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SUBJECT: Application for amend to License NPF-10,revising Tech Spec 3/4.10.7, "18 Month Channel Calibr."

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May 15, 1989

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-361
Amendment Application No. 79
San Onofre Nuclear Generating Station
Unit 2

Southern California Edison (SCE) Amendment Application No. 79, dated March 10, 1989 requested that a one time exception be granted to the surveillance testing requirements of San Onofre Nuclear Generating Station (SONGS), Unit 2. In a subsequent telephone conversation, the NRC requested additional justification for the proposed change. The purpose of this letter is to provide the requested information.

The basis for the additional justification is an instrument drift study performed for transmitters used at SONGS Units 2 and 3. The one time exception requests the extension of the nominal 18 month calibration interval for consistency with the existing design fuel cycle length for SONGS Unit 2. Although this request limits the maximum surveillance interval to 24 months, the supporting analysis and modified setpoint information is provided for a 30 month interval. This provides additional margin for the analysis.

Enclosure A provides a detailed discussion of the basis and justification for this change. The enclosure discusses SCE's analysis of long term drift, each of the technical specifications and instrumentation for which an exception is requested, and changes to the Plant Protection System setpoints to accommodate the values of long term drift based on experience at SONGS.

Enclosure B includes a revised proposed Technical Specification 3/4.10.7, "18 Month Channel Calibrations." This supersedes the proposed Technical Specification submitted by the March 10 letter in its entirety.

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This one-time extension is requested to complete the current cycle of operation for SONGS Unit 2. The calibration interval for the most limiting instrument will be extended, when necessary, until the scheduled Cycle 5 refueling outage, or September 11, 1989, whichever comes first. September 11 is 24 months from the date of the last surveillance for the instrument which needs to be calibrated first. In the event that Unit 2 enters into a planned outage of sufficient duration to permit the initiation of calibration efforts, an attempt will be made to calibrate the instruments identified in this request.

Using the additional information, SCE verified that the conclusions regarding no significant hazards, as submitted in Amendment Application No. 79, remain valid. A revised safety analysis, providing the additional justification and detail, is provided in Enclosure A.

Because of the reduced schedule for review, SCE will be scheduling a meeting with you as soon as possible to discuss this information. If you have any questions regarding this additional information, please call me.

Very truly yours,

Kenneth P Baskin

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V
F. R. Huey, NRC Senior Resident Inspector, San Onofre Units 1,2, and 3
D. E. Hickman, NRC Project Manager, San Onofre Units 2 and 3

ENCLOSURE A

SECTION	DESCRIPTION
1	Background
2	SCE Analysis of Long Term Drift
3	Reactor Protective System (RPS) Instrumentation
4	Engineered Safety Features Actuation System (EFSAS)
5	Remote Shutdown Monitoring System (RSM) Instrumentation
6	Accident Monitoring System (AMS) Instrumentation
7	Plant Protection System Setpoints
8	Safety Analysis

1. Background

An instrument drift study was performed for transmitters used at San Onofre Nuclear Generating Station (SONGS) Units 2 and 3. The ultimate goal of this effort will be to justify the extension of instrumentation calibration intervals from the current Technical Specification requirement of 18 months (nominal), to a 24 month (nominal) interval. The analysis is based on 125% of the nominal calibration interval. With Proposed Change PCN NPF-10-290, a one time exception is proposed for a subset of these instruments. This one time exception is requested to extend the 18 month calibration interval to 24 months from the last calibration. This requested exception to the required surveillances already accounts for the 25% extension allowed by Technical Specification 4.0.2 to the existing 18-month surveillance interval. Presently, the most limiting instrument is due for calibration on July 27, 1989. This date includes the 25% extension. The purpose for this change is to allow these surveillances to be delayed until the Cycle Five refueling outage scheduled to begin September 9, 1989. SCE has determined that these surveillances should be performed while in shutdown condition due to the increased risk of tripping the unit and ALARA considerations. For the plant to shutdown solely to perform surveillances would cause an unnecessary plant transient. Technical basis for this proposed change, includes revised instrument setpoints and crediting conservative assumptions used in the accident analysis or setpoint calculations.

