UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit No. 2 of the San Onofre Nuclear Generating Station	)	Docket No. 50-361 Amendment Application No. 134

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Supplement 1 to Amendment Application No. 134.

This amendment application supplement revises Proposed Change Number (PCN)-431 to Facility Operating License No. NPF-10. Supplement 1 will revise the notes in the Unit 2 Technical Specifications Table 2.2-1 "Reactor Protective Instrumentation Trip Setpoint Limits," Table 3.3-1, "Reactor Protective Instrumentation," Table 3.3-3, "Engineered Safety Feature Actuation System Instrumentation," and Table 3.3-4, "Engineered Safety Feature Actuation System Instrumentation Trip Values" and their associated Bases. The proposed revision includes 1) changing the pressure in the notes at which the Low Pressurizer Pressure (LPP) trip bypass shall be automatically removed to a consistent value of "before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is $\leq$ 472 psia)" and 2) revising the wording in the notes to make the notes consistent with each other.

Subscribed on this 6TH day of SEPTEMBER, 1994

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: Richard M. Rosenblum

Richard M. Rosenblum
Vice President

State of California
County of Orange
On 9/6/94 before me, BARBARA A. McCARTHY/NOTARY PUBLIC,
personally appeared RICHARD M. ROSENBLUM, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature Barbara A. McCarthy

OFFICIAL SEAL
BARBARA A. MC CARTHY
Notary Public-California
ORANGE COUNTY
My Commission Expires
March 31, 1996

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. for a Class 103 License to Acquire, Possess, and Use a Utilization Facility as Part of Unit No. 3 of the San Onofre Nuclear Generating Station	)	Docket No. 50-362 Amendment Application No. 118

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Supplement 1 to Amendment Application No. 118.

This amendment application supplement revises Proposed Change Number (PCN)-431 to Facility Operating License No. NPF-15. Supplement 1 will revise the notes in the Unit 3 Technical Specifications Table 2.2-1 "Reactor Protective Instrumentation Trip Setpoint Limits," Table 3.3-1, "Reactor Protective Instrumentation," Table 3.3-3, "Engineered Safety Feature Actuation System Instrumentation," and Table 3.3-4, "Engineered Safety Feature Actuation System Instrumentation Trip Values," and their associated Bases. The proposed revision includes 1) changing the pressure in the notes at which the Low Pressurizer Pressure (LPP) trip bypass shall be automatically removed to a consistent value of "before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is $\leq$ 472 psia)" and 2) revising the wording in the notes to make the notes consistent with each other.

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WITNESS my hand and official seal.

Signature Barbara A. McCarthy

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Notary Public-California
ORANGE COUNTY
My Commission Expires
March 31, 1995

DESCRIPTION AND SAFETY ANALYSIS OF PROPOSED CHANGE NPF-10/15-431, SUPPLEMENT 1

This is a request to revise the notes in Technical Specification (TS) Tables 2.2-1, "Reactor Protective Instrumentation Trip Setpoint Limits," 3.3.1, "Reactor Protective Instrumentation," 3.3-3, "Engineered Safety Feature Actuation System Instrumentation," and 3.3-4, "Engineered Safety Feature Actuation System Instrumentation Trip Values," and the TS associated Bases for San Onofre Nuclear Generating Station Units 2 and 3.

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 following changes are proposed for the notes in Tables 2.2-1, "Reactor Protective Instrumentation Trip Setpoint Limits, 3.3-1, "Reactor Protective Instrumentation," 3.3-3, "Engineered Safety Feature Actuation System Instrumentation," and 3.3-4, "Engineered Safety Feature Actuation System Instrumentation Trip Values," and their associated Bases:

1. Change the third and last sentence of Note (2), Table 2.2-1 to read "Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia)." The < 400 psia value is consistent with the existing TSs. The existing wording "whenever pressurizer pressure is greater than or equal to 500 psia" is changed to "before pressurizer pressure exceeds 500 psia" to clarify that the LPP bypass is required to be automatically removed at pressurizer pressures not to exceed 500 psia. The ≤ 472 psia allowable value includes margin to account for instrument loop uncertainties and ensures the analytical limit of 500 psia will not be exceeded. In addition, change the format of the notes to Table 2.2-1 from a "landscape" to a "portrait" format to be consistent with Tables 3.3-1 and 3.3-3.

2. Add to the Bases for TS 2.2.1: "Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). The ≤ 472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded." These provisions are also identified in the Bases for Specifications 3/4.3.1 and 3/4.3.2 in Item 6 below. The wording change in the Note makes the notes clear and consistent with each other.

SUPP. 1

3. Change Note (b), Table 3.3-1 to read "Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia)." This change is consistent with the change made in Table 2.2-1 above.

4. Change Note (a), Table 3.3-3 to read "Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia)." This change is consistent with the change made in Tables 2.2-1 and Table 3.3-1 above.

5. Change the third and last sentence of Note (1), Table 3.3-4 to read "Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia)." This change is consistent with the change made in Tables 2.2-1, 3.3-1 and 3.3-3 above. In addition, change the format of the notes to Table 3.3-4 from a "landscape" to a "portrait" format to be consistent with Tables 3.3-1 and 3.3-3. Supp. 1

6. Add to the Bases for TSs 3/4.3.1 and 3/4.3.2: "The Pressurizer Pressure-Low trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). The ≤ 472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded."

DISCUSSION

The existing Note (2) of Table 2.2-1, in part, states "Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 500 psia." Note (b) of Table 3.3-1, states "Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 400 psia." Note (a) of Table 3.3-3 states "Trip function may be bypassed in this MODE when pressurizer pressure is less than 400 psia; bypass shall be automatically removed when pressurizer pressure is greater than or equal to 400 psia." Note (1) of Table 3.3-4, in part, states "Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer is greater than or equal to 400 psia." As noted, there is an inconsistency in the wording of the existing Notes and in the value of the pressure at which the automatic removal of the LPP trip becomes effective. Supp. 1

The proposed change revises the existing notes in the above tables by 1) changing the pressure at which automatic removal of the LPP trip bypass becomes effective from greater than or equal to 500 psia in Table 2.2-1 and greater than or equal to 400 psia in Tables 3.3-1, 3.3-3, and 3.3-4 to a consistent value of before pressurizer pressure exceeds 500 psia and 2) rewording the Notes to be more clear and consistent with each other. The bistable allowable value of 472 psia includes margin to account for total loop uncertainties for the instruments used in the LPP trip circuit and ensures the analytical limit of 500 psia will not be exceeded. The setpoints for the Supp. 1

automatic removal of the LPP trip bypass and the bypass enable are as specified in Southern California Edison (Edison) Calculation J-SBA-033, "Pressurizer Low Pressure Trip Bypass." The nominal setpoint is 450 psia for the automatic removal of the trip bypass, and due to a fixed hysteresis of approximately 75 psi on the instruments used in the LPP trip circuit the nominal bypass enable setpoint is approximately 375 psia. | Supp. 1

One of the functions of the Reactor Protection System (RPS) is to initiate a reactor trip whenever the pressurizer pressure falls below the trip setpoint. The Engineered Safety Feature Actuation System (ESFAS) instrumentation initiates safety injection whenever the pressurizer pressure falls below the safety injection setpoint. The reactor trip and the safety injection actuation functions are provided to mitigate the consequences of an accident such as a Steam Line Break (SLB) or a Loss of Coolant Accident (LOCA). The LPP trip setpoint may be decreased in a manner prescribed by the TSs. Bypass of the LPP trip and actuation of safety injection, namely RPS/ESFAS bypass, is provided to allow for systems testing at low pressure and to allow heatup and cooldown without generating an undesired safeguard action. This bypass may be manually initiated when pressurizer pressure drops to the bypass enable setpoint and is automatically removed when pressurizer pressure rises to the LPP trip enable setpoint.

