

November 9, 1992

See Drawings

LICENSEE: Carolina Power & Light Company

FACILITY: Shearon Harris Nuclear Power Plant, Unit 1

SUBJECT: MEETING SUMMARY OF MARCH 30, 1992, REGARDING MODIFICATION OF THE SAFETY INJECTION ALTERNATE MINIFLOW SYSTEM (TAC NO. M84620)

This refers to the subject meeting conducted at the NRC Headquarters in Rockville, Maryland, on October 7, 1992. The purpose of the meeting was for Carolina Power & Light Company to brief and provide responses to the staff questions related to the design details for the Safety Injection Alternate Miniflow (AMF) system modification planned for the current refueling outage at the Shearon Harris Nuclear Power Plant. Enclosure 1 is the list of attendees, and Enclosure 2 contains copies of material used during the meeting.

The licensee stated that the planned modification will:

- (1) provide the same deadheading protection for the Charging/SI pumps,
- (2) not affect the high-head SI system ability to protect the core, and
- (3) remove weak links that were previously identified in LER 91-08.

Highlights of the discussion included detailed design regarding planned piping changes, hardware changes, logic changes, and instrumentation and control changes to the AMF system. In addition, post-modification testing, procedural changes, and operator training regarding the modification were also discussed at the meeting.

The licensee committed to provide details of the AMF modification package and additional information related to design documents for further staff review.

Original signed by:

Ngoc B. Le, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. Meeting Materials

cc w/enclosures:
See next page

OFC	LA:PD21:DRPE	PM:PD21:DRPE	PD:PD21:DRPE		
NAME	SEttle	NBLe:tms	EAdensam		
DATE	11/9/92	11/6/92	11/9/92		

FILENAME: HAR84620.MTS

9211160196 921109
PDR ADDCK 05000400
P PDR

NRC FILE CENTER COPY

*Memo 4
DFO 11*

Mr. R. A. Watson
Carolina Power & Light Company

cc:

Mr. H. Ray Starling
Manager - Legal Department
Carolina Power & Light Company
P. O. Box 1551
Raleigh, North Carolina 27602

Resident Inspector/Harris NPS
c/o U. S. Nuclear Regulatory Commission
Route 1, Box 315B
New Hill, North Carolina 27562

Mr. Gerald E. Vaughn, Vice President
Harris Nuclear Project
Harris Nuclear Plant
P. O. Box 165
New Hill, North Carolina 27562

✓ Mr. H. A. Cole
Special Deputy Attorney General
State of North Carolina
P. O. Box 629
Raleigh, North Carolina 27602

✓ Public Service Commission
State of South Carolina
P.O. Drawer 11649
Columbia, South Carolina 29211

Shearon Harris Nuclear Power Plant,
Unit 1

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street
Suite 2900
Atlanta, Georgia 30323

Mr. C. S. Hinnant
Plant General Manager
Harris Nuclear Plant
P. O. Box 165
New Hill, North Carolina 27562

✓ Mr. Dayne H. Brown, Director
Division of Radiation Protection
N. C. Department of Environmental,
Commerce & Natural Resources
P. O. Box 27687
Raleigh, North Carolina 27611-7687

Mr. R. B. Starkey
Vice President
Nuclear Services Department
Carolina Power & Light Company
P. O. Box 1551
Raleigh, North Carolina 27602

NRC/CP&L Meeting
October 7, 1992

NAMES

Jeff Jacobson
Frank Orr
Robert C. Jones
Thomas Scarbrough
Cliff Douth
Larry Costello
William M. Pearyhouse
David McCarthy
C. S. Hinnant
Talmage Clements
Lewis Rowell
E. G. Adensam
Terence L. Chan
Mickey Hamby
M. C. Shannon
M. E. Mayfield
Tommy Le
Jack Ramsey
Sheri Peterson
L. L. Gundrum
J. R. Houghton
Don Woodlan
Arnold Lee
Thomas Koshy
Robert Schaaf

ORGANIZATIONS

NRR/DRIS
NRR/SRXB
NRR/SRXB
NRR/DET/EMEB
NRR/HICB
CP&L
CP&L
CP&L
CP&L
CP&L
CP&L
NRC/NRR/PD2-1
NRR/EMEB
CP&L
NRC/RES/HARRIS
OEDO
NRC/NRR/PD2-1
NRR/DORS/OEAB
NRR/DRPW/PD4-1
AEOD/DRS/ROAB
AEOD/DRS/TPAB
TU Electric
NRR/EMEB
NRR/EAB
NRR/DRPW/PD2-2