2. SCE Analysis of Long Term Drift

SCE performed an analysis of transmitter calibration data concerning the San Onofre Nuclear Generating Station, Units 2&3. The long term drift characteristics of pressure, differential pressure and temperature transmitters, where the technical specifications require calibrations every 18 months, were determined. For the Plant Protection System (PPS), this experienced long term drift was statistically adjusted to reflect the maximum drift expected over a fuel cycle (taken as 30 months) at a 95% probability and at a 95% confidence level. These values were then compared to the amount of long term drift that was incorporated into Plant Protection System setpoint and Core Protection Calculator uncertainty calculations. Drift for instrumentation related to Accident Monitoring and Remote Shutdown Instrumentation Technical Specifications was determined on a best estimate basis.

The transmitter drift was determined by subtracting the as-left calibration data from the as-found calibration data, selecting the maximum difference for the five calibrations, converting to a percent of span, and dividing the maximum value by the time interval between calibrations. Once the drift data was determined for individual transmitters, the data was grouped by model of transmitter and edited. Only data points with calibration intervals between 100 and 683 days were included in the evaluation. Intervals of less than 100 days were categorized as not applicable for a long term drift consideration. Intervals greater than 683 days were removed since this is the maximum interval between calibrations. Outliers, i.e., data points significantly differing from the sample, were identified using the T-Test described in standard statistical texts, and removed from the data base. The Chi Square Goodness of Fit Test was applied to groups with large populations, to assure the underlying distribution could be represented by normal distribution.

A 95/95 value was established for each model of pressure, differential pressure, and temperature transmitter. The data for the different models of pressure and differential pressure transmitters was then examined, based on the monitored process to see if substantial differences existed. In all but two cases, only minor differences were noted. There were substantial differences between the drift rates for Rosemount 1153GD9 transmitters used to monitor wide range pressurizer pressure versus those that are used to monitor low range pressurizer pressure. The low range transmitters are exposed to an over-range condition during plant operation. The 95/95 value associated with only the wide range transmitters was used to establish the allowable drift value for the low pressurizer pressure trip.

In the second case, there were substantial differences between Foxboro E13DH transmitters used to monitor pressurizer level versus those used to monitor other processes. The pressurizer level transmitters have a high static pressure applied during plant operation. The best estimate value associated with the E13DH transmitters used to monitor pressurizer level was used in the assessment of these instruments.

In both of these cases the data chosen best represents the performance of that specific group of transmitters.

Plant Protection System (PPS) setpoints are based in part on maximum expected drift values at a 95% probability and 95% confidence level. Included as PPS setpoints are Reactor Protective System (RPS) setpoints and Engineered Safety Features Actuation Systems (ESFAS). In order to establish a value for the total drift population that is conservative with a 95% probability at a 95% confidence level, a 95/95 tolerance interval is determined. A tolerance interval places bounds on the proportion of the sampled population contained within it. This tolerance interval about the mean bounds 95% of the past, present and future drift values. Determining the interval and adding it to the absolute value of the mean determines the maximum expected drift.

Instrumentation used for monitoring and controlling the unit under upset conditions is addressed in the Technical Specifications for Accident Monitoring System (AMS) and Remote Shutdown Monitoring (RSM) System Instrumentation. Combustion Engineering (C-E) performed an assessment of the impact of instrument uncertainties on Emergency Operating Instructions (EOIs) for the Combustion Engineering Owners Group (CEOG). This report used the best estimate of instrument uncertainties to arrive at a total channel uncertainty and then studied the impact of this total uncertainty on the decisions that an operator is required to make as he complies with the EOIs. This report was used as a basis for evaluating the drift experienced at San Onofre and provides a baseline reference of acceptable instrument performance. Values of drift that are less than those utilized in the report indicate that the SONGS instrumentation is operating in an acceptable manner. Values of drift which exceed those in the report or parameters that were not addressed in the report required further evaluation.

