U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos: 50-206/85-05, 50-361/85-04, 50-362/85-04

Docket Nos: 50-206, 50-361, 50-362

License Nos: DPR-13, NPF-10, NPF-15

Licensee: Southern California Edison Company
P. O. Box 800, 2244 Walnut Grove Avenue
Rosemead, California 91770

Facility Name: San Onofre Units 1, 2 and 3

Inspection conducted: January 20 through March 22, 1985

Inspectors: PPNaulet for
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Summary:

Inspection on January 20 through March 22, 1985 (Report Nos. 50-206/85-05 50-362/85-04, 50-362/85-04)

Areas inspected: Routine resident inspection of Units 1, 2 and 3 including the following areas: operational safety verification, evaluation of plant trips and events, Licensee Event Report review, monthly surveillance activities, monthly maintenance activities, engineered safety feature walkdown, refueling activities, independent inspection and followup of previously identified items. This inspection involved 268 inspection hours on Unit 1, 341 inspection hours on Unit 2 and 289 inspection hours on Unit 3 for a total of 898 inspection hours by four NRC inspectors.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Southern California Edison Company

*H. Ray, Vice President, Site Manager
*J. Haynes, Station Manager
*M. Speer, Compliance Engineer
B. Katz, Operations and Maintenance Support Manager
*J. Reilly, Station Technical Manager
D. Peacor, Manager, Emergency Preparedness
*R. Santosuosso, Instrumentation and Control Supervisor
P. Croy, Compliance Manager
*G. Gibson, Compliance Supervising Engineer
*P. King, Quality Assurance Engineer
*C. Kergis, Lead Quality Assurance Engineer
*J. Wambold, Station Maintenance Manager
*D. Stonecipher, Quality Control Manager
*D. Schone, Quality Assurance Manager
S. Stilwagon, Refueling Maintenance Engineer
J. Reeder, Operations Superintendent, Unit 1
*G. Talley, Manager Administration Support
*W. Whaley, Foreign Materials Exclusion (FME) Supervisor
*P. Knapp, Health Physics Manager
*R. Joyce, Maintenance Manager, Units 2 and 3
*H. Mathis, Site Deputy Assistant
V. Fisher, Operations Supervisor, Units 2 & 3
A. Schram, Operations Supervisor, Unit 1
*H. Morgan, Operations Manager
*T. Mackey, Compliance Supervising Engineer
*L. Mayweather, Compliance Engineer
*D. Schull, Maintenance Manager
*R. Krieger, Deputy Station Manager
*W. Barney, Independent Safety Engineering Group
*M. Short, Project Manager, Unit 1
*K. Allen, Compliance Engineer
*J. Shields, Building Services Supervisor

San Diego Gas & Electric Company

*R. Erickson, San Diego Gas and Electric

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.

*Denotes those attending the exit interview on March 21, 1985.

2. Action on Previous Inspection Findings

(Closed) Unresolved Item (50-361/85-01-01)

The Licensee provided information that the HPSI pump alignment data had been documented but had not been transcribed onto the maintenance order. The prerequisites had not been previously signed off by the machinist due to confusion in coordinating the maintenance order and maintenance procedure. The inspector determined that the deficiency in the transcribing of alignment data was an isolated occurrence and no enforcement action is warranted.

3. Operational Safety Verification (Units 1, 2 & 3)

a. Plant Tours

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 examination for potential fire hazards, fluid leaks, excessive vibration and verification that maintenance requests had been initiated for equipment in need of maintenance.

b. Housekeeping

During the routine tours of the plant the inspectors noted that, although the housekeeping in the plant in general was good, housekeeping deficiencies in the Safety Equipment Building for both Units 2 and 3 were identified. The inspectors also noted that the normal lighting in the Safety Equipment Building was inadequate due to many burned out light bulbs not being replaced. The debris left as a result of the ongoing maintenance activities in combination with the poor lighting would present a potentially hazardous condition to an operator who may be required to perform emergency tasks in the Safety Equipment Building. Both Units 2 and 3 were shut down for maintenance activities during most of the inspection period. The Licensee initiated immediate corrective action to replace light bulbs and to remove debris from the Safety Equipment Building. Previous housekeeping deficiencies noted in the Units 2 and 3 Safety Equipment Building were noted in Inspection Reports 50-361/84-24 and 50-362/85-01. The inspectors will continue to monitor housekeeping conditions.

