Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

October 22, 1982

Mr. A. Schwencer, Chief
Licensing Branch #2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: LaSalle County Station Unit 1
Proposed Amendment to NPF-11
Change Request NPF-11/82-10
Supplemental Information
NRC Docket No. 50-373

Reference (a): C. W. Schroeder letter to A. Schwencer dated August 19, 1982.

Dear Mr. Schwencer:

Reference (a) provided Commonwealth Edison Company's original request for a change in Technical Specifications to allow installation of a modification to meet License NPF-11, Condition 2.C.17.

On September 27, 1982, Commonwealth Edison personnel C. W. Schroeder, G. R. Crane, J. C. Renwick, et al, had a telecon with Dr. A. Bournia, et al, of your staff. The staff had proposed the following accident scenario:

1. A small line break occurs inside the drywell.

2. The small line break, through pipe whip or steam impact, causes the failure of the instrument line which feeds a division's 4 pressure sensors for detecting reactor pressure less than 500 psig.

3. The small line break results in the drywell pressure reaching 1.69 psig, thus initiating the low pressure ECCS systems.

B001

4. The broken instrument line, now at drywell pressure, causes the 4 sensors to indicate the reactor is at less than 500 psig, thus allowing the division's ECCS injection valves to open.

5. The reactor remains at approximately 1000 psig because a small break does not result in significant depressurization.

6. A single failure of one ECCS injection check valve then results in an inter-system LOCA.

Upon review of the above scenario, Commonwealth Edison personnel developed a revised logic. The attached sketches confirm the revised logic for the pressure interlock on the low pressure ECCS's at LaSalle. This interlock at 500 ± 20 psia replaces the prior differential pressure permissive which the NRC rejected during SER reviews.

The sketches indicate physical separation of the instrument sensing lines for the replacement pressure switches. This prevents satisfying the interlock logic in a single electrical division by a single sensing line failure. The LPCS, and each of the three RHR loops, has a dedicated pressure sensor whose signal (on low pressure) closes a series switch in the interlock logic. The other series signal to complete the logic and open the interlock is either or both pressure sensors mounted on instrument 14A. As indicated on the sketch and explained in the reference telecon, the logic is (1:2 plus 1:1) duplicated in redundant electrical divisions corresponding to the ECCS electric power divisions.

The sketches also indicate that the former annunciation contacts from the differential pressure permissive are now utilized for this ECCS low pressure interlock annunciation via K8. The annunciation that the low pressure interlock condition has been met is adequate operational information because the injection valve and system parameters for each low pressure ECCS independently confirm successful ECCS operation.

This design concept fulfills licensing Condition 2.C.(17) of NPF-11 for LaSalle and it is consistent with Edison's commitment. The design approach has minimized wiring and hardware changes to enable a rapid change to the pressure interlock. The time requirements associated with this change are also minimal.

GE has performed an additional ECCS accident analysis to determine the impact of the modification on the predicted peak cladding temperatures. The modification of the injection valve logic causes an additional delay to the opening of the ECCS injection valves. The results of the analysis show that for a valve opening time of 20 seconds, the delay in the ECCS injection causes only a 1.6 second delay in core reflooding and a corresponding increase in the peak cladding temperature of 10°F. There is sufficient margin in the LaSalle FSAR analysis to absorb the temperature increase and remain within the PCT limit of 2200°F. The modification is therefore acceptable from an ECCS viewpoint.

Attached are revised technical specifications to implement this change. This revision has been approved by Commonwealth Edison On-Site and Off-Site Review.

NOTE: THIS TECH SPEC CHANGE MUST BE EFFECTIVE ONLY UPON COMPLETION OF THE INSTALLATION OF THE MODIFICATION.

Three (3) signed originals and thirty-seven (37) copies of this transmittal and attachments are provided for your use.

If there are any questions regarding this matter, please contact this office.

