

LOGIC SYMBOLS

LOGIC FUNCTION

DESCRIPTION

OR

A DEVICE WHICH PRODUCES AN OUTPUT ONLY WHEN ONE INPUT (OR MORE) EXISTS.

NOT

A DEVICE WHICH PRODUCES AN OUTPUT ONLY WHEN THE INPUT DOES NOT EXIST.

AND

A DEVICE WHICH PRODUCES AN OUTPUT ONLY WHEN EVERY INPUT EXISTS.

COINCIDENCE
(2 OUT OF 3
SHOWN)

A DEVICE WHICH PRODUCES AN OUTPUT WHEN THE PRESCRIBED NUMBER OF INPUTS EXIST (EXAMPLE 2 OUT OF 3 SHOWN).

ADJUSTABLE
TIME DELAY

A DEVICE WHICH PRODUCES AN OUTPUT FOLLOWING DEFINITE INTENTIONAL TIME DELAY AFTER RECEIVING AN INPUT.

OFF RETURN
MEMORY

A DEVICE WHICH RETAINS THE CONDITION OF OUTPUT CORRESPONDING TO THE LAST ENERGIZED INPUT, EXCEPT UPON INTERRUPTION OF POWER IT RETURNS TO THE OFF CONDITION.

RETENTIVE
MEMORY

A DEVICE WHICH RETAINS THE CONDITION OF OUTPUT CORRESPONDING TO THE LAST ENERGIZED INPUT (ALSO UPON INTERRUPTION OF POWER).

RETENTIVE
MEMORY
WITH ACTUATION
BLOCK

A DEVICE HAVING RETENTIVE MEMORY AND ACTUATION SIGNAL BLOCK LOGIC FUNCTIONS AS INDICATED BY THE DIAGRAM BELOW.

ACTUATING SIGNAL

RESET
(MOMENTARY)

OUTPUT SIGNAL

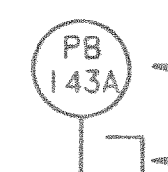
ANALOG
GATE

A DEVICE WHICH PERMITS AN ANALOG SIGNAL TO PASS IN AN ISOLATED CIRCUIT IF THE CONTROL LOGIC INPUT EXISTS.

ADJUSTABLE
TIME DELAY

A DEVICE WHICH REMOVES AN OUTPUT FOLLOWING A DEFINITE INTENTIONAL TIME DELAY AFTER REMOVAL OF THE INPUT.

ADDITIONAL SYMBOLS



INSTRUMENT CHANNEL BISTABLE

OUTPUT INDICATOR

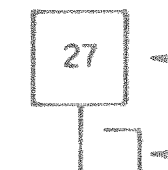
BISTABLE OUTPUT IS A LOGIC "1" WHEN THE MEASURED PARAMETER IS GREATER THAN THE SETPOINT VALUE.

BISTABLE OUTPUT IS A LOGIC "1" WHEN THE MEASURED PARAMETER IS LESS THAN THE SETPOINT VALUE.

BISTABLE OUTPUT IS A LOGIC "1" WHEN THE MEASURED PARAMETER DEVIATES FROM THE NORMAL VALUE BY MORE THAN THE SETPOINT AMOUNTS.

SAME AS ABOVE EXCEPT WITH AN AUTOMATICALLY ADJUSTED SETPOINT

SAME AS ABOVE EXCEPT WITH REQUIRED HYSTERESIS



NON-INSTRUMENT BISTABLE

OUTPUT INDICATOR (SAME AS EXPLAINED ABOVE)



INDICATOR LAMP (SUPPLIED BY UE&C) (FP-5-70073, 30001, 51029)



COMPUTER INPUT (SUPPLIED BY UE&C) (FP-5-70073, 30001, 51029)

LOGIC INFORMATION TRANSMISSION

ANALOG INFORMATION TRANSMISSION



ANALOG DISPLAY (SUPPLIED BY UE&C)



ANALOG SUMMER

GENERAL NOTES: (FOR ALL SHEETS)

- IN ALL LOGIC CIRCUITS, THE INDICATED ACTUATION OF A SYSTEM OR DEVICE OCCURS WHEN A LOGIC "1" SIGNAL IS PRESENT. EXCEPT WHERE INDICATED OTHERWISE, ALL BISTABLES ARE "DE-ENERGIZE TO ACTUATE" SUCH THAT A LOGIC 1 SIGNAL IS DEFINED TO BE PRESENT WHEN THE BISTABLE OUTPUT VOLTAGE IS OFF.
- EXCEPT WHERE INDICATED OTHERWISE, THE FOLLOWING IS TRUE: ALL LOGIC CIRCUITS ARE REDUNDANT THAT IS EVERY LOGIC CIRCUIT SHOWN HAS A DUPLICATE LOCATED IN A SEPARATE CABINET. ALL INSTRUMENT CHANNELS, BISTABLES, COMPUTER INPUTS AND INDICATOR LAMPS ARE NOT REDUNDANT. MANUAL CONTROLS DO NOT HAVE REDUNDANT ACTUATORS, BUT DO HAVE REDUNDANT CONTACTS WHERE LOGIC IS REDUNDANT. ALL INDICATOR LAMPS, AND COMPUTER INPUTS ARE CONNECTED TO BOTH TRAINS (WHERE LOGIC IS REDUNDANT) SO THAT A SIGNAL IN EITHER TRAIN WILL ACTUATE.
- WHENEVER A PROCESS SIGNAL IS USED FOR CONTROL AND IS DERIVED FROM A PROTECTION CHANNEL, ISOLATION MUST BE PROVIDED. COMPUTER INPUTS ARE NOT A REQUIREMENT OF THE REACTOR CONTROL AND PROTECTION OR ENGINEERED SAFEGUARDS SYSTEMS AND ARE SHOWN FOR INFORMATION ONLY.
- THIS SET OF DRAWINGS AND THE ASSOCIATED REACTOR CONTROL AND PROTECTION SYSTEM FUNCTIONAL REQUIREMENTS DOCUMENTS ILLUSTRATE THE FUNCTIONAL REQUIREMENTS OF THE REACTOR CONTROL AND PROTECTION SYSTEM, INCLUDING ENGINEERED SAFEGUARDS. THESE DRAWINGS SHOULD NOT BE USED WITHOUT THE ASSOCIATED FUNCTIONAL REQUIREMENTS DOCUMENT AND THEY DO NOT REPRESENT ACTUAL HARDWARE IMPLEMENTATION. FOR HARDWARE IMPLEMENTATION, REFER TO THE FOLLOWING REFERENCE DRAWINGS:
LATER SOLID STATE PROTECTION SYSTEM SCHEMATIC
7247091 SOLID STATE PROTECTION SYSTEM INTERCONNECTION — (FP-70073)
5655049 NUCLEAR INSTRUMENTATION SOURCE RANGE — (FP-70147)
5655050 NUCLEAR INSTRUMENTATION INTERMEDIATE RANGE — (FP-70148)
5655051 NUCLEAR INSTRUMENTATION POWER RANGE — (FP-70149)
5655052 NUCLEAR INSTRUMENTATION AUXILIARY CHANNELS — (FP-70150)
8756051 PROCESS CONTROL SYSTEMS BLOCK DIAGRAM — (FP-70001)
2710339 ELEMENTARY WIRING DIAGRAM — (FP-30001)
1189E15 REACTOR TRIP SWITCHGEAR ELEMENTARY
OTHERS CONTROL BOARD SOLID STATE PROTECTION SYSTEM WIRING.
- THIS SET OF DRAWINGS IS IDENTICAL FOR MULTIPLE UNITS EXCEPT FOR THE TAG NUMBERS; FOR UNIT 1 TAG NUMBERS ADD A "1" (EXAMPLE: 1-RC-PB-455E) FOR UNIT 2 TAG NUMBERS ADD A "2" (EXAMPLE: 2-RC-PB-455E).
- FOR GENERAL NOTES AND REFERENCE DWGS SEE 9763-M-503100
- FOR SET POINTS REFERENCE SET POINT DATA LIST 9763-M-500376.

DEVICE FUNCTION LETTERS AND NUMBERS

FB FLOW CHANNEL
LB LEVEL CHANNEL
NC NUCLEAR CHANNEL
PB PRESSURE CHANNEL
RC RADIATION CHANNEL
SB SPEED CHANNEL
TB TEMPERATURE CHANNEL
ZB POSITION CHANNEL
20 ELECTRIC OPERATED VALVE
27 UNDERVOLTAGE RELAY
33 POSITION SWITCH

52 AC CIRCUIT BREAKER

63 PRESSURE SWITCH
71 LEVEL SWITCH
80 FLOW SWITCH
81 UNDERFREQUENCY RELAY

DWG. 509041 THRU C509056 ARE UE&C REDRAWS OF THE WESTINGHOUSE FUNCTIONAL DIAGRAMS, AS REFERENCED BELOW. UE&C HAS ADDED MAIN CONTROL BOARD (MCB) LOCATIONS, COMPUTER ID NUMBERS, MONITORING LIGHT NUMBERS, RECORDER NUMBERS, CONTROL SWITCH NUMBERS, REFERENCE DRAWINGS AND APPLICABLE UE&C INTERFERENCE.

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DWG. TRANSFERRED TO CUSTODY
OF NHY AT REV. 11
LTR 584 #A072 DTD 10/14/76

ISSUED FOR CONSTRUCTION

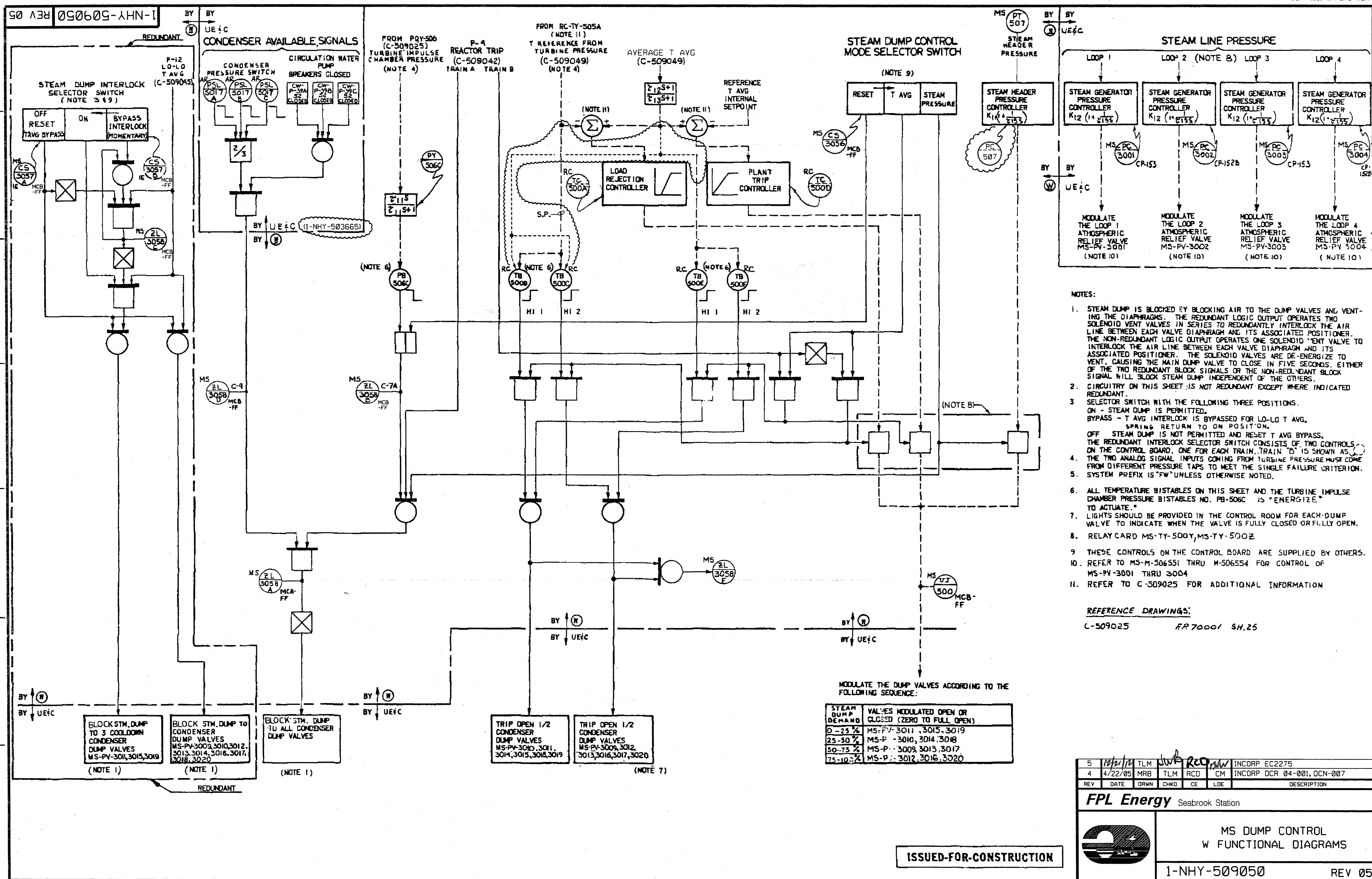
INDEX & SYMBOLES
W FUNCTIONAL DIAGRAMSNew Hampshire
Yankee
Seabrook
Station