AGENDA

INTRODUCTION AND PURPOSE

D. MCCARTHY

MECHANICAL DESIGN

B. PEAVYHOUSE

ELECTRICAL / I&C DESIGN

L. COSTELLO

POST-MODIFICATION TESTING

B. BOISVERT

SUMMARY

**D. MCCARTHY
S. HINNANT**

PURPOSE

TO BRIEF THE NRC STAFF AND ADDRESS ALL QUESTIONS OR CONCERNS RELATED TO THE DESIGN DETAILS FOR THE SAFETY INJECTION ALTERNATE MINIFLOW MODIFICATION PLANNED FOR THE CURRENT REFUELING OUTAGE AT THE SHEARON HARRIS NUCLEAR POWER PLANT.

Alternate Miniflow System

Post Modification Testing

1) Hydrostatic Testing of Piping

Hydrostatic testing of the piping changes will be in accordance with ASME Section 11 requirements. Valves used as hydro boundary valves will be cycled and verified to be operable after completion of the hydrostatic test.

2) Post Modification Testing

A) Maintenance Surveillance Testing

Instrument loop procedures will be completed on the Wide Range RCS Pressure Loops (P-402 & P-403) prior to Post Modification testing. This testing will include all components up to the valve opening and closing contacts.

B) Modification Acceptance Testing

- 1) Testing will be performed to verify all logic functions of the motor operated valve actuation.
- 2) Testing will be performed to verify that relay K636 (relay that is no longer used in this function) still is operational.
- 3) Flow through Alternated Miniflow Orifice will be verified using Ultrasonic Flow Measuring equipment (Transit-Time Unit designed for use with clean water).
- 4) Flow through all piping will be witnessed by Nuclear Engineering Department personnel for the purpose of documenting any abnormal pipe movements or flow noise.

3) Periodic Testing

Periodic testing will be conducted on the installed valves. Present testing will be revised to correspond to the modified valve operation. Also MOV testing will be performed in accordance with Generic Letter 89-10.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

November 9, 1992

Docket No. 50-400

LICENSEE: Carolina Power & Light Company

FACILITY: Shearon Harris Nuclear Power Plant, Unit 1

SUBJECT: MEETING SUMMARY OF MARCH 30, 1992, REGARDING MODIFICATION OF THE
SAFETY INJECTION ALTERNATE MINIFLOW SYSTEM (TAC NO. M84620)

This refers to the subject meeting conducted at the NRC Headquarters in Rockville, Maryland, on October 7, 1992. The purpose of the meeting was for Carolina Power & Light Company to brief and provide responses to the staff questions related to the design details for the Safety Injection Alternate Miniflow (AMF) system modification planned for the current refueling outage at the Shearon Harris Nuclear Power Plant. Enclosure 1 is the list of attendees, and Enclosure 2 contains copies of material used during the meeting.

The licensee stated that the planned modification will:

- (1) provide the same deadheading protection for the Charging/SI pumps,
- (2) not affect the high-head SI system ability to protect the core, and
- (3) remove weak links that were previously identified in LER 91-08.

Highlights of the discussion included detailed design regarding planned piping changes, hardware changes, logic changes, and instrumentation and control changes to the AMF system. In addition, post-modification testing, procedural changes, and operator training regarding the modification were also discussed at the meeting.

The licensee committed to provide details of the AMF modification package and additional information related to design documents for further staff review.

A handwritten signature in dark ink, appearing to read "Ngoc B. Le".

Ngoc B. Le, Project Manager
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

1. List of Attendees
2. Meeting Materials

cc w/enclosures:
See next page

DISTRIBUTION:

Docket File

NRC/Local PDRs

PD II-1 Reading

T. Murley

F. Miraglia

J. Ramsey

J. Partlow

S. Varga

G. Lainas

E. Adensam

N. B. Le

S. Little

OGC

E. Jordan

J. Jacobson

F. Orr

R. Jones

T. Scarbrough

C. Douth

T. Chan

M. C. Shannon

M. E. Mayfield

J. Ramsey

S. Peterson

A. Lee

T. Koshy

R. Schaaf

ACRS (10)