The RPS instrumentation and the ESFAS instrumentation are required to satisfy paragraph 50.55a(h) of 10 CFR 50, Criteria for Protection Systems for Nuclear Power Generating Stations (IEEE Standard 279), and General Design Criterion (GDC) 20, "Protection system functions," of Appendix A to 10 CFR 50. GDC 20 states that the protection system shall be designed to 1) initiate automatically the operation of appropriate systems including reactivity control systems, to assure that specified fuel design limits are not exceeded as a result of operational occurrences, and 2) sense accident conditions and to initiate the operation of systems and components important to safety. Section 4.1, "General Function Requirement," of IEEE Standard 279 in part requires that the "...protection system shall, with precision and reliability, automatically initiate appropriate protective action whenever a condition monitored by the system reaches a preset level. This requirement applies for the full range of conditions and performance enumerated in Sections 3(7), 3(8), and 3(9)." It also states that automatic initiation is a requirement. | Supp. 1

Upon approval of this license amendment request, the appropriate sections of the Updated Final Safety Analysis Report (UFSAR) will be revised to incorporate the changes. These sections include Sections 7.2.1.1.1.6, "Low Pressurizer Pressure," 7.2.1.1.5, "Bypasses," Table 7.2-2, "Reactor Protective System Bypasses," Table 7.2-7, "Plant Protection System Failure Mode and Effects Analysis," 7.3.1.1.1, "Safety Injection System," and Table 7.3-4, "ESFAS Bypasses."

Basis for and Acceptability of the Request

This proposed change 1) avoids an impact on outage schedules due to the unnecessary delay in depressurization of the Reactor Coolant System (RCS) afforded by the existing TSs, 2) eliminates the inconsistencies in the existing TSs which are associated with the LPP trip bypass and 3) ensures the automatic removal of the LPP trip bypass occurs before the pressurizer exceeds | Supp. 1

the analytical limit of 500 psia. The existing Tables 2.2.1, 3.3-1, 3.3-3, and 3.3-4 allow bypass of the LPP trip consistently at less than 400 psia but automatic removal of the bypass is inconsistent in that Table 2.2-1 requires automatic removal of the bypass at greater than or equal to 500 psia while Tables 3.3-1, 3.3-3, and 3.3-4 require removal of the bypass at greater than or equal to 400 psia. This change will clarify the notes in the tables and make them consistent with each other. supp. 1

During plant cooldowns (beginning at approximately 2000 psia) the LPP trip setpoint is manually decreased to maintain a 400 psi margin below the existing pressurizer pressure to a minimum value of 300 psia. This maintains the capability to automatically actuate the Safety Injection Actuation Signal (SIAS) if required during plant cooldowns. To allow continued plant depressurization during cooldown without undesired actuation of the SIAS, a manual bypass of SIAS on LPP is provided. The current TS permits the LPP trip and SIAS function to be manually bypassed and automatically removed at a numerical value of 400 psia. Due to an approximate hysteresis of 75 psi on the instruments used in the LPP trip enable (automatic removal) circuit, the operator will be unable to manually bypass the SIAS until the pressurizer pressure is about 325 psia. Allowing the pressure to go this low before bypassing SIAS would risk an inadvertent SIAS actuation because only a 25 psia margin exists between the floor LPP trip setpoint (300 psia) and the SIAS manual bypass on LPP (325 psia).

With the current SIAS bypass enable setpoint of 325 psia, Edison will be taking procedural actions to preclude an inadvertent SIAS during shutdowns in either Unit 2 or 3. These procedural actions will involve increasing the margin between the SIAS bypass enable and the floor LPP trip by resetting the SIAS bypass enable to a higher setpoint once the unit has been cooled down to Mode 4 (temperature below 350°F) but before pressure is reduced below about 500 psia. The reset of the SIAS bypass to a higher setpoint is acceptable because the LPP trip is not required to be operable in Mode 4. This reset requires Instrument & Control technicians to bypass each Plant Protection System (PPS) channel, one at a time, and adjust the appropriate bistable to a higher value. This evolution adds time and results in a delay in depressurizing the Reactor Coolant System (RCS) and entry into shutdown cooling operations.

The delay in RCS depressurization and cooldown creates an impact on outage schedules. In addition, this delay complicates the response to any emergency shutdown. Revising the TSs to change the automatic removal of the LPP trip bypass from "greater than or equal to 400 psia" to "before pressurizer pressure exceeds 500 psia" will avoid this delay. supp. 1

The proposed change is based on the results of 1) a Combustion Engineering (CE) evaluation of the potentially affected accidents (steam line break and LOCA) occurring in Mode 3 at a pressure of 500 psia and 2) the revised LPP setpoint calculations (J-SBA-033, "Pressurizer Low Pressure Trip Bypass"). The total positive reactivity that would be added as a result of a steam line break at 500 psia is 4.3% $\Delta\rho$ when compared to 3.9% $\Delta\rho$ that would be added if a steam line break were to occur at 400 psia. Since the Technical Specification requirement for Mode 3 shutdown margin is 5.15% $\Delta\rho$, a sufficient margin exists to preclude a return to criticality due to a steam line break occurring at 500

psia. The corresponding bistable allowable value of ≤ 472 psia, which is based on the revised LPP trip setpoint calculations, will continue to ensure the analytical limit of 500 psia will not be exceeded. Supp.1

Also, there is no change to plant hardware and analysis methods and the RPS/ESFAS systems are still required to satisfy the same acceptance criteria as before.

SAFETY ANALYSIS

The proposed change described above shall be deemed to involve a significant hazards consideration if there is a 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 accidents that may be affected by the proposed change are the Steam Line Break (SLB) and a Loss of Coolant Accident (LOCA). The Reactor Protection System/Engineered Safety Feature Actuation System (RPS/ESFAS) bypass, if in effect, would not initiate a reactor trip and safety injection actuation on low pressurizer pressure to mitigate the consequences of a SLB or a LOCA occurring at these conditions. The consequences of an unmitigated accident will be the potential for return to criticality and subsequent approach to the specified acceptable fuel design limits and the potential for exceeding Emergency Core Cooling System (ECCS) acceptance criteria. The higher value (500 psia as opposed to 400 psia) at which automatic removal of Low Pressurizer Pressure (LPP) trip manual bypass becomes effective is justified based on the results of an evaluation of the limiting SLB and LOCA events occurring in Mode 3 at a pressurizer pressure of 500 psia. Supp.1

   Safety Injection Actuation Signal (SIAS) also occurs for events other than SLB and LOCA in their event categories, but these events are not limiting. These events include Increased Main Steam Flow (IMSF) [in the increase in heat removal event category], and Steam Generator Tube Rupture (SGTR), Inadvertent Opening of a Pressurizer Safety Valve (IOPSV) and Primary Sample or Instrument Line Break (PSILB) [in the decrease in reactor coolant system inventory event category]. SIAS also occurs on Loss of Normal Feedwater with a Single Failure (LOFW/SF) [in the decrease in heat removal category] but Safety Injection (SI) is caused by the effect of the single failure (steam bypass control system), which causes an increase in heat removal, and for sake of this discussion, may be treated as an event in the increase in heat removal category. Supp.1

   For these less limiting events in the decrease in reactor coolant system inventory category, as indicated in the LOCA discussion below, SIAS for all events in this category will occur either automatically on High Containment Pressure (HCP) [large break LOCA, larger small break LOCAs] or will be initiated manually (smaller small break LOCAs, IOPSV, PSILB, SGTR)

with acceptable consequences. The limiting event is estimated to be the small break LOCA (1"-3") where SI is manually initiated at the same time the HCP signal occurs. For the less limiting events in the increase in heat removal category, SI is not required for the events to meet the acceptance criteria or has no significant effect on event consequences. Supp. 1

A main SLB outside containment initiated at 500 psia does not require an automatic Safety Injection Actuation Signal (SIAS) to mitigate the consequences of the event. At a Reactor Coolant System (RCS) pressure of 500 psia, the maximum RCS temperature would be less than 467°F (saturation temperature at 500 psia). In the event of an SLB from this condition, the total positive reactivity that would be added would be approximately 4.3% $\Delta\rho$ as compared to 3.9% $\Delta\rho$ that would be added if an SLB were to occur at 400 psia. This 4.3% $\Delta\rho$ reactivity is the sum of Doppler and moderator reactivity additions and includes uncertainties.