1-NHY-509041 REV 13

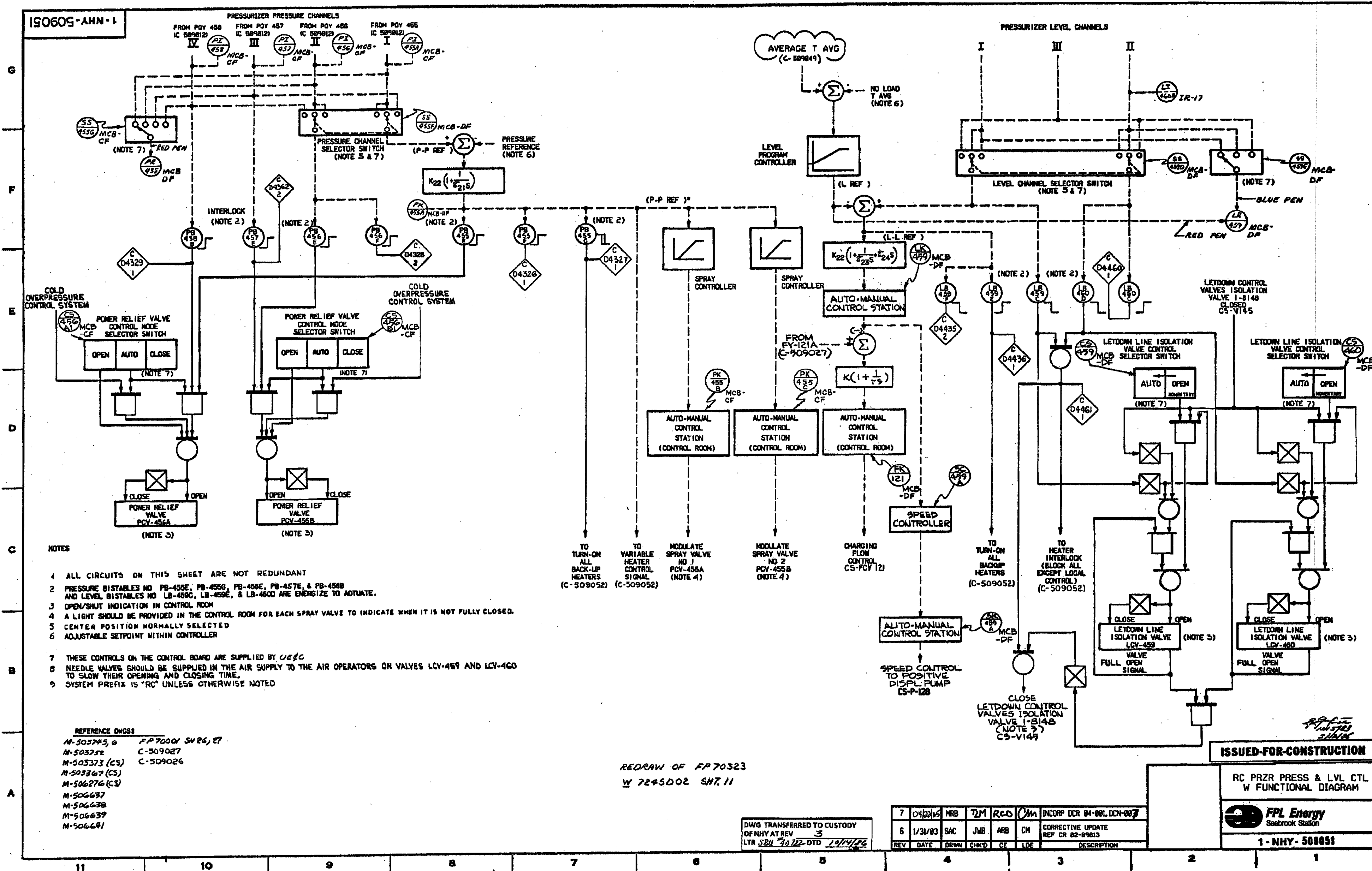
13	13/6/75	MRB	JNB	3400	INCORP DCR 94-039, CA-3	
12	10/30/76	CCM	RAK	NA	9763-C-509041	
REV	DATE	DRWN	CHKD	CE	LDE	DESCRIPTION

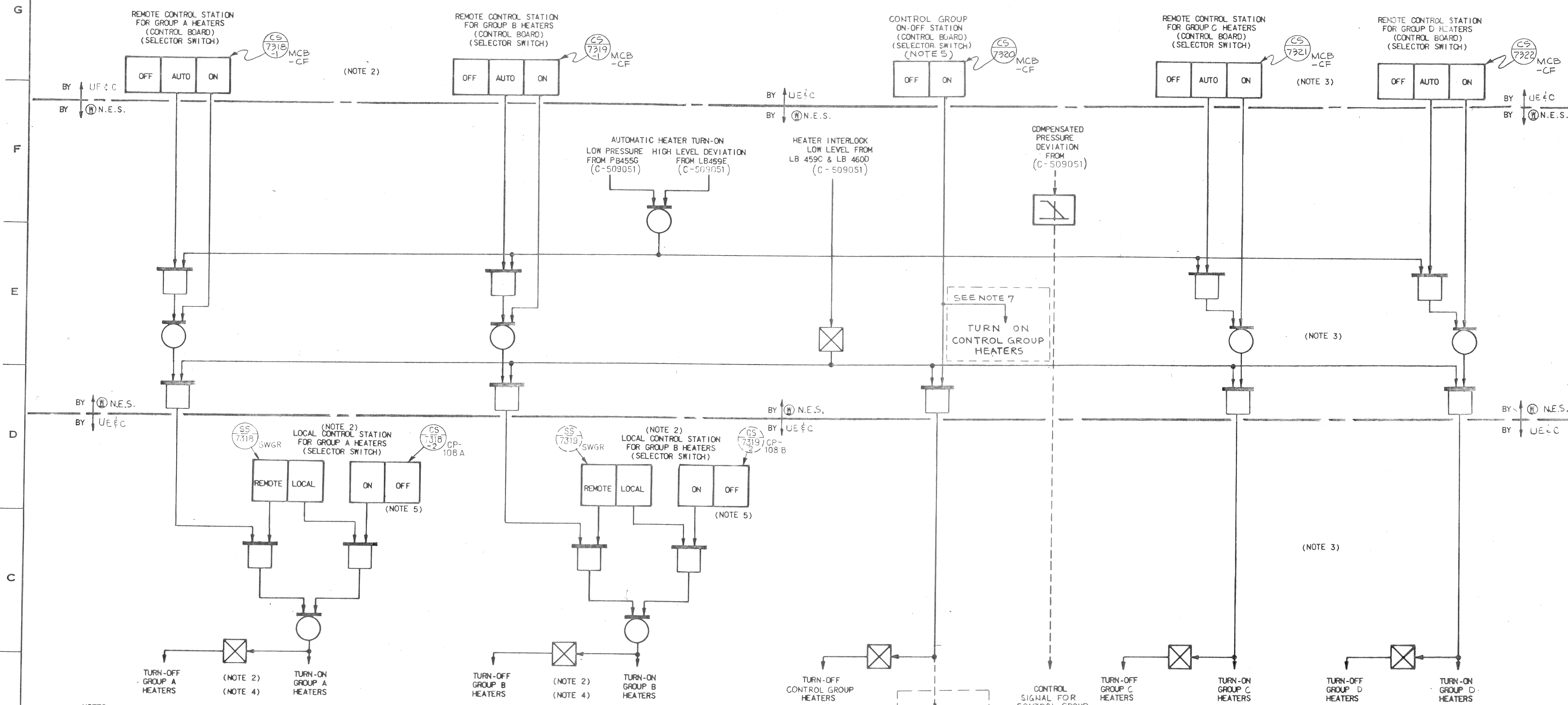
11	8/1/76	ECA 93/113274C	PE	DRWN	CHKD	RE	SDR	RAE	PEM
10	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
9	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
8	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
7	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
6	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
5	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
4	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
3	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
2	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
1	5/21/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM

9	1/28/86	ECA 93/117438A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
8	5/22/85	REV'D C-509042.43	PE	DRWN	CHKD	RE	SDR	RAE	PEM
7	3/24/85	REV'D C-509042	PE	DRWN	CHKD	RE	SDR	RAE	PEM
6	1-4-85	REV'D C-509048	PE	DRWN	CHKD	RE	SDR	RAE	PEM
5	7-1-84	REV'D C-509047	PE	DRWN	CHKD	RE	SDR	RAE	PEM
4	6-12-84	REV'D C-509047	PE	DRWN	CHKD	RE	SDR	RAE	PEM
3	1/13/84	REV'D C-509042	PE	DRWN	CHKD	RE	SDR	RAE	PEM
2	5/21/86	ECA 93/115386A	PE	DRWN	CHKD	RE	SDR	RAE	PEM
1	5-21-81	FIRST ISSUE	PE	DRWN	CHKD	RE	SDR	RAE	PEM



ISO605-AHN-1





- NOTES:
1. ALL CIRCUITS ON THIS SHEET ARE NOT REDUNDANT.
 2. GROUP A AND GROUP B HEATERS MUST BE ON SEPARATE VITAL POWER SUPPLIES WITH THE LOCAL CONTROL SEPARATED SO THAT ANY SINGLE FAILURE DOES NOT DEFEAT BOTH. SHOW TRAIN 'B' SWITCH AS 24.
 3. THE NUMBER OF BACK-UP HEATER GROUPS IS TYPICAL. THE ACTUAL NUMBER OF GROUPS MAY DIFFER DEPENDING ON ELECTRICAL LOADING REQUIREMENTS.
 4. BACK-UP HEATER STATUS INDICATION IN CONTROL ROOM.
 5. PRECAUTIONS SHOULD BE TAKEN TO AVOID MANUAL HEATER OPERATION, WHICH WOULD CAUSE HEATER DAMAGE, IF THE WATER LEVEL UNCOVERS THE HEATERS. PRECAUTIONS SHOULD ALSO BE TAKEN TO VERIFY THAT PRZR LOW LEVEL ALARMS HAVE CLEARED BEFORE RECLOSING THE CONTROL GROUP BKR AFTER A LOW BKR TRIP.
 6. SYSTEM PREFIX IS 'RC' UNLESS OTHERWISE NOTED.
 7. WESTINGHOUSE DID NOT PROVIDE PRZR LOW LEVEL INTERLOCK CONTACTS FOR USE IN THE CONTROL GROUP BKR CLOSING CIRCUIT. ALTHOUGH THIS INTERLOCK IS SHOWN FUNCTIONALLY ON W DWG 7245D02, SH.12 SIMILAR TO THE BKR CLOSING CKTS FOR THE BACKUP GROUPS. 'PRZR LOW LEVEL' WILL TRIP OPEN THE CONTROL BKR AS SHOWN AND ONCE TRIPPED THE BKR CAN BE RECLOSING ONLY BY SWITCHING CS-7320 TO 'OFF' AND THEN TO 'ON'.