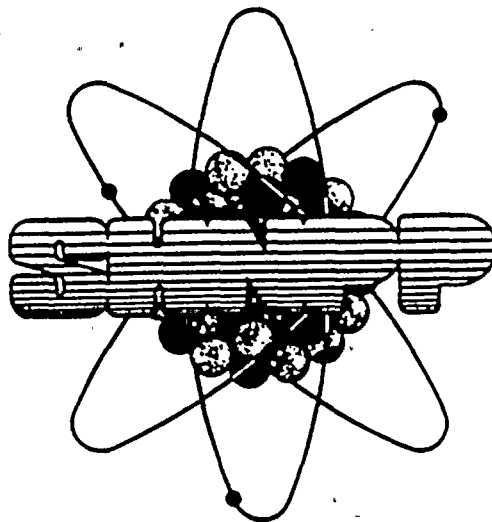
L. Plisco, EDO

E. Merschoff, Region II

cc: Licensee & Service List

**CAROLINA POWER & LIGHT COMPANY
SHEARON HARRIS NUCLEAR POWER PLANT**

**MEETING
WITH THE NRC
ON
SAFETY INJECTION ALTERNATE MINIFLOW MODIFICATION**



OCTOBER 7, 1992

AGENDA

INTRODUCTION AND PURPOSE

D. MCCARTHY

MECHANICAL DESIGN

B. PEAVYHOUSE

ELECTRICAL / I&C DESIGN

L. COSTELLO

POST-MODIFICATION TESTING

B. BOISVERT

SUMMARY

**D. MCCARTHY
S. HINNANT**

PURPOSE

TO BRIEF THE NRC STAFF AND ADDRESS ALL QUESTIONS OR CONCERNS RELATED TO THE DESIGN DETAILS FOR THE SAFETY INJECTION ALTERNATE MINIFLOW MODIFICATION PLANNED FOR THE CURRENT REFUELING OUTAGE AT THE SHEARON HARRIS NUCLEAR POWER PLANT.

Alternate Miniflow System

Post Modification Testing

1) Hydrostatic Testing of Piping

Hydrostatic testing of the piping changes will be in accordance with ASME Section 11 requirements. Valves used as hydro boundary valves will be cycled and verified to be operable after completion of the hydrostatic test.

2) Post Modification Testing

A) Maintenance Surveillance Testing

Instrument loop procedures will be completed on the Wide Range RCS Pressure Loops (P-402 & P-403) prior to Post Modification testing. This testing will include all components up to the valve opening and closing contacts.