This reactivity addition represents an RCS cooldown from 467°F to 212°F, at which point the cooldown from the SLB has already stopped since the Steam Generator (SG) water temperature is below the boiling point. If SI is initiated, RCS cooldown below 212°F may occur due to the effect of the cold SI water. However, in this case the negative reactivity effect of the highly borated SI water greatly exceeds any additional positive reactivity effect due to cooldown. Supp. 1

For this case, the shutdown margin required by the Technical Specification (TS) in Mode 3 is 5.15% $\Delta\rho$. Therefore, the shutdown margin is more than sufficient to offset the reactivity insertion due to an SLB at 500 psia and preclude a return to criticality. The allowable value of 472 psia, which includes instrument uncertainties, will continue to ensure the analytical limit of 500 psia is not exceeded.

A main SLB inside containment or a LOCA would result in an automatic SIAS generated by the ESFAS high containment pressure signal. The high containment pressure actuation of SIAS is maintained during all modes of plant operation. The high containment pressure SIAS setpoint trip is 3.4 psig (3.7 psig allowable value). As indicated above, an SLB initiated at 500 psia does not require automatic SIAS to mitigate the consequences of the event. However, automatic SIAS on high containment pressure would occur for all but the smallest SLB to provide mitigation for the SLB inside containment.

The consequences of a LOCA are not sensitive to the initial RCS pressure assumed (either 400 psia or 500 psia). At 3.4 psig containment pressure SIAS would actuate the safety injection (SI) equipment that is required to be operable by the TSs to mitigate the event. Containment pressure following a LOCA, and hence the time the high containment pressure setpoint is reached, is not sensitive to the initial pressure. Automatic SIAS on high containment pressure would be expected for all LOCAs except for very small break LOCAs at the small end of the break spectrum. Containment analysis of the smallest break (0.01 ft^2) in the Updated Final Safety Analysis Report (UFSAR) indicates that automatic SIAS actuation on high containment pressure would occur prior to core uncovery. For smaller break sizes, for which a containment high pressure signal may not be

generated, the time available would be sufficient to credit manual SIAS initiation to mitigate the event.

Analysis of a Mode 3 or Mode 4 LOCA is not performed as part of the UFSAR and is not required to comply with ECCS performance criteria (10 CFR 50.46 Appendix K requires analysis of Mode 1 102% power LOCA). However, the TSs require RPS/ESFAS instrumentation and Engineered Safety Feature equipment to be operable in Modes 3 and 4 to mitigate the event should it occur. The requirement for automatic SIAS initiated by two diverse signals (low pressurizer pressure and high containment pressure) over a wide range of plant operating modes ensures the capability to automatically actuate the SIAS if required during plant startup and shutdown. The consequences of a credible size LOCA in Modes 3 or 4, with the safety injection equipment required by the TSs operable and with automatic SIAS on high containment pressure or manual SIAS for very small LOCAs, has been evaluated to be acceptable based on a study by the San Onofre Units 2 and 3 Nuclear Steam Supply System vendor. Therefore, there is no significant increase in probability or consequences associated with an increase in pressure from 400 psia to 500 psia for automatic removal of the LPP trip bypass. | Supp. 1

Therefore, operation of the facility in accordance with this proposed change will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

   There is no possibility of a new or different accident occurring as a result of this proposed change because the operator is still required to manually enable and manually remove the LPP bypass in the event the automatic removal function fails. The automatic removal of the LPP trip bypass provides an additional safeguard when the pressurizer pressure reaches 500 psia. Therefore, operation of the facility in accordance with this proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated. | Supp. 1

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

   Response: No

   This proposed change does not significantly change the margin of safety since the same operator action to ensure operability of the LPP trip bypass function is still required. The feature of automatic removal of the LPP trip manual bypass will maintain the existing margin of safety because the evaluation of potentially affected accidents indicates that the acceptance criteria for the events continue to be met at the increased value (500 psia) of the LPP trip bypass automatic removal. The bistable allowable value, based on the explicit determination of instrument uncertainties, in the revised LPP setpoint calculations will continue to | Supp. 1

ensure the 500 psia analytical limit for automatic removal of the LPP trip bypass will not be exceeded. Therefore, operation of the facility in accordance with this proposed change does not involve a significant reduction in a margin of safety.

Safety and Significant Hazards Determination

Based on the above Safety Analysis, 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. Moreover, because this action does not involve a significant hazards consideration, it will also not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

ATTACHMENT "A"

EXISTING SPECIFICATIONS
UNIT 2

TABLE 2.2-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS

TABLE NOTATION

(1) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(2) Value may be decreased manually, to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer pressure and this value is maintained at less than or equal to 400 psi; the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 500 psia.

(3) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi; the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(4) % of the distance between steam generator upper and low level instrument nozzles.

(5) As stored within the Core Protection Calculator (CPC). Calculation of the trip setpoint includes measurement, calculational and processor uncertainties, and dynamic allowances. Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. The approved DNBR limit accounting for use of HID-2 grids is 1.31. The bypass setpoint may be changed during testing pursuant to Special Test Exception 3.10.2.

(6) DN RATE is the maximum decrease rate of the trip setpoint.

FLOOR is the minimum value of the trip setpoint.

STEP is the amount by which the trip setpoint is below the input signal unless limited by DN Rate or Floor.

(7) Acceleration, horizontal/vertical, g.

(8) Setpoint may be altered to disable trip function during testing pursuant to Specification 3.10.3.

TABLE 3.3-1 (Continued)

TABLE NOTATION

*With the protective system trip breakers in the closed position, the CEA drive system capable of CEA withdrawal, and fuel in the reactor vessel.

#The provisions of Specification 3.0.4 are not applicable.

(a) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(b) Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 400 psia.

(c) Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. During testing pursuant to Special Test Exception 3.10.2 or 3.10.3, trip may be manually bypassed below 5% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 5% of RATED THERMAL POWER.

(d) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.

(e) See Special Test Exception 3.10.2.

(f) Each channel shall be comprised of two trip breakers; actual trip logic shall be one-out-of-two taken twice.

(g) Trip may be bypassed below 55% RATED THERMAL POWER.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

ACTION 2 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trip function may be bypassed in this MODE when pressurizer pressure is less than 400 psia; bypass shall be automatically removed when pressurizer pressure is greater than or equal to 400 psia.

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Actuated equipment only; does not result in CIAS.

The provisions of Specification 3.0.3 are not applicable.

* The provisions of Specification 3.0.4 are not applicable.

** With irradiated fuel in the storage pool.

ACTION STATEMENTS

ACTION 8 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 9 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

	Process Measurement Circuit	Functional Unit Bypassed
1.	Containment Pressure - High	Containment Pressure - High (ESF) Containment Pressure - High (RPS)
2.	Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)
3.	Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)

TABLE 3.3-4 (Continued)

TABLE NOTATION

(1) Value may be decreased manually, to a minimum of greater than or equal to 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer and this value is maintained at less than or equal to 400 psia;* the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer is greater than or equal to 400 psia.

(2) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi;* the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(3) % of the distance between steam generator upper and lower level instrument nozzles.

(4) Inverse time relay set value 3165V, trip will occur within the tolerances specified in Figure 3.3-1 for the range of bus voltages.

(5) Actuated equipment only; does not result in CIAS.

(6) The trip setpoint shall be set sufficiently high to prevent spurious alarms/trips yet sufficiently low to assure an alarm/trip should an inadvertent release occur.

(7) Prior to the completion of DCP 53M, the setpoints for Containment Airborne Radiation Monitor 2RT-7804-1 shall be determined by the OSCM.

(8) The trip setpoint shall be set sufficiently high to prevent spurious alarm/trips yet sufficiently low to assure an alarm/trip should a fuel handling accident occur.

*Variable setpoints are for use only during normal, controlled plant heatups and cooldowns.

