



SEABROOK STATION  
Engineering Office

Public Service of New Hampshire

New Hampshire Yankee Division

September 9, 1985

SBN- 868  
T.F. B4.2.99

United States Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. George W. Knighton, Chief  
Licensing Branch No. 3  
Division of Licensing

References:

- a. Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444
- b. USNRC Letter, dated July 8, 1983, "Required Action Based on Generic Implication of Salem ATWS Events (Generic Letter 83-28)" D. G. Eisenhower to all Licensees of Operating Reactors, Applicants for Operating License and Holders of Construction Permits
- c. USNRC Letter, dated August 10, 1983, "Safety Evaluation Report on the Generic Westinghouse Design for Automatic Shunt Trip Actuation," D. G. Eisenhower to J. J. Sheppard (WOG)
- d. PSNH Letter (SBN-576), dated November 4, 1983, "Response to Generic Letter 83-28," J. DeVincentis to G. W. Knighton

Subject: Additional Response to Generic Letter 83-28 (Positions 4.1 and 4.3)

Dear Sir:

Provided herewith are Enclosures 1 and 2 which contain the plant-specific information requested in Position 4.3 of Reference (c). The enclosed, however, is a partial response since plant-specific test procedures have not been completed at this time (i.e., cannot "verify" procedure content). However, these responses do provide the basis on which we intend to proceed with developing the procedures. A completed response for these items will be made by November 29, 1985.

Although not applicable to the request for plant-specific information, it should be noted that the equipment modifications discussed in response to Generic Letter 83-28, Positions 4.1 and 4.3 [Reference (d)], have been completed for Unit 1. The modification described in Position 4.1 was also identified to Region I as a 10CFR50.55(e) deficiency (Reference CDR 83-00-07).

B509110369 B50909  
PDR ADOCK 05000443  
A PDR

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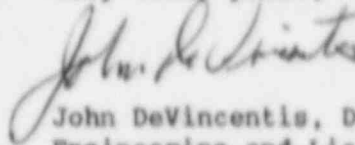
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11

United States Nuclear Regulatory Commission  
Attention: Mr. George W. Knighton

Page 2

We request that you review the enclosed and advise by October 18, 1985 that the completed responses are acceptable.

Very truly yours,

A handwritten signature in dark ink, appearing to read "John DeVincentis", is written over the typed name.

John DeVincentis, Director  
Engineering and Licensing

Enclosures

cc: Atomic Safety and Licensing Board Service List

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ENCLOSURE 1

Plant-Specific (Seabrook) Design Information  
Required for Westinghouse Plants Incorporating  
the Automatic Shunt Trip Modification

ENCLOSURE 1

Plant-Specific (Seabrook) Design Information  
Required for Westinghouse Plants Incorporating  
the Automatic Shunt Trip Modification

1. Request

"Provide the electrical schematic/elementary diagrams for the reactor trip and bypass breakers showing the undervoltage and shunt coil actuation circuits as well as the breaker control (e.g., closing) circuits and circuits providing breaker status information/alarms to the Control Room."

Response

Electrical schematic diagrams for the reactor trip and bypass breakers are provided in Enclosure 2.

2. Request

"Identify the power sources for the shunt trip coils. Verify that they are Class 1E and that all components providing power to the shunt trip circuitry are Class 1E and that any faults within non-Class 1E circuitry will not degrade the shunt trip function. Describe the annunciation/indication provided in the Control Room upon loss of power to the shunt trip circuits. Also describe the overvoltage protection and/or alarms provided to prevent or alert the operator(s) to an overvoltage condition that could affect both the UV coil and the parallel shunt trip actuation relay."

Response

Control power for the reactor trip and bypass breaker shunt trip coils is supplied from the Class 1E 125 V dc station batteries and dc distribution system. There is no non-Class 1E circuitry whose failure could degrade the Class 1E shunt trip circuitry.

Indication of power availability to the shunt trip coil circuits is provided by the circuit breaker red (closed) and green (open) position indication lights. Normally, one light would be on depending on breaker position. If both lights are out, this would indicate a problem with power availability. In addition, various auxiliary relays are picked up when the reactor trip breakers are closed for normal power operation. Loss of control power would cause the relays to drop out. The resulting incorrect indication and alarm would lead to detection of the loss of control power. Loss of control power caused by loss of the dc system (loss of power to the 125 V dc distribution panel) would be alarmed by the dc system undervoltage alarms.

