U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos.	50-206/92-26, 50-361/92-26, 50-362/92-26
Docket Nos.	50-206, 50-361, 50-362
License Nos.	DPR-13, NPF-10, NPF-15
Licensee:	Southern California Edison Company Irvine Operations Center 23 Parker Street Irvine, California 92718
Facility Name:	San Onofre Units 1, 2 and 3
Inspection at:	San Onofre, San Clemente, California
Inspection conducted:	August 27 through October 21, 1992
Inspectors:	C. W. Caldwell, Senior Resident Inspector D. L. Solorio, Resident Inspector C. D. Townsend, Resident Inspector
Approved By:	H. J. Wong, Chief Reactor Projects Section 2
	11/20/92 Date Signed

Inspection Summary

Inspection on August 27 through October 21, 1992 (Report Nos. 50-206/92-26, 50-361/92-26, 50-362/92-26)

Areas Inspected: Routine resident inspection of Units 1, 2 and 3 Operations Program including the following areas: organization, design change quality assurance, operational safety verification, radiological protection, security, evaluation of plant trips and events, bi-monthly surveillance activities, monthly maintenance activities, evaluation of emergency preparedness exercises, independent inspection, licensee event report review, and followup of previously identified items. Inspection procedures 36800, 37702, 60710, 61726, 62703, 71707, 71710, 82301, 90712, 92700, 92701, 92702, 93702 were covered.

Safety Issues Management System (SIMS) Items: None

Results:

General Conclusions and Specific Findings:

Strengths

The inspector noted that the licensee had implemented a Quality Action Team (QAT) to identify corrective actions for measuring and test equipment (M&TE) deficiencies identified during a Quality Assurance (QA) organization audit performed in 1992. The QAT had not addressed weaknesses in controls for tracking the use of M&TE that was identified by the inspector (discussed below). However, the QAT was aggressive in pursuing concerns over the accuracy of M&TE (e.g., the effects of temperature changes on equipment) and other M&TE program weaknesses. The inspector also noted that the QAT was aggressive in resolving NRC identified discrepancies during this and a previous inspection (Paragraph 9.a).

The inspector observed a site emergency preparedness drill (for training purposes) on September 16, 1992. The inspector considered that personnel performance was professional and effective. The inspector also noted that the drill critique was effective in identifying performance weaknesses (Paragraph 7.c).

Weaknesses

Two weaknesses in the licensee's M&TE program were identified by the inspector. In particular, weaknesses in the program to track the usage of M&TE in the field were observed. As a result, the licensee failed to ensure that M&TE calibration failures were properly evaluated for their impact on plant equipment (Paragraph 9.a). The second weakness concerned several examples of failure to follow the procedure for evaluating M&TE calibration failures. These indicated a sometimes casual approach to the evaluation process (Paragraph 9.a). It was noted that these weaknesses did not result in operability issues with plant equipment based on the review by the NRC inspector and the licensee of a large number of M&TE uses.

The inspector audited the qualifications of certain plant personnel and found several discrepancies with documentation of employee qualifications required by American National Standard Institute Standard N-18.1. The inspector observed that actions taken from a previous QA audit of the employee qualification program were not adequate to prevent these repeat discrepancies. The inspector also noted that the procedure was weak in establishing controls to ensure that personnel qualifications were properly evaluated and documented (Paragraph 7.b).

With regard to the M&TE tracking program and the employee qualification program, the inspector considered that QA missed opportunities to identify the deficiencies observed. The inspector noted that a programmatic problem with improper documentation of M&TE usage was first

identified by the licensee's QA Organization in 1990. Corrective actions implemented were accepted by QA, and a followup audit was performed in 1992 which was limited in scope such that it failed to identify that problems still existed with implementation of that program. QA also concurred with the corrective actions implemented for weaknesses in the employee qualification program that were identified in 1991. Since this issue was of low safety significance, QA did not follow up on the adequacy of corrective actions (Paragraphs 7.b and 9.a).

The inspector observed that Unit 3 high pressure safety injection pump (HPSI) 3P019 was inoperable for approximately two months. Although the unit has three HPSI pumps with only one required to fulfill the design safety function, inoperability for this amount of time contributed to an approximate 10% increase in the core damage probability for the Unit (Paragraph 4).

The inspector observed that Operations personnel were not aware of the maximum temperature limits that had been established by Engineering for the Unit 1 battery switchgear room Number 1. This was of concern for a period of time when the air conditioning unit for that room was inoperable and ambient temperatures were high. Subsequent review determined that at no times were limits exceeded (Paragraph 7.a).

The inspector observed that the licensee had out-of-date NRC Form 3's posted throughout the plant. The licensee promptly corrected this discrepancy (Paragraph 3).

Significant Safety Matters:

Summary of Violations:

Four violations of NRC requirements were identified within the scope of this inspection concerning failure to follow procedures for documenting uses of M&TE (Paragraph 9.a), failure to follow procedures for evaluating M&TE calibration failure notices (CFNs) (Paragraph 9.a), inadequate corrective actions for M&TE usage documentation (Paragraph 9.a), and inadequate corrective action for problems associated with documented qualifications of management personnel (Paragraph 7.b).

Open Items Summary:

During this report period, six new followup items were opened and 19 were closed; none were examined and left open.

DETAILS

1. Persons Contacted

Southern California Edison Company

H. Ray, Senior Vice President, Nuclear
*H. Morgan, Vice President and Site Manager
*R. Krieger, Station Manager
*J. Reilly, Manager, Nuclear Engineering & Construction
*B. Katz, Manager, Nuclear Oversight
*R. Rosenblum, Manager, Nuclear Regulatory Affairs
K. Slagle, Deputy Station Manager
*R. Waldo, Operations Manager
L. Cash, Maintenance Manager
*J. Travis, Assistant Manager, Maintenance
*C. LaPorte, Supervisor, Maintenance
*D. Breig, Manager, Station Technical
*M. Herschthal, Assistant Manager, Station Technical
*M. Short, Manager, Site Technical Services
*M. Wharton, Manager, Nuclear Design Engineering
P. Knapp, Manager, Health Physics
*J. Fee, Assistant Manager, Health Physics
W. Zintl, Manager, Emergency Preparedness
*D. Herbst, Manager, Quality Assurance
C. Chiu, Manager, Quality Engineering
*J. Schramm, Plant Superintendent, Unit 1
*V. Fisher, Plant Superintendent, Units 2/3
*B. Joyce, Maintenance Supervisor, Units 2/3
*G. Hammond, Supervisor, Onsite Nuclear Licensing
*J. Jamerson, Lead Engineer, Onsite Nuclear Licensing
*M. Farr, Engineering Aide, Onsite Nuclear Licensing
J. Reeder, Manager, Nuclear Training
H. Newton, Manager, Site Support Services
*W. Schirra, Supervisor, Management Services
*A. Thiel, Manager, Electrical Systems Engineering
*D. McFarlane, Manager, Budgets and Administration
*M. Cooper, Shift Superintendent
*K. Cornelison, Control Room Supervisor
*J. Janke, Nuclear Control Operator
*J. Zoria, Quality Assurance Engineer
*C. Dube, Control Room Supervisor

San Diego Gas and Electric Company

*R. Erickson, Site Representative

*Denotes those attending the exit meeting on October 15, 1992.