**Above normal background.

Linear Power Level-High

The Linear Power Level-High trip provides reactor core protection against rapid reactivity excursions which might occur as the result of an ejected CEA, or certain intermediate steam line breaks. This trip initiates a reactor trip at a linear power level of less than or equal to 111.0% of RATED THERMAL POWER.

Logarithmic Power Level-High

The Logarithmic Power Level - High trip is provided to protect the integrity of fuel cladding and the Reactor Coolant System pressure boundary in the event of an unplanned criticality from a shutdown condition. A reactor trip is initiated by the Logarithmic Power Level - High trip at a THERMAL POWER level of less than or equal to 0.93% of RATED THERMAL POWER unless this trip is manually bypassed by the operator. The operator may manually bypass this trip when the THERMAL POWER level is above 10 % of RATED THERMAL POWER; this bypass is automatically removed when the THERMAL POWER level decreases to 10 % of RATED THERMAL POWER.

Pressurizer Pressure-High

The Pressurizer Pressure-High trip, in conjunction with the pressurizer safety valves and main steam safety valves, provides reactor coolant system protection against overpressurization in the event of loss of load without reactor trip. This trip's setpoint is at less than or equal to 2385 psia which is below the nominal lift setting 2500 psia of the pressurizer safety valves and its operation avoids the undesirable operation of the pressurizer safety valves.

Pressurizer Pressure-Low

The Pressurizer Pressure-Low trip is provided to trip the reactor and to assist the Engineered Safety Features System in the event of a Loss of Coolant Accident. During normal operation, this trip's setpoint is set at greater than or equal to 1700 psia. This trip's setpoint may be manually decreased, to a minimum value of 300 psia, as pressurizer pressure is reduced during plant shutdowns, provided the margin between the pressurizer pressure and this trip's setpoint is maintained at less than or equal to 400 psi; this setpoint increases automatically as pressurizer pressure increases until the trip setpoint is reached.

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

ATTACHMENT "B"

EXISTING SPECIFICATIONS
UNIT 3

TABLE 2.2-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS

TABLE NOTATION

(1) Trip may be manually bypassed above 10-4% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10-4% of RATED THERMAL POWER.

(2) Value may be decreased manually, to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer pressure and this value is maintained at less than or equal to 400 psi; the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 500 psia.

(3) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi; the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(4) % of the distance between steam generator upper and low level instrument nozzles.

(5) As stored within the Core Protection Calculator (CPC). Calculation of the trip setpoint includes measurement, calculational and processor uncertainties, and dynamic allowances. Trip may be manually bypassed below 10-4% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10-4% of RATED THERMAL POWER. The approved DNBR limit accounting for use of HID-2 grid is 1.31. The bypass setpoint may be changed during testing pursuant to Special Test Exception 3.10.2.

(6) DN RATE is the maximum decrease rate of the trip setpoint.

FLOOR is the minimum value of the trip setpoint.

STEP is the amount by which the trip setpoint is below the input signal unless limited by DN Rate or Floor.

(7) Acceleration, horizontal/vertical, g.

(8) Setpoint may be altered to disable trip function during testing pursuant to Specification 3.10.3.

TABLE NOTATION

*With the protective system trip breakers in the closed position, the CEA drive system capable of CEA withdrawal, and fuel in the reactor vessel.

#The provisions of Specification 3.0.4 are not applicable.

(a) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(b) Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer pressure is greater than or equal to 400 psia.

(c) Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. During testing pursuant to Special Test Exception 3.10.2 or 3.10.3, trip may be manually bypassed below 5% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 5% of RATED THERMAL POWER.

(d) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.

(e) See Special Test Exception 3.10.2.

(f) Each channel shall be comprised of two trip breakers; actual trip logic shall be one-out-of-two taken twice.

(g) Trip may be bypassed below 55% RATED THERMAL POWER.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

ACTION 2 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trip function may be bypassed in this MODE when pressurizer pressure is less than 400 psia; bypass shall be automatically removed when pressurizer pressure is greater than or equal to 400 psia.

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Actuated equipment only; does not result in CIAS.

The provisions of Specification 3.0.3 are not applicable.

* The provisions of Specification 3.0.4 are not applicable.

** With irradiated fuel in the storage pool.

ACTION STATEMENTS

ACTION 8 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 9 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

	Process Measurement Circuit	Functional Unit Bypassed
1.	Containment Pressure - High	Containment Pressure - High (ESF) Containment Pressure - High (RPS)
2.	Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)
3.	Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)

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TABLE 3.3-4 (Continued)

TABLE NOTATION

(1) Value may be decreased manually, to a minimum of greater than or equal to 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer and this value is maintained at less than or equal to 400 psia;* the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trip may be manually bypassed below 400 psia; bypass shall be automatically removed whenever pressurizer is greater than or equal to 400 psia.

(2) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi;* the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(3) % of the distance between steam generator upper and lower level instrument nozzles.

(4) Inverse time relay set value 3165V, trip will occur within the tolerances specified in Figure 3.3-1 for the range of bus voltages.

(5) Actuated equipment only; does not result in CIAS.

(6) The trip setpoint shall be set sufficiently high to prevent spurious alarms/trips yet sufficiently low to assure an alarm/trip should an inadvertent release occur.

(7) Prior to the completion of DCP 53N, the setpoints for Containment Airborne Radiation Monitor 3RT-7804-1 shall be determined by the ODCM.

(8) The trip setpoint shall be set sufficiently high to prevent spurious alarm/trips yet sufficiently low to assure an alarm/trip should a fuel handling accident occur.

*Variable setpoints are for use only during normal, controlled plant heatups and cooldowns.

**Above normal background.

BASES

Linear Power Level-High

The Linear Power Level-High trip provides reactor core protection against rapid reactivity excursions which might occur as the result of an ejected CEA, or certain intermediate steam line breaks. This trip initiates a reactor trip at a linear power level of less than or equal to 111.0% of RATED THERMAL POWER.

Logarithmic Power Level-High

The Logarithmic Power Level - High trip is provided to protect the integrity of fuel cladding and the Reactor Coolant System pressure boundary in the event of an unplanned criticality from a shutdown condition. A reactor trip is initiated by the Logarithmic Power Level - High trip at a THERMAL POWER level of less than or equal to 0.93% of RATED THERMAL POWER unless this trip is manually bypassed by the operator. The operator may manually bypass this trip when the THERMAL POWER level is above 10 % of RATED THERMAL POWER; this bypass is automatically removed when the THERMAL POWER level decreases to 10 % of RATED THERMAL POWER.

Pressurizer Pressure-High

The Pressurizer Pressure-High trip, in conjunction with the pressurizer safety valves and main steam safety valves, provides reactor coolant system protection against overpressurization in the event of loss of load without reactor trip. This trip's setpoint is at less than or equal to 2385 psia which is below the nominal lift setting 2500 psia of the pressurizer safety valves and its operation avoids the undesirable operation of the pressurizer safety valves.

Pressurizer Pressure-Low

The Pressurizer Pressure-Low trip is provided to trip the reactor and to assist the Engineered Safety Features System in the event of a Loss of Coolant Accident. During normal operation, this trip's setpoint is set at greater than or equal to 1700 psia. This trip's setpoint may be manually decreased, to a minimum value of 300 psia, as pressurizer pressure is reduced during plant shutdowns, provided the margin between the pressurizer pressure and this trip's setpoint is maintained at less than or equal to 400 psi; this setpoint increases automatically as pressurizer pressure increases until the trip setpoint is reached.

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

ATTACHMENT "C"

PROPOSED SPECIFICATIONS
UNIT 2

TABLE 2.2-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS

TABLE NOTATION

(1) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(2) Value may be decreased manually, to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer pressure and this value is maintained at less than or equal to 400 psi; the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trips may be ~~manually~~ bypassed when pressurizer pressure is ~~below~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~whenever~~ before pressurizer pressure ~~is greater than or equal to~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). Supp. 1

(3) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi; the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(4) % of the distance between steam generator upper and low level instrument nozzles.