The best estimates of instrument drift were calculated in much the same manner as the 95/95 values. As before, the maximum value of drift for the five calibrations was determined for each interval. Again, this maximum value was divided by the time duration of the interval to arrive at a drift rate. At this point, the process differs from that used to calculate the 95/95 value. The best estimate of drift for the population is determined by calculating the average of the absolute values.

The drift allowables were determined by inspecting the 30 month drift values and selecting a value which would bound the experienced values. In order to keep the number of different allowances to a minimum, the drift value selected for use in calculating PPS setpoints is utilized as the drift allowance for AMS and RSM instrumentation, with one exception as discussed in Section 4.

Sections 3, 4, 5, and 6 provide summary results of the analysis of long term drift for which a one time exception is being requested.

3. Reactor Protective System Instrumentation

Table 1 identifies the RPS functional units for which a one time exception has been requested and provides a summary comparison of the results of the analysis of long term maximum experienced drift in terms of percent of span and the allowances for long term drift.

As can be seen from Table 1, the drift allowances used by C-E are conservatively larger than the experienced drift rates. C-E has incorporated these drift allowances into setpoint calculations and has provided new setpoints for the affected functional units.

Also, C-E reviewed the CPC Uncertainty Analysis to determine the impact of these drift allowances. Section 7 provides the results of C-E's evaluation.

Following Table 1, are the bases for acceptability for the Functional Units not discussed in Section 7.

Table 1

Reactor Protective System
(30 Month Calibration Interval)

Functional Unit	Instrument Model	Maximum Experienced Drift*	Drift Allowance
1. Manual Reactor Trip	See Discussion Below		
4. Pressurizer Pressure-High	E11GM	3.13	3.75
5. Pressurizer Pressure-Low	1153GD9	1.09	1.25
7. Steam Generator Pressure-Low	E11GM	3.13	3.75
8. Steam Generator Level-Low	E13DM	6.04	6.25
9. Local Power Density-High	See Discussion Below		
10. DNBR - Low	See Discussion Below		
11. Steam Generator Level-High	E13DM	6.04	6.25
12. Reactor Protective System Logic	See Discussion Below		
14. CPCs	2AI-P2V	0.82	0.94
	E11GM	3.13	3.75
15. CEA Calculators	See Discussion Below		
16. RCS Flow - Low	1153HD6	4.55	**
17. Seismic-High	See Discussion Below		

*Based on 95/95 drift interval
**There is no requirement for a drift allowance. See Discussion.

Functional Unit 1, "Manual Reactor Trip" is unique in that it is not a process measurement channel as are the other functional units. It consists of switches which ultimately result in the Reactor Trip Breakers opening. The results of surveillance testing of the Manual Reactor Trip, since the commencement of commercial operation of both Units 2 & 3, were reviewed. There have been no failures associated with the manual trip pushbuttons. Based on these results, there are no detrimental effects expected to be associated with extending the test interval for these switches. In addition, no credit is taken in the analyses for any operator action prior to initiation of the event, i.e., no credit is taken for manual reactor trip.

Functional Unit 5, "Pressurizer Pressure - Low," evaluation did not result in a setpoint change.

Functional Units 9, "Local Power Density (LPD) - High," and 10, "DNBR - Low," are trip signals that are generated by the Core Protection Calculators and their associated inputs. The technical specification requirements for the CPCs, combined with the monthly functional testing conducted on the Plant Protection System, meet the surveillance requirements for these functional units.

Functional Unit, 12, "Reactor Protection System Logic", does not have any requirement to perform 18 month surveillances.

Functional Unit 14, "The Core Protection Calculators" and Functional Unit 15 "CEA Calculators," are digital computers which are used to monitor core DNBR and LPD conditions and CEA positions. As digital devices their trip setpoints are not subject to drift. The addressable constants used in the calculators are verified to be correct on a shiftly basis by the Computer Operators and on a monthly basis by the functional test procedure. The Control Room annunciators are verified to actuate on a monthly basis. The operability of the computers themselves is also verified on a monthly basis by use of surveillance test software. That software performs twelve software performance tests, two hardware diagnostic tests, and a memory test for each CPC. Different software performs six software tests, three hardware diagnostic tests, and one memory test on the CEAC. The computers also monitor their own functions continuously.