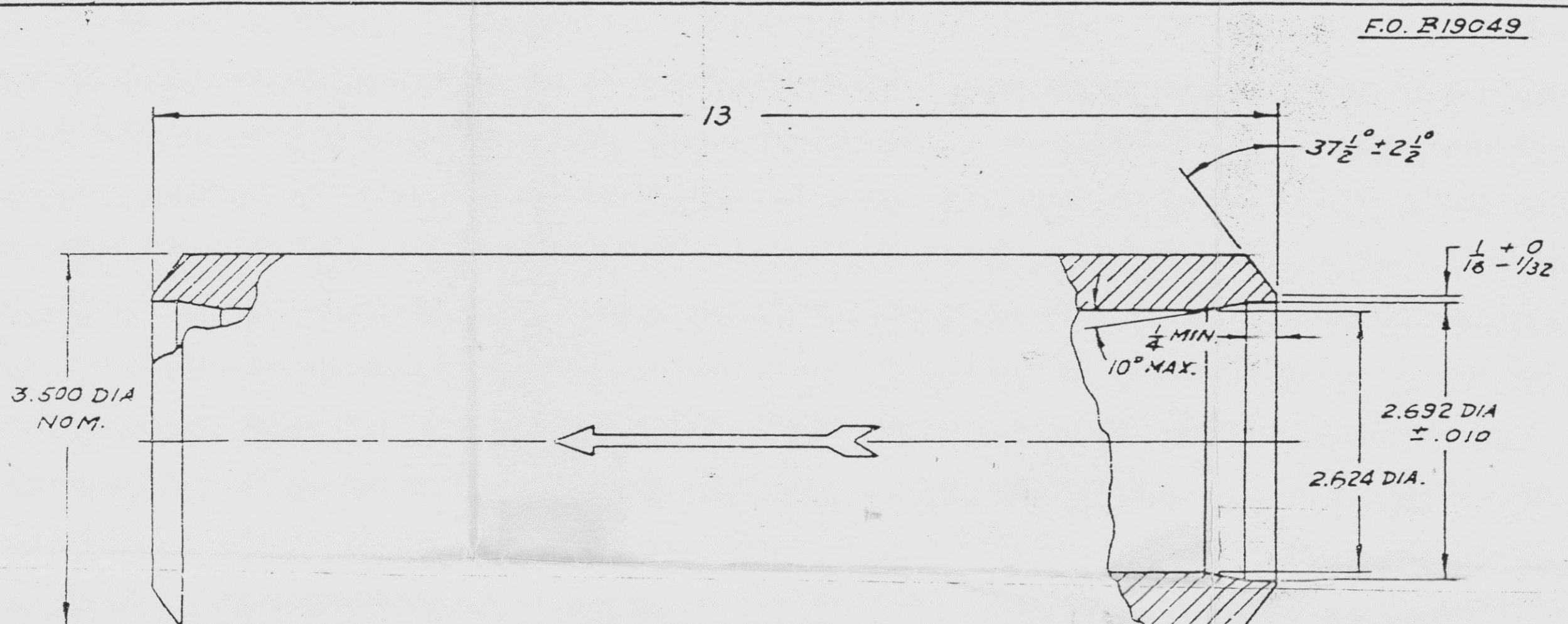
B) - Modification Acceptance Testing

- 1) Testing will be performed to verify all logic functions of the motor operated valve actuation.
- 2) Testing will be performed to verify that relay K636 (relay that is no longer used in this function) still is operational.
- 3) Flow through Alternated Miniflow Orifice will be verified using Ultrasonic Flow Measuring equipment (Transit-Time Unit designed for use with clean water).
- 4) Flow through all piping will be witnessed by Nuclear Engineering Department personnel for the purpose of documenting any abnormal pipe movements or flow noise.

3) Periodic Testing

Periodic testing will be conducted on the installed valves. Present testing will be revised to correspond to the modified valve operation. Also MOV testing will be performed in accordance with Generic Letter 89-10.

Docket # 52-400
 Accession # 9211160196
 Date 11/9/92
 Regulatory Docket File of Ltr



WELD PREPARATION
TYPICAL FOR BOTH
ENDS.

CONTRACTOR :
CUSTOMER : WESTINGHOUSE N.E.S.
LOCATION :
CUSTOMERS P.O. 546- CAL- 189501/02/03
ITEM NO.

CAPACITY 60 GPM
TEMPERATURE 300°F
DIFF HEAD 6000 FT.

Please Verify -
Pipe line size
is 2"

(3") SCH. 160 BUTT WELD. MAT'L 304 S.S.

CRL-~~CS~~APCH-01/02/03
CRL-~~CS~~APCH-01/02/03
CSL-~~CS~~APCH-01/02/03

PUMP NO. : 49181 THRU 49183
49184 THRU 49189

DATE : 4/4/74
OUR ORDER NO. : 5898-898/899/900
SIZE & TYPE : 2-1/2" RL IN

		LIMITS ON ALL FINISH DIMENSIONS UNLESS OTHERWISE SPECIFIED:		PACIFIC PUMPS	
		FRACTIONAL $\pm 1/64$		DIVISION OF <u>DRESSER</u> INDUSTRIES	
		ANGULAR $\pm 1/4^\circ$			
		PARALLEL $\pm .002$ IN 10"		MIN.FLOW ORIFICE ASS'Y	
		CONCENTRIC WITHIN OCC FIR.			
		BREAK OR BURR ALL MACHINED			
		SHARP CORNERS APPROX .00x45°			
		UNLESS OTHERWISE SPECIFIED			
TRANSFORMED 9985-017 N ONE MEAP-17		1ST 1-29-74 ECR		OWN <u>ABT</u> DATE <u>4/4/74</u> TYPE <u>IS</u>	
ROSEN. SHAF. OK DEC. 1975 1-29-75 OK 1-29-75		2ND 4-14-74 ECR		SCALE <u>1/1</u> APPROVED	
NO		REVISION		BY DATE CND	
		PART NO.		SHEET <u>1</u> OF <u>1</u>	
				MF-49178	

DISCIPLINE COMMENTS
DUE BY: 7/14

[illegible]