The inspectors also contacted other licensee employees during the course of the inspection, including operations shift superintendents, control room supervisors, control room operators, QA and QC engineers, compliance engineers, maintenance craftsmen, and health physics engineers and

technicians.

2. Plant Status

Unit 1

The Unit operated at power for the entire period.

Unit 2

The Unit operated at power for the entire period.

Unit 3

The Unit was shut down on September 16, 1992, to repair a pressurizer pressure instrument root valve, S31201MR043, and the core protection calculator (CPC) channel "C" cold loop temperature detector. After repairs to these items were completed, the Unit was restarted on the morning of September 19, 1992. The main turbine generator was synchronized to the grid later that day.

3. Operational Safety Verification (71707)

The inspectors performed several plant tours and verified the operability of selected emergency systems, reviewed the tag out log and verified proper return to service of affected components. Particular attention was given to housekeeping, examination for potential fire hazards, fluid leaks, excessive vibration, and verification that maintenance requests had been initiated for equipment in need of maintenance. The inspectors also observed selected activities by licensee radiological protection and security personnel to confirm proper implementation of and conformance with facility policies and procedures in these areas.

During a routine plant tour, the inspector observed that the licensee had NRC Form 3's (for NRC related information and worker rights) posted that were out-of-date. The latest revision to NRC Form 3's is dated July 1991. However, those posted in the plant were dated 1989. The inspector discussed this issue with the licensee who corrected the discrepancy. Other minor discrepancies noted during plant tours were identified to the shift supervisor for resolution.

No violations or deviations were identified.

4. Evaluation of Plant Trips and Events (93702)

Maintenance Activities Involving High Pressure Safety Injection Pump 3P019 (Unit 3)

On August 13, 1992, during a routine inservice test of high pressure safety injection pump (HPSI) 3P019, the motor tripped from an 'A' phase time delay overcurrent condition. However, the trip could not be

duplicated on subsequent attempts. On August 17, 1992, following maintenance activities to replace a lube oil sight glass (commonly referred to as a "bulls eye") the licensee again attempted to run 3P019. This time the motor tripped on "A" phase time delay overcurrent, "A" phase instantaneous overcurrent, and "B" phase time delay overcurrent conditions. As a result of these trips, the licensee began a detailed investigation and determined that the pump was the source of the problem.

The licensee discovered that the balance drum in the pump housing had been making direct contact with the stationary balancing sleeve, causing high starting currents and sporadic trips of the pump motor. The investigation revealed that the cause of the balancing drum misalignment was incorrect installation of the thrust bearings during an overhaul in 1986. This allowed excessive play in the pump shaft, which in turn allowed the balancing drum and sleeve to come into contact, rubbing during startup. This problem did not become evident until this period in time (six years later). It was several weeks before the root cause of these problems were identified, and not until October 21, 1992, that the pump was returned to service.

During the initial stages of troubleshooting and repairs of 3P019, the licensee worked on the pump one shift a day, five days a week. During discussions on this issue, the licensee indicated that there was a desire to keep the most experienced people on the project at all times, limiting the number of hours the pump could be worked in a given period. Additionally, the licensee considered that the Technical Specifications (TS) allow one pump to be out of service at all times without any action required because the plant was designed with a swing pump installed. However, the inspector noted that once the pump outage appeared to be impacting the schedule for the planned inservice test (IST) of Unit 3 HPSI pump 3P018 (which would place the Unit in a 72 hour TS action statement), the licensee accelerated the schedule and began working on the pump 24 hours a day. The licensee indicated that this was done to complete repairs on 3P019 before they began the IST of 3P018 so that two of three HPSI pumps would always be operable.

The licensee's Safety Engineering (SE) group discussed the relative risk of taking HPSI pumps out of service in the July 1992 Nuclear Oversight Division (NOD) Monthly Report. In that report, SE stated that having one HPSI pump out of service for approximately four to six weeks would raise the relative risk of core damage by between 8% and 10%. The inspector noted that with HPSI pump 3P019 out of service for two months, the increased risk to core damage would be greater than 10%.

The inspector acknowledged that the licensee must consider many factors when considering how to accomplish specific maintenance evolutions. In this case, the licensee clearly had no option except to troubleshoot and overhaul HPSI pump 3P019. However, it appeared the work could have been performed in a more expeditious manner without compromising safety. The inspector was concerned over the long period of time that 3P019 was inoperable (two months) and the relatively large increase in the core

damage probability for the period of time that the pump was inoperable. This was discussed during a recent meeting between NRC and licensee management. This item is closed (50-361/92-26-01).

No violations or deviations were identified.

5. Bi-Monthly Surveillance Activities (61726)

During this report period, the inspectors observed or conducted inspection of the following surveillance activities with no discrepancies noted:

a. Observation of Routine Surveillance Activities (Unit 1)

SO1-V-2.14.8 "Surveillance of North Salt Water Cooling Pump G-13A."

SO1-V-2.14.8 "Surveillance of Auxiliary Salt Water Cooling Pump G-13C."

SO1-II-1.1.1 "Surveillance Requirement, T Average and Delta T Instrumentation Testing."

b. Observation of Routine Surveillance Activities (Unit 2)

SO23-V-3.4.1 "Auxiliary Feedwater Inservice Pump Test."

SO23-I-9.27 "Breaker-GE AK-2-25 Reactor Trip Breaker Inspection Adjustment and Testing."

c. Observation of Routine Surveillance Activities (Unit 3)

SO23-II-5.3 "Surveillance Requirement N. I. (nuclear instrument) Safety Channel Drawer 'C' Log Power, Linear Power Level and Excore Neutron Monitor Channel Calibration."

No violations or deviations were identified.

6. Monthly Maintenance Activities (62703)

During this report period, the inspectors observed or conducted inspection of the following maintenance activities with no discrepancies noted:

a. Observation of Routine Maintenance Activities (Unit 1)

MO92090755000 "Channel Test of Power-Operated Relief Valves CV-545 and CV-546."

MO92090715000 "RCP 'B' Indication Has Dropped Down to Approximately

.45 GPM and RCP 'C' Indication Has Dropped Down To Approximately .55 GPM For No Apparent Reason. Wide Range Indication Shows Both 'B' And 'C' Flows Greater than 1 GPM."

M092100152000 "Investigate A5A Light Socket Malfunction Which May Have Caused MCC-1 Lockout While Replacing Light Bulb."

b. Observation of Routine Maintenance Activities (Unit 2)

M092071150000 "While Performing Step 6.5.4 of SO23-I-9.27 on 'B' Phase Position Number 1 Reads Only 4.7 Lbs. Compression, Acceptable Range is 5 to 9 Lbs."

c. Observation of Routine Maintenance Activities (Unit 3)

M092100909000 "High Range Computer and Record Readings Out of Service Low. Suspect Failed Action PAC."

No violations or deviations were identified.