REFERENCE DRAWINGS:

M-503749
M-503750
M-503751

REDRAW OF F.P.70324
W7245D02 SH.12

REV	DATE	DRWN	CHKD	CE	LDE	DESCRIPTION
5	10/1/84	SSJ	JM	RPL	NA	9763-C-509052 SUPERCEDES UE&C DWG.1

REV	DATE	DESCRIPTION	PE	DWN	BY	CKD	BY	RES	ENG	SDE	QAE	PEM
4	1-28-80	ECA99109947A	RPN	FAI	W	ARV	W	W	W	W	W	W
3	7/1/84	EDITORIAL CHANGE	RPN	FAI	W	ARV	W	W	W	W	W	W
2	5/20/83	REV. PER ENG ASSURANCE AUDIT REPORT NHE-5	RPN	GWR	W	ARV	W	W	W	W	W	W
1	8/24/81	FIRST ISSUE	RPN	W	ARV	W	W	W	W	W	W	W

DWG. TRANSFERRED TO CUSTODY
OF NHY AT REV. 4
LTR. SBU #A0722 DTD. 10/17/86

ISSUED-FOR-CONSTRUCTION

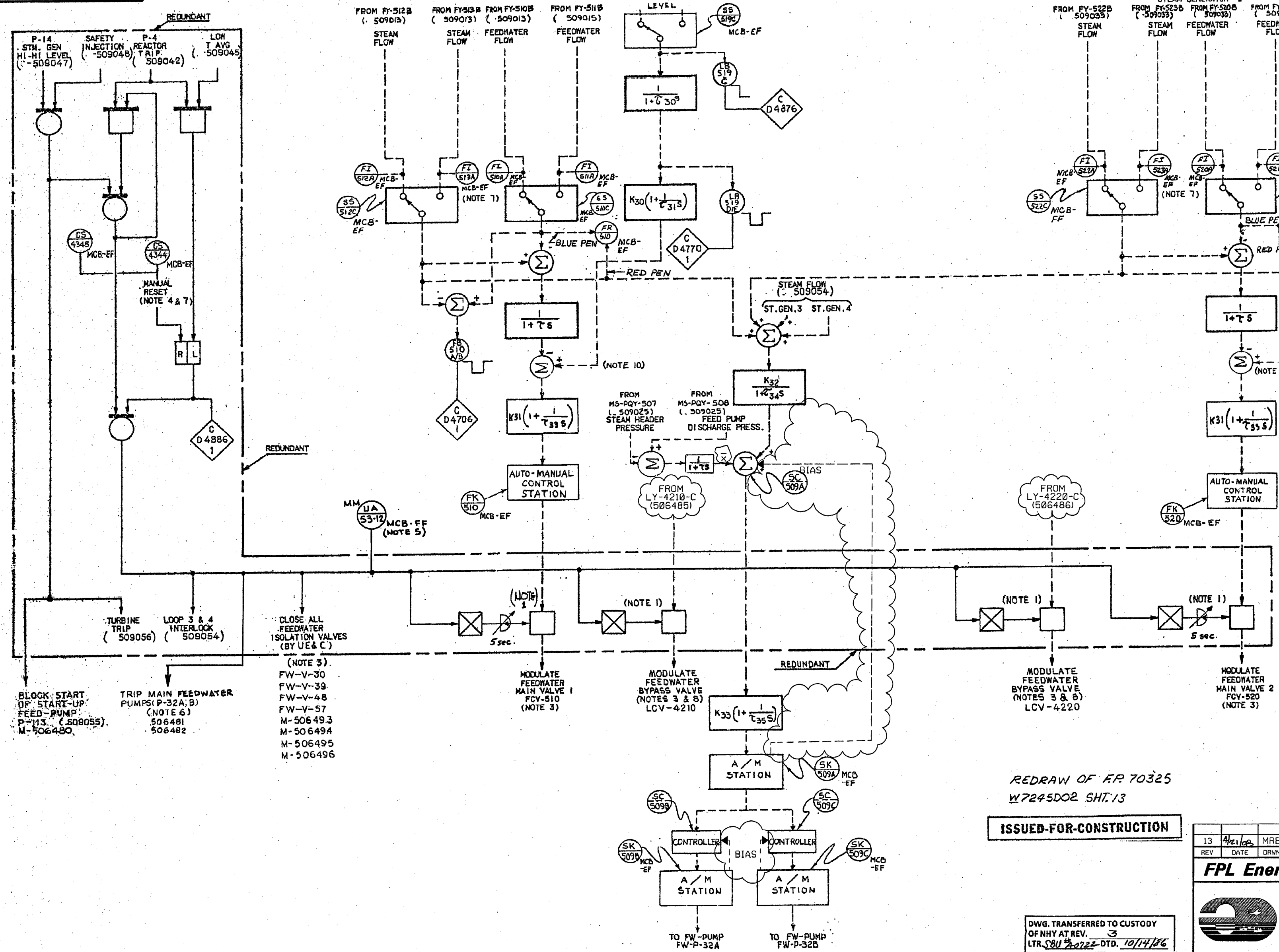
RC PRZR HTR CONTROL
W FUNCTIONAL DIAGRAMS

New Hampshire
Yankee

Seabrook
Station

1-NHY-509052

509053 - 1-NHN-1



- NOTES:
1. ANALOG GATE CONSISTS OF TWO SOLENOID VENT VALVES IN SERIES TO REDUNDANTLY INTERLOCK THE AIR LINE BETWEEN EACH VALVE DIAPHRAGM AND ITS ASSOCIATED POSITIONER. THE SOLENOID VALVES ARE DE-ENERGIZE TO VENT, CAUSING THE FEEDWATER VALVE TO CLOSE IN FIVE SECONDS. EITHER OF THE TWO REDUNDANT BLOCK SIGNALS WILL CLOSE THE ASSOCIATED VALVES INDEPENDENT OF THE OTHER SIGNAL.
 2. ALL CIRCUITS ON THIS SHEET ARE NOT REDUNDANT, EXCEPT WHERE INDICATED "REDUNDANT".
 3. OPEN/SHUT INDICATION FOR EACH FEEDWATER VALVE IN CONTROL ROOM.
 4. THE REDUNDANT MANUAL RESET CONSISTS OF TWO MOMENTARY CONTROLS ON THE CONTROL BOARD, ONE FOR EACH TRAIN.
 5. TRAIN "A" ONLY

6. TRAIN "A" TRIPS PUMP A. TRAIN "B" TRIPS PUMP B.
7. THESE CONTROLS ON THE CONTROL BOARD ARE SUPPLIED BY UCC.
8. SUPPLIED BY UCC.
9. SYSTEM PREFIX IS "FW" UNLESS OTHERWISE NOTED.
10. SUMMING JUNCTION SHOWN FOR FUNCTIONAL PURPOSES ONLY (NOT AN ACTUAL DEVICE).

REFERENCE DRAWINGS:

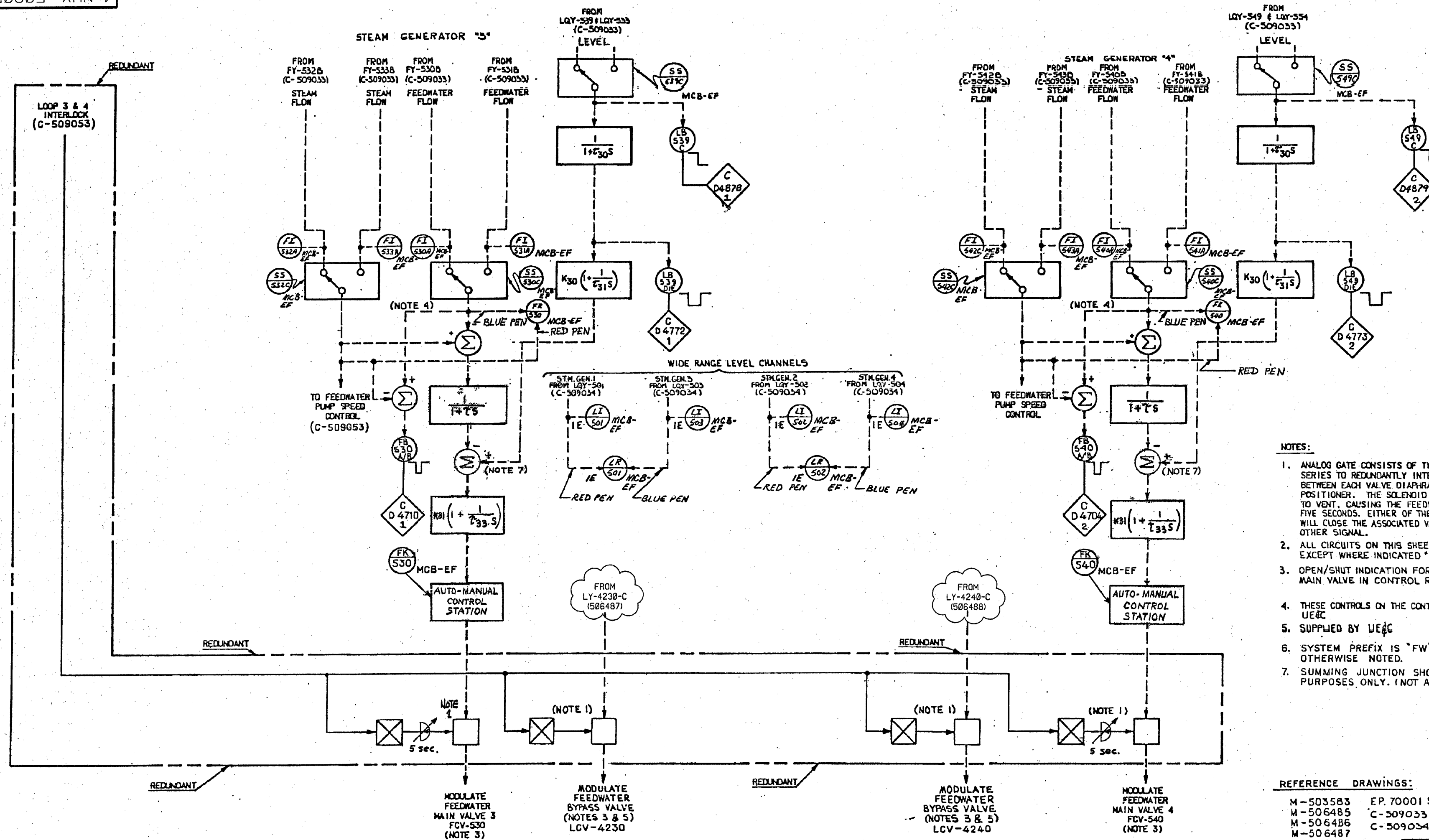
- | | |
|----------|--------------------|
| M-503581 | F.P.70001 SH.33,25 |
| M-504151 | 509023 |
| M-503598 | 509023 |
| M-506485 | 509033 |
| M-506486 | |
| M-506487 | |
| M-506488 | |
| M-506489 | |
| M-506481 | |