(5) As stored within the Core Protection Calculator (CPC). Calculation of the trip setpoint includes measurement, calculational and processor uncertainties, and dynamic allowances. Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. The approved DNBR limit accounting for use of HID-2 grids is 1.31. The bypass setpoint may be changed during testing pursuant to Special Test Exception 3.10.2.

(6) DN RATE is the maximum decrease rate of the trip setpoint.

FLOOR is the minimum value of the trip setpoint.

STEP is the amount by which the trip setpoint is below the input signal unless limited by DN Rate or Floor.

(7) Acceleration, horizontal/vertical, g.

(8) Setpoint may be altered to disable trip function during testing pursuant to Specification 3.10.3.

TABLE 3.3-1 (Continued)

TABLE NOTATION

* With the protective system trip breakers in the closed position, the CEA drive system capable of CEA withdrawal, and fuel in the reactor vessel.

The provisions of Specification 3.0.4 are not applicable.

(a) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(b) Trips may be ~~manually~~ bypassed when pressurizer pressure is ~~below~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~whenever~~ before pressurizer pressure ~~is greater than or equal to 400~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). Supp. 1

(c) Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. During testing pursuant to Special Test Exception 3.10.2 or 3.10.3, trip may be manually bypassed below 5% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 5% of RATED THERMAL POWER.

(d) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.

(e) See Special Test Exception 3.10.2.

(f) Each channel shall be comprised of two trip breakers; actual trip logic shall be one-out-of-two taken twice.

(g) Trip may be bypassed below 55% RATED THERMAL POWER.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

ACTION 2 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trips ~~function~~ may be bypassed ~~in this MODE~~ when pressurizer pressure is ~~less than~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~when~~ before pressurizer pressure ~~is greater than or equal to 400~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). Supp. 1

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Actuated equipment only; does not result in CIAS.

The provisions of Specification 3.0.3 are not applicable.

* The provisions of Specification 3.0.4 are not applicable.

** With irradiated fuel in the storage pool.

ACTION STATEMENTS

ACTION 8 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 9 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

	Process Measurement Circuit	Functional Unit Bypassed
1.	Containment Pressure - High	Containment Pressure - High (ESF) Containment Pressure - High (RPS)
2.	Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)
3.	Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)

TABLE 3.3-4 (Continued)

TABLE NOTATION

(1) Value may be decreased manually, to a minimum of greater than or equal to 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer and this value is maintained at less than or equal to 400 psia;* the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trips may be ~~manually~~ bypassed ~~when pressurizer pressure is below~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~whenever~~ before pressurizer pressure ~~is greater than or equal to 400~~ exceeds 500 psia (~~the corresponding bistable allowable value is ≤ 472 psia~~). Supp. 1

(2) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi;* the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(3) % of the distance between steam generator upper and lower level instrument nozzles.

(4) Inverse time relay set value 3165V, trip will occur within the tolerances specified in Figure 3.3-1 for the range of bus voltages.

(5) Actuated equipment only; does not result in CIAS.

(6) The trip setpoint shall be set sufficiently high to prevent spurious alarms/trips yet sufficiently low to assure an alarm/trip should an inadvertent release occur.

(7) Prior to the completion of DCP 53N, the setpoints for Containment Airborne Radiation Monitor 2RT-7804-1 shall be determined by the ODCM.

(8) The trip setpoint shall be set sufficiently high to prevent spurious alarm/trips yet sufficiently low to assure an alarm/trip should a fuel handling accident occur.

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* Variable setpoints are for use only during normal, controlled plant heatups and cooldowns.

** Above normal background.

Linear Power Level-High

The Linear Power Level-High trip provides reactor core protection against rapid reactivity excursions which might occur as the result of an ejected CEA, or certain intermediate steam line breaks. This trip initiates a reactor trip at a linear power level of less than or equal to 111.0% of RATED THERMAL POWER.

Logarithmic Power Level-High

The Logarithmic Power Level - High trip is provided to protect the integrity of fuel cladding and the Reactor Coolant System pressure boundary in the event of an unplanned criticality from a shutdown condition. A reactor trip is initiated by the Logarithmic Power Level - High trip at a THERMAL POWER level of less than or equal to 0.93% of RATED THERMAL POWER unless this trip is manually bypassed by the operator. The operator may manually bypass this trip when the THERMAL POWER level is above 10^{-4}% of RATED THERMAL POWER; this bypass is automatically removed when the THERMAL POWER level decreases to 10^{-4}% of RATED THERMAL POWER.

Pressurizer Pressure-High

The Pressurizer Pressure-High trip, in conjunction with the pressurizer safety valves and main steam safety valves, provides reactor coolant system protection against overpressurization in the event of loss of load without reactor trip. This trip's setpoint is at less than or equal to 2385 psia which is below the nominal lift setting 2500 psia of the pressurizer safety valves and its operation avoids the undesirable operation of the pressurizer safety valves.

Pressurizer Pressure-Low

The Pressurizer Pressure-Low trip is provided to trip the reactor and to assist the Engineered Safety Features System in the event of a Loss of Coolant Accident. During normal operation, this trip's setpoint is set at greater than or equal to 1700 psia. This trip's setpoint may be manually decreased, to a minimum value of 300 psia, as pressurizer pressure is reduced during plant shutdowns, provided the margin between the pressurizer pressure and this trip's setpoint is maintained at less than or equal to 400 psi; this setpoint increases automatically as pressurizer pressure increases until the trip setpoint is reached. Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). The ≤ 472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded. Supp. 1

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The Pressurizer Pressure-Low trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). The ≤ 472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded.

Supp. 1

ATTACHMENT "D"

PROPOSED SPECIFICATIONS
UNIT 3

TABLE 2.2-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION TRIP SETPOINT LIMITS

TABLE NOTATION

(1) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(2) Value may be decreased manually, to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer pressure and this value is maintained at less than or equal to 400 psi; the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trips may be ~~manually~~ bypassed when pressurizer pressure is ~~below~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~whenever~~ before pressurizer pressure ~~is greater than or equal to~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). Supp. 1

(3) Value may be decreased manually as steam generator pressure is reduced, provided the margin between the steam generator pressure and this value is maintained at less than or equal to 200 psi; the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(4) % of the distance between steam generator upper and low level instrument nozzles.

(5) As stored within the Core Protection Calculator (CPC). Calculation of the trip setpoint includes measurement, calculational and processor uncertainties, and dynamic allowances. Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. The approved DNBR limit accounting for use of HID-2 grid is 1.31. The bypass setpoint may be changed during testing pursuant to Special Test Exception 3.10.2.

(6) DN RATE is the maximum decrease rate of the trip setpoint.

FLOOR is the minimum value of the trip setpoint.

STEP is the amount by which the trip setpoint is below the input signal unless limited by DN Rate or Floor.

(7) Acceleration, horizontal/vertical, g.

(8) Setpoint may be altered to disable trip function during testing pursuant to Specification 3.10.3.

TABLE 3.3-1 (Continued)

TABLE NOTATION

*With the protective system trip breakers in the closed position, the CEA drive system capable of CEA withdrawal, and fuel in the reactor vessel.

#The provisions of Specification 3.0.4 are not applicable.

(a) Trip may be manually bypassed above 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is less than or equal to 10^{-4}% of RATED THERMAL POWER.

(b) Trips may be ~~manually~~ bypassed ~~below~~ when pressurizer pressure is < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~whenever~~ before pressurizer pressure ~~is greater than or equal to 400~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). SUPP. 1

(c) Trip may be manually bypassed below 10^{-4}% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 10^{-4}% of RATED THERMAL POWER. During testing pursuant to Special Test Exception 3.10.2 or 3.10.3, trip may be manually bypassed below 5% of RATED THERMAL POWER; bypass shall be automatically removed when THERMAL POWER is greater than or equal to 5% of RATED THERMAL POWER.

(d) Trip may be bypassed during testing pursuant to Special Test Exception 3.10.3.

(e) See Special Test Exception 3.10.2.

(f) Each channel shall be comprised of two trip breakers; actual trip logic shall be one-out-of-two taken twice.

(g) Trip may be bypassed below 55% RATED THERMAL POWER.