7. Independent Inspection (37702, 36800B, 82301)

a. Unit 1 No. 1 Battery Switchgear Room Elevated Temperatures (37702)

On September 20, 1992, a plant equipment operator discovered that the air conditioning (AC) unit for the Number 1 battery switchgear room was not operational. Subsequent attempts to restart the AC unit were not successful and a maintenance order (MO) was initiated to make repairs.

Higher than normal temperatures were noted in the room a few days later. The shift supervisor was not aware of any temperature limits for the equipment in the room (which consisted of two safety related battery chargers, three inverters, and the Number 1 120 VDC bus). The system engineer indicated that there were limits, and that they were based on the switchgear in the room. The heat sources in the room were the switchgear components themselves, with the largest source being the battery chargers. According to vendor (Westinghouse) documents, the battery chargers were rated for 104 degrees Fahrenheit at continuous full power operation of 1000 amperes. The system engineer stated that normal operation of the charger was approximately one third of its rated capacity. Worst case loading (for Station Blackout) of the battery chargers was approximately one-half of rated capacity.

The inspector was concerned that Operations was not aware of the equipment temperature limits in the room. However, based upon questions raised by the inspector, Operations requested that Station Technical (STEC) further evaluate switchgear temperature limits.

During the exit meeting for this inspection period, the Nuclear Engineering and Construction (NEC) Manager stated that calculations had been performed to evaluate the potential for room temperatures exceeding equipment qualification (EQ) limits. The results indicated that the maximum expected room temperatures would not exceed EQ limits. However, because documentation for the calculation was not consistent with current standards, the Manager of NEC indicated that base line calculations would be performed to assure that the original calculation was conservative. The Nuclear Engineering Design Organization (NEDO) Division Manager also stated that room temperatures had been previously evaluated in order to bring Unit 1 into compliance with the Station Blackout Rule.

As an interim measure, Operations had established administrative limits for the battery switchgear room temperature. The inspector considered these actions appropriate and will review the calculations to resolve this issue as a followup item (50-206/92-26-02).

b. Licensee Organization (36800)

The inspector performed a review to verify whether the licensee's organizational structure, qualifications of personnel, and assignment of responsibilities and authorities of personnel met requirements. TS 6.3.1 for Units 1, 2, and 3 states, in part, that each member of the Unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971, "Selections and Training of Nuclear Power Plant Personnel," for comparable positions. The inspector noted that station procedure SO123-VI-33, "Personnel Records Qualification Program," implemented the requirements delineated by TS 6.3.1. Records of staff qualifications were documented on a qualification resume (QR) (attachment to SO123-VI-33) and maintained in the site document control center (CDM).

Based on a review of six QRs, the inspector noted the following deficiencies:

- A QR was not completed and forwarded to the CDM for a STEC senior engineering supervisor whose position was subject to qualification in accordance with ANSI N18.1-1971.

- Site procedure SO123-VI-33 did not list a relatively new STEC senior engineering supervisory position that was required to be evaluated within the scope of positions required by ANSI N18.1-1971.

- QRs for two recently promoted engineering supervisors were not completed and forwarded to CDM.

The inspector verified that the personnel were qualified for these positions in accordance with ANSI N18.1-1971 requirements.

In addition to the above discrepancies, the inspector observed a weakness in the procedure used to control the evaluation and documentation of staff qualifications. In particular, a number of organizations had a part in ensuring that this process was properly performed. However, the procedure did not appear to coordinated these efforts.

In response to the inspector's concerns, a review of the remaining QRs was performed by the licensee. A total of 433 QRs were reviewed of which 51 (12%) were identified as requiring an update. Additionally, a review of the job positions (occupation codes) resulted in the need to evaluate 40 occupation codes to determine if ANSI N18.1-1971 requirements would apply to those positions. Based on these preliminary results, the inspector was concerned that the potential existed for personnel being in positions for which they were not qualified (in accordance with the minimum education and experience standards required by ANSI N18.1-1971). The final disposition of these efforts had not been completed at the end of this inspection period.

During the review of this program, the inspector noted that a corrective actions request (CAR) was issued in September 1991. It resulted from a Quality Assurance (QA) organization audit of the program and was issued to the Budgets and Administration (B&A) Division Manager for the following:

- Failure to incorporate positions, as required by ANSI 18.1-1971, into site procedure SO123-VI-33.

- Failure to update QRs for personnel whose positions were referenced in Site Procedure, SO123-VI-33.

Corrective actions by the B&A Division for the QA audit findings consisted of the following:

- An update of the procedure to reflect current appropriate job titles required by the ANSI standard was performed.

- A verification of the existing CDM QR records for applicable personnel in their respective job classifications was completed.

- An evaluation of the work process detailed in SO123-VI-33, including revision of the procedure, and implementation of changes to governing documents was performed as required.

However, these corrective actions did not preclude future problems in that the procedure did not clearly define a responsible organization to assure personnel qualification changes were made and reflected in appropriate documents.

The inspector noted that as of the close of this report period there were no instances in which people in their current positions did not meet ANSI N18.1-1971. As a result, the inspector considered the safety significance of this programmatic failure to be relatively low. However, based on this repeated failure to control the personnel qualification process, the inspector considered that the corrective actions resulting from the QA audit were ineffective. The inadequate corrective actions for September 1991 QA audit deficiencies is a violation (50-361/92-26-03).

c. Observation of Emergency Preparedness Drill (82301)

The inspector observed an emergency preparedness (EP) drill that was being run for training purposes on September 16, 1992. Observations made by the inspector and the licensee's evaluators (controllers) were similar. Weaknesses that were most commonly identified concerned communications between emergency response personnel, including licensed operators.

During a previous EP training drill observed by the inspector on June 10, 1992, the inspector noted that the personnel evaluating the drill were not prepared to evaluate operations aspects (as opposed to EP aspects) of the drill. This observation was based on:

1. The lack of detailed pre-identified licensed operator required actions, such as which procedures would be performed, and significant equipment operations. Instead of detailed prescripted actions, the licensee's evaluation team relied heavily upon their training and experience to detect when licensed operators failed to take correct actions.

2. The lead Operations Department evaluator, a licensed Senior Reactor Operator, failed to identify during the drill that the operators deviated from the Functional Recovery Guidelines (FRG) in order to cross tie condensate systems between units. The FRGs were subsequently revised.

This procedure compliance issue was identified by other members of the licensee's evaluation team, and was discussed during the post scenario critique. This team was well qualified to evaluate both licensed and nonlicensed operator actions, and had developed a prescripted scenario for the drill that identified detailed EP actions that were required, and some of the major licensed operator actions. However, use of a detailed operations oriented scenario to assist in the evaluation of licensed operator actions would afford the licensee an additional opportunity to effectively evaluate the licensed operating crew during an emergency drill conducted over a six hour time frame.

During the September 1992 drill, a Training Department representative provided additional evaluation of licensed operators.

This is a positive step toward focusing on licensed operator evaluation. Region V will continue to monitor EP drills conducted by the licensee.

Within the area inspected, one violation was identified.

