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**McGUIRE NUCLEAR STATION UNIT 2
STEAM LEAK IN CONTAINMENT
AUGUST 31, 1993**

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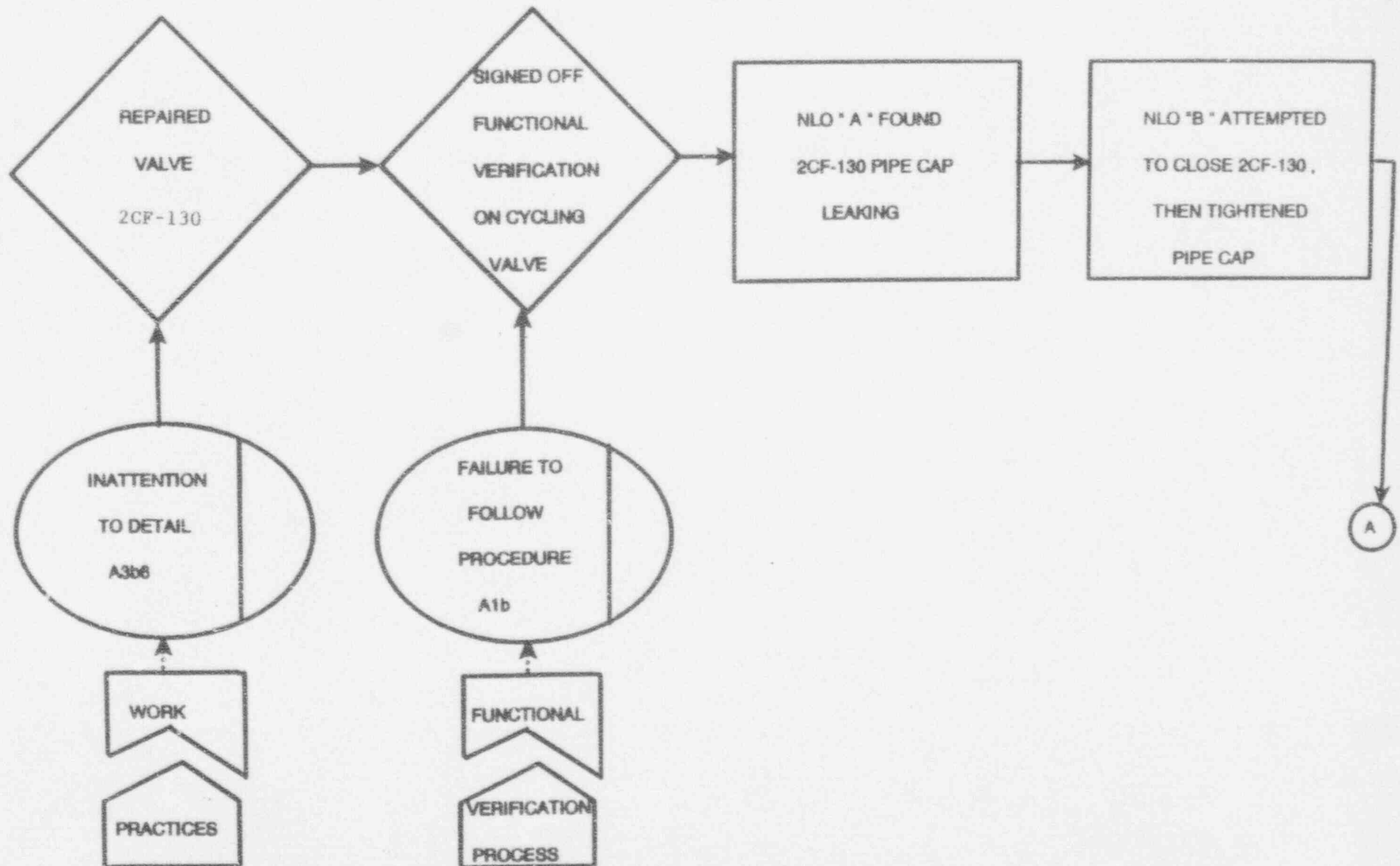
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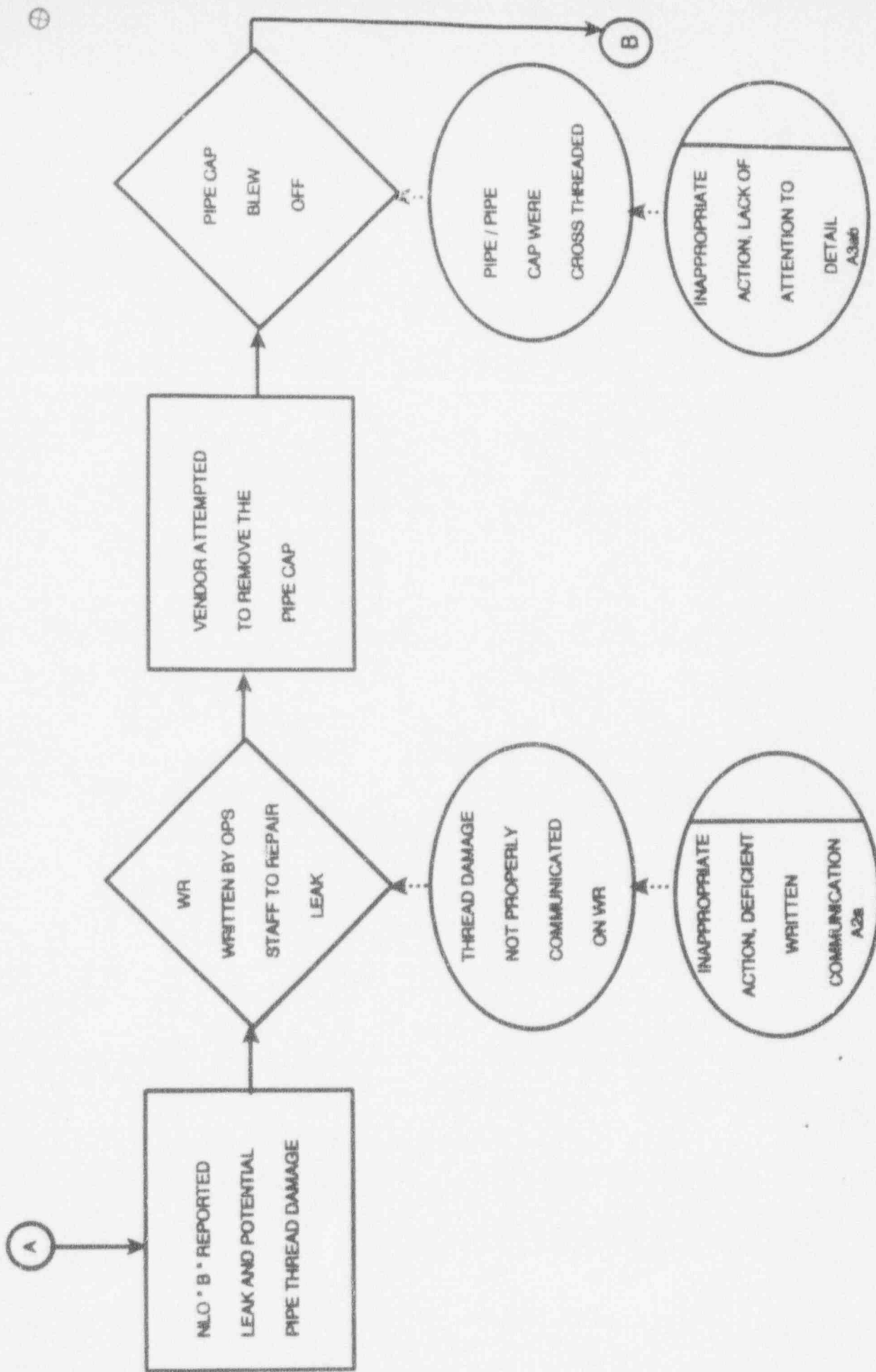


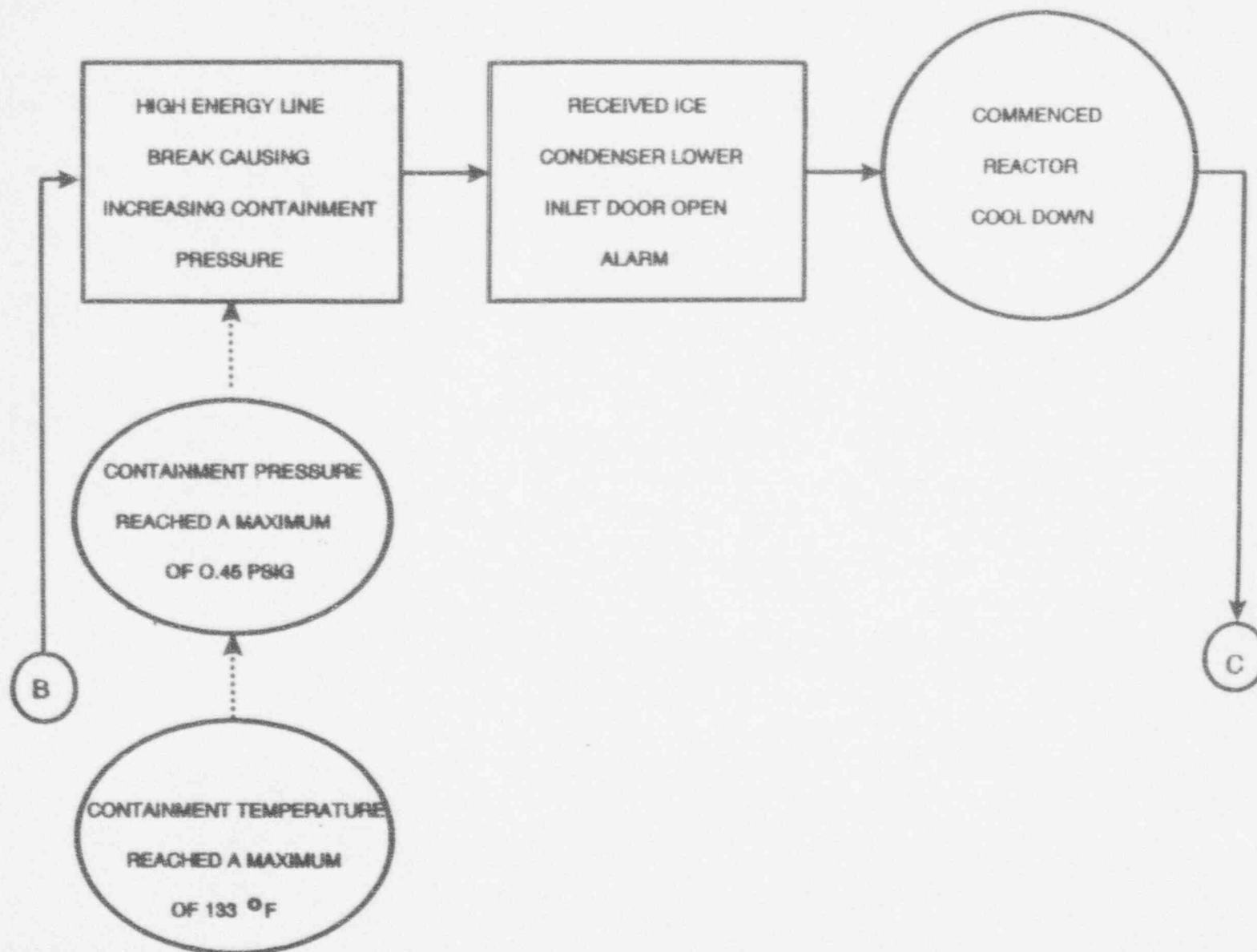
SEQUENCE OF EVENTS

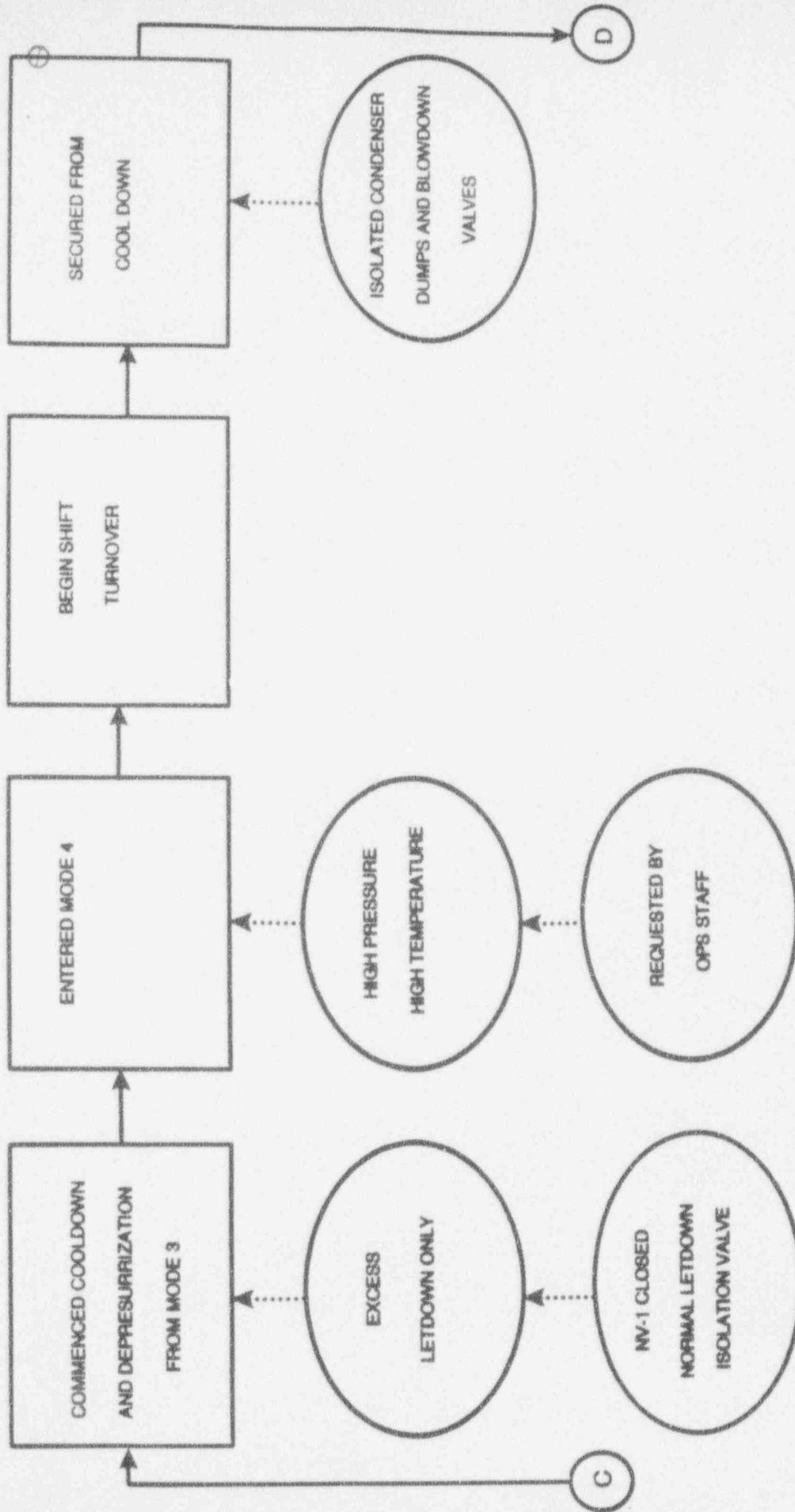
<u>Date</u>	<u>Time</u>	<u>Description</u>
03/14/92		Operations Staff originated WR 146808 to repair pipe cap leak downstream of valve 2CF-130.
03/14/92		Mechanical Maintenance Technician A loosened cap, applied thread sealant and re-tightened cap. Noted that the threads were damaged and cap still leaked.
03/15/92		Vendor Technician A removed pipe cap, cut off damaged threads and re-tapped nipple. After establishing new threads he reinstalled a new pipe cap.
03/16/92		Vendor Technician A removed pipe cap, installed leak repair pipe cap and pumped sealant. Leak was stopped.
06/13/92		WR 146808 converted to WO 92041833.
08/04/93	PM	Mechanical Maintenance Technician B verified correct component and began disassembly of valve 2CF-130.
08/05/93	AM	Mechanical Maintenance Technician C repaired valve 2CF-130 per WO 92041833 and signed off Functional Verification paperwork that valve 2CF-130 was cycled.
08/05/93	AM	Mechanical Maintenance Technician B verified pipe cap was reinstalled.
08/08/93	1152	Commenced filling of Steam Generator 2A.
08/30/93	AM	Operations NLO A discovered pipe cap leaking downstream of 2CF-130. NC System Pressure: 2240 psig, Temperature: 557.5 degrees.
08/30/93	AM	Operations Assistant Shift Supervisor A instructed NLO A to attempt to close valve and then tighten pipe cap if the leak did not stop.
08/30/93	AM	Operations NLO B attempted to close valve and then tried to tighten pipe cap. Leak did not change and he stopped because he felt the threads were damaged.

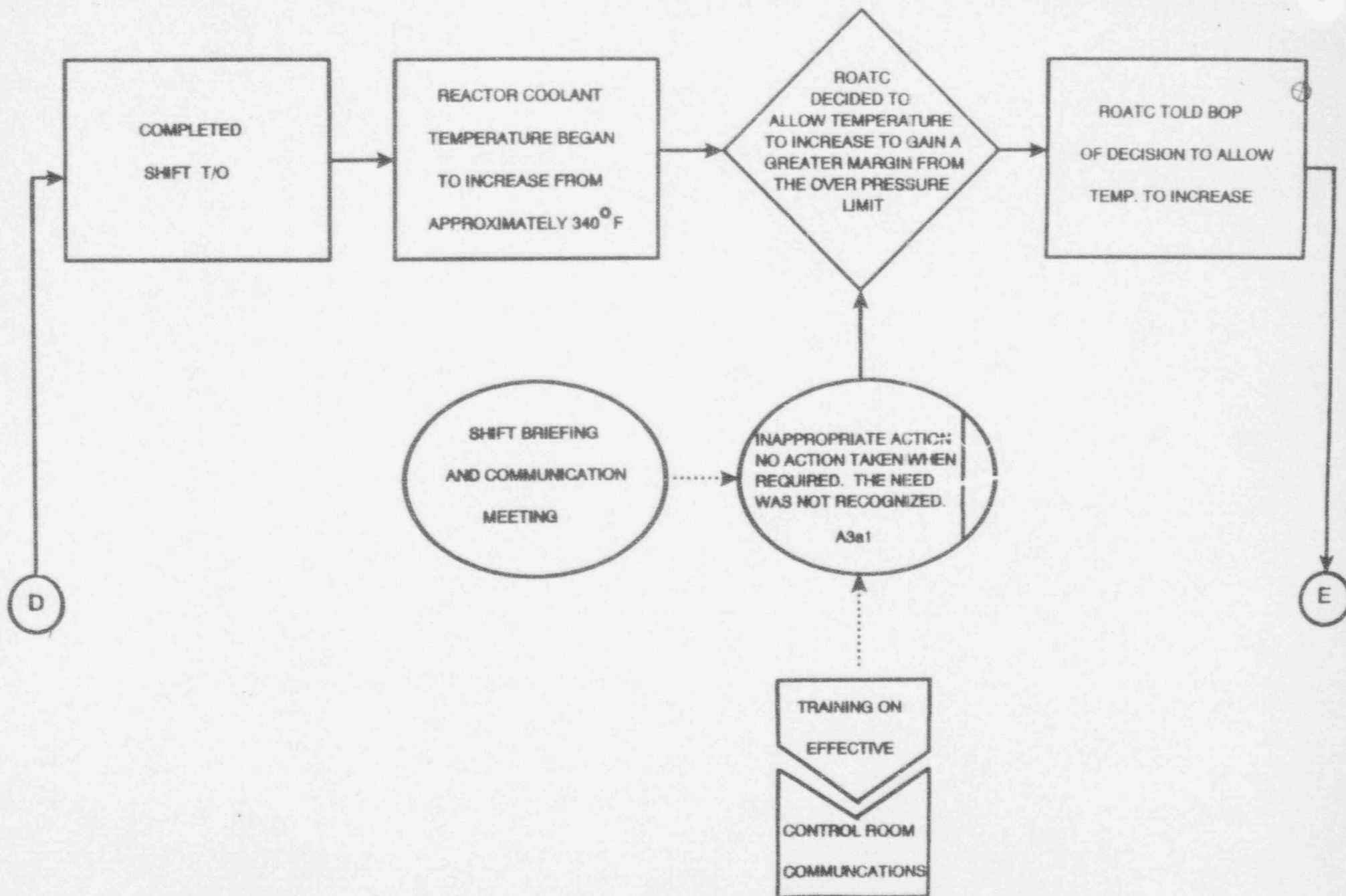
08/31/93 STEAM LEAK INSIDE CONTAINMENT

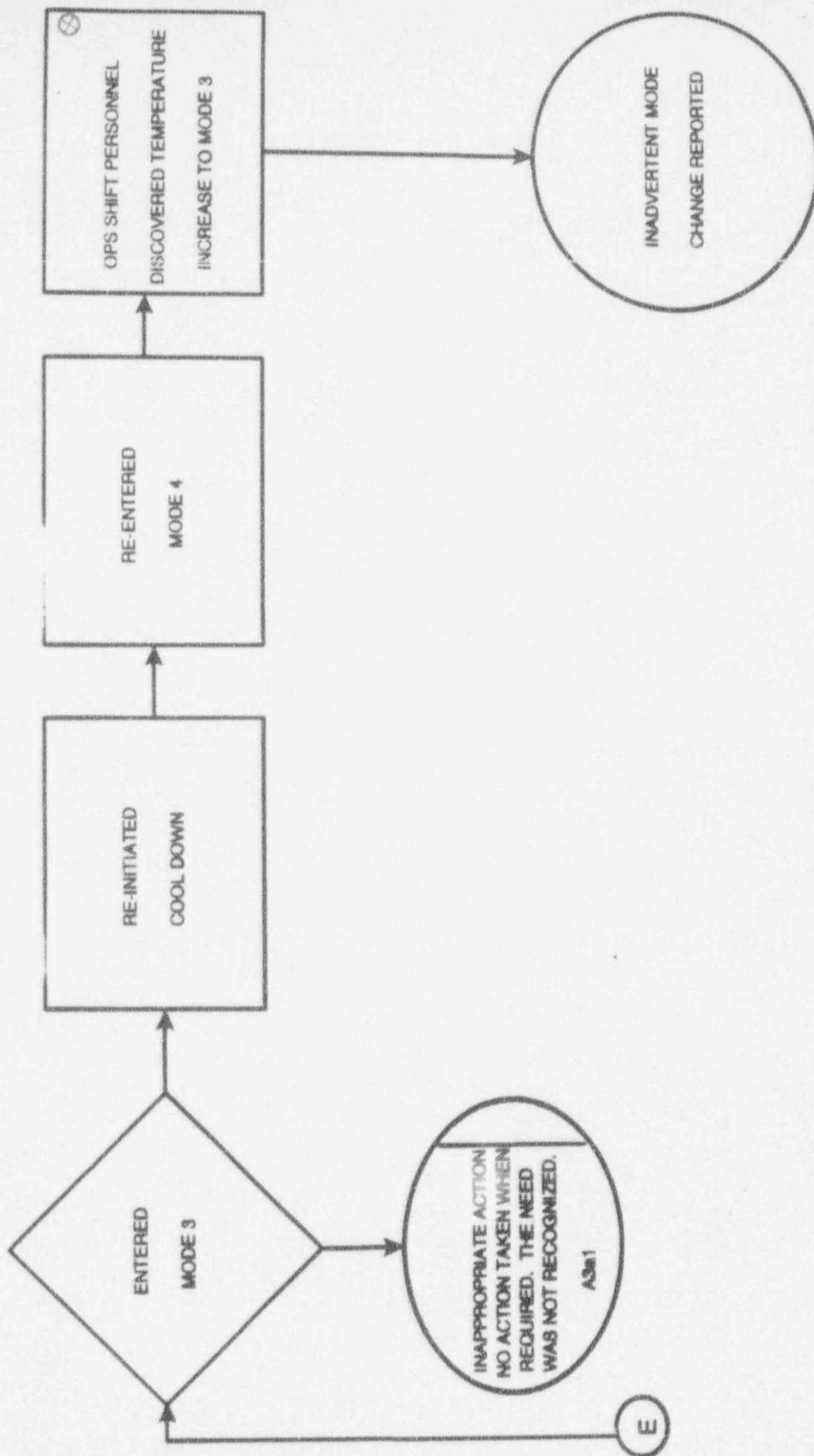












CONTROL OF PLANT DURING COOLDOWN

1. **PROBLEM STATEMENT:** During the cooldown and depressurization of unit 2, the plant re-entered mode 3, after having entered mode 4.

CAUSE: Communication between the reactor operator at the controls and the other members of the control room team was ineffective. The communication problems were a barrier to effective teamwork.

SHORT TERM ACTION ITEMS:

- A. Operations has generated a special order directing that shift briefings will be modified to conduct NLO briefings outside the control room and no other administrative meeting will be held in the control room.

Responsible Party: Shift Operations Manager

LONG TERM ACTION ITEMS:

- A. A reading package describing the event and addressing the communication breakdown that lead to the event will be developed and distributed to all licensed personnel.

Responsible Party: Operations Support Manager

Completion Date: September, 1993

- B. All licensed personnel involved with this event fully understood the definition of mode 3. Yet, the control room team did not recognize the unit had re-entered mode 3. A more effective method of bringing impending mode changes to the control room team's attention must be developed.

Responsible Party: Shift Operating Manager

Completion Date: December, 1993

DUKE POWER COMPANY
MCGUIRE NUCLEAR STATION
UNIT 2 STEAM LEAK IN CONTAINMENT
AUGUST 31, 1993
ISSUES ADDRESSED

APPENDIX II

- 1a. Review Generic Letter GL 90-05 which describes a non-code primary system event that occurred at Millstone. Does this Generic Letter apply to the work performed on 2CF-130?

RESP. - RBT

STATUS: RBT to discuss. Review of the Generic Letter revealed that the event was not a code concern. See attached report.

- 1b. Review Generic Letter GL 90-05 with regards to work activities associated with 2NC-14.

RESP. - RBT

STATUS: Generic Letter 90-05, "Guidance for Performing Temporary Non-Code Repair for ASME Code Class 1, 2 and 3 Piping" requires code repairs in accordance with ASME Section XI or NRC relief if a non code repair methods is desired.

The repair of 2NC-14 was evaluated as satisfying the construction code stress allowables and, therefore is in compliance with ASME Section XI. See attached for additional information.

- 1c. What other ASME Class I components have been leak repaired, and what is the current status

RESP. - RBT

STATUS: Close with attached letter.

2. What was the Post Maintenance Test that was performed on 2CF-130.

RESP. - JWB

STATUS: RBW has discussed with the SEIT and the AIT. 2CF-130 was found leaking before reaching full temperature and pressure. Once full temperature and pressure was reached, 2CF-130 leakage was documented. Also, the W/O package indicated that the valve had been blued during repair and cycled by the mechanic.

September 4, 1993

To: Bruce Travis

Subject: Responses to 2NC14 Related Questions

1) What evaluation was performed on possible repair options for 2NC14?

External leakage from 2NC14 was identified during the plant walk down at the beginning of the 2EOC8 refueling outage. This valve had not been identified in the original outage scope. The Operations Group reviewed the potential impact to the outage plan and indicated that additional system alignment and draining would be required. Work Control was notified to evaluate other scheduling or repair options, while considering the potential for additional radiological dose accumulation and outage schedule impact. Component Engineering was asked to evaluate the valve design for possible leak injection. Based on the evaluation, leak injection was determined to be an acceptable repair option. A modification package was prepared to control this activity.

2) What other ASME class 1 components have been repaired using the leak injection process?

The temporary modification log, the on-line leak sealing database (initiated 1/1/90), and the on-line leak sealing log (initiated 2nd quarter of 1984 and maintained through 1/1/90) was reviewed to identify ASME class 1 leak injections. Senior Component Engineering valve staff members were also interviewed concerning injection activities prior to 1984.

The valve tag numbers and status of each repair are as follows:

1ND1-Modified for leak injection per NSM-MG-457 in June, 1981. Valve was injected in October of 1981 and was reinjected in November of 1981. Valve was modified per NSM-MG-751 in March of 1983 for removal of injection fittings and seal welding of body to bonnet joint (pressure seal design).

1NV1-Injected valve stuffing box through leak off line in May of 1989. The valve was repacked using conventional packing materials in January of 1990, returning the valve to original design configuration.

2NV1-Modified valve for leak injection per NSM-MG-20689 and injected in June of 1986. Valve was modified per ME-VN-402 to seal weld body to bonnet joint in June of 1986. Modified per ME-VN-561 to remove all injection fittings (pressure seal design).

2ND4-Injected valve stuffing box in January of 1986. The valve was repacked using conventional packing materials in April of 1986, returning the valve to original design configuration.

September 3, 1993

MEMORANDUM TO FILE

In order to strengthen our understanding of the management controls associated with interfacing individuals and organizations (e.g., vendors, contractors involved in maintenance activities) we conducted a Mechanical Maintenance management briefing on 9/2/93 as a part of our daily outage meeting.

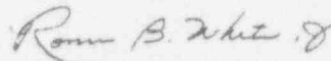
Steve McCurry of Site Training and Mike Ray of MM ETQS gave us a review of NSD-105 **Operating, Test and Maintenance Activities** and ETQS Standard #2404.0 **Support Personnel Training and Qualifications**.

Included in this briefing were:

Ronnie B. White, Jr., Mechanical Maintenance Superintendent
Don W. Trapp, General Supervisor
Maurice Horne, Section Manager
Eddie L. Beaver, General Supervisor
Bobby P. Bostian, Section Manager
C. Z. Bearden, QA Supervisor (for Rick Branch, MM QA General Supervisor)
Benny T. Harkey, Section Manager

Copies of ETQS Standard 2404.0 **Support Personnel Training and Qualification** and the **Introduction** and **Responsibilities** section of NSD 105 were given to all attendees.

As a team we discussed the importance of the training and qualification requirements and management oversight of the activities of vendors, contractors, and other interfacing personnel.



Ronnie B. White, Jr.
Mechanical Superintendent
McGuire Nuclear Station

RBWjr/dgt

cc: Maurice Horne
Benny Harkey
Rick Branch
Mike Ray

Bobby Bostian
Don Trapp
Eddie Beaver
Steve McCurry