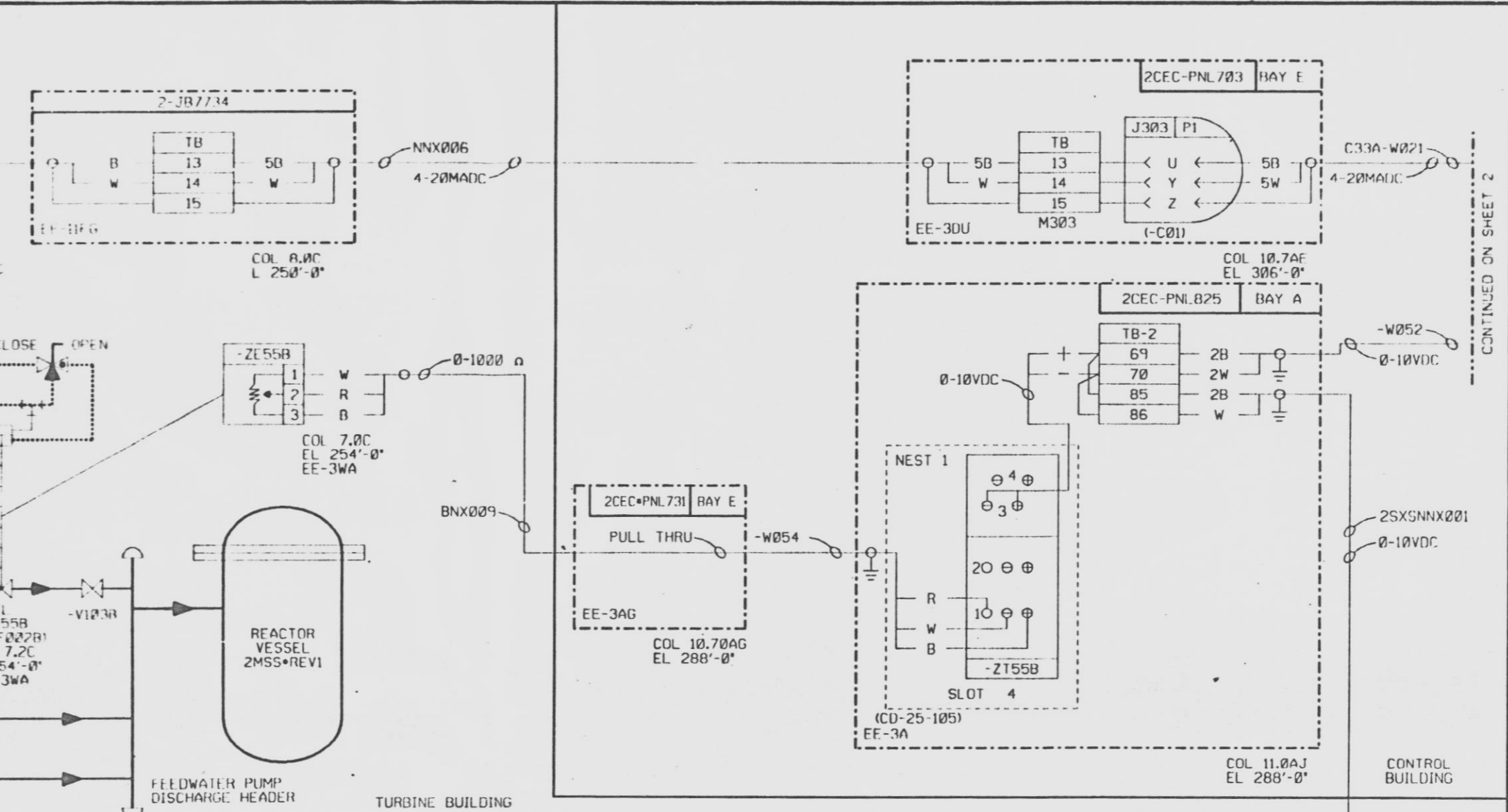
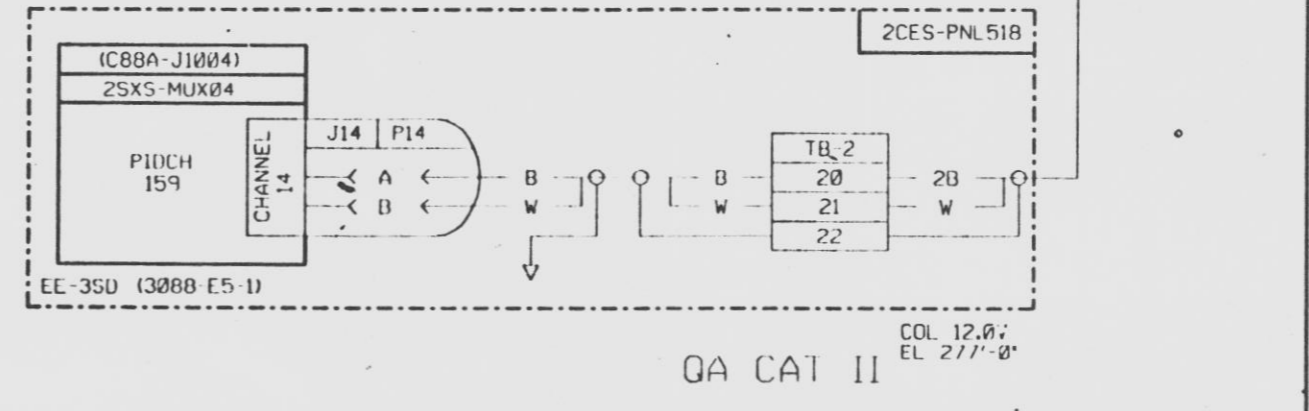