A source of a variation in conservative CPC or CEAC operation is a variation in the reference voltage values used to translate analog signals from the field into digital values. The computers perform a check on these reference voltages every CPC operating cycle and an unacceptable drift results in a computer error which sets the CPC trip signals on DNBR and LPD or the CEAC fail flag. The failure is annunciated in the Control Room. The reference voltages are also checked as a part of the monthly surveillance.

The process parameters that provide input to the CPCs and CEACs consist of neutron flux power from excore neutron detectors, reed switch position transmitters for CEA positions, temperature transmitters for RCS temperatures (Instrument Model 2AI-P2V identified in Table 1), proximity probes for primary coolant pump shaft speed, and pressurizer pressure from high range pressure transmitters (Instrument Model E11GM identified in Table 1). Neutron detectors are excluded from the channel calibration requirements. The results of the drift study determined that the experienced drift rates for temperature and pressure transmitters were sufficiently low such that changes in the CPC uncertainty calculations were not required.

The proximity probes utilized to sense Reactor Coolant Pump speed are devices which provide a pulsed output. The frequency of the pulses is proportional to the speed of the reactor coolant pump. Being essentially digital devices, these probes are not susceptible to long term drift. Credible failure modes will result in a loss of pulse input to the CPC which will then generate a sensor failure alarm. Evaluation of recent surveillance tests confirm that these devices are reliable and no adverse failure trend is evident.

The reed switch position transmitters (RSPTs) are used to detect CEA positions and provide input to both the CPCs (25% for each CPC) and CEACs. Each CEA is monitored by two RSPTs and by the Plant Monitoring System through a diverse position monitoring system. Any change in the calibration of a single RSPT is easily detected by comparison of these three indications of CEA position. The overwhelming majority of plant operation is conducted in an all rods out configuration. With the CEA in the full out position, a separate reed switch provides a fourth method of confirming the position of the CEA.

In summary, the CPC/CEACs are self checking digital computers which are subjected to stringent monthly surveillance tests and detailed shiftly channel checks. The extension of the refueling interval calibrations has no impact on plant safety because these detailed checks will identify channel problems before it can impact the conservative operation of the CPC/CEAC.

Functional Unit 16, "Reactor Coolant Flow - Low," utilizes a Rate-Limited Variable Setpoint Module to generate a trip signal when required. This module limits the rate at which the trip setpoint value can change. Decreases in steam generator differential pressure (DP) due to partial loss of flow causes a rapid change in the signal which decreases faster than the trip setpoint is allowed to change. Because this trip is based on a rate of change, rather than absolute level, it is insensitive to transmitter drift. Due to the design of this module, there is no need to provide an allowance for long term drift and, therefore, extending the calibration interval is acceptable.

Functional Unit 17, "Seismic - High" monitors seismic motion and generates a reactor trip if the signal exceeds 60% of the level associated with a Safe Shutdown Earthquake. The 18 month surveillance test results were reviewed from the beginning of commercial operation on both Units 2 & 3. No failures were detected as a result of these surveillances. Only two problems have been found during the monthly functional testing. On Unit 3, in 1986, a faulty voltage regulator was found, and, in 1987, a defective battery terminal was detected. Each of these problems only affected one channel and were promptly corrected. In addition, no credit is taken in the accident analysis for high seismic acceleration trip as a primary trip.

4. Engineered Safety Features Actuation System

Table 2 identifies the ESFAS functional units for which a one-time exception has been requested. It also provides a summary comparison of the results of the analysis of long term maximum experienced drift in terms of percent of span and allowances for long term drift to accommodate 30 month intervals between transmitter calibrations. C-E has incorporated these drift allowances into setpoint calculations and has provided new setpoints (see Section 7). Following Table 2 are the bases for acceptability for functional units not discussed in Section 7.