8. Review of Licensee Event Reports (90712, 92700)

Through direct observations, discussion with licensee personnel, or review of the records, the following Licensee Event Reports (LERs) were closed:

Unit 1

90-18, Revision 0 "Valves Not Inservice Tested In Accordance With Technical Specification 4.7 Inservice Inspection Requirements."

The inspector reviewed the LER abstract (issued in October 1990) and noted that a supplemental LER was expected to be issued in March 1991. However, by the end of this report period, the revision to the LER had still not been issued and was stated by the licensee to be undergoing management review.

The inspector will review the revised LER when issued. In addition, the inspector will review the adequacy of the original LER and apparent lack of timeliness in the revision as inspector followup item (50-206/92-26-04).

Unit 2

92-12, Revision 0 "Reactor Trip Due To Opening Potential Transformer Door."

No violations or deviations were identified.

9. Follow-Up of Previously Identified Items (92701)

a. (Closed) Followup Item (50-361/92-23-01), "Assessment of Licensee's M&TE Program."

The inspector continued reviewing the licensee's measuring and test equipment (M&TE) program to determine if equipment was properly controlled and was adequate to ensure operability of installed plant equipment. The original assessment of the M&TE program was documented in inspection report 50-206/92-23.

During this inspection period, the inspector focused on the use of the M&TE traveler and the adequacy of calibration failure notice (CFN) evaluations. As a result of this inspection, the inspector noted the following deficiencies:

- Travelers

M&TE used in performing a maintenance activity is recorded in the MO. It takes many months for information in the MO to get recorded in a computer database called the San Onofre Maintenance Management System (SOMMS). In addition, there is no easy way to cross reference M&TE usage from the MO database. As a result, the licensee implemented a document called a "traveler," which is provided to the technician with each piece of M&TE issued from the tool room.

Procedure SO123-II-1.2, TCN 1-4, "Preparation And Responsibility Of The M&TE Traveler," specified that the user record on the traveler which maintenance/surveillance activities the piece of M&TE was used in. In particular, the procedure stated, "without exception all M&TE's used in conjunction with a Maintenance order or any other approved Station procedure shall be recorded in the Traveler." When the M&TE was returned, the traveler information was loaded into the Measuring And Test Equipment (STEMs) database. This was implemented in order to facilitate assessment of M&TE use should it later be determined that there was a problem with the M&TE. For example, if a CFN was issued on a piece of M&TE, the cognizant supervisor could readily determine which plant equipment it was used on and make an evaluation of what to do.

The inspector noted that this system of tracking M&TE usage placed heavy reliance upon individuals to properly fill out the paperwork and return all pages to the tool room upon completion of work. This was complicated somewhat by the fact that sharing of M&TE was allowed by procedure. If a page was lost, or if information was improperly recorded, then usage of the M&TE on plant equipment would not be included in the STEMs data base. If no usage was shown in the computer, then the CFN would not get evaluated.

The inspector reviewed approximately 200 safety-related MOs to determine which M&TE was used. This was compared with the STEMs database to determine if the M&TE usage had been properly tracked on the traveler. The inspector found 24 M&TE items that were listed in MOs, but were not identified on the traveler nor in the STEMS database. Three of the pieces had been used on two different MOs.

The following M&TE were used during the performance of maintenance. However, their usage was not included on a traveler or in the STEMS database:

M&TE ID	USAGE	COMMENTS
I2-6610	MO89120673000	

I2-6688	M092010248000	Had M091010248 incorrectly entered in STEMS and on the traveler.
M1-1830	M092080862000	
M1-3870	M091080070000	M&TE lost for a period of time. However, traveler should have been turned in to the tool room.
I2-8526	M092041235000	M&TE lost for a period of time. A CFN was issued as a result.
I2-9988	M092041235000 M092070608000	
F2-10056	M091080093001	M&TE lost for a period of time. However, a traveler should have been turned in to the tool room.
M1-1115	M090120998002	
M1-1687	M092021168000	
M1-2102	M092021168000	
M1-1576	M090062240000	
M1-2489	M091062943000 M090020343000	
M1-1055	M091111631001	
M1-1558	M091111631001	
M1-3469	M091111631001	Failed calibration on October 1, 1992.
M1-1123	M092031469000	
F2-10093	M092050852001	
M1-1232	M092050852001	
T0-0594	M092050852001	
M1-1920	M092030431000	
M1-2117	M092041320000 M092041322000	
M2-4481	M091110081000	

M1-1499 M092031428000

Failure to identify each of these 24 M&TE on a traveler is a violation of procedure SO123-II-1.2 (50-361/92-26-05).

Of the 24 discrepancies noted, two M&TE items failed calibration subsequent to the time in which they had been used. In particular, depth micrometer, M1-3469, was used during American Society of Mechanical Engineers (ASME) Code repairs to a salt water cooling (SWC) pump between February 29 and March 3, 1992 (MO91111631001). It was subsequently found out of tolerance during calibration on July 29, 1992. In the other case, I2-8526 was used in MO92041235000. However, the M&TE had been lost for a period of time and a CFN was issued against it. The end result was that these CFNs had not been evaluated against the associated MOs.

The licensee evaluated these conditions and considered that there were no operability issues. In the first case, this was based on the fact that two other measuring devices were used, as listed in the MO (although neither were quite as sensitive), and that Quality Control (QC) personnel were involved in performance of the work. In the second case, there were other measuring devices that could have also been used to satisfactorily perform the work. In addition, the plant equipment involved operated satisfactorily while in service. The inspector considered that the licensee's evaluations were adequate to ensure that no operability concerns for this equipment existed.

As a result of the concerns identified, the inspector considered that the licensee's program was not adequate to ensure that the use of M&TE could be properly tracked and evaluated if calibration failures occurred. The inspector considered that there was a good probability that other M&TE existed which had not been evaluated. As a result, there was a potential for equipment operability issues in the plant.

- Calibration Failure Notice Evaluations

As discussed above, if a component is found out of tolerance or becomes lost, a CFN is generated on that M&TE item.

Procedure SO123-II-1.5, TCN 1-4, "Evaluation Of Calibrated Items After M&TE Failure," required that the cognizant supervisor perform an evaluation of each M&TE item that receives a CFN. The cognizant shop supervisor does this by searching the STEMs database for the MOs that the M&TE was used in during that period.

SO123-II-1.5 specified that the cognizant department supervisor

shall detail the specific reasons that retests or recalibrations are not required. The procedure further indicated, "This detail shall include identifying a component as non-safety related if this is the reason for not performing a retest or recalibration." The inspector noted that otherwise, the supervisor was required to initiate a non-conformance report (NCR), or initiate the proper work documents to perform remeasurements, retests, or recalibrations with known accurate M&TE.

The inspector reviewed approximately 100 CFN evaluations. Of those, the inspector noted that six were not adequate to resolve the CFN as specified in procedure SO123-II-1.5. None of the six that were considered deficient were related to the 24 M&TE discussed previously. Subsequent evaluation by the licensee indicated that other reasonable justifications could be stated to conclude that the equipment remained operable.