496 B/3-78

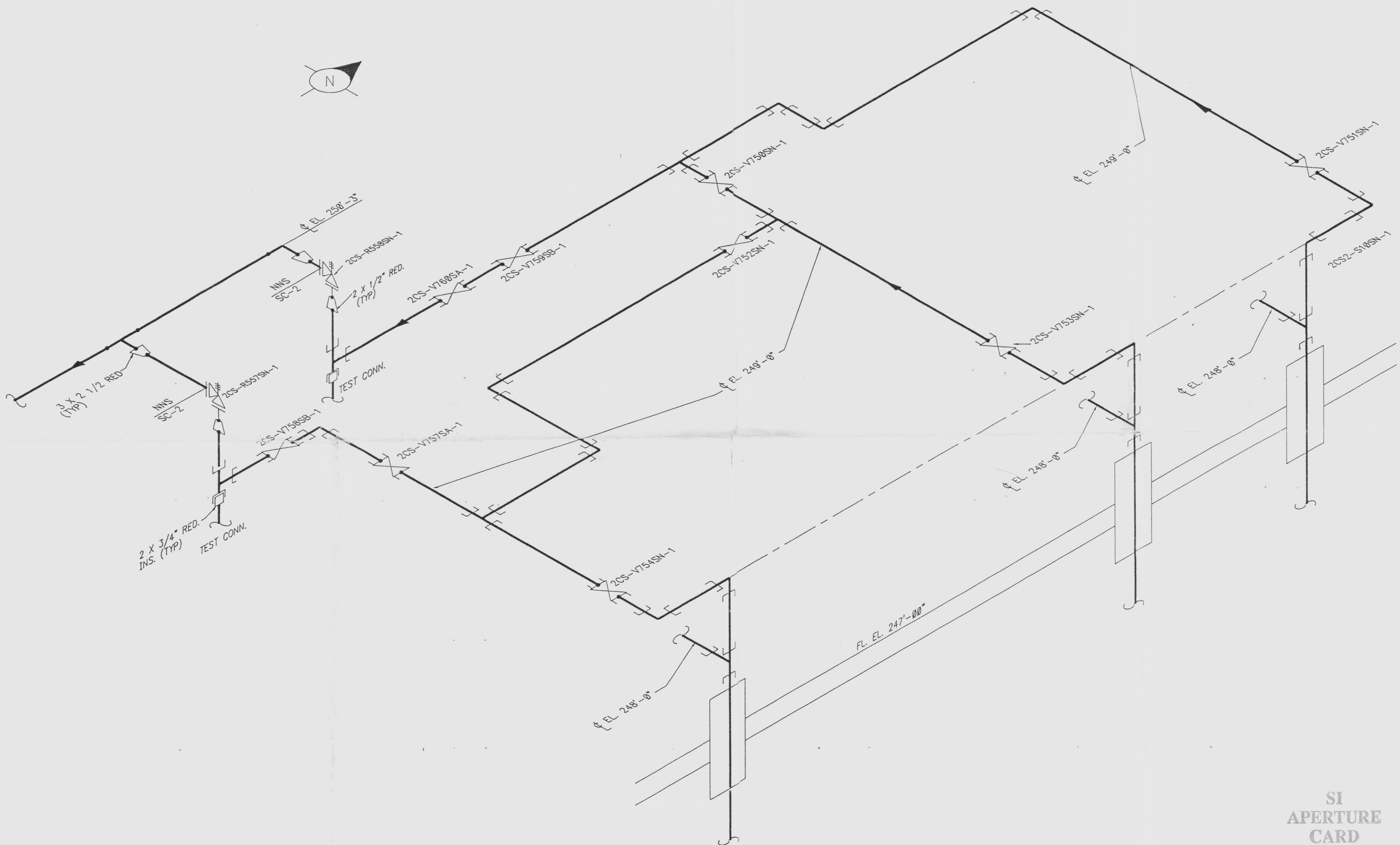
DWS		DATE REC'D	
1364-42815 R O 6/1/80			
CAROLINA POWER & LIGHT COMPANY SHEARAN HARRIS NUCLEAR POWER PLANT 3600 MW(e) - UNITS 1 & 2 - 1984-1990			
PDS020505		ITEM *	
A	DRAWING REVIEW	NO COMMENTS, PRINT TO VENDOR...	1
		COMMENTS AS NOTED, PRINT TO VENDOR...	2
		DRAWING NOT APPLICABLE, PRINT TO VENDOR	3
		NO COMMENTS, NO PRINT TO VENDOR	4
		FOR INFORMATION ONLY	5
FABRICATION NO PROCESSED PROCESSED	NO PROCESSED PROCESSED	NO FURTHER REPRODUCIBLE REQUIRED	1
		SUBMIT REVISED REPRODUCIBLE	2
		NO FURTHER REPRODUCIBLE REQUIRED	3
		SUBMIT REVISED REPRODUCIBLE	4
CHARGING PUMP MIN FLOW ORIFICE			
(RAB)			
SERV BY R.Y.A.U.	DATE 5/28/80	ORIG DIV M	REPLY TO MFR BFC 7-19-80
REVIEW OF THIS DOCUMENT WITH OR WITHOUT COMMENTS IS REQUIRED FOR GENERAL CONFORMANCE WITH CRASSED PREPARED SPECIFICATIONS AND FOR COMPLETION OF POLITICAL INTER- FACE OF ITEMS ISSUED WITH RELATED SYSTEMS. SUBMIT- TERS SHALL IN NO WAY RELEASE CONTRACTOR FROM LATENT RESPONSIBILITY FOR ENGINEERING, DESIGN, WORKMANSHIP, MATERIAL PERFORMANCE OF EQUIPMENT AND MATERIALS, AND ALL OTHER LIABILITY UNDER THE CONTRACT.			
EBASCO SERVICES INCORPORATED AGENT 2 RECTOR ST. NEW YORK, NY 10006			