Table 2

ESFAS Instrumentation
(30 Month Calibration Interval)

Functional Unit	Instrument Model	Maximum Experienced Drift*	Drift Allowance
1. Safety Injection			
a. Manual	See Discussion Below		
c. Pressurizer Pressure-Low	1153GD9	1.09	1.25
2. Containment Spray			
a. Manual	See Discussion Below		
3. Containment Isolation			
a. Manual CIAS	See Discussion Below		
b. Manual SIAS	See Discussion Below		
4. Main Steam Isolation			
a. Manual	See Discussion Below		
b. Steam Generator Pressure -Low	E11GM	3.13	3.75
6. Containment Cooling			
a. Manual CCAS	See Discussion Below		
b. Manual SIAS	See Discussion Below		
8. Emergency Feedwater			
a. Manual	See Discussion Below		
b. SG Level (A/B)-Low	E13DM	6.04	6.25
and DP (A/B)-High	E11GM	3.13	3.75
c. SG Level (A/B)-Low and No	E13DM	6.04	6.25
Pressure - Low Trip (A/B)	E11GM	3.13	3.75

*Based on 95/95 drift interval

As can be seen from the above table, the drift allowances used by C-E are conservatively larger than the experienced drift rates.

No credit is taken in the accident analysis for the manual actuations, including the following functional units:

1a. Safety Injection (SIAS) Manual
2a. Containment Spray (CCAS) Manual
3a. Containment Isolation (CIAS) Manual CIAS
3b. Containment Isolation (CIAS) Manual SIAS
4a. Main Steam Isolation (MSIS) Manual
6a. Containment Cooling (CCAS) Manual CCAS
6b. Containment Cooling (CCAS) Manual SIAS
8a. Emergency Feedwater (EFAS) Manual

Manual trip instrumentation is not subject to drift. Monthly channel functional checks (i.e., performed every 31 days) serve to provide operability assurance. The 18 month surveillance test results, from the beginning of commercial operation were reviewed to determine the history of the manual trip actuations from a reliability perspective. There has never been a failure of a manual trip to properly function.

Functional Unit 1c, "Pressurizer Pressure - Low" did not result in a set point change.

5. Remote Shutdown Monitoring System Instrumentation

Table 3 identifies the RSM functional units for which a one-time exception has been requested. It also provides a summary comparison of the results of the SCE analysis of long term maximum experienced drift in terms of percent of span and allowances for long term drift to accommodate 30 month intervals between transmitter calibrations.

The drift allowances were chosen to be consistent with the allowances for similar equipment used in the PPS except for Rosemount Model 1151AP4. For Rosemount Model 1151AP4 transmitters, used for monitoring Condenser Vacuum, an allowable value of 8.75%, which bounds the experienced best estimate drift, was used.

Table 3

Remote Shutdown Monitoring Instrumentation
(30 Month Calibration Interval)

Instrument	Instrument Model	Best Estimate Drift	Drift Allowance
1. Log Power Level	See Discussion Below		
2. RCS Cold Leg Temperature	444RL	0.31	0.94
3. Pressurizer Pressure	1153GD9	0.29	1.25
4. Pressurizer Level	E13DH	4.96	6.25
5. Steam Generator Level	E13DM	1.98	6.25
6. Steam Generator Pressure	E11GM	0.99	3.75
7. Source Range Neutron Flux	See Discussion Below		
8. Condenser Vacuum	1151AP4	7.24	8.75
9. Volume Control Tank	E13DM	1.98	3.75
14. RCS Hot Leg Temperature	444RL	0.31	0.94
15. Pressurizer Pressure - Low Range	NE11GM	0.28	3.75
16. Pressurizer Pressure - High Range	E11GM	0.99	3.75
17. Pressurizer Level	E13DH	4.96	6.25
19. Steam Generator Level	1153HD5	1.09	6.25

As can be seen from the table, the allowances for drift over a 30 month period are generally several times the experienced best estimate values. C-E performed an assessment of this instrumentation, as used in a situation requiring a remote shutdown of a unit, assuming the drift allowances shown. The assessment confirmed that these values for long term instrument drift do not appreciably affect the ability to use these instruments as intended in the Emergency Operating Instructions (EOIs).

Instrument #1, "Log Power Level," surveillance has been completed. Exception of the calibration interval is no longer required.