The UV coil and the parallel shunt trip actuation relay receive power from the Solid State Protection System (SSPS). The power supply within the SSPS has overvoltage protection set at 115% of nominal voltage

ENCLOSURE 1  
(Continued)

(48 V dc). The UV coil and the parallel shunt trip actuation relay have been designed to perform their function up to a voltage as high as 115% of nominal voltage.

3. Request

"Verify that the relays added for the automatic shunt trip function are within the capacity of their associated power supplies and that the relay contacts are adequately sized to accomplish the shunt trip function. If the added relays are other than the Potter & Brumfield MDR series relays (P/N 2383A38 or P/N 955655) recommended by Westinghouse, provide a description of the relays and their design specifications."

Response

The automatic shunt trip modification has been purchased as a package from Westinghouse. Westinghouse has verified that the relays are within the capacity of their associated power supply and that the relay contacts are adequately sized to accomplish the shunt trip function. The relays provided for the Seabrook modification are Potter & Brumfield MDR series relays, Westinghouse Part Number 955655.

4. Request

"State whether the test procedure/sequence used to independently verify operability of the undervoltage and shunt trip devices in response to an automatic reactor trip signal is identical to the test procedure proposed by the Westinghouse Owners Group (WOG). Identify any differences between the WOG test procedure and the test procedure to be used and provide the rationale/justification for these differences."

Response

Seabrook's test procedure will be identical to the procedure proposed by the Westinghouse Owners Group (WOG) which was contained in WOG Letter Number OG-101 from J. J. Sheppard to D. G. Eisenhut, dated June 14, 1983. Upon completion of plant-specific procedures, we will confirm the procedures are identical.

5. Request

"Verify that the circuitry used to implement the automatic shunt trip function is Class 1E (safety-related), and that the procurement, installation, operation, testing and maintenance of this circuitry will be in accordance with the quality assurance criteria set forth in Appendix B to 10 CFR Part 50."

Response

The circuitry used to implement the automatic shunt trip function is Class 1E (safety-related) and therefore, the procurement, installation, operation, testing and maintenance of this circuitry will be in

ENCLOSURE 1  
(Continued)

accordance with the quality assurance criteria set forth in Appendix B to 10 CFR Part 50.

6. Request

"Verify that the shunt trip attachments and associated circuitry are/will be seismically qualified (i.e., be demonstrated to be operable during and after a seismic event) in accordance with the provisions of Regulatory Guide 1.100, Revision 1, which endorses IEEE Standard 344 and that all nonsafety-related circuitry/components in physical proximity to or associated with the automatic shunt trip function will not degrade this function during or after a seismic event."

Response

The shunt trip attachment and associated circuitry have been seismically qualified by Westinghouse in accordance with the provisions of Regulatory Guide 1.100, Revision 1, which endorses IEEE Standard 344. Since the automatic shunt trip circuitry/components are mounted in the reactor trip switchgear which has been seismically qualified, there are no nonsafety-related circuitry/components which can fail and degrade the automatic shunt trip functions during or after a seismic event.

7. Request

"Verify that the components used to accomplish the automatic shunt trip function are designed for the environment where they are located."

Response

The components used to accomplish the automatic shunt trip function have been designed and tested for the environment of the Switchgear Room as follows:

Normal Temperature

Seabrook Environment	55-104°F
Westinghouse Qualification	60-104°F

The slightly lower minimum temperature of the Switchgear Room will not effect the operation of the Reactor Trip Switchgear.

Abnormal Temperature

Seabrook Environment	107°F maximum for 2 hours
Westinghouse Qualification	120°F maximum for 12 hours

The qualification temperature envelopes the actual temperature.



ENCLOSURE 1  
(Continued)

Humidity

Seabrook Environment	60% maximum
Westinghouse Qualification	95% maximum

The qualification humidity envelopes the actual humidity.

Pressure

Seabrook Environment	Slightly positive
Westinghouse Qualification	Atmospheric

The slightly positive pressure will not effect the operation of the Reactor Trip Switchgear.

Radiation

Seabrook Environment	$< 1 \times 10^3$ R
Westinghouse Qualification	$< 1 \times 10^4$ R

The qualification radiation envelopes the actual radiation levels.