11 x 25

FOR INFORMATION ONLY

SI -
APERTURE
CARD

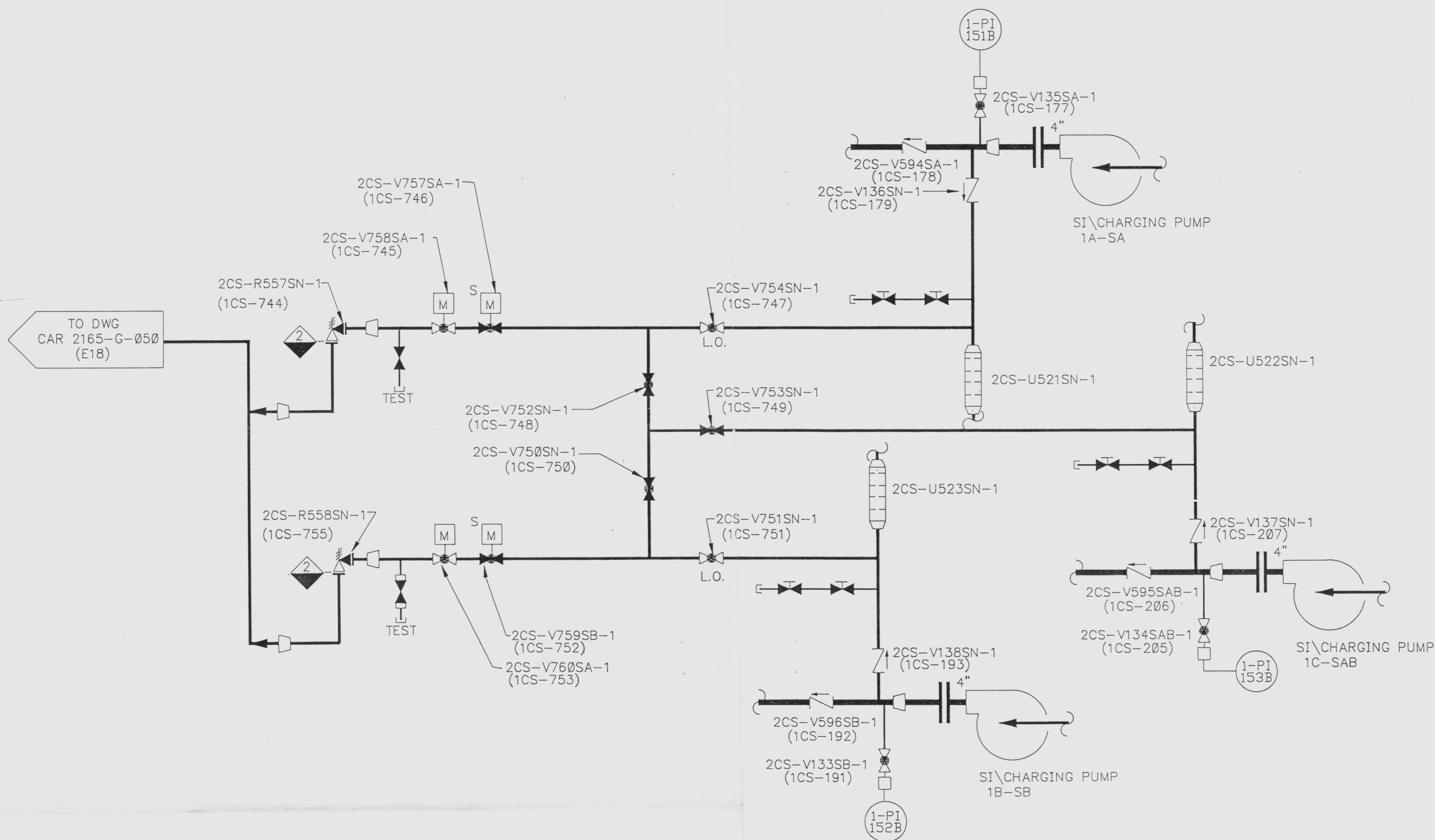
9211160196-01



SI-ALTERNATE MINI-FLOW