REDRAW OF FP 70325
W7245002 SH.13
ISSUED-FOR-CONSTRUCTION

DWG. TRANSFERRED TO CUSTODY
OF NHY AT REV. 3
LTR 580 2-27-22 DTD. 10/14/26

13	4/2/02	MRB	TJM	WUP	QCO	INCP	07MM00527, DCN 01
REV	DATE	DRWN	CHKD	CE	LDE	DESCRIPTION	
FPL Energy							Seabrook Station
FW CONTROL & ISOLATION W FUNCTIONAL DIAGRAM							
1-NHY							509053 REV 13

1-NHY-509054



NOTES:

1. ANALOG GATE CONSISTS OF TWO SOLENOID VENT VALVES IN SERIES TO REDUNDANTLY INTERLOCK THE AIR LINE BETWEEN EACH VALVE DIAPHRAGM AND ITS ASSOCIATED POSITIONER. THE SOLENOID VALVES ARE DE-ENERGIZE TO VENT, CAUSING THE FEEDWATER VALVE TO CLOSE IN FIVE SECONDS. EITHER OF THE TWO REDUNDANT BLOCK SIGNALS WILL CLOSE THE ASSOCIATED VALVES INDEPENDENT OF THE OTHER SIGNAL.
2. ALL CIRCUITS ON THIS SHEET ARE NOT REDUNDANT, EXCEPT WHERE INDICATED "REDUNDANT".
3. OPEN/SHUT INDICATION FOR EACH FEEDWATER MAIN VALVE IN CONTROL ROOM.
4. THESE CONTROLS ON THE CONTROL BOARD ARE SUPPLIED BY UE&C.
5. SUPPLIED BY UE&C.
6. SYSTEM PREFIX IS "FW" UNLESS OTHERWISE NOTED.
7. SUMMING JUNCTION SHOWN FOR FUNCTIONAL PURPOSES ONLY. (NOT AN ACTUAL DEVICE)

REFERENCE DRAWINGS:

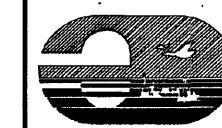
M-503583 E.P. 70001 SH.33,34
 M-506485 C-509033
 M-506486 C-509034
 M-506487
 M-506488

NUCLEAR SAFETY RELATED

REDRAW OF FP70326
 W7275DO4 SHT.1A

ISSUED-FOR-CONSTRUCTION

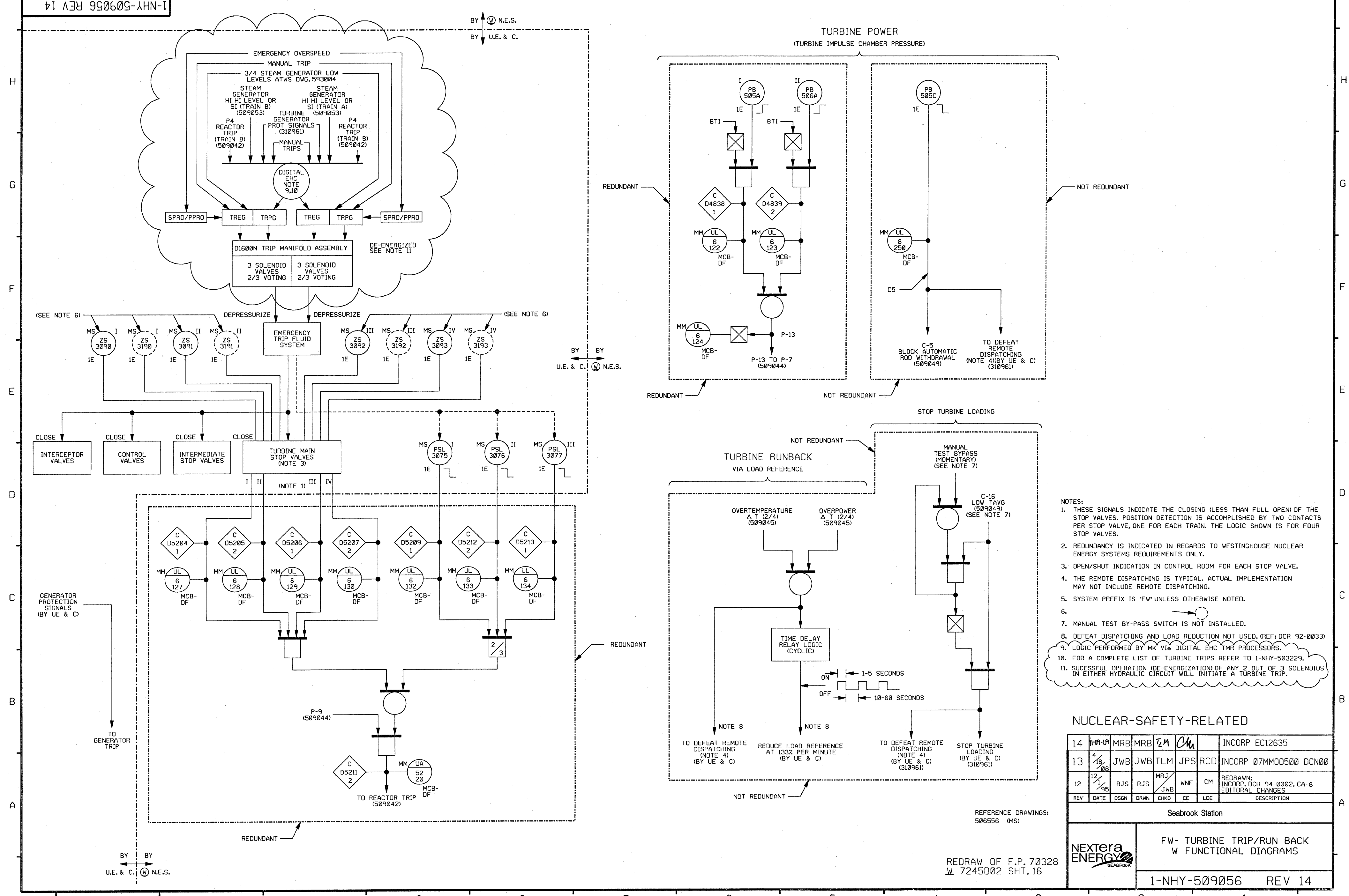
8	4/2/00	MRB	TLM	WVF	QCO	INCCORP 07MMDD527, DCN-01
7	12/6/95	MRB	JWB	BAW	CM	INCCORP 94DCR039, DCN-03
REV	DATE	DRWN	CHKD	CE	LDE	DESCRIPTION
FPL Energy Seabrook Station						
FW CONTROL & ISOLATION W FUNCTIONAL DIAGRAM						
1-NHY 509054 REV 8						

FW CONTROL & ISOLATION
W FUNCTIONAL DIAGRAM

1-NHY 509054 REV 8

1-NHY-509056 REV 14

1 bdr file: NAYUNC PROD

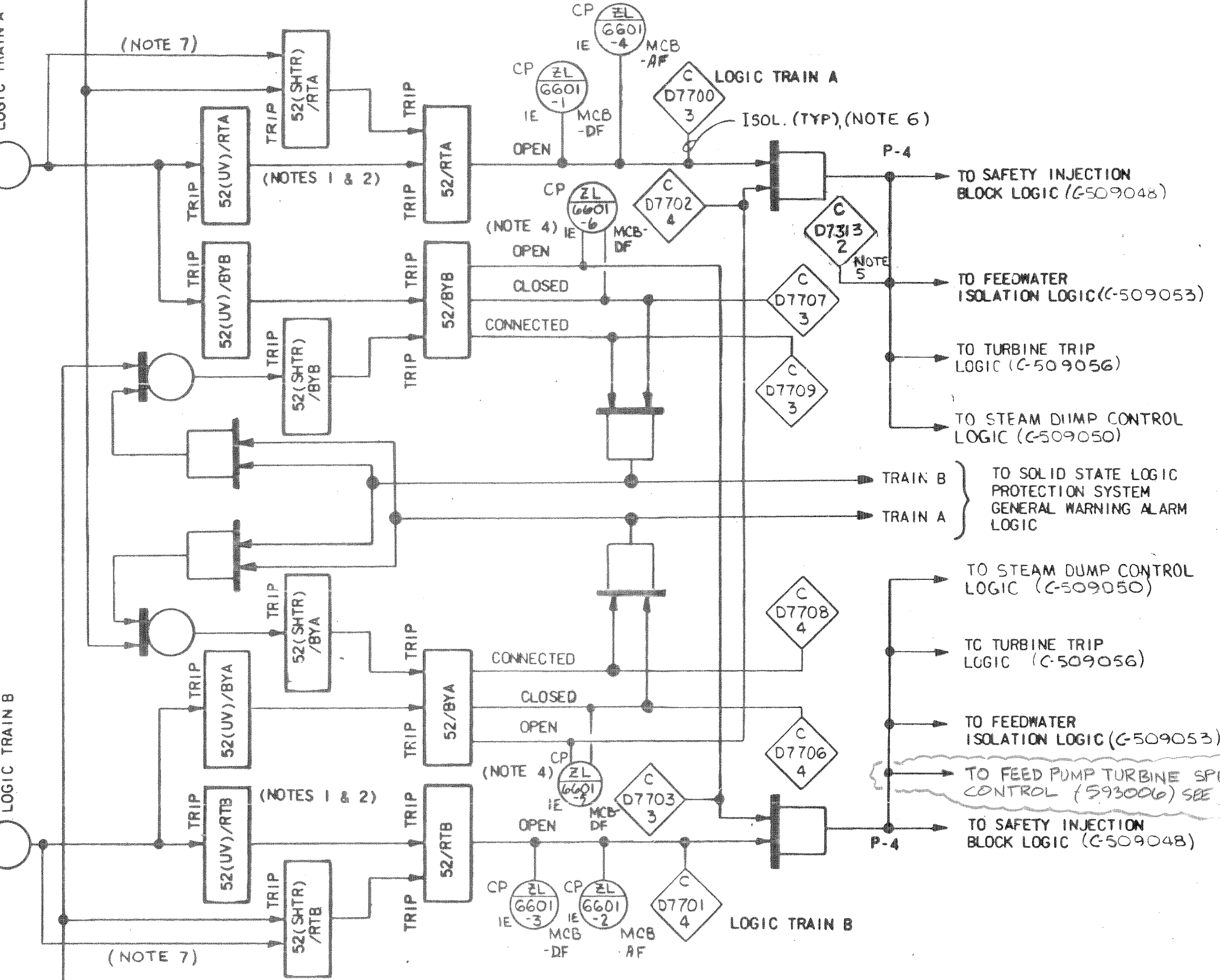
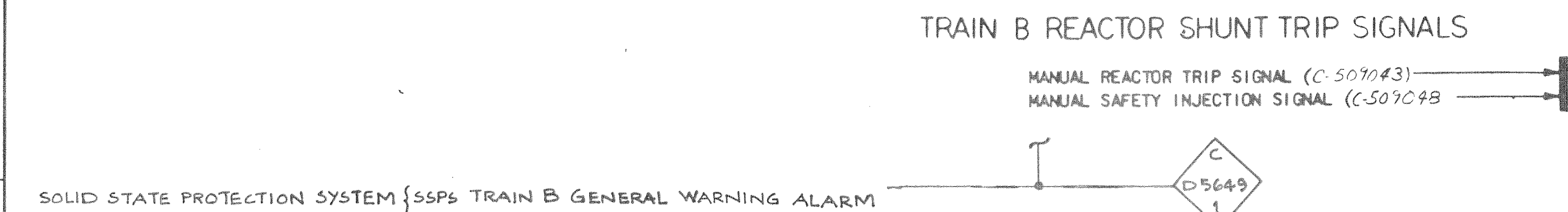


- NOTES:
1. THESE SIGNALS INDICATE THE CLOSING (LESS THAN FULL OPEN) OF THE STOP VALVES. POSITION DETECTION IS ACCOMPLISHED BY TWO CONTACTS PER STOP VALVE, ONE FOR EACH TRAIN. THE LOGIC SHOWN IS FOR FOUR STOP VALVES.
 2. REDUNDANCY IS INDICATED IN REGARDS TO WESTINGHOUSE NUCLEAR ENERGY SYSTEMS REQUIREMENTS ONLY.
 3. OPEN/SHUT INDICATION IN CONTROL ROOM FOR EACH STOP VALVE.
 4. THE REMOTE DISPATCHING IS TYPICAL. ACTUAL IMPLEMENTATION MAY NOT INCLUDE REMOTE DISPATCHING.
 5. SYSTEM PREFIX IS 'FW' UNLESS OTHERWISE NOTED.
 - 6.
 7. MANUAL TEST BY-PASS SWITCH IS NOT INSTALLED.
 8. DEFEAT DISPATCHING AND LOAD REDUCTION NOT USED. (REF: DCR 92-0033)
 9. LOGIC PERFORMED BY MK VLS DIGITAL EHC TMR PROCESSORS.
 10. FOR A COMPLETE LIST OF TURBINE TRIPS REFER TO 1-NHY-503229.
 11. SUCCESSFUL OPERATION (DE-ENERGIZATION) OF ANY 2 OUT OF 3 SOLENOIDS IN EITHER HYDRAULIC CIRCUIT WILL INITIATE A TURBINE TRIP.