ACTION STATEMENTS

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and/or open the protective system trip breakers.

ACTION 2 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trips ~~function~~ may be bypassed ~~in this MODE~~ when pressurizer pressure is ~~less than~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~when~~ before pressurizer pressure ~~is greater than or equal to 400~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). Supp. 1

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Actuated equipment only; does not result in CIAS.

The provisions of Specification 3.0.3 are not applicable.

* The provisions of Specification 3.0.4 are not applicable.

** With irradiated fuel in the storage pool.

ACTION STATEMENTS

ACTION 8 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION 9 - With the number of channels OPERABLE one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed, the desirability of maintaining this channel in the bypassed condition shall be reviewed in accordance with Specification 6.5.1.6e. The channel shall be returned to OPERABLE status no later than during the next COLD SHUTDOWN.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

	Process Measurement Circuit	Functional Unit Bypassed
1.	Containment Pressure - High	Containment Pressure - High (ESF) Containment Pressure - High (RPS)
2.	Steam Generator Pressure - Low	Steam Generator Pressure - Low Steam Generator ΔP 1 and 2 (EFAS)
3.	Steam Generator Level	Steam Generator Level - Low Steam Generator Level - High Steam Generator ΔP (EFAS)

TABLE 3.3-4 (Continued)

TABLE NOTATION

(1) Value may be decreased manually, to a minimum of greater than or equal to 300 psia, as pressurizer pressure is reduced, provided the margin between the pressurizer and this value is maintained at less than or equal to 400 psia;* the setpoint shall be increased automatically as pressurizer pressure is increased until the trip setpoint is reached. Trips may be ~~manually~~ bypassed ~~when pressurizer pressure is below~~ < 400 psia~~;~~. ~~b~~Bypass shall be automatically removed ~~whenever~~ before pressurizer pressure ~~is greater than or equal to 400~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). Supp. 1

(2) Value may be decreased manually as steam generator pressure is reduced, provided the margin between steam generator pressure and this value is maintained at less than or equal to 200 psi;* the setpoint shall be increased automatically as steam generator pressure is increased until the trip setpoint is reached.

(3) % of the distance between steam generator upper and lower level instrument nozzles.

(4) Inverse time relay set value 3165V, trip will occur within the tolerances specified in Figure 3.3-1 for the range of bus voltages.

(5) Actuated equipment only; does not result in CIAS.

(6) The trip setpoint shall be set sufficiently high to prevent spurious alarms/trips yet sufficiently low to assure an alarm/trip should an inadvertent release occur.

(7) Prior to the completion of DCP 53N, the setpoints for Containment Airborne Radiation Monitor 3RT-7804-1 shall be determined by the ODCM.

(8) The trip setpoint shall be set sufficiently high to prevent spurious alarm/trips yet sufficiently low to assure an alarm/trip should a fuel handling accident occur.

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* Variable setpoints are for use only during normal, controlled plant heatups and cooldowns.

** Above normal background.

Linear Power Level-High

The Linear Power Level-High trip provides reactor core protection against rapid reactivity excursions which might occur as the result of an ejected CEA, or certain intermediate steam line breaks. This trip initiates a reactor trip at a linear power level of less than or equal to 111.0% of RATED THERMAL POWER.

Logarithmic Power Level-High

The Logarithmic Power Level - High trip is provided to protect the integrity of fuel cladding and the Reactor Coolant System pressure boundary in the event of an unplanned criticality from a shutdown condition. A reactor trip is initiated by the Logarithmic Power Level - High trip at a THERMAL POWER level of less than or equal to 0.93% of RATED THERMAL POWER unless this trip is manually bypassed by the operator. The operator may manually bypass this trip when the THERMAL POWER level is above 10^{-4}% of RATED THERMAL POWER; this bypass is automatically removed when the THERMAL POWER level decreases to 10^{-4}% of RATED THERMAL POWER.

Pressurizer Pressure-High

The Pressurizer Pressure-High trip, in conjunction with the pressurizer safety valves and main steam safety valves, provides reactor coolant system protection against overpressurization in the event of loss of load without reactor trip. This trip's setpoint is at less than or equal to 2385 psia which is below the nominal lift setting 2500 psia of the pressurizer safety valves and its operation avoids the undesirable operation of the pressurizer safety valves.

Pressurizer Pressure-Low

The Pressurizer Pressure-Low trip is provided to trip the reactor and to assist the Engineered Safety Features System in the event of a Loss of Coolant Accident. During normal operation, this trip's setpoint is set at greater than or equal to 1700 psia. This trip's setpoint may be manually decreased, to a minimum value of 300 psia, as pressurizer pressure is reduced during plant shutdowns, provided the margin between the pressurizer pressure and this trip's setpoint is maintained at less than or equal to 400 psi; this setpoint increases automatically as pressurizer pressure increases until the trip setpoint is reached. Trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). The ≤ 472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded.

SUPP. 1

3/4.3.1 and 3/4.3.2 REACTOR PROTECTIVE and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

No credit was taken in the analyses for those channels with response times indicated as not applicable.

Response time may be demonstrated by any series of sequential, overlapping or total channel test measurements provided that such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either 1) in place, onsite or offsite test measurements or 2) utilizing replacement sensors with certified response times.

The Pressurizer Pressure-Low trips may be bypassed when pressurizer pressure is < 400 psia. Bypass shall be automatically removed before pressurizer pressure exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia). The ≤ 472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded. supp. 1

ENCLOSURE 2

TECHNICAL SPECIFICATION IMPROVEMENT PROGRAM TECHNICAL SPECIFICATIONS
PCN-299, SUPPLEMENT 1 and 2

ATTACHMENT "F"

EXISTING SPECIFICATIONS AS SUBMITTED IN PCN-299
UNIT 3

Table 3.3.1-1 (page 1 of 2)
Reactor Protective System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Linear Power Level – High	1,2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9 SR 3.3.1.13	≤ 111.0% RTP
2. Logarithmic Power Level – High[(a)]	2[(b)]	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≤ .93% RTP
3. Pressurizer Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 2385 psia
4. Pressurizer Pressure – Low[(c)]	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≥ 1700 psia
5. Containment Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 3.4 psig
6. Steam Generator 1 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia
7. Steam Generator 2 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia

(continued)

(a) Trip may be bypassed when THERMAL POWER is > 1E-4% RTP. Bypass shall be automatically removed when THERMAL POWER is < 1E-4% RTP. Trip may be manually bypassed during physics testing pursuant to LCO 3.1.12.

(b) When any RTCB is closed.

(c) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < 472 psia. Bypass shall be automatically removed when pressurizer pressure is ≥ 472 psia. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

Table 3.3.5-1 (page 1 of 1)
Engineered Safety Features Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	ALLOWABLE VALUE
1. Safety Injection Actuation Signal[a]		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
b. Pressurizer Pressure – Low[b]		≥ 1700 psia
2. Containment Spray Actuation Signal [e]		
a. Containment Pressure – High-High	1,2,3	≤ 15.0 psig
3. Containment Isolation Actuation Signal		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
4. Main Steam Isolation Signal		
a. Steam Generator Pressure – Low[c]	1,2[d],3[d]	≥ 729 psia
5. Recirculation Actuation Signal		
a. Refueling Water Storage Tank Level – Low	1,2,3,4	19.27% ≥ tap span ≥ 17.73%
6. Emergency Feedwater Actuation Signal SG #1 (EFAS-1)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia
7. Emergency Feedwater Actuation Signal SG #2 (EFAS-2)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia

(a) Automatic SIAS also initiates a Containment Cooling Actuation Signal (CCAS).

(b) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < 472 psia decreasing. Bypass shall be automatically removed when pressurizer pressure is ≥ 472 psia increasing. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

(c) The setpoint may be decreased as steam pressure is reduced, provided the margin between steam pressure and the setpoint is maintained ≤ 200 psi. The setpoint shall be automatically increased to the normal setpoint as steam pressure is increased.