PREVIOUS CONFIGURATION

921160196-02

E



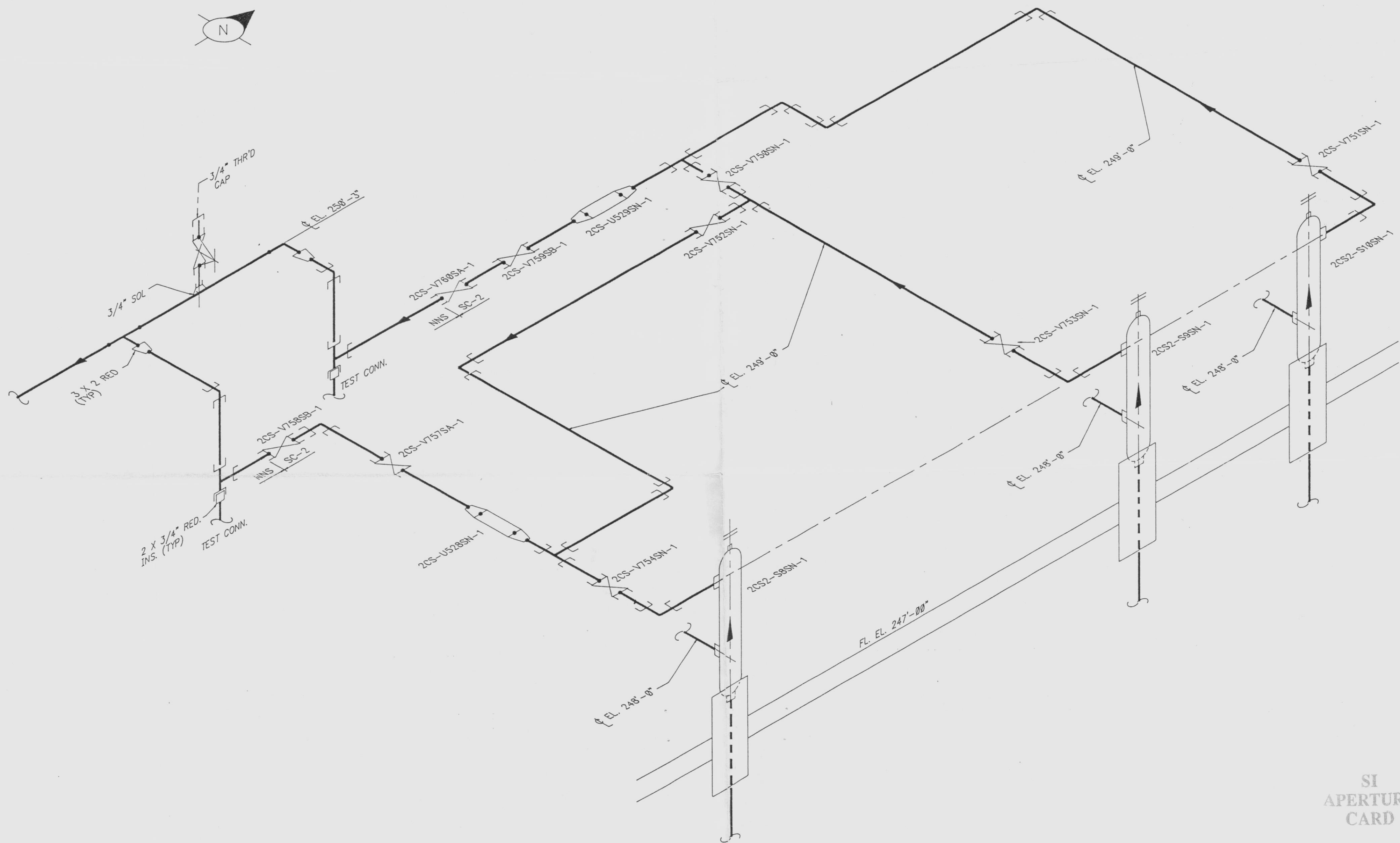
SI-ALTERNATE MINI-FLOW
PREVIOUS CONFIGURATION

