional 10% of each type of sealed penetration shall be made. This inspection process shall continue until a 10% sample with no apparent changes in appearance or abnormal degradation is found. Samples shall be selected such that each penetration seal will be inspected at least once per 15 years.

room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR 50.

The OPERABILITY of the remote shutdown instrumentation in Panel L411 ensures that sufficient capability is available to permit shutdown and maintenance of COLD SHUTDOWN of the facility in the event of a fire in the cable spreading room, control room or remote shutdown panel, L042.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG 0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations".

3/4.3.3.7 FIRE DETECTION INSTRUMENTATION

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is required in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety-related equipment and is an integral element in the overall facility fire protection program.

In the event that a portion of the fire detection instrumentation is inoperable, the establishment of frequent fire patrols in the affected areas is required to provide detection capability until the inoperable instrumentation is restored to OPERABILITY.

Since the fire detectors are non-seismic, a plant visual inspection for fires is required within 2 hours following an earthquake ($\geq$ 0.02g). Since safe shutdown systems are protected by seismic Category I barriers rated at 2 and 3 hours, any fire after an earthquake should be detected by this inspection before safe shutdown systems would be affected. Additionally, to verify the continued OPERABILITY of fire detection systems after an earthquake, an engineering evaluation of the fire detection instrumentation in the required zones is required to be performed within 72 hours following an earthquake.

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SNUBBERS (Continued)

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

3/4.7.7 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e. sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shield mechanism.

3/4.7.8 FIRE SUPPRESSION SYSTEMS

The OPERABILITY of the fire suppression systems ensures that adequate fire suppression capability is available to confine and extinguish fires occurring in any portion of the facility where safety related equipment is located. The fire suppression system consists of the water system, spray and/or sprinklers, and fire hose stations. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety related equipment and is a major element in the facility fire protection program.

In the event that portions of the fire suppression systems are inoperable, alternate backup fire fighting equipment is required to be made available in the affected areas until the inoperable equipment is restored to service. When the inoperable fire fighting equipment is intended for use as a backup means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.

The surveillance requirements provide assurance that the minimum OPERABILITY requirements of the fire suppression systems are met.

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FIRE SUPPRESSION SYSTEMS (Continued)

In the event the fire suppression water system becomes inoperable, immediate corrective measures must be taken since this system provides the major fire suppression capability of the plant. The requirement for a 24-hour report to the Commission provides for prompt evaluation of the acceptability of the corrective measures to provide adequate fire suppression capability for the continued protection of the nuclear plant.

The San Onofre Unit 2 and 3 fire pumps and water supplies supply water to the San Onofre Unit 1 fire system.

3/4.7.9 FIRE RATED ASSEMBLIES

The OPERABILITY of the fire barriers and barrier penetrations ensure that fire damage will be limited. These design features minimize the possibility of a single fire involving more than one fire area prior to detection and extinguishment. The fire barriers, fire barrier penetrations for conduits, cable trays and piping, fire windows, fire dampers, and fire doors are periodically inspected to verify their OPERABILITY.

6.1 RESPONSIBILITY

6.1.1 The Station Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Supervisor (or during his absence from the Control Room Area, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice-President of Nuclear Operations shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown in Figure 6.2-1.

UNIT STAFF

6.2.2 The Unit organization shall be as shown in Figure 6.2-2 and:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

b. At least one licensed Reactor Operator shall be 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 shall be in the Control Room area identified as such on Table 6.2-1.

c. A health physics technician[#] shall be on site when fuel is in the reactor.

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

e. A site Fire Brigade of at least 5 members shall be maintained onsite at all times.[#] The Fire Brigade shall not include the Shift Supervisor and the 2 other members of the minimum shift crew necessary for safe shutdown of the unit and any personnel required for other essential functions during a fire emergency.

[#]The health physics technician and Fire Brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.

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ATTACHMENT "C"

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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR 50.

The OPERABILITY of the remote shutdown instrumentation in Panel L411 ensures that sufficient capability is available to permit shutdown and maintenance of COLD SHUTDOWN of the facility in the event of a fire in the cable spreading room, control room or remote shutdown panel, L042.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG 0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations".

SNUBBERS (Continued)

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installation and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc.). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation.

3/4.7.7 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(c) limits for plutonium. This limitation will ensure that leakage from byproduct, source, and special nuclear material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with surveillance requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e. sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shield mechanism.

6.1 RESPONSIBILITY

6.1.1 The Station Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Supervisor (or during his absence from the Control Room Area, a designated individual) shall be responsible for the Control Room command function. A management directive to this effect, signed by the Vice-President of Nuclear Operations shall be reissued to all station personnel on an annual basis.

6.2 ORGANIZATION

OFFSITE

6.2.1 The offsite organization for unit management and technical support shall be as shown in Figure 6.2-1.

UNIT STAFF

6.2.2 The Unit organization shall be as shown in Figure 6.2-2 and:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

b. At least one licensed Reactor Operator shall be 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 shall be in the Control Room area identified as such on Table 6.2-1.

c. A health physics technician[#] shall be on site when fuel is in the reactor.

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

[#]The health physics technician composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.

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c. A health physics technician# shall be on site when fuel is in the reactor.

d. All CORE ALTERATIONS shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation.

#The health physics technician composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions.