



Commonwealth Edison

Quad Cities Nuclear Power Station
22710 206 Avenue North
Cordova, Illinois 61242-9740
Telephone 309/654-2241

RLB-92-150

July 9, 1992

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

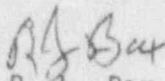
Reference: Quad Cities Nuclear Power Station
Docket Number 50-254, DPR-29, Unit One

Enclosed is Licensee Event Report (LER) 92-013, Revision 00, for Quad Cities Nuclear Power Station.

This report is submitted in accordance with the requirements of the Code of Federal Regulations, Title 10, Part 50.73(a)(2)(ii). Any event or condition that resulted in the condition of the nuclear power plant, including its principal safety barriers, being seriously degraded, or that resulted in the nuclear plant being in a condition that was outside the design basis of the plant.

Respectfully,

COMMONWEALTH EDISON COMPANY
QUAD CITIES NUCLEAR POWER STATION


R. L. Bax
Station Manager

RLB/TB/plm

Enclosure

cc: J. Schrage
T. Taylor
INPO Records Center
NRC Region III

JEZ

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Quad Cities Unit One
 Docket Number (2) 0 | 5 | 0 | 0 | 0 | 2 | 5 | 4
 Page (3) 1 | of | 0 | 4
 Title (4) Design Deficiency In The Standby Gas Train Logic

Event Date (5) 0 | 6 | 0 | 9 | 9 | 2
 LER Number (6) 0 | 1 | 3
 Report Date (7) 0 | 7 | 0 | 9 | 9 | 2
 Other Facilities Involved (8) Quad Cities Unit 2
 Docket Number(s) 0 | 5 | 0 | 0 | 0 | 2 | 6 | 5

OPERATING MODE (9) 4
 POWER LEVEL (10) 1 | 0 | 0
 THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)
 20.402(b) 20.405(c) 50.73(a)(2)(iv) 73.71(b)
 20.405(a)(1)(i) 50.36(c)(1) 50.73(a)(2)(v) 73.71(c)
 20.405(a)(1)(ii) 50.36(c)(2) 50.73(a)(2)(vii) Other (Specify in Abstract below and in Text)
 20.405(a)(1)(iii) 50.73(a)(2)(i) 50.73(a)(2)(viii)(A)
 20.405(a)(1)(iv) X 50.73(a)(2)(ii) 50.73(a)(2)(viii)(B)
 20.405(a)(1)(v) 50.73(a)(2)(iii) 50.73(a)(2)(x)

LICENSEE CONTACT FOR THIS LER (12)
 Name Rache] A. Luebbe Ext. 2119
 TELEPHONE NUMBER AREA CODE 3 | 0 | 9 | 6 | 5 | 4 | - | 2 | 2 | 4 | 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)
 Expected Submission Date (15) _____
 [Yes (If yes, complete EXPECTED SUBMISSION DATE)] X | NO

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

ABSTRACT:

On June 9, 1992 at 1000 hours at the Station's Training Center, a simulator scenario was being performed in which power was lost to Bus 19 [BU] (which feeds the "B" train of Standby Gas Treatment (SBGT) [VI]) an Engineered Safety Feature (ESF) signal failed to start the "A" train of SBGT. This scenario was found to occur only under conditions whereby "A" train is in the primary mode and "B" train is in the standby mode. Upon further review of the Standby Gas Treatment schematic diagrams it was discovered that this problem was also present in the plant. "A" train will start as required while "A" train is in standby and "B" train is in primary. At the time this LER was initiated Unit One was in the run mode at 100% rated core thermal power and Unit Two was in the run mode at 35% rated core thermal power.

The apparent cause of the event is a design deficiency in the SBGT and Primary Containment Isolation (PCI) [NH] logic.

The immediate corrective action was to change the lineup of the SBGT system so that the "B" train would not be placed in the standby mode of operation. Follow-up corrective action is to change procedures to warn against operation of "B" SBGT in the standby mode.

This event is being reported in accordance with 10CFR50.73(a)(2)(11)(B).

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			Page (3)		
		Year	Sequential Number	Revision Number			
Quad Cities Unit One	0 5 0 0 0 2 5 4	9 2	- 0 1 3	-	0 0	0 3	OF 0 4

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

C. APPARENT CAUSE OF EVENT:

This event is being reported in accordance with 10CFR50.73(a)(2)(ii)(B), the licensee shall report any event or condition that results in the nuclear power plant being in a condition that was outside the design basis of the plant.

The apparent cause of the event is a design deficiency in the SBT and Primary Containment Isolation (PCI) logic. The 595-134 relay, which provides a start signal for the "B" train of SBT, has the same power supply as the components of the "B" train of SBT.

D. SAFETY ANALYSIS OF EVENT:

The safety consequences of the event are marginal. This scenario would only occur if power was lost to Bus 19 for more than 25 seconds. If the time delay relay 1/2-7541-30B does not reach its 25 second time out, then there would be no adverse consequences to the "A" train logic.

This event would require operator action to switch the "B" train to OFF or PRIMARY. This action deenergizes the 1/2-7541-28B relay allowing the "A" train to be started either manually or automatically.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to change the lineup of the Standby Gas Treatment system so that the "B" train would not be in the standby mode of operation. A caution card has been placed on the "B" train mode switch to warn against placing "B" train in Standby.

Follow-up Corrective actions will include changes to the operating procedures to warn against operation of "B" SBT in standby mode (NTS #2542009206101).

The system design is being evaluated to determine if a modification is needed to change the power supply of the "B" train of SBT or "B" SBT start signal relays (NTS #2542009206102).

F. PREVIOUS EVENTS:

There have been 4 previous events of logic design deficiencies.

LER 87-018 Group IV Isolation from High Temperature due to design deficiency of the HPCI Room Temp Monitoring System.

LER 88-021 HPCI Isolation (Group IV) during Pre-warming.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

Form Rev 2.0

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Quad Cities Unit One	0 5 0 0 0 2 5 4	9 2	- 0 1 3	- 0 0	0 4	of	0 4	

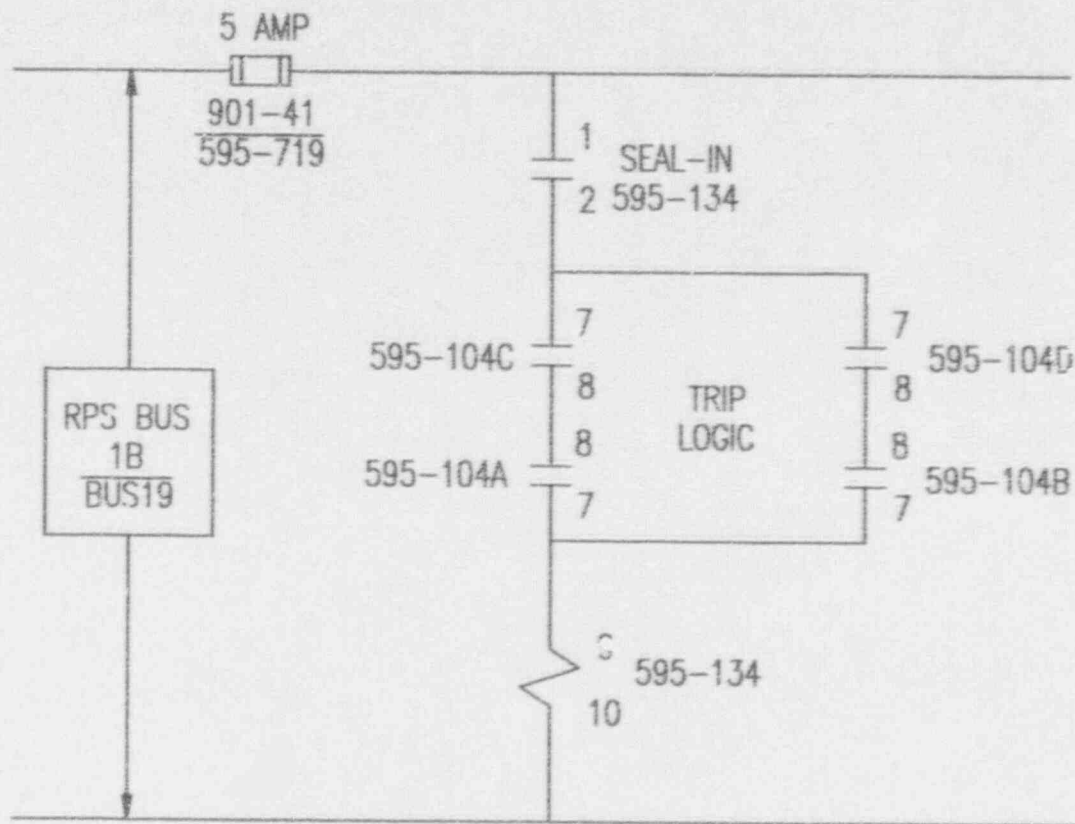
TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

LER 89-003 Loss of Secondary Containment during search for grounds on 125 2DC due to inadequate design of the doors.

LER 91-014 SBGT heater logic circuitry missing due to an inadequate review of the SAR.

G. COMPONENT FAILURE DATA:

No component failure data is needed.

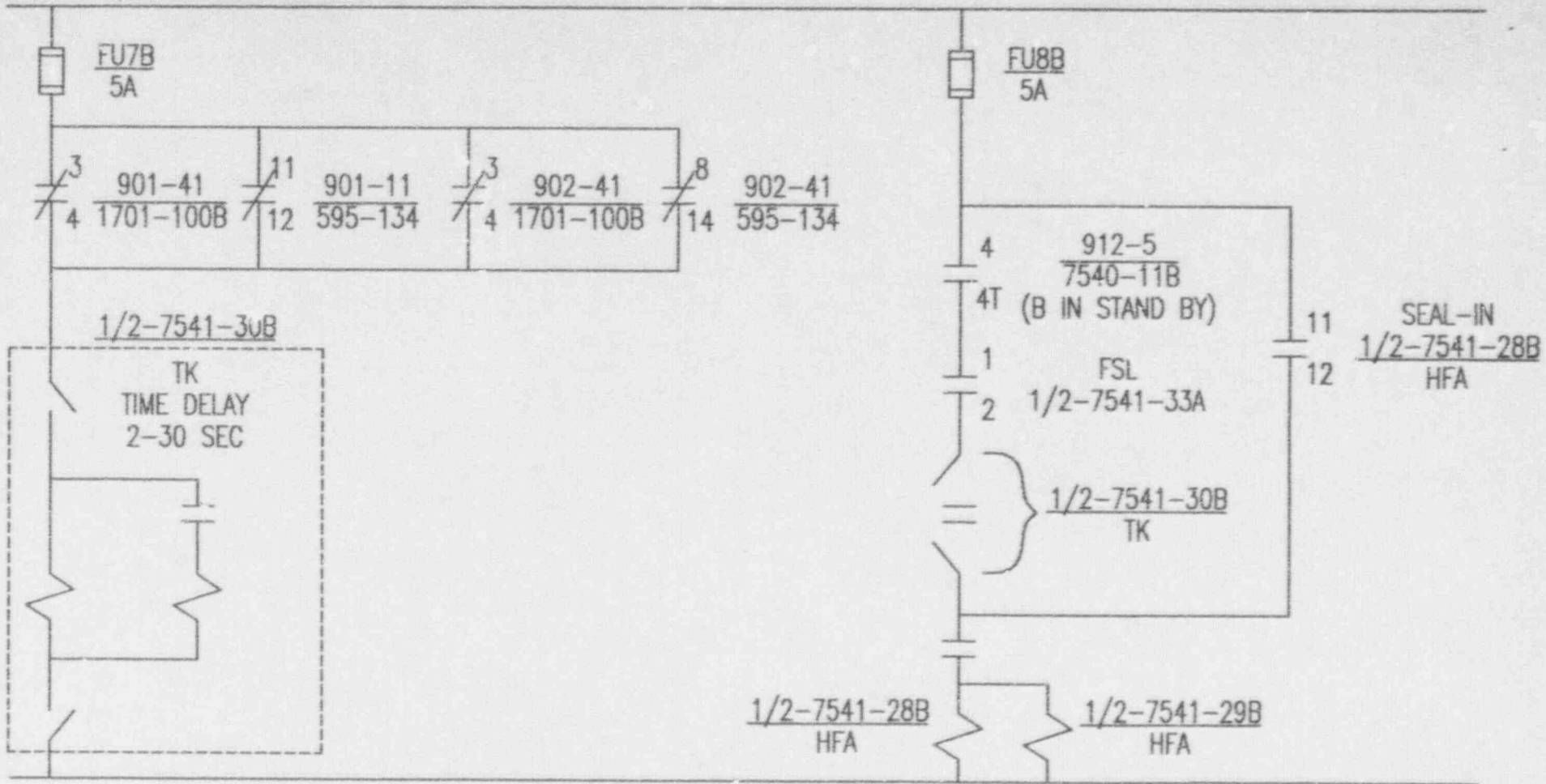


PRIMARY CONT ATMOS
CONT TRIP, RESET, SEAL-IN
AND VALVE CONT LOGIC

4E 1509B SH 1

RELAY TABULATION
595-134

1 2	595-134
3 4	V1601-57 SH 16
5 6	V1601-57 SH 16
7 8	ACTIVATE SBGTS
11 12	ACTIVATE SBGTS
13 14	ISOL RX & LDG VENT
15 16	AN IUNCIATOR

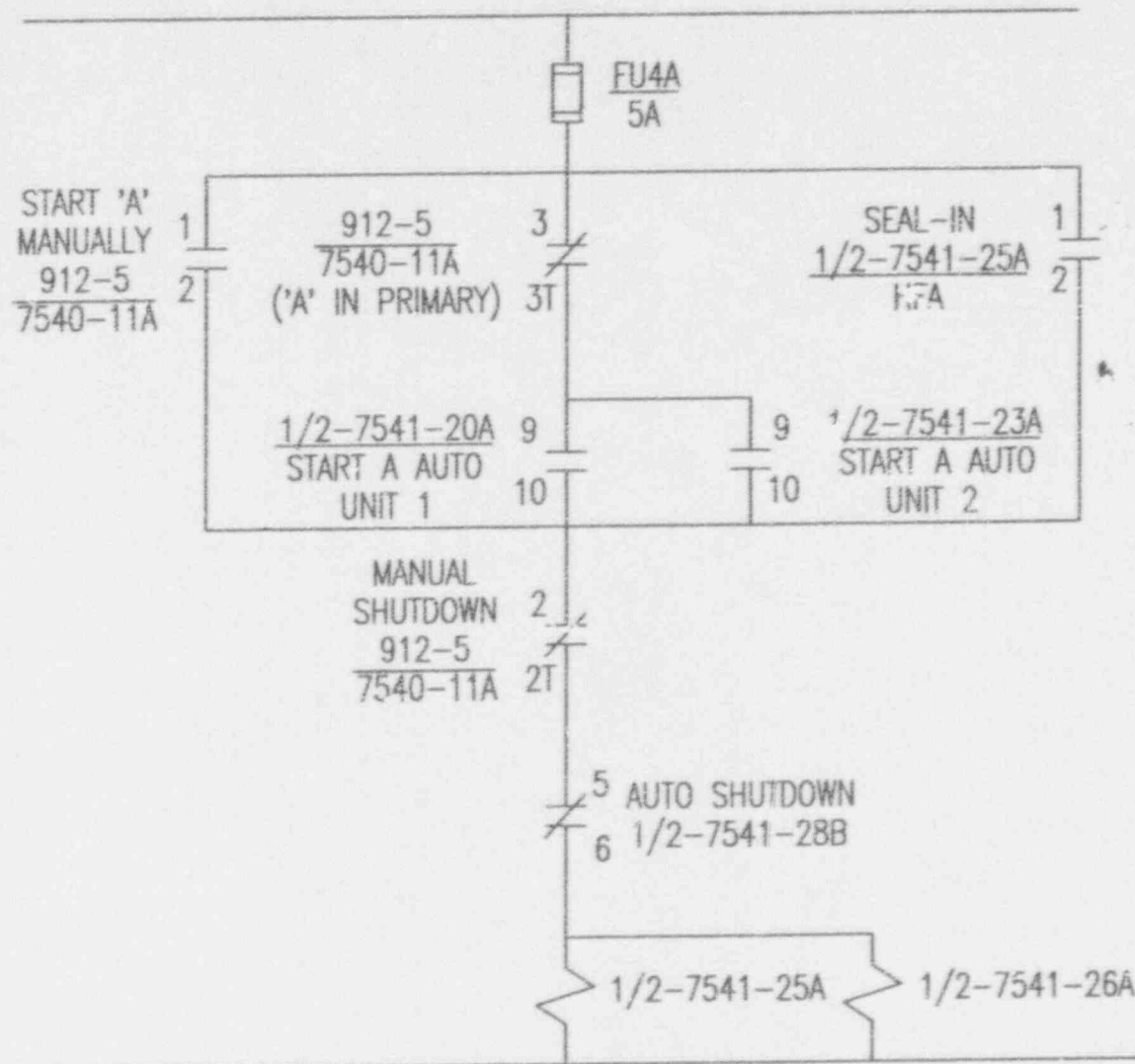


RELAY TABULATION
1/2-7541-28B

	START FAN 1/2-7506B		OPEN DAMPER 1/2-7507B
	OPEN DAMPER 1/2-7505B		INTLK SYS 'A' PRIMARY PLY'S 1/2-7541-25 & 26A
	CLOSE DAMPER 1/2-7505B		SEAL-IN BACK UP

'B' TRAIN LOGIC
('B' TRAIN IN STANDBY)

4E 1400A SH 2



'A' TRAIN LOGIC
('A' TRAIN IN PRIMARY)