The following M&TE failed calibration and were not evaluated per procedure SO123-II-1.5:

M&TE ID	CFN LOG No.	MO USED ON
M1-1596	003204	M090042324000
I1-6427	003073	M089082495000
M2-3992	005742	M090100691000
M1-1973	006325	M091050110000
M1-2634	006056	M091041634000
M2-4857	005743	M091121502000

In the case of M1-1596, a thermometer, the evaluation stated that since completion of work, plant equipment had operated without problems. Therefore, no retest of station equipment was required. However, this evaluation was not in accordance with the procedure since it could not be proven that the equipment was operating within the allowable tolerances.

In the case of I1-6427, a torque driver, the evaluation stated that the calibration error was within the accuracy required for that type of work. No retest of station equipment was required. However, a review of the CFN indicated that the M&TE was found inoperable because internal parts were missing. No as-found calibration data was provided in the CFN for the supervisor to make such an assessment.

In the case of M2-4857, a torque wrench, the evaluation stated

that a review of M091121502 was done and that plant equipment passed a hydrostatic test. In particular, it indicated, "We assume lost M&TE was calibrated at the time of use." The evaluation further indicated that the purpose of the M&TE was to torque the valve during installation. The valve was installed, ISTs had been satisfactory, and therefore, no further action was required. This evaluation was not in accordance with the procedure since it could not be proven that the plant equipment was operating within the allowable tolerances.

In the case of M1-3992, a torque wrench, the evaluation indicated that, "We assume that the salvaged test equipment was calibrated correctly at the time of use as plant equipment has operated satisfactorily since. No retest required." This evaluation was not in accordance with the procedure since it could not be proven that the equipment was operating within the allowable tolerances.

In the case of M1-2634, a stopwatch, the evaluation indicated that the stop watch used in the MO was turned back in to the tool room by the required date. It was used again by STEC personnel on a later date. Therefore, no retest was required. In fact, the stop watch was lost and no as-found data could be obtained by the calibration shop, resulting in a CFN. No as-found calibration data was provided in the CFN for the supervisor to make such an assessment.

In the case of M1-1973, a crimping tool, the evaluation stated that the tool was used by the projects and was in calibration at the time of usage. The result was that there was no impact on their work as the crimper was functioning properly. However, the M&TE was lost and no as-found data could be obtained. Therefore, there was no data provided in the CFN for the supervisor to make an assessment that the equipment was operating within its allowable tolerances.

Failure to perform these evaluations in accordance with procedure SO123-II-1.5 is a violation (50-361/92-26-06).

- Weakness In Personnel Knowledge

During discussions with a number of craft personnel, the inspector noted that a few individuals were not sure of the purpose of the M&TE traveler. As a result, the inspector considered that there was no incentive for them to ensure that the traveler was properly filled out and returned to the tool room. This appeared to be more so with contractors than with licensee personnel.

- Past Problems With M&TE Travelers

The inspector reviewed the NOD activities regarding M&TE. The inspector noted that a QA audit of M&TE in 1990 found the same problem with M&TE uses not being properly documented in the travelers. In particular, problem review report (PRR) SO-137-90 was issued on June 21, 1990 to document this problem. A review of 26 M&TE items used in eight MOs found that over 60% of the uses were not recorded in STEMs.

In the response to the PRR, the licensee noted that there was a misconception among some technicians concerning when to list the M&TE on the traveler. Maintenance indicated that they did not believe the conditions described in the PRR were of safety significance. However, to resolve the ambiguities, several corrective actions were identified.

For corrective action to the PRR, the licensee had one training session for Maintenance personnel to emphasize the need for all M&TE listed on MOs to be identified on the associated traveler. In addition, the licensee revised the traveler form to specify that the user list all M&TE used and provide a notation when non-quantitative measurements were taken. The proposed long term action was to have the M&TE failure reports generated from SOMMS rather than STEMS. However, this was not implemented. The PRR was closed by QA in November 1990, as a result of the corrective actions implemented by Maintenance.

A followup QA audit, SCES-549-92, "Calibration Of Permanent Plant Equipment And Control Of Measuring And Test Equipment," was performed from January to July 1992. In that report, the auditor reviewed a number of M&TE uses and found no discrepancies with the M&TE traveler, with one exception concerning M&TE used by QC. That problem was corrected.

In that the NRC inspector was able to identify that approximately 10% of the M&TE uses reviewed had documentation discrepancies, the licensee's inadequate corrective actions for the 1990 QA audit deficiencies is considered a violation (50-361/92-26-07).

The inspector noted that audit SCES-549-92 did identify some discrepancies with the M&TE program. In particular, it was noted that the accuracy of some M&TE was not correctly entered into the database, some calibration failures of equipment used by QC were not properly evaluated (see previous paragraph), and some CFN evaluations exceeded the allowable evaluation time. However, the inspector considered that the licensee missed an opportunity to identify the continuing problems with the M&TE traveler on this occasion.

As a result of the QA audit and other concerns, the Maintenance Manager appointed a quality action team (QAT) to assess the M&TE program in June 1992. The QAT was reviewing the accuracy issue as well as several other weaknesses in the M&TE program. However, they had not addressed the weakness in the traveler program. The QAT has expanded their efforts due to the concerns identified by the inspector.

Conclusions

As a result of the inspector's concerns regarding M&TE travelers and CFN evaluations, the licensee initiated several immediate actions. First, the licensee issued a memorandum on October 14, 1992, to all maintenance supervision on the need to properly adhere to procedure SO123-II-1.5 when evaluating CFNs. Secondly, the licensee was in the process of implementing retraining for all M&TE users on the importance of properly documenting the use of M&TE on the traveler. This retraining was expected to be complete by November 25, 1992.

The licensee also implemented a computer based data search to determine the extent of the problem with missing traveler information. The licensee searched over 20,000 M&TE uses in safety-related, important to safety, TS surveillances, and fire protection applications. The licensee found 5,766 uses that were not recorded in STEMs, of which 1,293 M&TE items were still checked out. As a result, 4,473 uses needed to be resolved. This represented an approximate 22% failure rate in properly documenting M&TE uses.

The licensee found that of the 4,473 applications that needed to be reviewed, 1,476 had CFNs generated against them. Of these, 105 were lost, which resulted in CFNs, and the remaining 487 had CFNs issued as a result of M&TE being out of tolerance. In addition, another 537 of the 4,473 uses had discrepancies that were due to data entry errors. In particular, there were travelers for these M&TE, but the uses had not been entered properly into the STEMs database. Of those, 60 had CFNs issued which required evaluation.

The licensee further reduced the number of M&TE uses that had to be evaluated by identifying which plant equipment had been recently reworked or retested. As of October 21, 1992, the licensee determined that 652 uses of M&TE needed to be evaluated as a result of CFNs being issued against that equipment. The licensee committed to completion of the evaluations by October 30, 1992.

As of November 3, 1992, the licensee had found no operability issues regarding plant equipment. However, 31 NCRs were issued to document operability assessments of equipment. The NCRs were issued against eight instruments: One crimper, two meggers, and one multimeter that were found out of tolerance; and two crimpers, one digital pressure instrument, and one multimeter that were lost.