NUCLEAR-SAFETY-RELATED									
14	11/19/95	MRB	MRB	TLM	CM			INCORP	EC12635
13	1/18/95	JWB	JWB	TLM	JPS	RCD		INCORP	07MM00500 DCN00
12	12/1/95	RJS	RJS	MRJ	WNF	CM		REDRAWN: INCORP, DCR 94-0002, CA-8	EDITORIAL CHANGES
REV	DATE	DSGN	DRWN	CHKD	CE	LDE	DESCRIPTION		
Seabrook Station									
		FW- TURBINE TRIP/RUN BACK W FUNCTIONAL DIAGRAMS							
		1-NHY-509056						REV 14	

REFERENCE DRAWINGS:
506556 (MS)

REDRAW OF F.P. 70328
W 7245002 SHT. 16



- DWG. TRANSFERRED TO CUSTODY
OF NHY AT REV. 7
LTS 801 240722 DTD. 10/14/86
NUCLEAR SAFETY RELATED
ISSUED-FOR-CONSTRUCTION

7	5/12/86	ECA 939/113274C ECA 05/113236C	GT	ARW	ARW	ARW	-	ARW	
6	3-7-86	ECA 939/113082A	ARW	ARW	ARW	ARW	-	ARW	
5	4/27/85	REVISED PER W F.P. 703.14	ARW	HK	ARW	ARW	-	ARW	
4	4/22/85	DCN 650253A	ARW	ARW	ARW	ARW	-	ARW	
3	7/27/84	REV. INCOM. WITH M-31308	ARW	ARW	ARW	ARW	-	ARW	
2	5/29/84	REV. PER ENG. ASSURANCE AUDIT REPORT NHE-5	ARW	ARW	ARW	ARW	-	ARW	
1	5/21/83	FIRST ISSUE	5000 ARW	ARW	ARW	ARW	-	ARW	
REV. NO.	DATE	DESCRIPTION	FE	OWN. BY	CKD. BY	RES. ENG.	USE	QAE	PEM

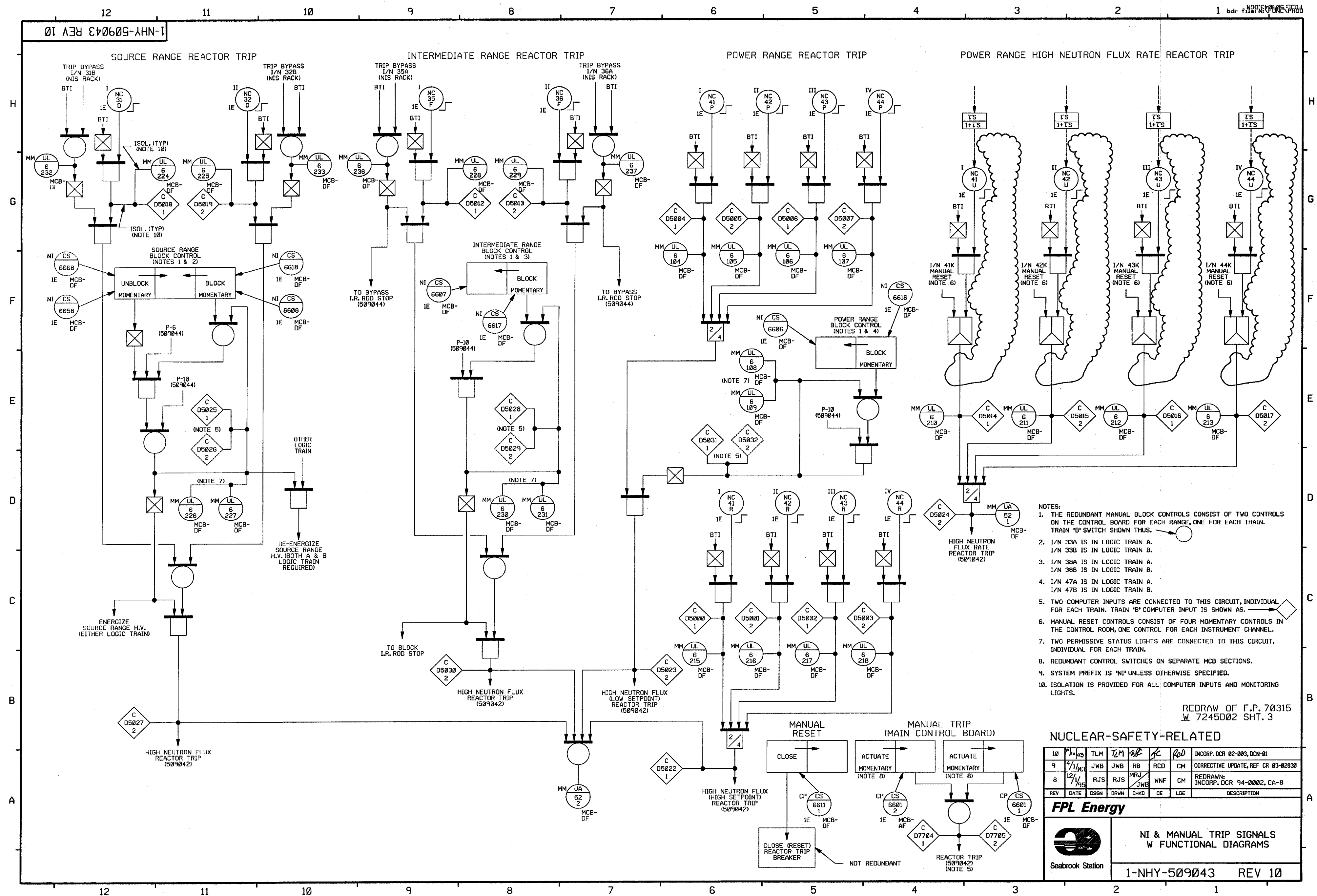
REACTOR TRIP SIGNALS
W FUNCTIONAL DIAGRAMS