(d) The Main Steam Isolation Signal Function (Steam Generator Pressure – Low) is not required to be OPERABLE when all associated valves isolated by the MSIS Function are closed and de-activated.

(e) Automatic SIAS is required for Containment Spray Actuation Signal (CSAS).

BASES

LCO
(continued)

4. Pressurizer Pressure – Low

This LCO requires four channels of Pressurizer Pressure – Low to be OPERABLE in MODES 1 and 2.

The Allowable Value is set low enough to prevent a reactor trip during normal plant operation and pressurizer pressure transients. However, the setpoint is high enough that with a LOCA, the reactor trip will occur soon enough to allow the ESF systems to perform as expected in the analyses and mitigate the consequences of the accident.

The trip setpoint may be manually decreased to a minimum value of 300 psia as pressurizer pressure is reduced during controlled plant shutdowns, provided the margin between the pressurizer pressure and the setpoint is maintained < 400 psia. This allows for controlled depressurization of the RCS while still maintaining an active trip setpoint until the time is reached when the trip is no longer needed to protect the plant. Since the same Pressurizer Pressure – Low bistable is also shared with the SIAS, an inadvertent SIAS actuation is also prevented. The setpoint increases automatically as pressurizer pressure increases, until the trip setpoint is reached.

The Pressurizer Pressure – Low trip and the SIAS Function may be simultaneously bypassed when RCS pressure is below 400 psia, when neither the reactor trip nor an inadvertent SIAS actuation are desirable and these Functions are no longer needed to protect the plant. The bypass is automatically removed as RCS pressure increases above 472 psia. The difference between the bypass enable and removal features allows for bypass permissive bistable hysteresis and allows setting the bypass setpoint close enough to the limit so as to avoid inadvertent actuation at the 300 psia trip setpoint minimum value.

5. Containment Pressure – High

The LCO requires four channels of Containment Pressure – High to be OPERABLE in MODES 1 and 2.

(continued)

ATTACHMENT "E"

EXISTING SPECIFICATIONS AS SUBMITTED IN PCN-299
UNIT 2

Table 3.3.1-1 (page 1 of 2)
Reactor Protective System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Linear Power Level – High	1,2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9 SR 3.3.1.13	≤ 111.0% RTP
2. Logarithmic Power Level – High[a]	2[b]	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≤ .93% RTP
3. Pressurizer Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 2385 psia
4. Pressurizer Pressure – Low[c]	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≥ 1700 psia
5. Containment Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 3.4 psig
6. Steam Generator 1 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia
7. Steam Generator 2 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia

(continued)

(a) Trip may be bypassed when THERMAL POWER is > 1E-4% RTP. Bypass shall be automatically removed when THERMAL POWER is < 1E-4% RTP. Trip may be manually bypassed during physics testing pursuant to LCO 3.1.12.

(b) When any RTCB is closed.

(c) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < 472 psia. Bypass shall be automatically removed when pressurizer pressure is ≥ 472 psia. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

Table 3.3.5-1 (page 1 of 1)
Engineered Safety Features Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	ALLOWABLE VALUE
1. Safety Injection Actuation Signal [a]		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
b. Pressurizer Pressure – Low [b]		≥ 1700 psia
2. Containment Spray Actuation Signal [e]		
a. Containment Pressure – High-High	1,2,3	≤ 15.0 psig
3. Containment Isolation Actuation Signal		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
4. Main Steam Isolation Signal		
a. Steam Generator Pressure – Low [c]	1,2[d],3[d]	≥ 729 psia
5. Recirculation Actuation Signal		
a. Refueling Water Storage Tank Level – Low	1,2,3,4	19.27% ≥ tap span ≥ 17.73%
6. Emergency Feedwater Actuation Signal SG #1 (EFAS-1)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia
7. Emergency Feedwater Actuation Signal SG #2 (EFAS-2)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia

(a) Automatic SIAS also initiates a Containment Cooling Actuation Signal (CCAS).

(b) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < 472 psia decreasing. Bypass shall be automatically removed when pressurizer pressure is ≥ 472 psia increasing. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

(c) The setpoint may be decreased as steam pressure is reduced, provided the margin between steam pressure and the setpoint is maintained ≤ 200 psi. The setpoint shall be automatically increased to the normal setpoint as steam pressure is increased.

(d) The Main Steam Isolation Signal Function (Steam Generator Pressure – Low) is not required to be OPERABLE when all associated valves isolated by the MSIS Function are closed and de-activated.

(e) Automatic SIAS is required for Containment Spray Actuation Signal (CSAS).

BASES

LCO
(continued)

4. Pressurizer Pressure – Low

This LCO requires four channels of Pressurizer Pressure – Low to be OPERABLE in MODES 1 and 2.

The Allowable Value is set low enough to prevent a reactor trip during normal plant operation and pressurizer pressure transients. However, the setpoint is high enough that with a LOCA, the reactor trip will occur soon enough to allow the ESF systems to perform as expected in the analyses and mitigate the consequences of the accident.

The trip setpoint may be manually decreased to a minimum value of 300 psia as pressurizer pressure is reduced during controlled plant shutdowns, provided the margin between the pressurizer pressure and the setpoint is maintained < 400 psia. This allows for controlled depressurization of the RCS while still maintaining an active trip setpoint until the time is reached when the trip is no longer needed to protect the plant. Since the same Pressurizer Pressure – Low bistable is also shared with the SIAS, an inadvertent SIAS actuation is also prevented. The setpoint increases automatically as pressurizer pressure increases, until the trip setpoint is reached.

The Pressurizer Pressure – Low trip and the SIAS Function may be simultaneously bypassed when RCS pressure is below 400 psia, when neither the reactor trip nor an inadvertent SIAS actuation are desirable and these Functions are no longer needed to protect the plant. The bypass is automatically removed as RCS pressure increases above 472 psia. The difference between the bypass enable and removal features allows for bypass permissive bistable hysteresis and allows setting the bypass setpoint close enough to the limit so as to avoid inadvertent actuation at the 300 psia trip setpoint minimum value.

5. Containment Pressure – High

The LCO requires four channels of Containment Pressure – High to be OPERABLE in MODES 1 and 2.

(continued)

ATTACHMENT "G"

PROPOSED SPECIFICATIONS - REVISION TO PCN-299
UNIT 2

Table 3.3.1-1 (page 1 of 2)
Reactor Protective System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Linear Power Level – High	1,2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9 SR 3.3.1.13	≤ 111.0% RTP
2. Logarithmic Power Level – High[a]	2[b]	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≤ .93% RTP
3. Pressurizer Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 2385 psia
4. Pressurizer Pressure – Low[c]	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≥ 1700 psia
5. Containment Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 3.4 psig
6. Steam Generator 1 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia
7. Steam Generator 2 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia

(continued)

(a) Trip may be bypassed when THERMAL POWER is > 1E-4% RTP. Bypass shall be automatically removed when THERMAL POWER is < 1E-4% RTP. Trip may be manually bypassed during physics testing pursuant to LCO 3.1.12.

(b) When any RTCB is closed.

(c) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < ~~472~~ 400 psia. Bypass shall be automatically removed ~~when~~ before pressurizer pressure ~~is ≥ 472~~ exceeds 500 psia {the corresponding bistable allowable value is ≤ 472 psia}. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

Table 3.3.5-1 (page 1 of 1)
Engineered Safety Features Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	ALLOWABLE VALUE
1. Safety Injection Actuation Signal[a]		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
b. Pressurizer Pressure – Low[b]		≥ 1700 psia
2. Containment Spray Actuation Signal [e]		
a. Containment Pressure – High-High	1,2,3	≤ 15.0 psig
3. Containment Isolation Actuation Signal		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
4. Main Steam Isolation Signal		
a. Steam Generator Pressure – Low[c]	1,2[d],3[d]	≥ 729 psia
5. Recirculation Actuation Signal		
a. Refueling Water Storage Tank Level – Low	1,2,3,4	19.27% ≥ tap span ≥ 17.73%
6. Emergency Feedwater Actuation Signal SG #1 (EFAS-1)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia
7. Emergency Feedwater Actuation Signal SG #2 (EFAS-2)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia

(a) Automatic SIAS also initiates a Containment Cooling Actuation Signal (CCAS).