No violations or deviations were identified.

4. Plant Trips (And Significant Plant Transients and Power Reductions)

a. Unit 1

Declaration of Unusual Event

At 0215 on February 11, 1985, an Unusual Event was declared when the East Feedwater Pump was declared inoperable. The Unit 1 Feedwater Pumps also act as High Pressure Safety Injection Pumps for the Reactor Coolant System.

The unit was in the process of startup with the reactor critical when an alarm for high thrust bearing temperature was received in the Control Room. Investigation by Operations personnel revealed axial movement of the pump shaft and high thrust bearing temperature.

A plant shutdown was initiated. The licensee performed an inspection of the thrust bearing and pump impeller for both the east and west pumps.

The cause for the east pump thrust bearing failure is being investigated by the licensee. Preliminary results indicate that water contamination in the lube oil may have caused the problem. No problems were discovered on the West Feedwater Pump. The results of an inspection of licensee maintenance efforts on the Feedwater Pumps is discussed in paragraph 5a.

b. Unit 3

(1) Shutdown Due to Primary Coolant System Unidentified Leakage Exceeding 1.0 GPM

On January 27, 1985, while in Mode 1 at 1320 PST, the Licensee determined that the unidentified leakage from the Reactor Coolant System was 1.9 gpm, exceeding the 1.0 gpm Technical Specification limit. The licensee commenced the shutdown of Unit 3 and declared an Unusual Event at 1412 PST. The unidentified leakage was estimated to be approximately 3.0 gpm at 1750 PST, when the shutdown was completed. At approximately 2000 PST, the Licensee identified the leak to be from the pressurizer spray valve (3PV-100B) packing gland.

(2) Reactor Coolant Pressure Boundary Leakage

On March 12, 1985, while in Mode 2 with the reactor critical, during the return to service following a 44 day maintenance outage, the licensee noted erratic behavior on a hotleg Resistance Temperature Detector (RTD) (temperature element No. 112-1 which provides No. 1 steam generator hotleg temperature data to the Core Protection Calculator). The Licensee was in the process of troubleshooting the erratic behavior of the RTD, when an Instrumentation and Control technician noted a small amount of steam vapor coming out of

the RTD fitting at approximately 1800 PST. At 2015 PST, the Licensee determined that the steam was due to Reactor Coolant System pressure boundary leakage. The Licensee declared an Unusual Event at 2015 PST, and commenced shutdown. Inspection of the Licensee's corrective maintenance is discussed in paragraph 5d.

(3) Inadvertent Safety Injection Actuation Signal (SIAS)

On March 13, 1985, at 1443 PST, during the cooldown to repair the leaking RTD thermowell, an inadvertent Safety Injection System actuation occurred with plant pressure at 325 psig and temperature of 290 degrees F. Eighteen minutes prior to the event, the Reactor Coolant System (RCS) pressure had been 400 psig and 290 degrees F and the operator was intending to bypass the SIAS in accordance with normal depressurization procedures. Per normal cooldown procedures, the Licensee had been cooling down the RCS using the Steam Bypass Control System (SBCS) to bleed steam from the steam generators to the condensers. The Licensee suspects that the SBCS Bypass valve which was being throttled to control the rate of plant cooldown may have moved slightly in the open direction and consequently increased the cooldown/depressurization rate causing the RCS pressure to drop approximately 75 psig (initiating the Safety Injection System actuation).

The injection signal resulted in all Low Pressure Safety Injection pumps, two High Pressure Safety Injection (HPSI) pumps, and two Charging Pumps starting. The maximum RCS pressure after the initiation of safety injection was 380 psig. The HPSI pumps, Safety Injection tanks (SIT's), and Charging Pumps injected approximately 5500 gallons of water into the RCS. The HPSI pumps operated for 110 seconds before being secured by the operators. The Licensee secured all SIT's at approximately four minutes after safety injection was initiated, and the two Charging pumps were secured within seven minutes after the SIAS. The Licensee declared an Unusual Event at 1459 PST and secured from the Unusual Event at 1502 PST.