Margin was added to the above qualification parameters during the qualification program.

8. Request

"Describe the physical separation provided between the circuits used to manually initiate the shunt trip attachments of the redundant reactor trip breakers. If physical separation is not maintained between these circuits, demonstrate that faults within these circuits cannot degrade both redundant trains."

Response

The control switches (reactor trip and safety injection) to manually initiate the shunt trip attachment to provide reactor trip are located on the main control board. The redundant train wiring is separated on the control switches by barriers and is routed in separate conduits/wireways within the main control board to terminal blocks for termination of field cable. The redundant train cabling from the main control board to the reactor trip switchgear is routed in separate raceways. Within the reactor trip switchgear, the wiring is routed in separate wireways in accordance with the standard Westinghouse design. The automatic shunt trip panels are located within the switchgear enclosure for their respective train. The above separation is in accordance with the physical separation criteria as given in the FSAR.



ENCLOSURE 1  
(Continued)

9. Request

"Verify that the operability of the Control Room manual reactor trip switch contacts and wiring will be adequately tested prior to startup after each refueling outage. Verify that the test procedure used will not involve installing jumpers, lifting leads, or pulling fuses and identify and deviations from the WOG procedure. Permanently installed test connections (i.e., to allow connection of a voltmeter) are acceptable."

Response

The operability of the Control Room manual reactor trip switch contacts and wiring will be tested prior to startup after each refueling outage. Westinghouse has indicated that the only procedure they have for testing the manual trip switches was contained in Westinghouse Technical Bulletin 83-03; however, that procedure required installing jumpers and removing fuses. Seabrook's procedure will follow the general concept of the Technical Bulletin, but will use portable voltmeters to monitor operation of the manual trip switch contacts and will not involve installing jumpers, lifting leads or removing fuses. Upon completion of plant-specific procedures, we will confirm procedure compliance with the above.

10. Request

"Verify that each bypass breaker will be tested to demonstrate its operability prior to placing it into service for reactor trip breaker testing."

Response

Plant procedures will require that each bypass breaker will be tested, using the local close and trip pushbutton switches, to demonstrate its operability prior to placing it into service for reactor trip breaker testing. Upon completion of plant-specific procedures, we will confirm procedure compliance with this requirement.

11. Request

"Verify that the test procedure used to determine reactor trip breaker operability will also demonstrate proper operation of the associated Control Room indication/annunciation."

Response

Plant procedures will verify proper operation of the Control Room indication/annunciation during operability testing of the reactor trip breakers. Upon completion of plant-specific procedures, we will confirm procedure compliance with this requirement.

ENCLOSURE 1  
(Continued)

12. Request

"Verify that the response time of the automatic shunt trip feature will be tested periodically and shown to be less than or equal to that assumed in the FSAR analyses or that specified in the Technical Specifications."

Response

The response time of the automatic shunt trip feature will be periodically tested. Upon completion of plant-specific procedures, we will confirm procedure compliance with this requirement.

13. Request

"Propose Technical Specification changes to require periodic testing of the undervoltage and shunt trip functions and the manual reactor switch contacts and wiring."

Response

Technical Specifications for the reactor trip breakers and the manual reactor switch contacts and wiring will be addressed during the review and finalization of Seabrook's Technical Specifications.