- REFERENCES:
- ESK-105X05
 - EE-11FG
 - EE-30U
 - EE-3WA
 - EE-35D
 - EE-3AG
 - 0007.159-451-714
 - 0016.120-001-031
 - 0007.222-001-003
 - (007E160TY SH1)
 - 0007.222-001-004
 - (007E160TY SHP)
 - 0007.222-001-007
 - (007E160TY SH5)
 - PIU-6A
 - 0007.222-001-010
 - (007E160TY SH6)
 - 0007.520-001-394
 - 0007.520-001-395
 - 0007.520-001-399
 - 0007.520-001-420
 - 0007.520-001-401
 - 0007.520-001-394
 - 0007.520-001-395
 - EE-3A
 - 0007.511-414-477
 - (088B-E5-1)

- NOTES:
- PLANT IMPACT: 2FWS-LV55B, ZE55B ARE REQUIRED DURING PLANT START-UP ONLY, NO IMPACT DURING NORMAL PLANT OPERATION.
 - ALL INSTRUMENT AND EQUIPMENT NUMBERS ARE TO BE PREFIXED WITH 2FWS EXCEPT WHERE A DIFFERENT PREFIX IS SHOWN.
 - LOOP ACTION LC1645 PROVIDES A LEVEL ERROR SIGNAL TO DE-TANG AND TO MODULATE LV55B VIA LV558, Y1058A AND TRIP VALVES WHEN LV558 IS IN AUTO. REACTOR WATER LEVEL IS NOT HIGH, 2CNM-LV137 IS IN MANUAL, LV558 IS IN MANUAL MODE, AND REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL IS NOT PRESENT. (K1058A IN MANUAL, PROVIDES CONTROL SIGNALS TO POSITION LV558 VIA LV558, Y1058A, LV558B, AND TRIP VALVES IF REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL IS NOT PRESENT. REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL OVERRIDES ALL MANUAL AND AUTOMATIC CONTROL FUNCTIONS TO CLOSE LV558. ZE558 MONITORS LV558'S POSITION AND PROVIDES POSITION SIGNALS TO Z155B AND DE-TANG VIA Z155B.
 - LC1645 SHOWN FOR REFERENCE PURPOSES ONLY. SEE TL2FWS-082.
 - TRIP VALVE ACTIVATES ON LOW AIR SUPPLY PRESSURE TO PORT A → C, CAUSING PILOT VALVES TO LOCK LV55A.
 - PILOT VALVE PORT C → IN NORMAL AIR SUPPLY PRESSURE AT THE TRIP VALVE TO MODULATE LV558. PILOT VALVE PORT I → E ON LOW AIR SUPPLY PRESSURE, THE TRIP VALVE TO LOCK LV55B.
 - CONTACT M3,T3 CLOSED (C33A-K29 ENERGIZED) WHEN REACTOR WATER LEVEL IS NOT HIGH TO ENABLE LV55B TO MODULATE IN THE AUTOMATIC MODE. SEE TL2FWS-001-010.
 - LV558B ACTIVATES WHEN LV558 IS IN THE AUTO MODE TO OPEN CONTACT Z15 TO PREVENT LV558 FROM BEING SWITCHED FROM MANUAL TO AUTO. SEE TL2FWS-082.
 - LV137 ACTIVES WHEN 2CNM-LV137 IS IN THE AUTO MODE TO OPEN CONTACT 15 TO PREVENT LV558 FROM BEING SWITCHED FROM MANUAL TO AUTO. SEE TL2FWS-157.
 - LV1058B ACTIVATES WHEN LV558 IS IN THE AUTO MODE TO:
 - A) OPEN CONTACT Z15 TO PREVENT 2CNM-LV137 FROM BEING SWITCHED FROM MANUAL TO AUTO. SEE TL2CNM-157.
 - B) OPEN CONTACT 9,I3 TO PREVENT LV558 FROM BEING SWITCHED FROM MANUAL TO AUTO. SEE TL2FWS-082.
 - CONTACT M3,R3 OPENS (C33A-K22 ENERGIZED) WHEN REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL IS PRESENT TO PREVENT LV558 FROM OPERATING IN THE AUTO MODE.
 - C33A-K27 ENERGIZES WHEN REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL IS PRESENT TO:
 - CLOSE CONTACT M3,T3 TO PROVIDE A CLOSE SIGNAL TO LV558.
 - OPEN CONTACT M4,R4 TO DISABLE MANUAL OPEN SIGNAL TO LV558. SEE 0007.222-001-010.
 - CONTACT M3,R3 OPENS (C33A-K29 ENERGIZED) WHEN REDUNDANT REACTOR CONTROL FEEDWATER RUNBACK INITIATION SIGNAL IS PRESENT TO TRANSFER LV558 TO MANUAL. SEE 0007.222-001-010.
 - 120VAC FROM 2VBS-PNLB101, CKT 15.
 - TO SET POINT STATION. SEE TL2FWS-082.
 - VENDOR IDENTIFICATIONS ARE SHOWN IN PARENTHESIS.