(4) Reactor Trip on March 19, 1985

On March 19, 1985 at 1547 PST, while at approximately 17 percent power, the reactor was tripped due to high water level in Steam Generator E089. The high steam generator water level trip occurred after feedwater regulating valve FV-111 was placed in automatic operation and a mechanical failure of the feedback linkage occurred, causing the valve to fail in the open position. The unit was in the process of returning to service following an unscheduled outage to repair packing leakage on pressurizer spray valve 3PV-100B.

No violations or deviations were identified.

5. Monthly Maintenance Observations (Units 1, 2 and 3)

a. East Feedwater Pump/Safety Injection Pump (Unit 1)

The inspector observed various stages of disassembly, inspection and repair of the Unit 1 East Feedwater pump. This feedwater pump is also used for Safety Injection on Unit 1. The pump became inoperable when the thrust bearing failed. Inspection of the pump internals revealed the following damage: wiped thrust bearing; cracked impeller; and pitted and scored bearing surfaces. Also, the replacement impeller casting was found to have cracking in the web areas. The impellers and rotor were sent to the vendor (Byron-Jackson) for repair. The Licensee also disassembled the West Feedwater pump for inspection and found it to be in acceptable condition. The inspector reviewed the repair procedures and documentation and found no discrepancies. The mechanism of failure is currently under review by the licensee.

b. Steam Generator Tube Repairs (Unit 2 & 3)

During the first fuel cycle on Unit 2, Steam Generator E-089 experienced a tube leak. Since there is very little operating history on these steam generators, the licensee performed 100 percent eddy current inspection of the tubes in both steam generators in order to identify any additional defective tubes. Metallographic analysis was also performed to identify any problems with the material properties of the tubes. The inspector monitored the Licensee's actions to ensure satisfactory steam generator operation. The Licensee's actions were as follows:

- Metallographic analysis indicated that some tubes had an inadequate final annealling.

- Unit 2 Steam Generator E088: A total of 146 tubes were plugged during the outage. Of these, 23 tubes were defective (not leaking, but indicating tube wall thinning in excess of allowable) and 123 were preventively plugged. In addition, 39 of the plugged tubes were staked to prevent damaging adjacent tubes in the event the tube is severed due to vibration. Twelve tubes had been plugged previously.

- Unit 2 Steam Generator E089: A total of 184 tubes were plugged during the outage. Of these, 33 tubes were defective and 151 were preventively plugged. In addition, 39 of the plugged tubes were also staked to prevent movement if the tube is severed. Ten tubes had been plugged previously.

- During the Unit 3 outage to repair a packing leak on a pressurizer spray valve, the Licensee performed an inspection of the Unit 3 steam generators and preventively plugged and staked the internal row of tubes in both steam generators. These tubes were subject to wall thinning due to vibration.

c. HPSI Check Valve Repairs (Unit 3)

A HPSI cold leg injection check valve inside containment exhibited seat leakage during start-up testing. The inspector examined repairs in progress on the valve and found them to be in accordance with approved procedures.

d. RTD Thermowell (Unit 3)

During Unit 3 restart following the pressurizer spray valve repair outage, the Licensee noticed that hot leg RTD 3TE-0112-1 was indicating approximately five percent cooler than the other hot leg RTDs. Subsequent investigation by the Licensee revealed that RCS fluid was leaking into the thermowell. The License relocated the RTD to a spare thermowell, inserted a plug into the defective thermowell, threaded a cap into the opening, and seal welded the cap to provide a satisfactory fluid boundary. The inspector monitored the repair efforts and found them to be in accordance with ASME Code requirements and approved procedures. The Licensee plans to replace and examine the defective thermowell during the first refueling outage.

e. Chemical Volume and Control System (CVCS) Ball Valve (Unit 3)

The Licensee installed a ball valve in the CVCS system between check valve S3-1901-MU-263 and three-way valve 3LV-00227A. The three-way valve directs letdown flow to either the volume control tank (VCT) or the radwaste system. The ball valve was added so that the amount of unidentified leakage (past the three-way valve) could be reduced. The inspector examined the valve installation and documentation and noted no discrepancies.