The licensee considered that all effected plant equipment was operable. This was based on their evaluation of other factors that could be credited. For example, the digital pressure instrument was used during installation of a number of pressure transmitters in Unit 2 (e.g., all four pressure transmitters on steam generator (SG) E088, three of four pressure transmitters on SG E089, and four of eight pressure transmitters on the pressurizer). However, the licensee noted that the digital pressure instrument that was lost had a good calibration history and shiftly channel checks were routinely performed to check the pressure transmitters against one another.

Discussions with the licensee indicated that they considered that the QAT would have eventually uncovered the deficiency with the travelers. The licensee also considered that the impact on plant equipment was minimal. However, they planned to perform visual checks of the effected equipment at the earliest available times. Thus, this programmatic breakdown appeared to be of minimal safety significance.

b. (Closed) Unresolved Item (50-206/91-28-02), "Reactor Coolant Pump Flywheel Inspection Overdue."

On October 24, 1991, a QA audit determined that flywheel inspections for the Unit 3 reactor coolant pumps (RCPs) exceeded the interval required by the TS. The previous inspections had been performed in February 1987, and no subsequent surveillances had been performed. As a result, the licensee substantially exceeded the inspection interval of three years, as defined in TS 4.4.9 and Regulatory Guide 1.14, "Reactor Coolant Pump Flywheel Integrity." A subsequent review of the surveillance schedule for Unit 1 revealed that the interval established for the Unit 1 RCPs in TS 4.7 had been exceeded also.

The cause of the delinquent Unit 1 flywheel inspections was attributed to a weakness in the tracking of the flywheel surveillance. The cause of the excessive time in performing the Unit 3 inspections was a scheduling oversight by licensee personnel due to a weakness in administrative controls. LER 50-362/91-20, "Delinquent Reactor Coolant Pump Flywheel Inspection," was issued to document the actions associated with this item.

On October 25, 1991, the licensee requested a waiver from the TS requirement to perform an inservice inspection (ISI) of the RCP flywheels in Units 1 and 3 until December 1, 1991. The Unit 1 flywheels were inspected during a short outage in November 1991. The Unit 3 RCP flywheels were inspected during the Cycle VI refueling outage in early 1992. No anomalies were identified during any of the inspections. Thus, there was no safety significance to the overdue surveillances.

As additional corrective action, the licensee performed an evaluation to ensure that all ISI commitments were properly tracked and accomplished. The Site Technical Services (STS) division established a tracking system to monitor the commitments that were in effect. The inspector noted that this system provided a three month forecast of the ISI commitments that are to be performed. In addition, program procedures 90053, "Unit 2 Inservice Inspection Plan And Program," and 90054, "Unit 3 Inservice Inspection Plan And Program," were enhanced to provide better guidance for performing these inspections. The licensee also established a repetitive MO that indicated the need to perform flywheel ISIs on a periodic basis. The inspector considered that the licensee's actions were adequate. Therefore, this item is closed.

c. (Closed) Followup Item (50-206, 361, 362/91-29-02), "Information Notice 88-73, 'Direction-Dependent Leak Characteristics Of Containment Purge Valves.'"

NRC Information Notice (IN) 88-73, "Direction-Dependent Leak Characteristics Of Containment Purge Valves," provided guidance regarding the testing of Fisher Model 9200 valves used for containment isolation. It had been observed that these valves, which have tapered seats, had a direction-dependent leakage characteristic. While the valves could seal in both directions, a test in the preferred direction did not verify sealing capability in the non-preferred direction.

The inspector noted that the licensee used Fisher Model 9200 valves in several applications in addition to the containment ventilation systems. The inspector also noted that the Independent Safety Engineering Group (ISEG) completed its review of IN 88-73 in October 1988 (documented in ISEG report 88-ISEG-152). The ISEG review determined that containment penetration testing practices were acceptable. However, during discussions on the subject with the ISEG supervisor, the inspector noted that the evaluation in 88-ISEG-152 was not accurate since a design change had been performed in response to the IN. The design change reversed the seating direction of the Units 2 and 3, 8-inch purge valves inside containment. The inspector questioned whether certain other valves had been considered in the review. The licensee indicated that valves other than those associated with containment ventilation and purge systems had not been considered in the ISEG evaluation.

As a result of the concerns discussed above, the licensee committed to revise 88-ISEG-152 to include information regarding other plant valves which had leakage limits.

The inspector noted that the licensee amended their evaluation of the condition and the Nuclear Engineering and Design Organization (NEDO) was in the process of determining the need for additional administrative or design changes to similar isolation valves on a

number of penetrations. A regulatory commitment tracking system item was issued to track progress on this issue. Based on the licensee's actions, both proposed and implemented, this item is closed.

d. (Closed) Information Notice (50-206, 361, 362/IN-92-06), "Reliability Of Anticipated Transient Without Scram Mitigation System And Other NRC Required Equipment Not Controlled By Plant Technical Specifications."

IN 92-06 was issued to alert licensees of the importance of maintaining the reliability of equipment required by NRC regulations, but not addressed in plant TS. Specifically, IN 92-06 discussed the history of the anticipated transient without scram (ATWS) requirement in 10 CFR 50.62 and two recent situations at licensee facilities which resulted in enforcement action due to long or repeated out of service time of their ATWS systems.

The inspector reviewed recent ATWS systems performance and procedural requirements at all three San Onofre Units. San Onofre Unit 1 procedure SO1-4-34, "Reactor Plant Instrumentation Operation," required that the system not exceed 24% out of service time nor be inoperable for greater that 30 consecutive days.

The inspector recognized that the procedural guidance allowed outage times which exceeded the reliability threshold indicated by the examples in IN 92-06. However, in actuality the Unit 1 ATWS systems have not been out of service for more than two consecutive days at any one time, with a total out of service time (this operating cycle) of less than one week. An analysis of the licensee's procedural requirements was not scheduled to be completed until December 1992. However, since Unit 1 will be permanently shutdown at that time, no further followup action will be required.

San Onofre Units 2 and 3 procedures SO23-5-2.15, "Reactor Auxiliaries 50-A," SO23-3-2.12, "Reactor Protective System Operation," and SO23-3-3.26, "Once A Day Surveillance (Modes 1-4)," refer to the ATWS systems. SO23-5-2.15 specified that seven days were allowed if the number of operable measurement channels was less than two, or if two out four logic channels were inoperable in the diverse scram system (DSS). Otherwise, operators were required to open the associated motor-generator output load contactors, resulting in a reactor trip. Seven days were also allowed if the number of operable measurement channels was less than two, or if two out of four logic channels were inoperable in the diverse emergency feedwater actuation (DEFAS) system. If not, the Unit had to be in Mode 4 within the following 24 hours. The inspector considered that the licensee's program was adequate. With these controls, the procedural guidance was essentially the equivalent of a seven day action statement.