- LV1058B ACTIVATES WHEN LV558 IS IN THE AUTO MODE TO:
 - A) OPEN CONTACT Z15 TO PREVENT 2CNM-LV137 FROM BEING SWITCHED FROM MANUAL TO AUTO. SEE TL2CNM-157.
 - B) OPEN CONTACT 9,I3 TO PREVENT LV558 FROM BEING SWITCHED FROM MANUAL TO AUTO. SEE TL2FWS-082.
- CONTACT M3,R3 OPENS (C33A-K22 ENERGIZED) WHEN REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL IS PRESENT TO PREVENT LV558 FROM OPERATING IN THE AUTO MODE.
- C33A-K27 ENERGIZES WHEN REDUNDANT REACTOR CONTROL SYSTEM FEEDWATER RUNBACK INITIATION SIGNAL IS PRESENT TO:
 - CLOSE CONTACT M3,T3 TO PROVIDE A CLOSE SIGNAL TO LV558.
 - OPEN CONTACT M4,R4 TO DISABLE MANUAL OPEN SIGNAL TO LV558. SEE 0007.222-001-010.
- CONTACT M3,R3 OPENS (C33A-K29 ENERGIZED) WHEN REDUNDANT REACTOR CONTROL FEEDWATER RUNBACK INITIATION SIGNAL IS PRESENT TO TRANSFER LV558 TO MANUAL. SEE 0007.222-001-010.
- 120VAC FROM 2VBS-PNLB101, CKT 15.
- TO SET POINT STATION. SEE TL2FWS-082.
- VENDOR IDENTIFICATIONS ARE SHOWN IN PARENTHESIS.



TEST LOOP DIAGRAM
HIGH PRESSURE LOW FLOW CONTROL VALVE
2FWS-LV55B, ZE55B

NINE MILE POINT NUCLEAR STATION-UNIT 2
NIAGARA MOHAWK POWER CORPORATION
STONE & WEBSTER ENGINEERING CORPORATION

SHEET 1 OF 2
12177-TL2FWS-083

SI APERTURE CARD

DATE	DATE	DATE	DATE	DATE	DATE
4	3	2	1	0	0
PREPARED	PREPARED	PREPARED	PREPARED	PREPARED	PREPARED
APPROVED	APPROVED	APPROVED	APPROVED	APPROVED	APPROVED

PLANT USE ONLY - PRINT APPROVAL

DATE	DATE	DATE
IBC	SSS	CSO

INFORMATION ONLY

NO	DATE	BY	HF	DESCRIPTION	CK	APP	NO	DATE	BY	HF	DESCRIPTION	CK	APP	NO	DATE	BY	HF	DESCRIPTION	CK	APP	NO	DATE	BY	HF	DESCRIPTION	CK	APP	NO	DATE	BY	HF	DESCRIPTION	CK	APP	NO	DATE	BY	HF	DESCRIPTION	CK	APP	NO	DATE	BY	HF	DESCRIPTION	CK	APP
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NIAGARA MOHAWK

TEST LOOP DIAGRAM
HIGH PRESSURE LOW FLOW CONTROL VALVE
2FWS-LV55B, ZE55B

SCALE: NONE
DWS NO: TL2FWS-083 SH.1 OF 2

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