No violations or deviations were identified.

6. Monthly Surveillance Observations (Units 1, 2 and 3)

During the period, the inspectors observed the Licensee's activities related to Unit 1 safety injection valve testing, the startup of Unit 2 subsequent to the first refueling/modification outage, and the startup of Unit 3 following a 50 day outage for spray valve repairs and steam generator modifications. The inspectors observed the following activities:

- Safety Injection System Functional Test, S01-12.4-9 (Unit 1)
- Integrated Engineered Safety Feature (ESF) Test, S023-3-3.12 (Unit 2)
- Containment Integrated Leak Rate Prerequisites and Valve Alignments (Unit 2)
- Reactor Plant Protection System Channel Functional Test, S023-II-1.1 (31 Day Surveillance) - (Units 2 and 3)

- Main Steam Line Radiation Monitor Calibration (Unit 3)
- Auxiliary Feedwater Flow to Steam Generator E088 Calibration (Unit 3)

a. Safety Injection Functional Test (Unit 1)

The inspector observed portions of the Unit 1 Safety Injection functional test conducted in accordance with Operating Instruction S01-12.4-9. The inspector observed as part of this test, the opening of HV-851A and HV-851B (Feed Pump Isolation Valves to the HPSI system). Preliminary results indicated that the test was satisfactory and the valve opening force was within the 10,000 pounds-force acceptance range.

b. Integrated Engineered Safety Features (ESF) Test (Unit 2)

The inspector observed portions of the ESF Test and found that the test was being accomplished in accordance with procedure S023-3-3.12. The inspector determined that the test satisfactorily demonstrated the ability of the integrated ESF system to perform its design function as defined in the unit technical specifications. Minor deficiencies identified during the test were properly evaluated and corrected.

c. Uninterruptible Power Supply Test for Security Computer

The inspector observed, as part of the ESF Integrated Test, the automatic transfer of the Security Computer Power Supply from the preferred (Unit 2) AC power source to its battery power supply and then back to the preferred AC source. There were no security alarms or indications of loss of power to the Security Computer.

No violations or deviations were identified.

7. Licensee Event Report (LER) Followup

Through direct observations, discussions with licensee personnel, or review of records, the following LERs were closed. Each LER was reviewed to determine that immediate corrective action to prevent recurrence had been accomplished or initiated. (Previous inspection report numbers on the Licensee Events are noted where applicable).

Unit 1

85-01	Improper R-1219 setpoint
85-04	Loss of Main Feed Pump
85-05	Temporary seismic rating reduction of Intake Structure

Unit 2

82-04	Failure to perform Containment Purge Isolation Signal (CPIS) surveillance
82-94(&R1)	Valve 2HV-0517 inoperable due to loose position indicator/limit swtich
82-122	Toxic Gas Isolation System (TGIS) butane monitor inoperable due to extinguished pilot light
82-126(&R2)	Main Steam drain isolation valve 2HV-8249 inoperable
82-168(&R1)	Reactor trip on Departure from Nucleate Boiling Ratio (DNBR) due to a false Control Element Assembly (CEA) position indication
82-175	Undervoltage (UV) relay failed to trip Reactor Trip Breaker (RTB) during testing (83-29, Page 5)
83-06	TGIS ammonia analyzer inoperable due to faulty sample cell
83-10	Control Room Emergency Cleanup System failed to maintain pressure
83-19	UV Relay failed to trip RTB during testing (83-29, Page 5)
83-23	TGIS ammonia analyzer inoperable due to instrument drift
83-25	UV relay failed to trip RTB during testing (83-29, Page 5)
83-33	TGIS butane monitor inoperable due to flameout
83-39(&R1)	Diesel Generator 2DG002 inoperable due to exceeding start time requirement
83-64	Calculated DNBR margin exceeded during core operating limits supervisory system (COLSS) inoperability
83-78	Condensate storage tank level below Technical Specification limit
83-79	Main Steam drain valve 2HV-8249 inoperable
83-89(&R1)	Component Cooling Water (CCW) trains inoperable due to seaweed intrusion into Salt Water Cooling Heat Exchangers
83-101	Spurious actuation of TGIS due to failed relay in chlorine analyzer
83-103(&R1)	Cold leg temperature outside band during Xenon transient
83-105	TGIS failed to actuate on flameout of butane monitor