Very truly yours,

C W Schroeder 10/22/82

C. W. Schroeder
Nuclear Licensing Administrator

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Attachments

cc: NRC Resident Inspector - LSCS

SUBSCRIBED and SWORN to
before me this 22nd day
of October, 1982

Rosalia Pesta
Notary Public

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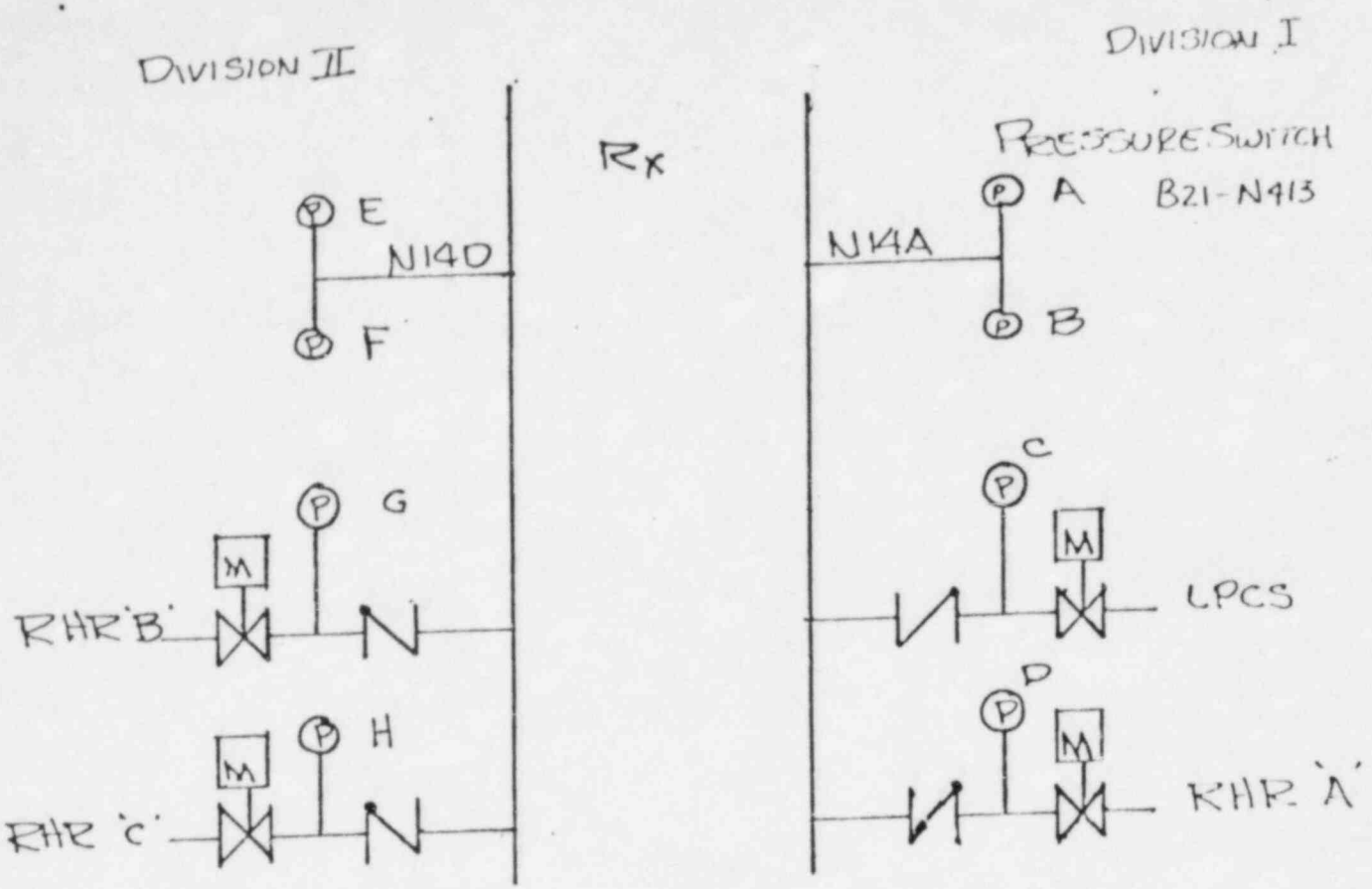
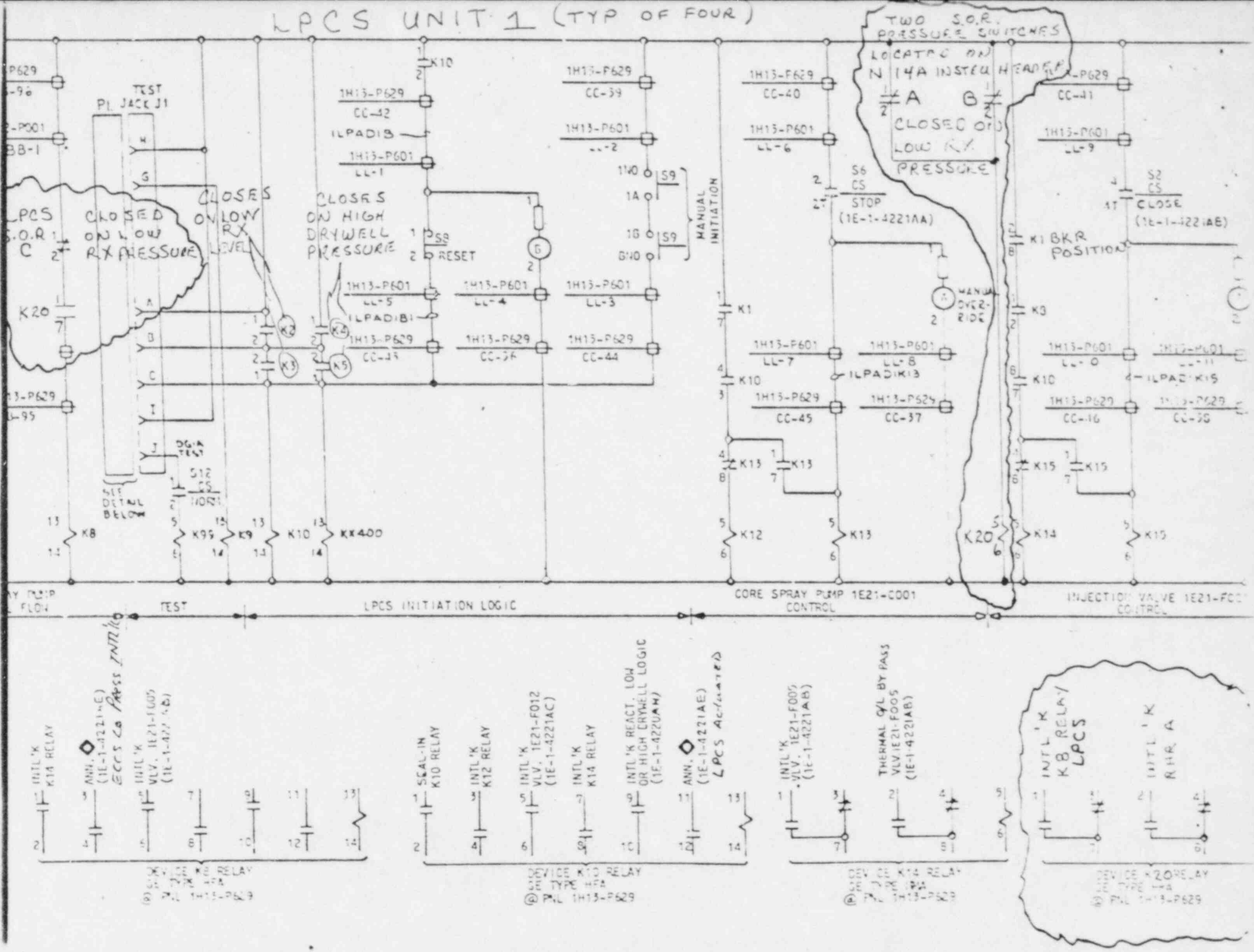