The inspector noted that, in practice, the longest outage time in Unit 2 was 50 hours, with a total of approximately 100 hours over five separate outages for the current operating cycle. In Unit 3, the longest outage time was 78 hours, with a total outage time of approximately 200 hours over six separate occurrences for the current operating cycle. The inspector reviewed IN 92-06 and compared that discussion with the operational practices at San Onofre and found the practices at San Onofre to be consistent with the guidance provided. Therefore, this item is closed.

With regard to the generic aspects of having safety related equipment out of service for long periods of time, the inspector had a concern regarding the lengthy period of time that Unit 3 HPSI pump 3P019 was out of service as discussed in Paragraph 4. The inspector also noted that the licensee did not address other systems in their evaluation. This was discussed with the licensee for resolution and will be evaluated as part of the routine inspection effort.

e. (Closed) Followup Item (50-361/91-13-03), "Use Of Operator Aids And Apparent Lack Of Controls."

As discussed in inspection report 50-361/91-13, the inspector noted that the licensee did not have a defined program to control the use of operator aids in various control room applications. These aids consisted of temporary arrows and lines on control room indicators to indicate TS limits, normal operating bands, and alarm setpoints. As a result, when design changes were made to plant equipment, they were not necessarily reflected on the control room instrumentation (lumigraphs).

For short term followup action to this concern, the licensee added caution tags to the control panels as design changes were made to plant equipment that would effect instrumentation setpoints. For long term action, the licensee was in the process of developing a database of all instrumentation setpoints and scales. The database will be linked with the instrument control data cards (ICDC), the instrument index that contains scaling information, the setpoint index, the instrument loop diagrams, and the lumigraph scale and operating band information.

The long term action was intended to link all of the information associated with instrumentation and lumigraphs. As a result, when a design change to plant equipment is made, all associated drawings and information will be updated automatically. These changes will then be reflected on the control room lumigraph operator aids. This item is closed.

f. (Closed) Followup Item (50-361/91-19-01), "Control Of Changes To Core Protection Calculator Addressable Constants Between Station Technical And Operations."

As discussed in inspection report 50-361/91-19, while Unit 2 operators were performing an excore nuclear instrumentation calibration, they encountered a problem when a constant indicated on the core protection calculators (CPC) was found to be outside of its acceptance criteria in the procedure. During discussions between the operators and the Reactor Engineering Supervisor, it was learned that the acceptance criteria for the constant had been changed the previous week. The inspector found that existing programs did not ensure that changes made to STEC procedures or calculations were incorporated into affected Operations procedures. The inspector considered that the lack of controls for assuring changes to procedures are reflected across departments could be significant and discussed this concern with the licensee for resolution.

In response to this issue, the licensee performed a review of Reactor Engineering (RE) procedures and found no other instances of similar problems. Thus, this appeared to be an isolated case. The Station Technical Manager discussed the need for RE personnel to understand the need to have procedures coincide accurately with those of other organizations. In addition, Operations made an agreement with RE to assess changes to Operations procedures that are affected by engineering calculations prior to issue. This item is closed.

g. (Closed) Followup Item (50-361/92-16-04), "Containment Sump In-leakage Monitoring."

The inspector noted that the licensee occasionally removed their containment sump in-leakage capability from service when the critical function monitoring system was inoperable for such things as routine maintenance. The inspector was concerned that radiation monitors may not be sensitive enough to satisfy the requirement to be able to detect a one gpm leak in one hour, as specified in the FSAR and TS bases.

The inspector discussed this concern with personnel from the Office of Nuclear Reactor Regulation (NRR), who indicated that this phenomenon was well recognized. NRR was aware that past technology had been minimally capable of detecting a one gpm leak in one hour, particularly if the RCS source term was low. However, technological advances are being made, increasing the sensitivity of radiation monitors so that they will be better able to meet the FSAR and TS bases in the future. NRR also indicated that (as applied to San Onofre) this was of minimal safety significance because the source term has been low and the licensee minimized the time that the sump in-leakage detection capability was out of service. In addition, the licensee closely monitored reactor coolant system and

containment activity. The inspector considered that NRR's assessment resolved the concern. Therefore, this item is closed.

h. (Closed) Followup Item (50-361/92-20-05), "Use Of Tabletop Procedures."

This item identified that the licensee maintained procedural guidance for cross connecting emergency diesel generators (EDGs) between Units 2 and 3. This guidance was intended for use during loss of offsite power conditions coincident with loss of power to a unit's Class 1E 4160 VAC bus. This guidance would be implemented if licensee management determined that it was needed, under the provisions of 10 CFR 50.54(x). However, the inspector observed that the guidance to perform this evolution had not received the quality oversight that was routinely given to procedures such as the emergency operating instructions (EOIs).

The inspector noted that when authorized, cross connecting of power sources would be performed in a manner similar to the implementation of an attachment to the EOIs. This guidance was maintained in an administratively controlled binder entitled "Emergency Response Engineering Reference Manual," with other calculations and procedures that may pertain to accident conditions. Copies of the binder were kept in the control room, Technical Support Center, and Emergency Operating Facility.

The inspector, with guidance provided by NRR, concluded that this procedure did not appear to fulfill any regulatory requirement, and was intended to mitigate an accident condition beyond that which regulations require licensee procedures to address. Thus, the guidance to cross connect EDGs did not require formal procedural approval. However, because this guidance would be used in conjunction with EOIs during severely degraded plant conditions, the NRC staff encouraged the licensee to perform the same level of review, verification, validation, and training that would be performed for implementation of an EOI revision. This was encouraged to ensure that accident conditions would not be made worse should the need arise to perform this evolution. This item is closed.

i. (Closed) Followup Item (50-362/92-20-03), "Evaluation Of Technical Specification Action Statement After Cell Number 14 Failed."

The inspector observed the licensee's actions to jumper out failed cell Number 14 and replace it with cell Number 53 in battery 3D1. Failure of cell Number 14 resulted in the Unit entering a 2 hour TS action statement to either restore the battery to operable status, or to shut down the Unit. As a result of the licensee's activities, the inspector had several questions related to the performance of the surveillance test that identified the failed cell and the adequacy of the replacement cell.

The inspector further reviewed the conditions surrounding the licensee's actions to jumper out failed cell Number 14 and to replace it with cell Number 53 in Unit 3 vital battery 3D1. As documented in Inspection Report 50-206/92-23, cell Number 53 had been jumpered out of the battery with its adjacent cell, Number 54, in May 1992, as a result of several cracks that radiated out from one of the posts on the top of cell Number 54 (cells Number 53 and Number 54 are located in the same jar).

When this event occurred, the licensee initiated an NCR that considered that operability of battery 3D1 was maintained with the cracks in cell Number 54. This was done, in part, by referencing a Wyle seismic test report for Exide batteries used at Palo Verde with these types of cracks.

NRR completed a review of the Wyle test report and documented the results in a letter to Mr. Harold B. Ray from Mr. Mel B. Fields, dated September 25, 1992. NRR indicated that the Wyle test had neither demonstrated the seismic qualification of aged and cracked batteries, nor provided an adequate justification for their continued service. NRR stated in the letter that operability of aged and cracked Exide batteries of the type in question should not be based on the test report alone. NRR concluded that batteries with cracks, whether in the cover or in the jar, should be replaced promptly.