83-109	Containment Isolation Valve (CIV) 2HV-0510 position indication failure
83-114(&R1)	CIV 2HV-0512 position indication failure
83-115	TGIS ammonia analyzer failure
83-119	Cold leg temperature outside band during Xenon transient
83-125(&R1)	UV relay failed RTB surveillance test
83-129	Calculated DNBR margin exceeded during COLSS inoperability
83-131	Calculated DNBR margin exceeded during COLSS inoperability
83-137(&R1)	Containment emergency cooler CCW outlet valve failed to fully open
83-139	Spurious actuation of TGIS due to a failed rectifier in chlorine analyzer
84-04	Spurious Containment Purge Isolation System (CPIS) actuation
84-06	Spurious TGIS actuation
84-07	Spurious Main Steam Isolation Signal (MSIS) actuation
84-08	Inadvertent entry into Mode 3
84-09	Decalibration of calculated static thermal power
84-12	Spurious TGIS actuation
84-13	Containment negative pressure limit exceeded
84-14	Reactor Coolant System flow rate improperly verified
84-16	Inadvertent ESF (SIAS, CSAS) actuation by technician (84-11, Page 3)
84-17	Shutdown cooling system valve HV9316 found full open
84-19	Reactor trip on DNBR due to a false CEA position indication (84-11, Page 4)
84-23	Spurious Control Room Isolation Signal (CRIS) actuation
84-29	Inadvertent de-energization of emergency chiller and actuation of TGIS by technician
84-31	Emergency Chiller (EC) inadvertently started and EC program timer failed

84-33(&R1)	Fire water main leak
84-34	Failure to establish fire watch
84-38	Spurious CRIS actuation
84-43	Reactor trip on DNBR due to a false CEA position indication (84-24, Page 8)
84-46(&R1)	Component Cooling Water trains inoperable due to seaweed intrusion into salt water cooling heat exchangers (84-24, Page 9)
84-67	Delinquent surveillance on battery 2D4
85-02	Spurious TGIS actuation
85-03	Spurious TGIS actuation
85-04	Purge samples collected late
85-05	CRIS actuation
85-06	TGIS flame out
85-13	Spurious CRIS actuation
85-14	Spurious CRIS actuation
85-21	FHIS actuation

Unit 3

83-18(&R1)	Auxiliary feedwater (AFW) pump P140 inoperable
83-22(&R1)	Entered Mode 4 with a containment Emergency Cooling system train inoperable
83-63(&R1&R2)	AFW Pump P140 inoperable due to 3HV4716 found in tripped condition
83-89	AFW Pump P140 inoperable
83-99	AFW Pump P140 inoperable
83-106	Calculated DNBR margin exceeded during COLSS inoperability
83-111	Reactor Coolant System activity exceeded 1.0 microcurie/gram (83-42, Page 4 /84-11, Page 7)
83-118	Calculated DNBR margin exceeded during COLSS inoperability
84-02	Suspension of hourly firewatch patrols due to precautionary evacuation