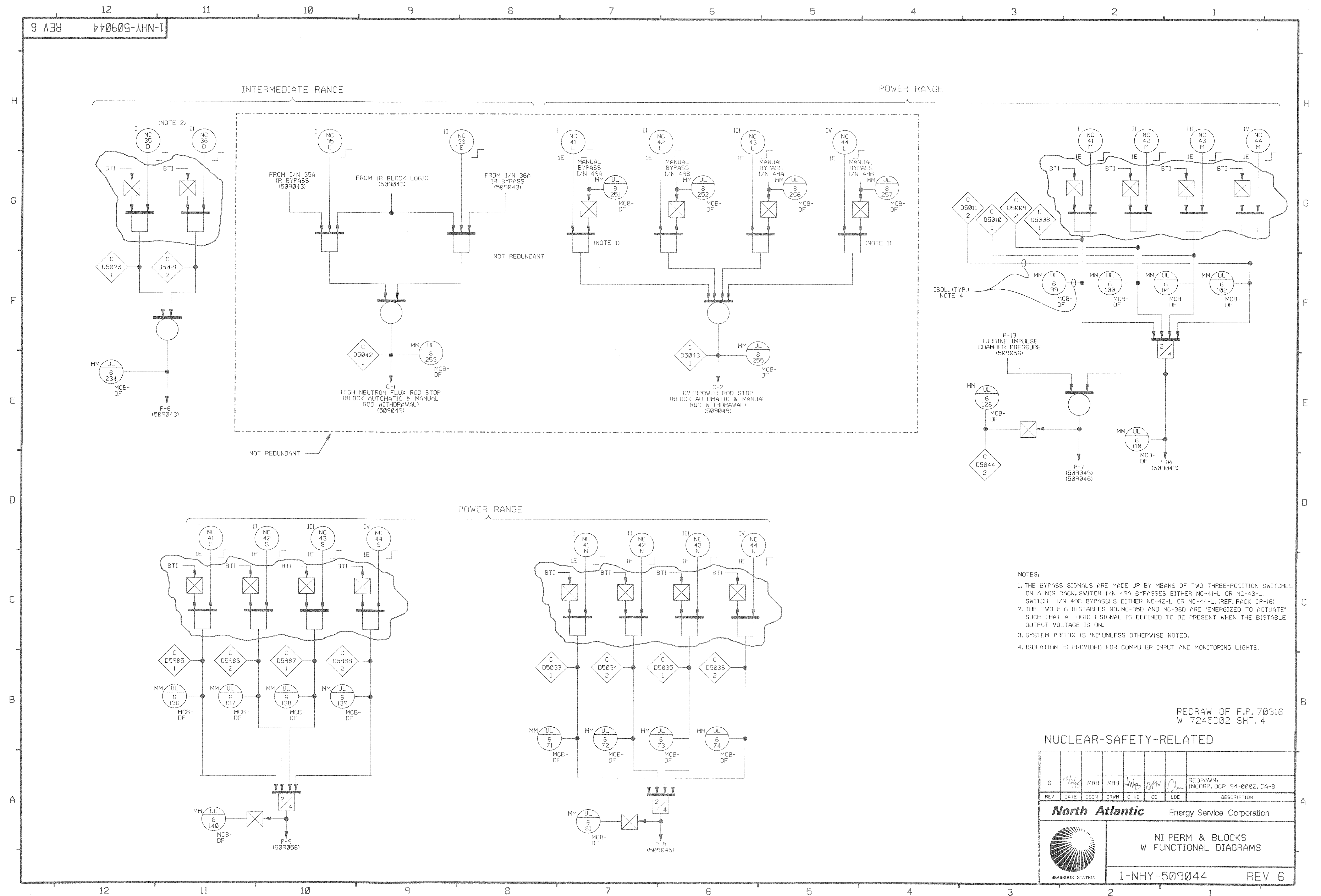
New Hampshire
Yankee

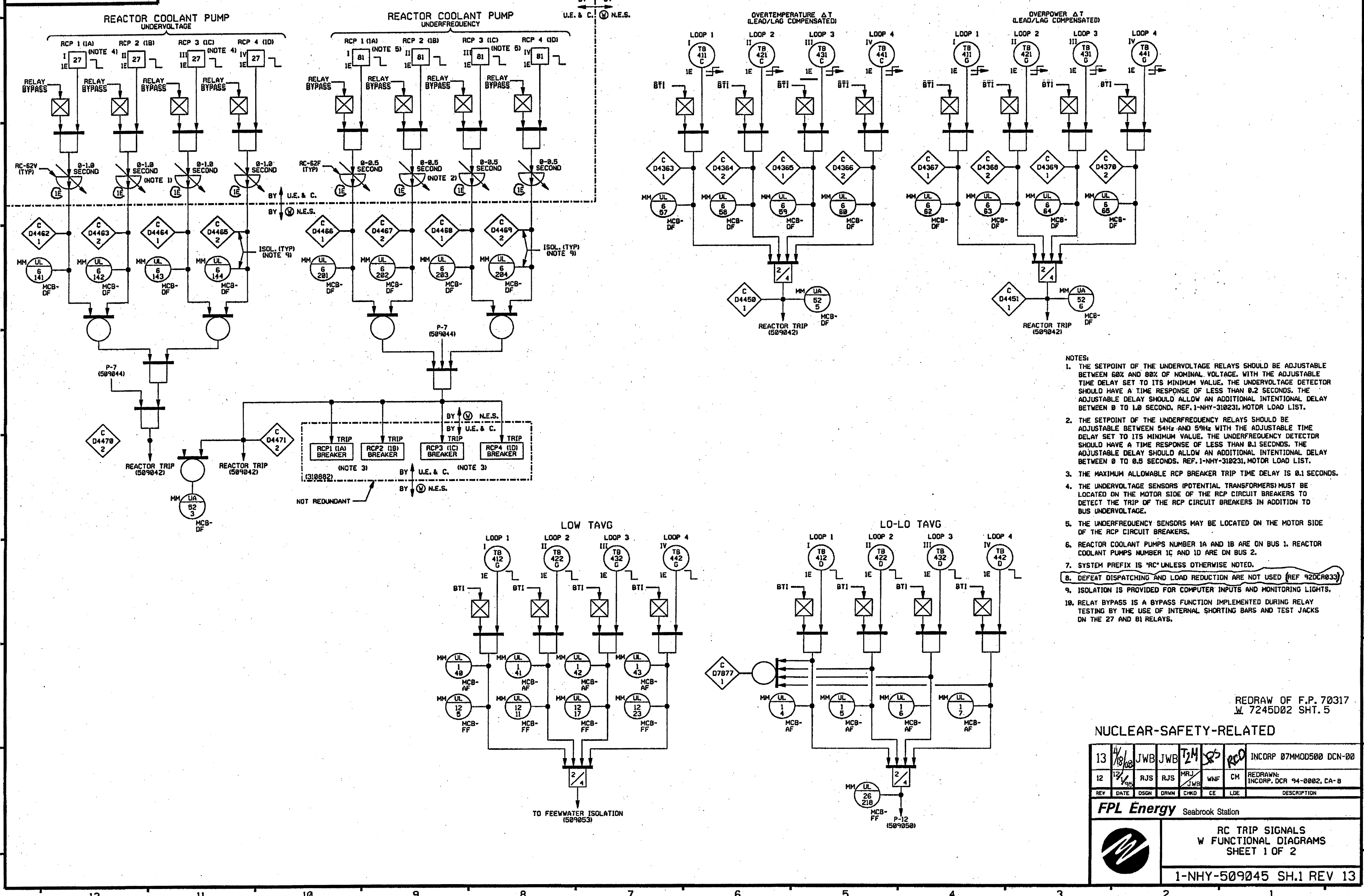
Seabrook
Station

1-NHY-509042

REV
10







REDRAW OF F.P. 70317
W 7245D02 SHT. 5

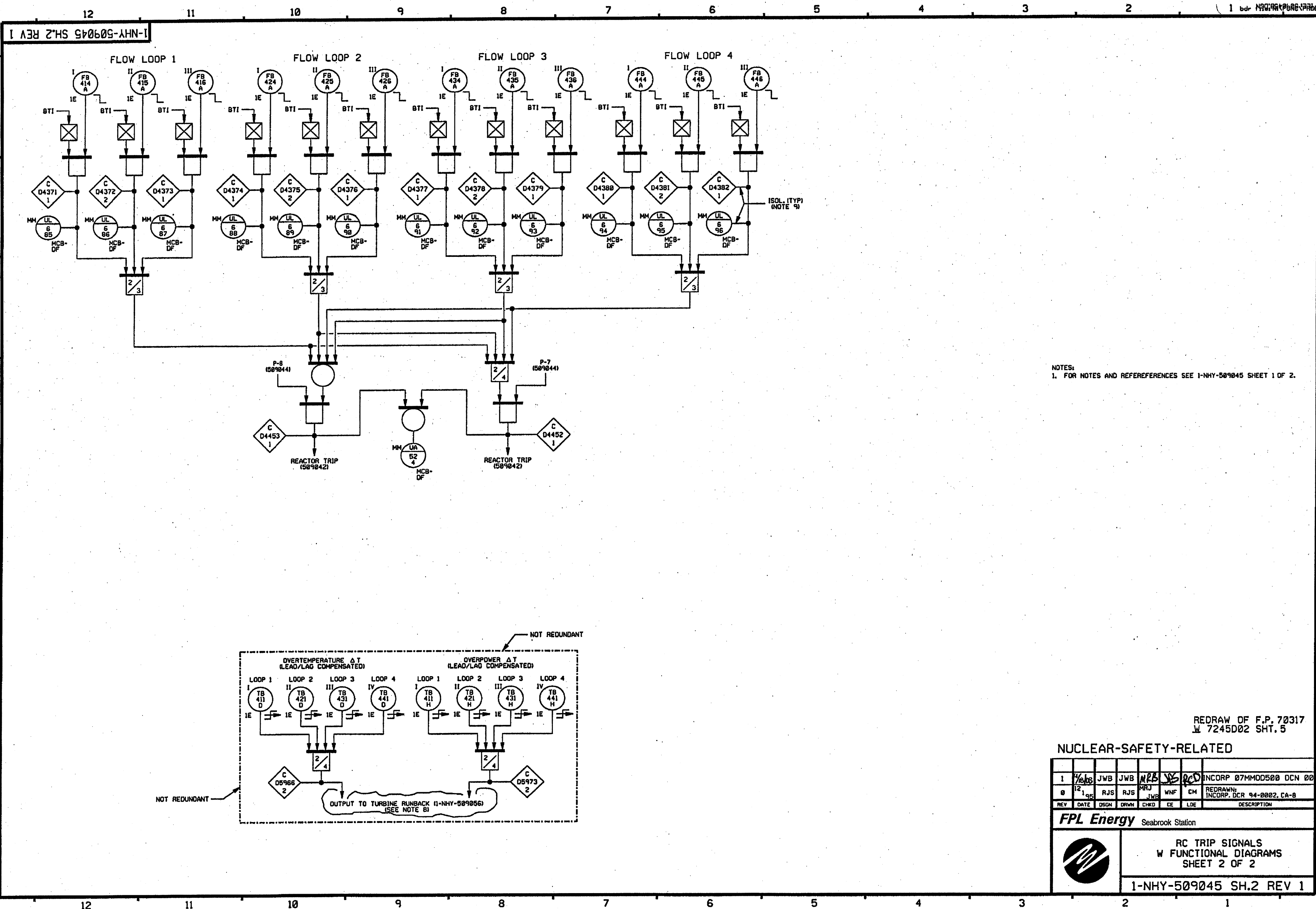
NUCLEAR-SAFETY-RELATED

13	4/18/02	JWB	JWB	T24	24	INCORP 07MMOD500 DCN-00
12	12/1/01	RJS	RJS	MRJ	WNF	REDRAWN: INCORP. DCR 94-0002, CA-8
REV	DATE	DSGN	DRWN	CHKD	CE	LOE

FPL Energy Seabrook Station

RC TRIP SIGNALS
W FUNCTIONAL DIAGRAMS
SHEET 1 OF 2

1-NHY-509045 SH.1 REV 13



REDRAW OF F.P. 70317
W 7245002 SHT. 5

NUCLEAR-SAFETY-RELATED

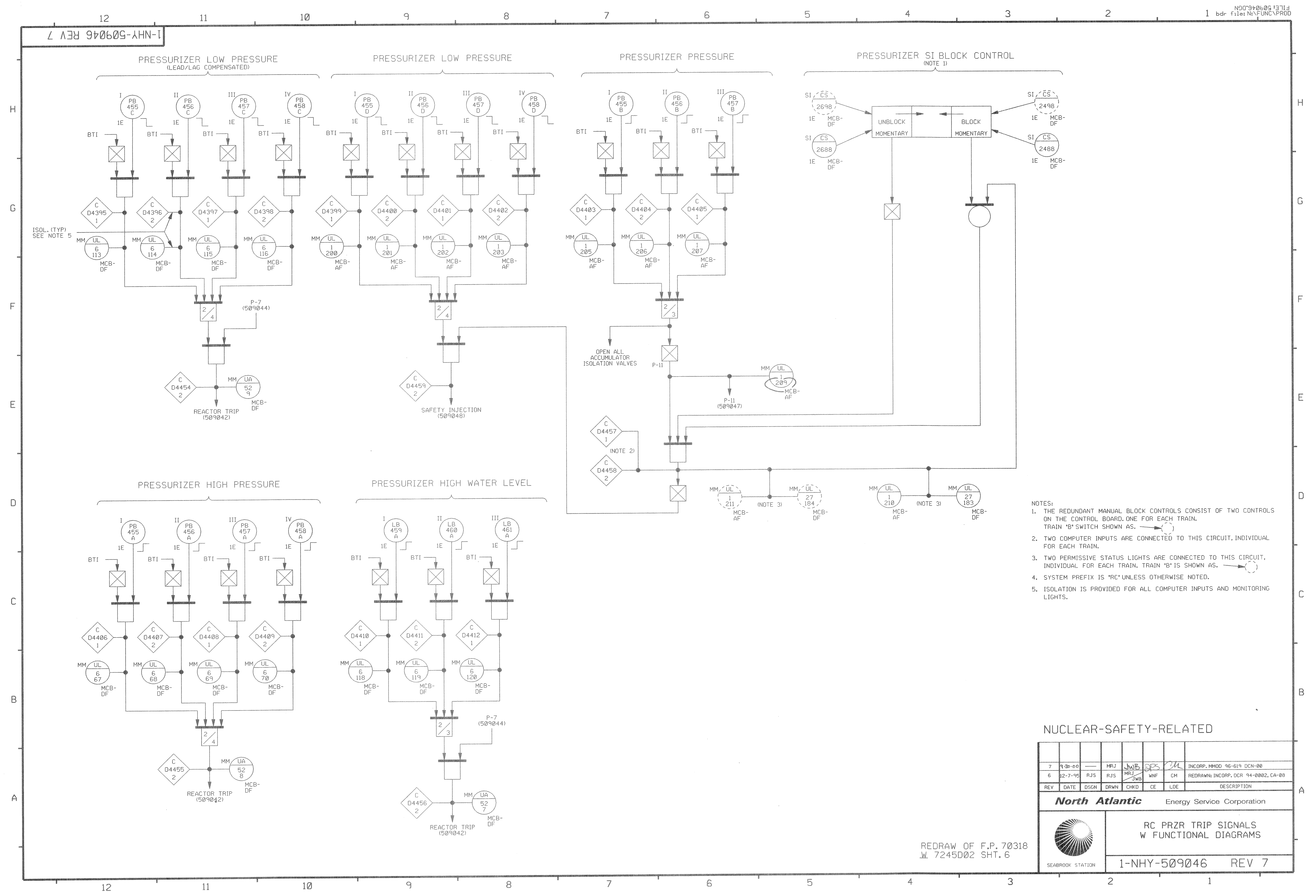
REV	DATE	DSGN	DRWN	CHKD	CE	LDE	DESCRIPTION
1	1/1/83	JWB	JWB	MJB	WNF	CM	INCORP 07MM00500 DCN 00
0	12/1/95	RJS	RJS	MJB	WNF	CM	REDRAWN INCORP. DCR 94-0002, CA-8

FPL Energy Seabrook Station



RC TRIP SIGNALS
W FUNCTIONAL DIAGRAMS
SHEET 2 OF 2

1-NHY-509045 SH.2 REV 1

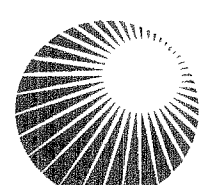


- NOTES:
1. THE REDUNDANT MANUAL BLOCK CONTROLS CONSIST OF TWO CONTROLS ON THE CONTROL BOARD, ONE FOR EACH TRAIN. TRAIN 'B' SWITCH SHOWN AS.
 2. TWO COMPUTER INPUTS ARE CONNECTED TO THIS CIRCUIT, INDIVIDUAL FOR EACH TRAIN.
 3. TWO PERMISSIVE STATUS LIGHTS ARE CONNECTED TO THIS CIRCUIT, INDIVIDUAL FOR EACH TRAIN. TRAIN 'B' IS SHOWN AS.
 4. SYSTEM PREFIX IS 'RC' UNLESS OTHERWISE NOTED.
 5. ISOLATION IS PROVIDED FOR ALL COMPUTER INPUTS AND MONITORING LIGHTS.