LA SALLE COUNTY
ECCS PRESSURE INTERLOCK REVISION

ALL PRESSURE SWITCHES ARE STATIC O RING SWITCHES, CLOSE ON LOSS OF REACTOR PRESSURE


LPCS UNIT 1 (TYP OF FOUR)
TWO S.O.R. PRESSURE SWITCHES LOCATED ON 14A INSTR. HEADER
A
B
CLOSED ON LOW RX PRESSURE
TEST JACK J1
LPCS S.O.R. C
CLOSED ON LOW RX PRESSURE
CLOSES ON LOW RX LEVEL
CLOSES ON HIGH DRYWELL PRESSURE
RESET
MANUAL INITIATION
S6 CS STOP (1E-1-4221AA)
S2 CS CLOSE (1E-1-4221AE)
K1 BKR POSITION
MANUAL OVER-RIDE
ILPADIB
ILPADIB1
ILPADIK13
ILPADIK15
DGIA TEST
SEE DETAIL BELOW
TEST
LPCS INITIATION LOGIC
CORE SPRAY PUMP 1E21-C001 CONTROL
INJECTION VALVE 1E21-F005 CONTROL
INTL'K K14 RELAY
ANN. (1E-1-4221AC)
INTL'K VLV. 1E21-F005 (1E-1-4221AB)
SEAL-IN K10 RELAY
INTL'K K12 RELAY
INTL'K VLV. 1E21-F012 (1E-1-4221AC)
INTL'K K14 RELAY
INTL'K REACT. LOW OR HIGH DRYWELL LOGIC (1E-1-4220AH)
ANN. (1E-1-4221AE)
LPCS Actuated
INTL'K VLV. 1E21-F005 (1E-1-4221AB)
THERMAL O/L BY PASS VLV 1E21-F005 (1E-1-4221AB)
INTL'K K8 RELAY LPCS
INTL'K R14A
DEVICE K8 RELAY
DEVICE K10 RELAY
DEVICE K14 RELAY
DEVICE K20 RELAY