84-03	Reactor trip in Mode 3 on DNBR due to a CEA slipping
84-04	Inadvertent safety injection
84-05	RCS activity exceeded 1.0 microcurie/gram
84-10	Spurious CPIS actuation
84-14	Charging pumps inoperable due to Foreign Material Exclusion (FME) deficiency
84-17	Reactor Trip due to high steam generator level (84-17, Page 4)
84-18	RTB UV trip relay device failed surveillance test
84-19	Post maintenance testing not performed on CIV
84-35(&R1)	High Pressure Safety Injection pump inoperable
84-41	Spurious CPIS actuation
85-01	Shutdown due to unidentified leakage exceeding 1.0 GPM (This report, Paragraph 4)
85-03	Shutdown due to pressure boundary leakage (This report, Paragraph 4)
85-06	Inadvertent Safety Injection Actuation Signal in Mode 4 while cooling Reactor Coolant System (This report, Paragraph 4)
85-08	Reactor trip due to high steam generator level (This report, Paragraph 4)

8. ESF Walkdown - Unit 3

During this inspection period, while Unit 3 was shut down to repair pressurizer spray valve 3PV-0100B, the inspector examined penetration isolation valves inside Unit 3 containment for proper alignment. The penetration isolation valves associated with the following systems were examined:

- Reactor Coolant System
- Safety Injection System
- Containment Spray System
- Reactor Coolant Chemical and Volume Control System
- Containment HVAC System (Emergency)

The penetration isolation valves were found to be in their specified positions.

No violations or deviations were identified.

9. Refueling Activities (Unit 2)

During this inspection period, the inspector observed portions of the Unit 2 core loading and CEA placement activities. The Licensee encountered minor administrative problems with the procedure and mechanical difficulties with the refueling machine. As problems were encountered, the Licensee was very responsive in stopping work until the problems were resolved. The inspector identified discrepancies in the following two areas:

a. Foreign Material Exclusion (FME) Controls

While fuel was being lowered into the Reactor Vessel, the refueling machine hoist "locked up". The licensee then lowered the fuel bundle manually and moved the refueling machine so that it was not positioned over the Reactor Vessel. The inspector observed preparations for replacement of the refueling machine hoist load brake. The inspector observed the following maintenance activities being performed on the refueling machine and identified the following discrepancy:

The work was being conducted in a zone III Cleanliness area; however, the FME monitor for the area was stationed too far away to observe the maintenance activity. The inspector noted that the vendor representatives were not apparently observing the FME requirements in that parts and tools were not secured in accordance with Licensee procedures to preclude them from falling into the refueling cavity.

The licensee's maintenance foreman was monitoring the work activity, but he did not note departure from the FME procedure. The specific Maintenance Order (MO) and the station maintenance procedures were not followed in that neither the Quality Control nor FME Supervisor was contacted prior to the start of work. Those procedural requirements should have precluded the discrepancy from occurring.

When the Licensee was informed by the inspector, the work activity was stopped immediately and extensive corrective actions were taken to resolve this issue. The involved maintenance personnel were retrained regarding the station requirements and the maintenance order was revised to provide additional emphasis on the FME requirements for accomplishing repairs to the refueling machine. Subsequent examination of the maintenance activity by the inspector indicated that the FME controls were satisfactory.

The NRC inspector considered that issuance of a Notice of Violation on this item was not warranted for the following reasons:

a) The equipment involved is not safety-related and no introduction of foreign material was experienced.

b) Throughout the experience of their first refueling outage in Unit 2, the Licensee has taken aggressive action to improve FME procedural weaknesses which were identified. The Licensee procedures for FME control have been significantly improved and further procedural strengthening of control has been initiated.

c) The discrepancy resulted from a failure of the cognizant maintenance foreman to fulfill his responsibilities, which were adequately defined in the subject maintenance order. The Licensee took prompt action with the involved individual.

d) The licensee has committed to retraining of all cognizant refueling personnel on the importance of effective FME controls and the specifics of the revised administrative requirements.

b. Refueling Machine Equipment Control

Maintenance on the refueling machine was being controlled by a "blanket" maintenance order (MO #84100055001) which was originally written for preoperational testing of the refueling machine. The inspector observed the following deficiencies with respect to the procedures invoked to control this maintenance effort:

1) The maintenance order did not contain all the information required by station maintenance procedure S023-I-1.2 (Maintenance Order Preperation, Use and Scheduling) in that it did not have completed information blocks identifying the equipment as inoperative, identifying applicable technical specifications nor specifying return-to-service surveillance testing.