As a result of the NRR evaluation, the NRC concluded that the licensee's reference to the Wyle test report for the cracked batteries at Palo Verde did not support their operability assessment of the condition. This was discussed during the October 1992 meeting between Region V and licensee management.

Since identification of this concern, the licensee has replaced the cracked cells with newly installed cells. In addition, the licensee instituted a surveillance program to identify further cracking of vital batteries so that adequate corrective actions can be taken. This item is closed.

j. (Closed) Followup Item (50-362/91-28-01), "Containment Purge Flow Monitor Indicator Fluctuations."

As discussed in Inspection Report 50-362/91-28, the inspector noted that the recorder trace for containment purge flow indicator 3RE7828 appeared to be oscillating abnormally. Further investigation showed that it fluctuated between 500 and 700 scfm, and that the magnitude of the fluctuation appeared to vary as a function of the time of day.

Although Operations subsequently declared the instrument inoperable, and the licensee reevaluated the condition with more sensitive instrumentation, the inspector was concerned that these oscillations

had not been questioned by the licensee previously. The inspector also questioned the basis for the 600 scfm acceptance criterion used in the shift surveillance.

For corrective action to this concern, the licensee performed an evaluation and determined that RE7828 was sensitive to thermally induced air currents. In particular, the monitor used was a heated resistor type probe that is sensitive to temperature variations from air currents that are generated inside containment (from heating due to sunlight). A venturii effect was also established in the stack periodically, from wind flowing across the top of the stack. These two effects, when combined, resulted in RE7828 indicating variations in purge flow. This conclusion was verified by independent measurements with other measuring devices.

As a result of this evaluation, the licensee raised the acceptance criteria in RE7828 surveillance tests to 800 scfm with fans secured. This was incorporated into surveillance procedure SO23-3-3.21.1, "Once A Day Surveillances - Common." The inspector considered that the licensee's evaluation was adequate. This item is closed.

Within the areas inspected, three violations were identified.

10. Followup On Items Of Noncompliance (92702)

a. (Closed) Violation (50-361/92-06-04), "Inadequate 10 CFR 50.59 Evaluation."

Station Technical's engineering evaluation allowed a temporary facility modification (TFM) to be installed and operated without a complete assessment of its effects on other components contrary to procedural requirements. The TFM referenced was 2-91-BHA-001, Revision 0, which installed a positive displacement pump to help maintain the level in Unit 2 safety injection tank (SIT) 9 by providing for proper seating of an associated check valve.

The licensee's reply to the Notice of Violation stated that the TFM was prepared under the direction and oversight of licensee supervision by a contract engineer with no previous experience in using the TFM program. In addition, the licensee supervisory review of the TFM and associated safety evaluation was inadequate since it did not effectively take into account the experience of the engineer.

For corrective measures, on April 4, 1992, Revision 1 of TFM 2-01-BHA-001 was issued. The safety evaluation in Revision 1 included a documented assessment of the impact of the TFM on the EQ of installed components. That evaluation concluded that the TFM would not affect the EQ of important-to-safety plant equipment and components. In addition, the engineer was trained on the requirements of licensee management relating to the thoroughness of

safety evaluations.

The inspector noted that long-term corrective actions included the following:

- Management direction was given to supervision to emphasize the expectation that supervisors are to ensure that assignments given to engineers are consistent with their technical capabilities. In addition, supervisors are to provide oversight of technical work commensurate with the qualifications and experience of each of the contributors.

- Procedure SO123-V-5.10, "Temporary Facility Modification (TFM)," was revised to include more specific controls. The controls are designed to ensure that safety evaluations include a complete and documented EQ evaluation when TFMs have the potential of impacting the EQ of important-to-safety components.

- A review of safety evaluations for TFMs currently installed in Units 1, 2 and 3 was performed. This review ensured that the environmental impact of those TFMs had been properly evaluated and documented.

The inspector considered the licensee's corrective actions adequate. This item is closed.

b. (Closed) Violation (50-361/92-12-02), "Steam Driven Auxiliary Feedwater Pump Inoperable Due To Overspeed Trip."

As of February 26, 1992, the licensee had not taken adequate corrective actions to preclude repetition of tripping of the Unit 2 turbine driven auxiliary feedwater (TDAFW) pump due to water accumulation in the steam lines. Corrective actions taken after overspeed trips of the same pump in 1990 were inadequate in that surveillances implemented after the 1990 event did not determine that the steam traps were degrading. Water accumulation due to clogging of a steam trap was the cause of the February 26, 1992, overspeed trip.

The licensee implemented several corrective actions to ensure valve operability, including periodic trap blowdown, tracking and trending of thermographic data, and new system alignments to better drain the steam trap system. In addition, in order to avoid further problems, the licensee committed to the implementation of design modification efforts to minimize TDAFW system vulnerability to water intrusion at the next outage of sufficient duration, but not later than the end of the Cycle VII refueling outage for each Unit.

The inspector considered that the interim corrective actions in place and the proposed solution for the vulnerability of this system

to water intrusion were appropriate. Therefore, this item is closed.

c. (Closed) Violation (50-361/92-20-02) "Auxiliary Feedwater Pump Inservice Test Monthly Surveillance - Failure To Obtain Approval"

During the Unit 2 surveillance testing on auxiliary feedwater (AFW) pump 2P140, the inspector noted that approval to conduct the test had been received from the Control Operator. However, the procedure, SO23-V-3.4.1, directed that approval be from the Senior Reactor Operator (SRO) Operations Superintendent. In addition, section 6.11 of Operations procedure SO123-0-20, "Plant Manipulations Using Other Division Procedures," stated, in part, that it is acceptable to use other division procedures to manipulate the plant, provided the procedure is reviewed and approved by a SRO Operations Supervisor (prior to performing work).

In addition to the violation for failure to follow plant procedures, there appeared to be a weakness in configuration control since the SRO Operations Supervisor was not involved at the level required by both the operations and engineering procedures.

In the licensee's reply to the Notice of Violation, dated September 21, 1992, they stated that corrective actions had been taken to improve the interface between STEC and the Operations Department. The appropriate procedures were being reviewed to more effectively implement the Operations Department requirements. Additionally, a memorandum to Operations personnel emphasizing procedural compliance was issued. As a result of the two events, the Nuclear Oversight Division committed to perform an evaluation to determine whether the symptoms indicated a broader problem. The assessment should be completed by mid-November 1992.

The inspector considered the licensee's actions appropriate. Therefore, this item is closed.

No violations or deviations were identified.

11. Exit Meeting

On October 15, 1992, an exit meeting was conducted with the licensee representatives identified in Paragraph 1. The inspector summarized the inspection scope and findings as described in the Results section of this report.

The licensee acknowledged the inspection findings and noted that appropriate corrective actions would be implemented where warranted. The licensee also committed to the completion of an assessment for deficiencies identified with M&TE travelers by October 30, 1992. The licensee did not identify as proprietary any of the information provided to or reviewed by the inspectors during this inspection.