4E 1400C

RELAY TABULATION
1/2-7541-25A

1 2	SEAL-IN
3 4	START FAN 1/2-A-7506
5 6	OPEN DAMPER 1/2-7505A
7 8	CLOSE DAMPER 1/2-7505A
9 10	OPEN DAMPER 1/2-7507A
11 12	CLOSE DAMPER 1/2-7507A

RELAY TABULATION
1/2-7541-26A

1 2	OPEN DAMPER 1/2-7504A
3 4	CLOSE DAMPER 1/2-7504A
5 6	FAN 1/2-A-7506 AMBER LIGHT
9 10	ELAPSED TIMER

ATTACHMENT I (Cont'd)

EVENT SUMMARY AND CAUSE CODES

DVR Number
4-1-92-061

- | | | |
|---|--|---|
| <input type="checkbox"/> Lost Generation | <input type="checkbox"/> Reactor Trip | <input type="checkbox"/> NRC violation, level _____ |
| <input type="checkbox"/> Cost > \$25,000 | <input type="checkbox"/> ESF actuation | <input type="checkbox"/> GSEP event, class _____ |
| <input type="checkbox"/> Hazard or Spill | <input checked="" type="checkbox"/> NRC reportable | <input type="checkbox"/> Tech Spec LCO |
| <input type="checkbox"/> Personnel injury | <input checked="" type="checkbox"/> LER | <input type="checkbox"/> Potential or future loss |
| | <input type="checkbox"/> PSE | <input type="checkbox"/> SALP functional area _____ |

Component Type	Failure Mode	Department
X		
X		
X		

Licensed? L or blank	Level	Department	Type	Detail code
A				
A				
A				

Type	Detail Code	Department
B	D 4	E N C Design Deficiency
B		
B		

Type	Detail code
C	

Type of deficiency	Detail code	Procedure type
D		
D		
D		

Type	Detail code	Department
E		
E		
E		

DEVIATION REPORT

DVR NO. 04 - 01 - 92 - 061
 STA UNIT YEAR NO.

Form Rev 2.0

PART 1 | TITLE OF DEVIATION Design Deficiency In The Standby Gas Train Logic OCCURRED 06-09-92 1000
 DATE TIME

SYSTEM AFFECTED 7500 PLANT STATUS AT TIME OF EVENT MODE RUN/RUN POWER(%) 100/35 TESTING YES NO
 WORK REQUEST NO. [] YES [X] NO

DESCRIPTION OF EVENT
 Design deficiency in the SGBT Logic. Given the following line-up: "A" Train in primary and "B" Train in Standby, if a loss of power occurs to Bus 19 which powers the "B" Train, it will not be possible to manually restart the "A" train. This will not occur with the opposite line-up, i.e. "A" Train in Standby and "B" Train in primary.

POTENTIAL PART 21 [] YES FORWARD TO THE NUCLEAR ENGINEERING MANAGER FOR AN EXPANDED REVIEW
 [X] NO
 POTENTIALLY SIGNIFICANT EVENT PER NOD DIRECTIVE OP.10 [] YES [X] NO

10CFR50.72 NRC RED PHONE [X] 1 HOUR NOTIFICATION MADE [] 4 HOUR 1020 [] NO Raymond Venci 06-09-92
 TIME RESPONSIBLE SUPERVISOR DATE

PART 2 | OPERATING ENGINEER'S COMMENTS
 Operating orders have been put in place to keep "A" Train in Standby and "B" Train in Primary to ensure system operability.

[] NON REPORTABLE EVENT
 [X] 30 DAY REPORTABLE/10CFR 50.73 (a)(2)(ii)(B)
 [] 5 DAY REPORT PER 10CFR21
 [] ANNUAL/SPECIAL REPORT REQUIRED
 A.I.R. # _____
 L.E.R. # 92-013
 NOTIFICATION REGION III DATE TIME
 NSU DATE TIME
 [] CECO CORPORATE NOTIFICATION MADE IF ABOVE NOTIFICATION IS PER 10CFR21
 TELECOPY CECO CORPORATE OFFICER DATE TIME

PRELIMINARY REPORT COMPLETED AND REVIEWED Gary Klone 06-10-92
 OPERATING ENGINEER DATE

INVESTIGATION REPORT & RESOLUTION ACCEPTED BY STATION REVIEW [Signature] [Signature]
 RESOLUTION APPROVED AND AUTHORIZED FOR DISTRIBUTION [Signature] [Signature]
 STATION MANAGER DATE 7-10-92