SI
APERTURE
CARD

E

921160/96-03

Docket # 57-400
Accession # 221160/96
Date 11/9/92
Regulatory Division File

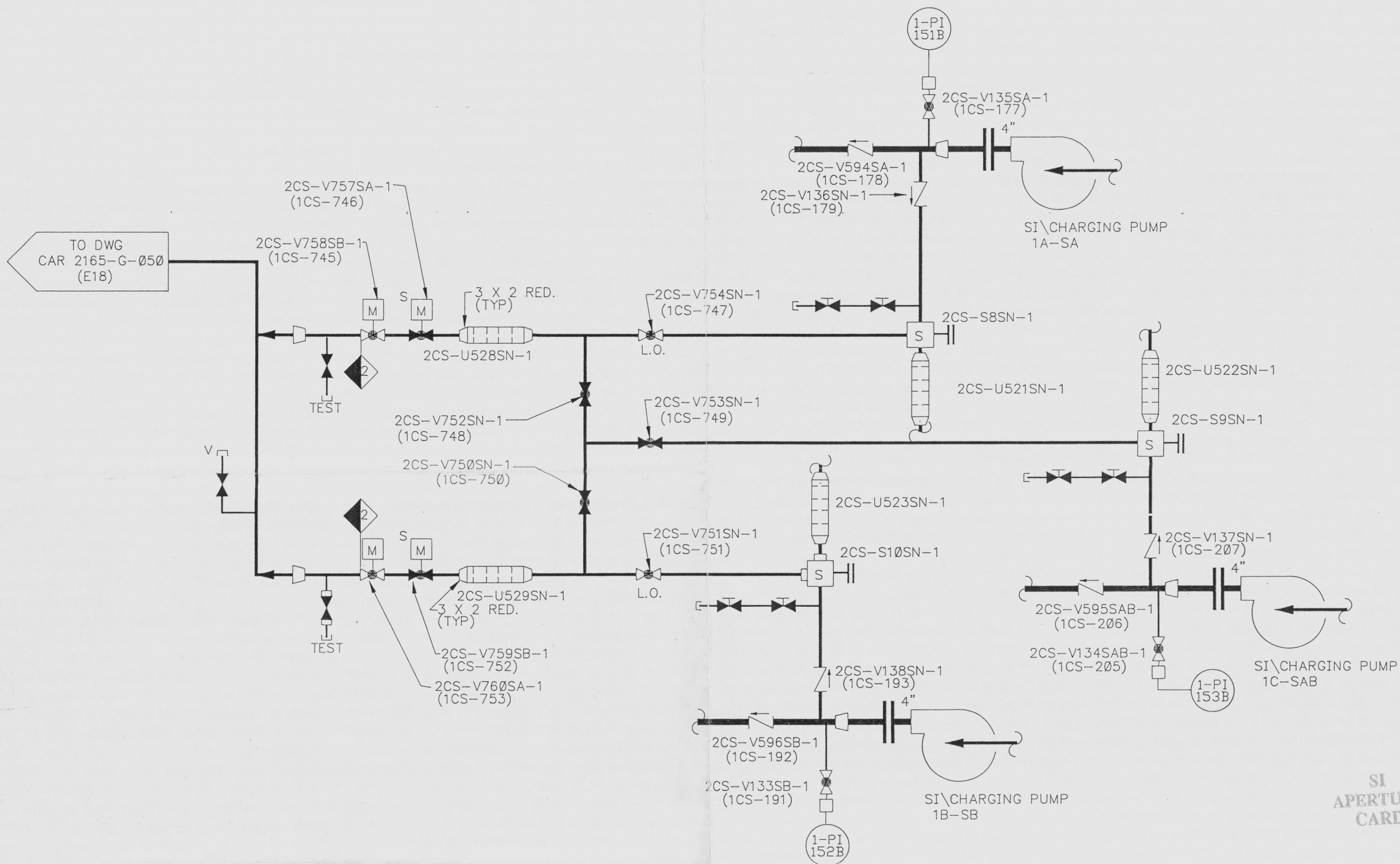


SI-ALTERNATE MINI-FLOW
NEW CONFIGURATION

SI
APERTURE
CARD

E

9211160196-04



SI-ALTERNATE MINI-FLOW NEW CONFIGURATION

Docket # 50-400
Accession # 921160196
Date 11/9/92 of Ltr
Regulatory Docket File

921160196-05 E