2) No Limiting Operating Condition Action Requirement (LOCAR) or Equipment Deficiency Mode Restraint (EDMR) was issued which would procedurally ensure proper tracking of refueling machine operability.

3) A specific written work authorization was not issued in accordance with the provisions of station operating procedure S023-0-13 (Work Authorizations).

The inspector verified that work on the refueling machine, which is not a safety-related hardware item, was being performed technically properly and that return to service testing was performed properly.

The inspector determined that the procedural departures did not constitute a violation of federal regulations due to the fact that the hardware is not safety-related and that actual work and testing were conducted properly. Additionally, the Licensee committed to,

and subsequently completed the following additional actions to preclude recurrence:

.) Cognizant station maintenance personnel were reinstructed on the requirements for proper issue of maintenance orders.

2) Cognizant station operations personnel were reinstructed on the requirements for proper use of LOCAR's and EDMR's.

3) Cognizant station operations personnel were reinstructed on the requirement to use written work authorizations to control maintenance efforts which affect the operability of technical specification related equipment.

No violations or deviations were identified.

10. Independent Inspection

a. Recovery of Radiographic Source - (Unit 3)

During radiographic examination of welds on the main feed piping, the radiographic source became stuck outside of the shielded camera and could not be retracted. Subsequent evaluation of the event indicated the following:

- The shielded camera was initially placed on a welding machine enclosure with the source stored in the camera in preparation for a radiographic film exposure. The welding machine enclosure had developed an internal short circuit to the metal case and was still energized.

- The source guide tube and the collimator were positioned on the piping in preparation for transferring the source from the camera to collimator for a film exposure. The guide tube was insulated on its outer diameter by a coating of neoprene, and the collimator was insulated from the guide tube by a teflon washer. At this point, a path did not exist for current flow from the welding machine enclosure to the piping.

- The source was then transferred from the camera through the guide tube to the collimator by using control cables. When the source made contact with the collimator, a path for current flow was complete (since the collimator was taped to the main feed piping).

- As a result of the current flow, the neoprene was melted off of the guide tube and the teflon washer was melted, blocking the retraction path for the radiographic source.

- When the exposure time had expired, the contractor (GEO Construction) could not retract the source (iridium 192). Immediate actions were taken by the licensee to isolate the area.

The inspector monitored the source recovery efforts and found thenm to be well thought out and planned so as to minimize personnel exposure. The guide tube was ultimately removed from the camera and the source was then retracted.

b. Nuclear Safety Concern Program

The inspector reviewed the status of the Licensee's Nuclear Safety Concern (NSC) program administered by the on-site Quality Assurance department. The inspector interviewed the following licensee personnel involved in the administration of the NSC program:

- Station Quality Assurance Manager
- Quality Assurance Program Assessment and Audit Supervisor
- NSC Quality Assurance Engineer

The inspector reviewed the status of the NSC program since the program inception on July 23, 1984. It was determined that as of February 8, 1985, 133 Nuclear Safety Concerns had been submitted to the NSC program. The inspector noted that the program is being utilized to note concerns by individuals on industrial safety and the Licensee's management policies, as well as the Nuclear Safety concerns identified by concerned individuals. The inspector noted that the industrial personnel safety concerns are closed within one week of identification by the concerned individual and the Nuclear (Plant Equipment) Safety Concerns, which in some cases have required engineering evaluation by the licensee, take on the average about three weeks to evaluate and close out.

Upon close out of an NSC, after the investigation is completed on the concern, the licensee sends a letter signed by the Quality Assurance Manager to the individual identifying the concern, describing the action taken or planned to close out the item. The inspector noted that the NSC program status is reviewed weekly by the licensee's Corporate Quality Assurance Manager and monthly by the Vice-President responsible for the Quality Assurance organization.

Inspection of the NSC program will continue in the next inspection period. Conclusions from this evaluation will be presented in a future inspection report.

No violations or deviations were identified.

11. Exit Meeting

On March 21, 1985, an exit meeting was conducted with the Licensee representatives identified in Paragraph 1. The inspectors summarized the inspection scope and findings as described in this report.