(b) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is ~~< 472~~ 400 psia ~~decreasing~~. Bypass shall be automatically removed ~~when~~ before pressurizer pressure ~~is ≥ 472~~ exceeds 500 psia (the corresponding bistable allowable value is ≤ 472 psia) ~~increasing~~. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

(c) The setpoint may be decreased as steam pressure is reduced, provided the margin between steam pressure and the setpoint is maintained ≤ 200 psi. The setpoint shall be automatically increased to the normal setpoint as steam pressure is increased.

(d) The Main Steam Isolation Signal Function (Steam Generator Pressure – Low) is not required to be OPERABLE when all associated valves isolated by the MSIS Function are closed and de-activated.

(e) Automatic SIAS is required for Containment Spray Actuation Signal (CSAS).

BASES

LCO (continued)

4. Pressurizer Pressure – Low

This LCO requires four channels of Pressurizer Pressure – Low to be OPERABLE in MODES 1 and 2.

The Allowable Value is set low enough to prevent a reactor trip during normal plant operation and pressurizer pressure transients. However, the setpoint is high enough that with a LOCA, the reactor trip will occur soon enough to allow the ESF systems to perform as expected in the analyses and mitigate the consequences of the accident.

The trip setpoint may be manually decreased to a minimum value of 300 psia as pressurizer pressure is reduced during controlled plant shutdowns, provided the margin between the pressurizer pressure and the setpoint is maintained < 400 psia. This allows for controlled depressurization of the RCS while still maintaining an active trip setpoint until the time is reached when the trip is no longer needed to protect the plant. Since the same Pressurizer Pressure – Low bistable is also shared with the SIAS, an inadvertent SIAS actuation is also prevented. The setpoint increases automatically as pressurizer pressure increases, until the trip setpoint is reached.

The Pressurizer Pressure – Low trip and the SIAS Function may be simultaneously bypassed when RCS pressure is below 400 psia, when neither the reactor trip nor an inadvertent SIAS actuation are desirable and these Functions are no longer needed to protect the plant. The bypass is automatically removed, as RCS pressure increases, ~~above 472~~ before the pressurizer pressure exceeds 500 psia. The ≤472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded. The difference between the bypass enable and removal features allows for bypass permissive bistable hysteresis and allows setting the bypass setpoint close enough to the limit so as to avoid inadvertent actuation at the 300 psia trip setpoint minimum value.

(continued)

ATTACHMENT "H"

PROPOSED SPECIFICATIONS - REVISION TO PCN-299
UNIT 3

Table 3.3.1-1 (page 1 of 2)
Reactor Protective System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Linear Power Level – High	1,2	SR 3.3.1.1 SR 3.3.1.4 SR 3.3.1.6 SR 3.3.1.7 SR 3.3.1.8 SR 3.3.1.9 SR 3.3.1.13	≤ 111.0% RTP
2. Logarithmic Power Level – High[a]	2[b]	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≤ .93% RTP
3. Pressurizer Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 2385 psia
4. Pressurizer Pressure – Low[c]	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.12 SR 3.3.1.13	≥ 1700 psia
5. Containment Pressure – High	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≤ 3.4 psig
6. Steam Generator 1 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia
7. Steam Generator 2 Pressure-Low	1,2	SR 3.3.1.1 SR 3.3.1.7 SR 3.3.1.9 SR 3.3.1.13	≥ 729 psia

(continued)

(a) Trip may be bypassed when THERMAL POWER is > 1E-4% RTP. Bypass shall be automatically removed when THERMAL POWER is < 1E-4% RTP. Trip may be manually bypassed during physics testing pursuant to LCO 3.1.12.

(b) When any RTCB is closed.

(c) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < ~~472~~ 400 psia. Bypass shall be automatically removed ~~when~~ before pressurizer pressure ~~is ≥ 472~~ exceeds 500 psia {the corresponding bistable allowable value is ≤ 472 psia}. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

Table 3.3.5-1 (page 1 of 1)
Engineered Safety Features Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	ALLOWABLE VALUE
1. Safety Injection Actuation Signal [a]		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
b. Pressurizer Pressure – Low [b]		≥ 1700 psia
2. Containment Spray Actuation Signal [e]		
a. Containment Pressure – High-High	1,2,3	≤ 15.0 psig
3. Containment Isolation Actuation Signal		
a. Containment Pressure – High	1,2,3	≤ 3.7 psig
4. Main Steam Isolation Signal		
a. Steam Generator Pressure – Low [c]	1,2[d],3[d]	≥ 729 psia
5. Recirculation Actuation Signal		
a. Refueling Water Storage Tank Level – Low	1,2,3,4	19.27% ≥ tap span ≥ 17.73%
6. Emergency Feedwater Actuation Signal SG #1 (EFAS-1)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia
7. Emergency Feedwater Actuation Signal SG #2 (EFAS-2)		
a. Steam Generator Level – Low	1,2,3	≥ 20%
b. SG Pressure Difference – High		≤ 140 psid
c. Steam Generator Pressure – Low [c]		≥ 729 psia

(a) Automatic SIAS also initiates a Containment Cooling Actuation Signal (CCAS).

(b) The setpoint may be decreased to a minimum value of 300 psia, as pressurizer pressure is reduced, provided the margin between pressurizer pressure and the setpoint is maintained ≤ 400 psia. Trips may be bypassed when pressurizer pressure is < ~~472~~ 400 psia ~~decreasing~~. Bypass shall be automatically removed ~~when~~ before pressurizer pressure ~~is ≥ 472~~ exceeds 500 psia {the corresponding bistable allowable value is ≤ 472 psia ~~increasing~~. The setpoint shall be automatically increased to the normal setpoint as pressurizer pressure is increased.

(c) The setpoint may be decreased as steam pressure is reduced, provided the margin between steam pressure and the setpoint is maintained ≤ 200 psi. The setpoint shall be automatically increased to the normal setpoint as steam pressure is increased.

(d) The Main Steam Isolation Signal Function (Steam Generator Pressure – Low) is not required to be OPERABLE when all associated valves isolated by the MSIS Function are closed and de-activated.

(e) Automatic SIAS is required for Containment Spray Actuation Signal (CSAS).

BASES

LCO (continued)

4. Pressurizer Pressure – Low

This LCO requires four channels of Pressurizer Pressure – Low to be OPERABLE in MODES 1 and 2.

The Allowable Value is set low enough to prevent a reactor trip during normal plant operation and pressurizer pressure transients. However, the setpoint is high enough that with a LOCA, the reactor trip will occur soon enough to allow the ESF systems to perform as expected in the analyses and mitigate the consequences of the accident.

The trip setpoint may be manually decreased to a minimum value of 300 psia as pressurizer pressure is reduced during controlled plant shutdowns, provided the margin between the pressurizer pressure and the setpoint is maintained < 400 psia. This allows for controlled depressurization of the RCS while still maintaining an active trip setpoint until the time is reached when the trip is no longer needed to protect the plant. Since the same Pressurizer Pressure – Low bistable is also shared with the SIAS, an inadvertent SIAS actuation is also prevented. The setpoint increases automatically as pressurizer pressure increases, until the trip setpoint is reached.

The Pressurizer Pressure – Low trip and the SIAS Function may be simultaneously bypassed when RCS pressure is below 400 psia, when neither the reactor trip nor an inadvertent SIAS actuation are desirable and these Functions are no longer needed to protect the plant. The bypass is automatically removed, as RCS pressure increases, ~~above 472~~ before the pressurizer pressure exceeds 500 psia. The ≤472 psia value represents an allowable value which includes margin to account for instrument loop uncertainties and ensures the 500 psia analytical limit will not be exceeded. The difference between the bypass enable and removal features allows for bypass permissive bistable hysteresis and allows setting the bypass setpoint close enough to the limit so as to avoid inadvertent actuation at the 300 psia trip setpoint minimum value.

(continued)