Instrument #7, "Source Range Neutron Flux," replaced the boronometer. This instrument has been installed and calibrated within the last six months. Calibration interval extension is not requested for this instrument.

6. Accident Monitoring System Instrumentation

Table 4 identifies the AMS functional units for which a one-time exception has been requested. It also provides a summary comparison of the results of the analysis of long term maximum experienced drift in terms of percent of span and allowances for long term drift to accommodate 30 month intervals between transmitter calibrations.

Table 4

Accident Monitoring System Instrumentation
(30 Month Calibration Interval)

Instrument	Instrument Model	Best Estimate Drift	Drift Allowance
3. RCS Outlet Temperature	2AI-P2V	0.28	0.94
4. RCS Inlet Temperature(WR)	2AI-P2V	0.28	0.94
5. Pressurizer Pressure (WR)	1153GD9	0.29	1.25
6. Pressurizer Water Level	E13DH	4.96	6.25
7. Steam Line Pressure	E11GM	0.99	3.75
8. Steam Generator Level (Wide Range)	1153HD5	1.09	3.75
11. RCS Subcooling	2AI-P2V	0.28	0.94
Margin Monitor (QSPDS)	1153GD9	0.29	1.25
12. Safety Valve Position Indicator	See Discussion Below		
15. Containment Temperature	2AI-T2V	0.50	0.94
16. Containment Water Level (Narrow Range)	See Discussion Below		
17. Containment Water Level (Wide Range)	See Discussion Below		
18. Core Exit Thermocouples	See Discussion Below		
21. Heated Junction Thermocouple System - Reactor Vessel Level Monitoring System	See Discussion Below		

Comparisons of the best estimate drift values to the drift allowances show that these allowances conservatively reflect transmitter performance. C-E performed an assessment of this instrumentation as used in accident situations assuming the drift allowances shown. The assessment confirmed that these values for long term instrument drift do not appreciably affect the ability to use these instruments as intended in the Emergency Operating Instructions (EOIs).

Instruments 12, 16, 17, 18 and 21 are unique in that the calibration of this instrumentation is performed through a special test procedure that is prepared specifically for that device. Recent 18 month surveillance test results for the Safety Valve Position Indicator (12), Containment Water Level (16 and 17), Core Exit Thermocouples (28), and the Heated Junction Thermocouple System-Reactor Vessel Level Monitoring System (21) were reviewed and no adverse failure trends were noted.

The Safety Valve Position Indicator is used to identify pressurizer safety valve actuation. Small changes in the calibration of the indicators do not significantly affect their performance. In addition to this indicator, temperature indication is available to determine the status of the safety valves.

The Containment Water Level instrumentation consists of a magnetic float device that actuates switches. This instrumentation is used to determine an approximate water level in the Containment in a post-accident condition and small changes in the indicated water level are not significant in carrying out the Emergency Operating Instructions.

The Core Exit Thermocouples and the Heated Junction Thermocouple System-Reactor Vessel Level Monitoring System use thermocouples that supply signals to signal processing equipment outside the Containment. Thermocouples are passive devices that are not subject to drift. Monthly channel checks of this instrumentation provides assurance that the instrumentation is operating properly.

7. Plant Protection System Setpoints and Allowable Values

Technical Specification 2.2.1, Table 2.2-1, lists Reactor Protective Instrumentation trip setpoints and allowable values. Technical Specification 3/4.3.2, Table 3.3-4, lists Engineered Safety Feature Actuation System trip setpoints and allowable values. C-E determined revised setpoints and allowable values based on the SCE experienced long term instrument drift for the Plant Protection System Setpoints. Tables 5 and 6 provide the revised setpoint values for RPS and ESFAS, respectively.

C-E reviewed the CPC Uncertainty Analysis and determined the new values for drift were bounded by the existing uncertainty analysis.