NUCLEAR-SAFETY-RELATED

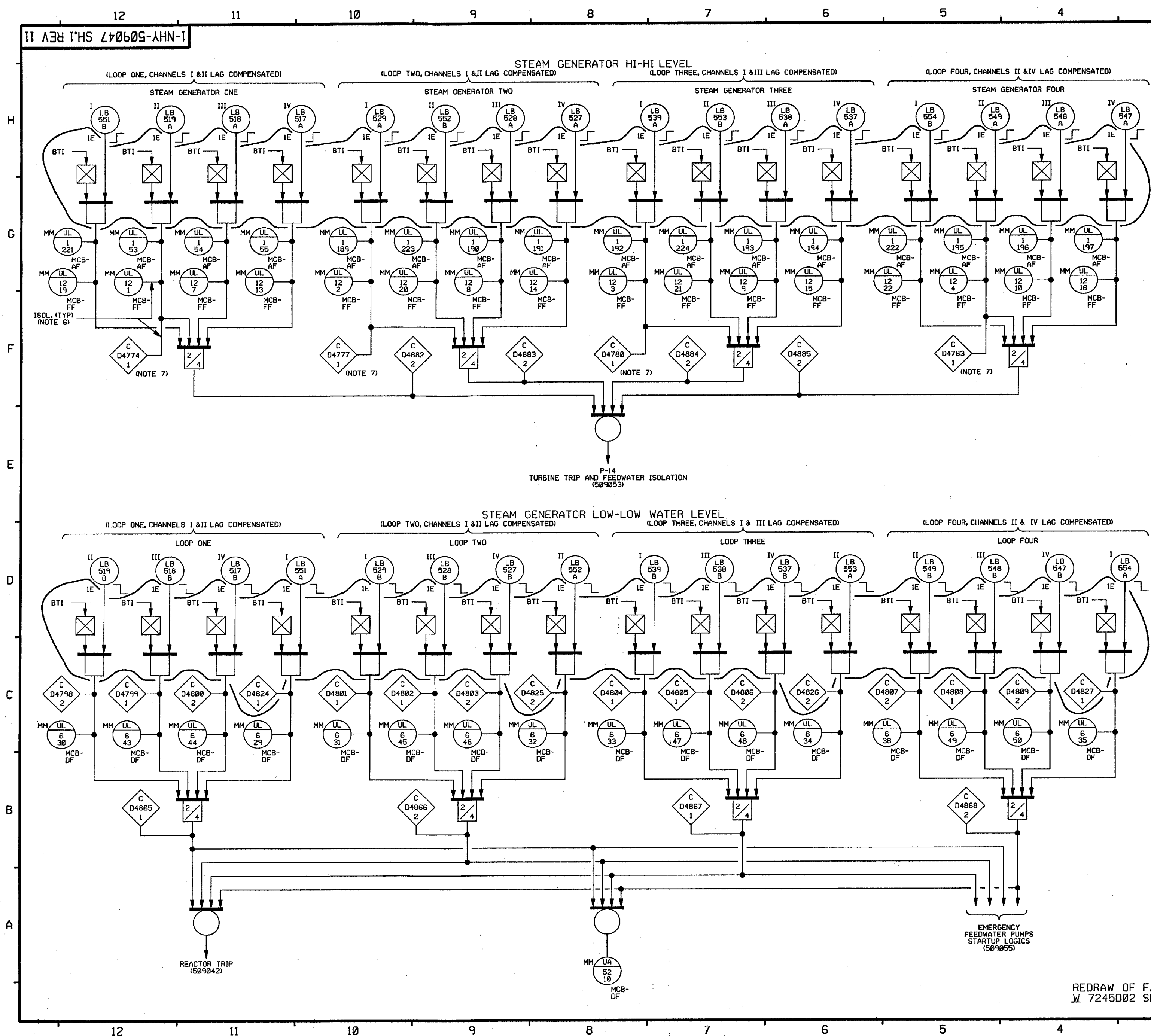
7	9-20-00	MRJ	JWB	SPS	24	INCORP. MMOD 96-619 DCN-00	
6	12-7-95	RJS	RJS	MRJ	WNF	CM	REDRAWN: INCORP. DCR 94-0002, CA-08
REV	DATE	DSGN	DRWN	CHKD	CE	LDE	DESCRIPTION

North Atlantic Energy Service Corporation

 **RC PRZR TRIP SIGNALS**
W FUNCTIONAL DIAGRAMS

1-NHY-509046 REV 7

REDRAW OF F.P. 70318
W 7245002 SHT. 6

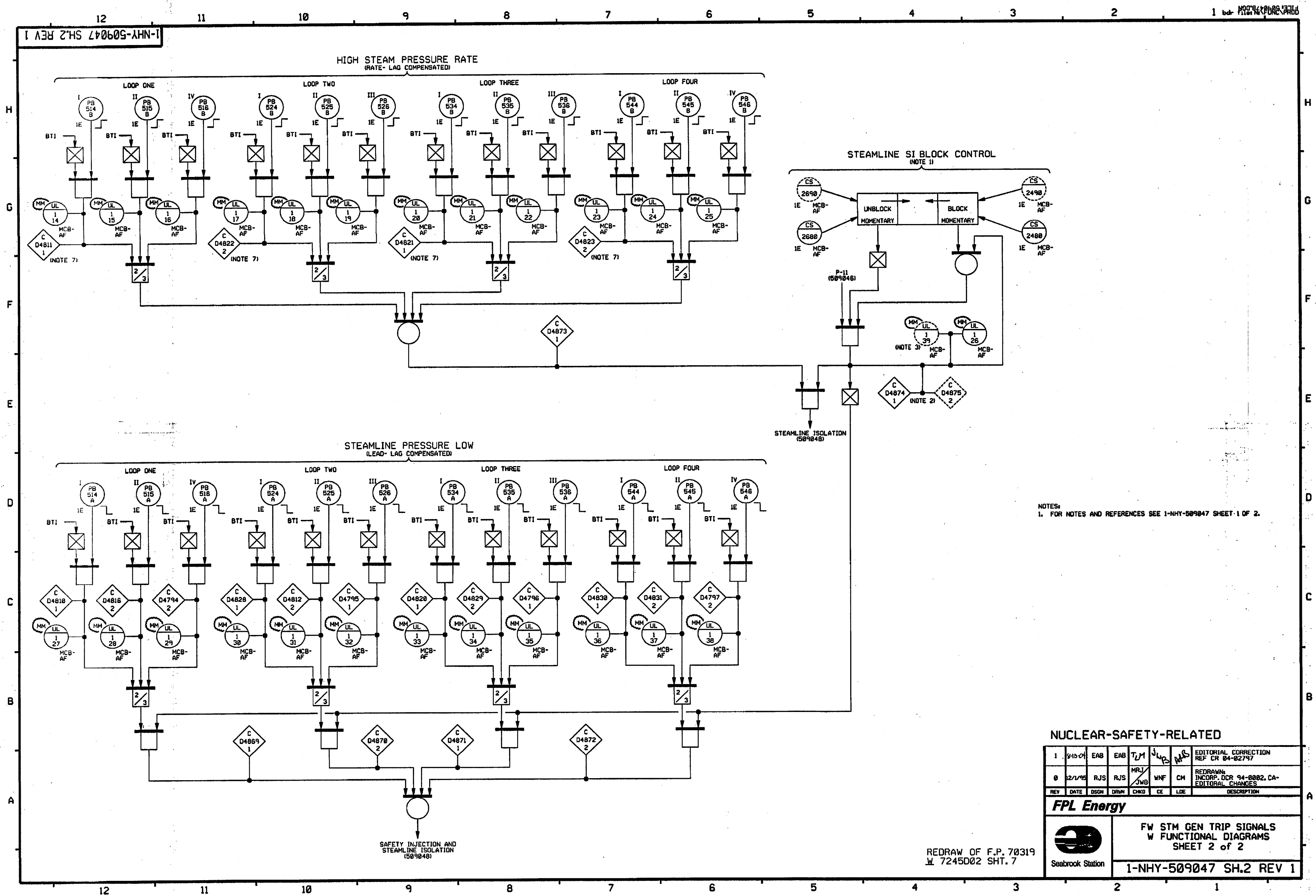


- NOTES:
1. THE REDUNDANT MANUAL BLOCK CONTROLS CONSIST OF TWO CONTROLS ON THE CONTROL BOARD, ONE FOR EACH TRAIN. TRAIN "B" IS SHOWN AS.
 2. TWO COMPUTER INPUTS ARE CONNECTED TO THIS CIRCUIT, INDIVIDUAL FOR EACH TRAIN. TRAIN "B" COMPUTER INPUT IS SHOWN AS.
 3. TWO PERMISSIVE STATUS LIGHTS ARE CONNECTED TO THIS CIRCUIT, INDIVIDUAL FOR EACH TRAIN. TRAIN "B" IS SHOWN AS.
 4. SYSTEM PREFIX IS "FW" UNLESS OTHERWISE NOTED.
 5. STEAM GEN. LO-LO WATER LEVEL ALARMS NUMBER WERE ADDED PER DCN-650054A.
 6. ISOLATION IS PROVIDED FOR ALL COMPUTER INPUTS AND MONITORING LIGHTS.
 7. COMPUTER INPUTS D4774, D4777, D4780, D4783, D4811, D4821, D4822 & D4823 ARE ACTUATED WHEN ANY OF THE REDUNDANT BISTABLES TRIP.