Table 5

Reactor Protective System Instrumentation Trip Setpoints
(30 Month Calibration Interval)

Functional Unit	Revised Trip Setpoint	Revised Allowable Value
4. Pressurizer Pressure-High	≤ 2360 psia	≤ 2371 psia
7. Steam Generator Pressure-Low	≥ 735 psia	≥ 719 psia
8. Steam Generator Level-Low	≥ 29.0%	≥ 28.0 %
11. Steam Generator Level High	≤ 84.0%	≤ 85.0%

Table 6

Engineered Safety Feature Actuation System Instrumentation
Trip Setpoints
(30 Month Calibration Interval)

Functional Unit	Revised Trip Setpoint	Revised Allowable Value
4. Main Steam Isolation (MSIS)		
b. Steam Generator Pressure -Low	≥ 735 psia	≥ 719 psia
8. Emergency Feedwater (EFAS)		
b. Steam Generator Level (A&B) -Low	≥ 29.0%	≥ 28.0%
e. Steam Generator Pressure (A&B) - Low	≥ 735 psia	≥ 719 psia

8. Safety Analysis

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

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

   Response: No.

   The proposed change is a one time exception to the 18 month surveillance tests for the RPS, ESFAS, AMS, RSM instrumentation.

   SCE performed an analysis of transmitter calibration data concerning the San Onofre Nuclear Generating Station, Units 2&3. The long term drift characteristics of pressure, differential pressure and temperature transmitters, where the technical specifications require calibrations every 18 months, were determined. For the Plant Protection System (PPS), this experienced long term drift was statistically adjusted to reflect the maximum drift expected over a fuel cycle at a 95% probability and at a 95% confidence level. These values were then compared to the amount of long term drift that was incorporated into Plant Protection System setpoint and Core Protection Calculator uncertainty calculations. Drift for instrumentation related to Accident Monitoring and Remote Shutdown Instrumentation Technical Specifications was determined on a best estimate basis.

   The drift allowables were determined by inspecting the 30 month drift values and selecting a value, for each transmitter model, which would bound the experienced values.

   C-E incorporated these drift allowances into setpoint calculations and has provided new setpoints, where required. C-E reviewed the CPC Uncertainty Analysis to determine the impact of these drift allowances and found that the new values for drift were bounded by the existing uncertainty analysis. C-E also reviewed the impact of the allowable values for drift of AMS and RSM instrumentation and determined that it does not appreciably affect operator decisions in carrying out Emergency Operating Instructions (EOIs).

   Based on the review of instrument drift, the review of setpoint calculations, the adjustments to setpoints and the review of EOIs, it is concluded that the proposed change does not involve a significant increase in the probability or consequences of any previously evaluated accident.

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

Response: No

The proposed change does not modify the configuration of the facility or its mode of operation. Setpoint parameters are maintained within the safety analysis. Therefore, the proposed change will not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No

The proposed change affects only the frequency of performing calibrations of certain instruments which are used for the Plant Protection System (PPS), Remote Shutdown Monitoring (RSM) System and Accident Monitoring System (AMS). The instrument drift study was used to evaluate long term drift characteristics and generate bounding drift values. C-E used the bounding drift values as drift allowables and evaluated the effect of these drift allowables on PPS setpoints and the CPC Uncertainty Analysis. The evaluation resulted in the modification of certain PPS setpoints. C-E determined that the new values for drift were bounded by the existing Uncertainty Analysis. These uncertainties are the basis for the constants used in the CPC constant calculations. Setpoint calculations have been revised to reflect increased values of drift thereby assuring actuation in accordance with the existing safety analysis.

C-E performed an assessment of the RSM and AMS instrumentation assuming the drift allowances shown and confirmed that the drift values for long term instrument drift do not appreciably affect the ability to use these instruments as intended in the EOIs.

The effect of the revised drift values on accident and transient analysis has therefore been evaluated and deemed acceptable.

The extension of surveillance interval is requested from July 27, 1989 until the Cycle 5 refueling outage (scheduled to begin September 9, 1989) or September 11, 1989, whichever occurs first. This extension is not radically different from what is currently permitted by the Technical Specifications.

This proposed change will not involve a reduction in the accident and transient analysis margin of safety.

SAFETY AND SIGNIFICANT HAZARDS CONSIDERATION 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; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

ENCLOSURE B