NUCLEAR-SAFETY-RELATED

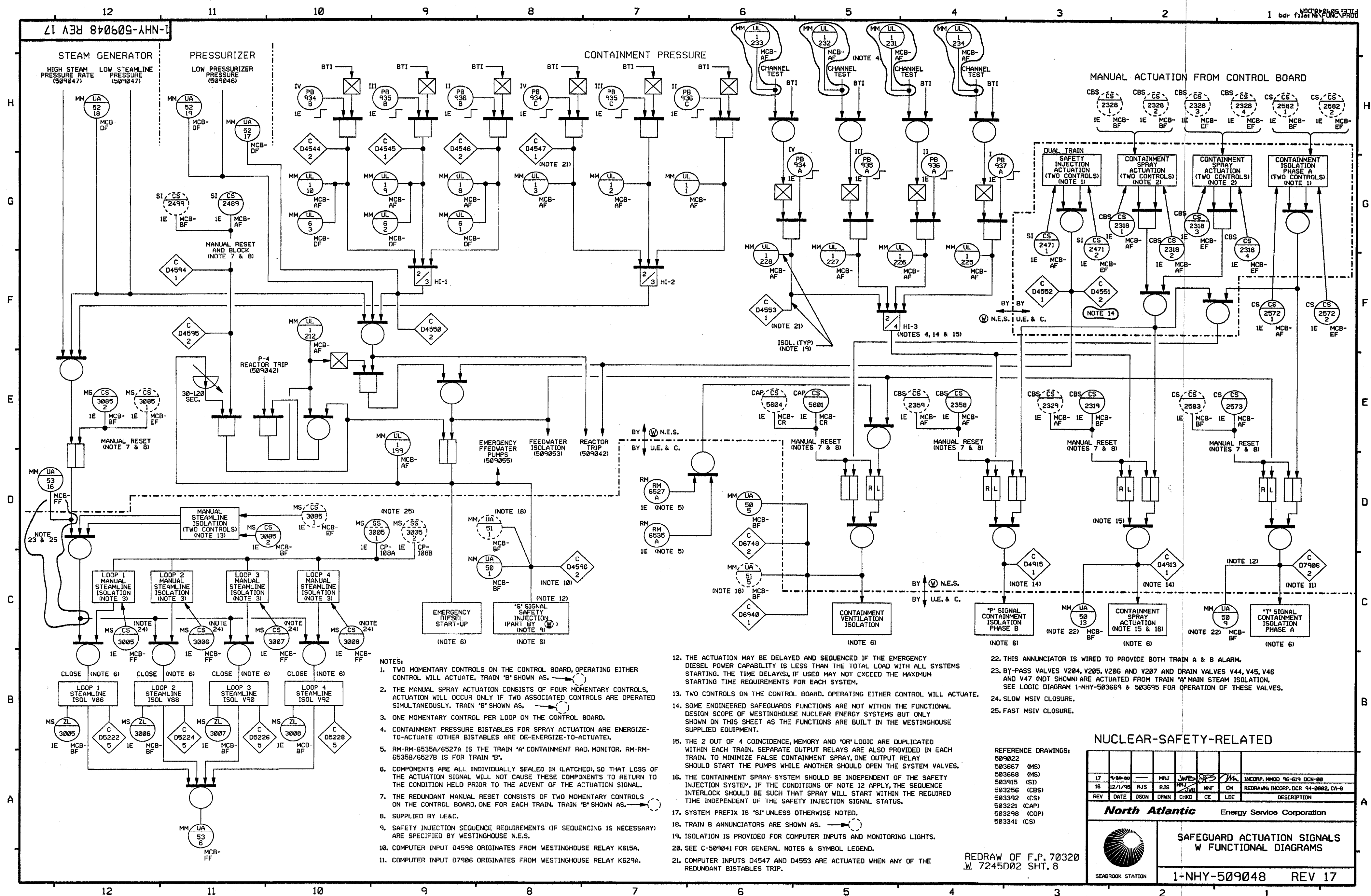
11	REV	DATE	OSGN	DRWN	CHKD	CE	LDE	DESCRIPTION
North Atlantic Energy Service Corporation								
 FW STM GEN TRIP SIGNALS W FUNCTIONAL DIAGRAMS (SHEET 1 of 2)								
1-NHY-509047 SH.1 REV 11								

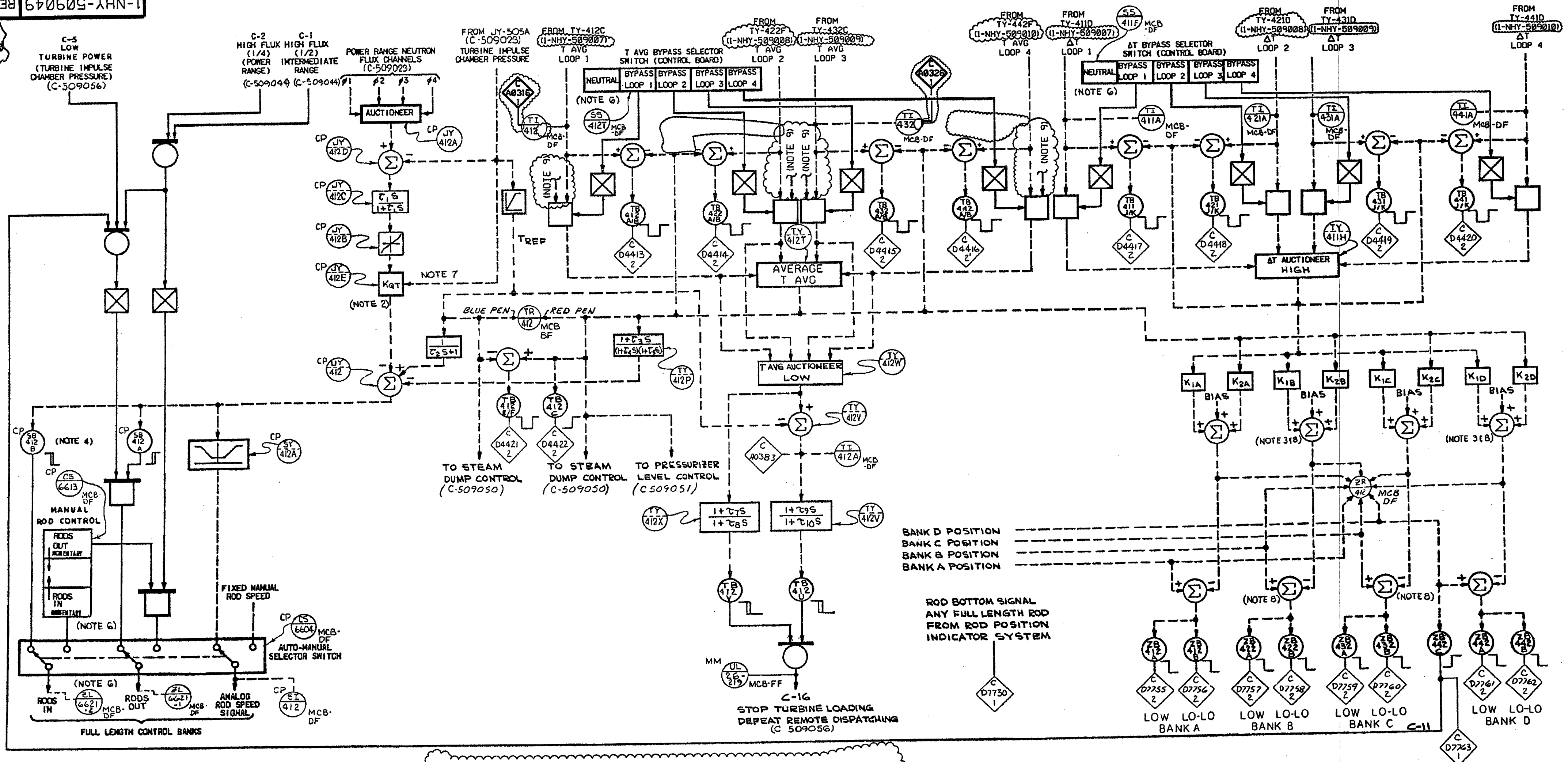
REDRAW OF F.P. 70319
W 7245D02 SH. 7



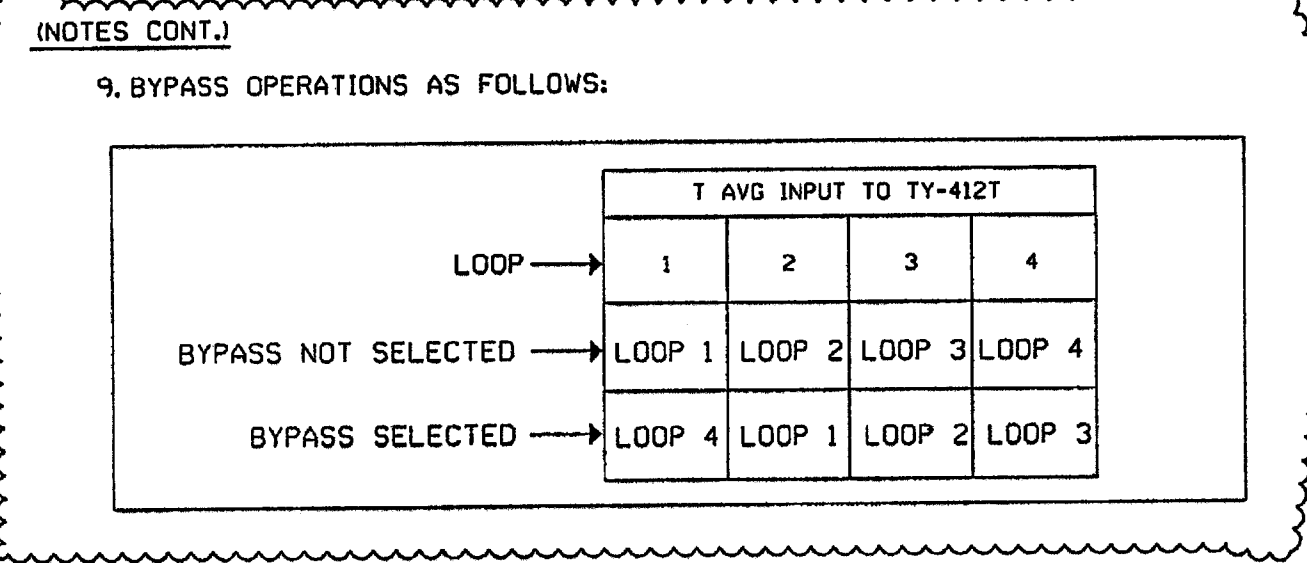
NUCLEAR-SAFETY-RELATED									
1	9/19/01	EAB	EAB	TJM	JLP	MS	EDITORIAL CORRECTION REF CR 04-02797		
0	12/1/98	RJS	RJS	MRJ	WVF	CM	REDRAWN INCORP. DCR 94-0002, CA- EDITORIAL CHANGES		
REV	DATE	DSN	DRN	CHKD	CE	LDE	DESCRIPTION		
FPL Energy									
				FW STM GEN TRIP SIGNALS W FUNCTIONAL DIAGRAMS SHEET 2 of 2					
				1-NHY-509047 SH.2 REV 1					
Seabrook Station									

REDRAW OF F.P. 70319
W 7245002 SHT. 7





- NOTES**
1. ALL CIRCUITS ON THIS SHEET ARE NOT REDUNDANT.
 2. KGT MAY VARY INVERSELY PROPORTIONAL TO LOAD WITH A FIXED LIMIT OR MAY VARY IN TWO DISCRETE STEPS WITH BREAK POINTS AT 30 TO 50 % AND GO TO 80 % TURBINE LOAD.
 3. THE SUMMER OUTPUTS HAVE FIXED MANUALLY ADJUSTABLE UPPER LIMITS.
 4. THE ROD DIRECTION BISTABLES NO. SB-412A AND SB-412B ARE "ENERGIZED TO ACTUATE".
 5. SYSTEM PREFIX IS "RC" UNLESS OTHERWISE NOTED.
 6. THESE CONTROLS ON THE CONTROL BOARD ARE SUPPLIED BY U & C.
 7. REFER TO C-509023 FOR ACTUAL HARDWARE IMPLEMENTATION
 8. REFER TO C-509030 FOR ACTUAL HARDWARE IMPLEMENTATION



REFERENCE DWGS
M-506628 F.P. 70001 SH23,32,30,31
C-509023
C-509032
C-509030
C-509031

ISSUED-FOR-CONSTRUCTION

8	10/10/85	TPG	MRB	ACD	RS	CR 05-01761-01 EDITORIAL CHANGES
7	4/22/85	MRB	TLH	RCD	CM	INCRP DCR 04-001, DCN-00
6	11/6/92	JWB	WDS	RWM	BEB	INCRP DCR 92-033, CA-01
REV	DATE	DRWN	CHKD	CE	LOE	DESCRIPTION

FPL Energy Seabrook Station

**ROD CONTROL & BLOCKS
W FUNCTIONAL DIAGRAMS**

1-NHY-509049 REV 07