ENCLOSURE 2

Schematic Diagrams

Schematic Number 9763-M-310944

Sheets: HD2a  
HD2b  
HD2c  
HD3a  
HD3b  
HD3c  
HD3d  
HD3e

LEGEND

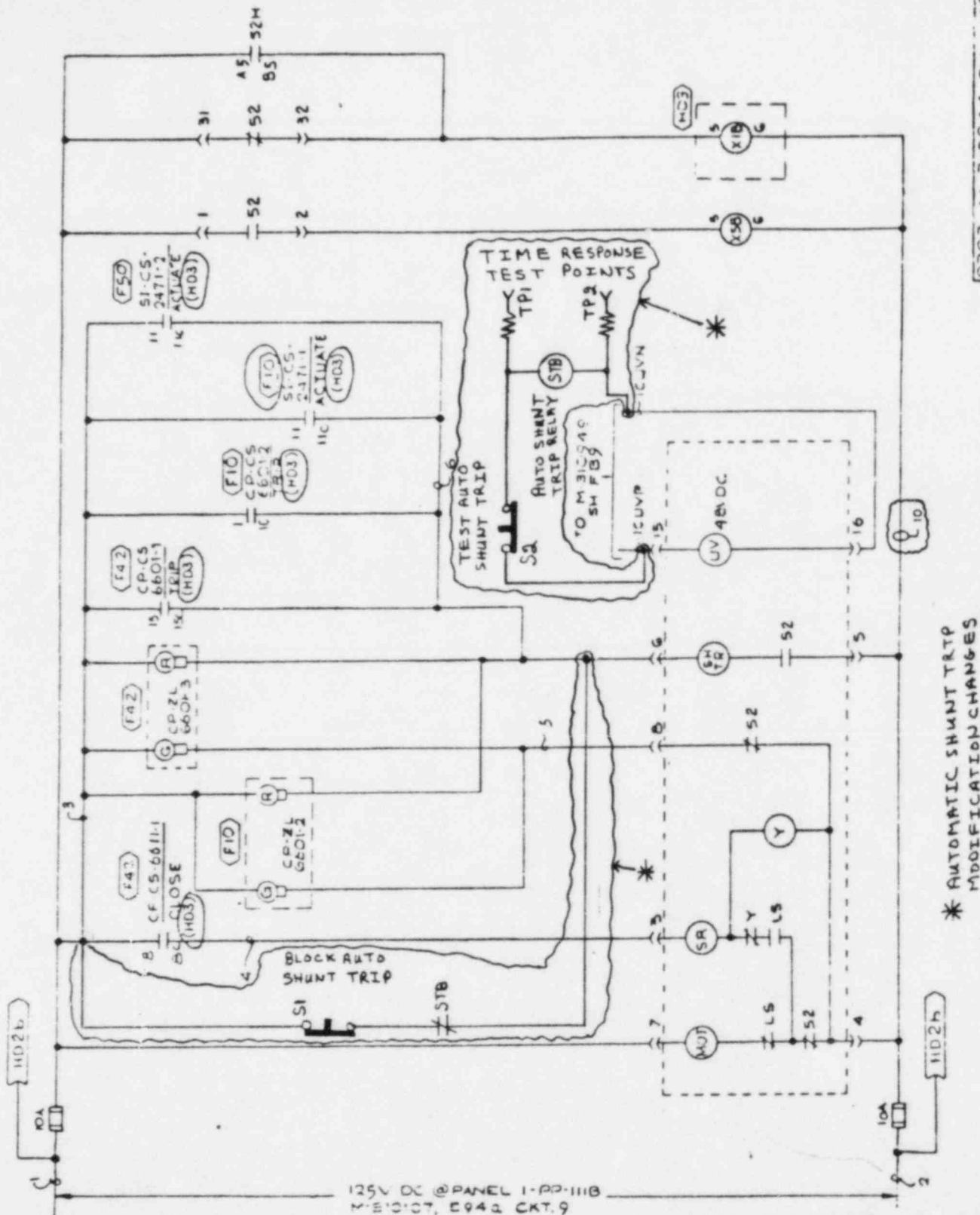
RTA - Reactor Trip Breaker, A Train  
BYA - Bypass Breaker, A Train  
RTB - Reactor Trip Breaker, B Train  
BYB - Bypass Breaker, B Train

F42 - Typical node number, "F" indicates located in Main Control Room  
HD3 - Typical node number, "H" indicates located at Reactor Trip Switchgear

M-310949 - Schematic number, indicates interface with Solid State Protection System

M-310181 - Schematic number, indicates interface with Station Computer System for alarms

STRUCT	NA	INST & CONTR	NA	DATE
MECH	NA	ELEC	NA	12/27/72
NUCLEAR	NA	MECH SVCS	NA	12/27/72



\* AUTOMATIC SHUNT TRIP  
MODIFICATION CHANGES

INFO ONLY

REV.	DATE	DESCRIPTION	OWN.	CHK.
2	12/7/82	REV AS NOTED		
1	2/25/81	REVISED PER DCN 03/01/80A		
0	11/8/79	FIRST ISSUE PER DCN 03/01/80A		

NUCLEAR SAFETY RELATED  
B TRAIN LOAD GROUP

REACTOR TRIP BREAKER  
RTB

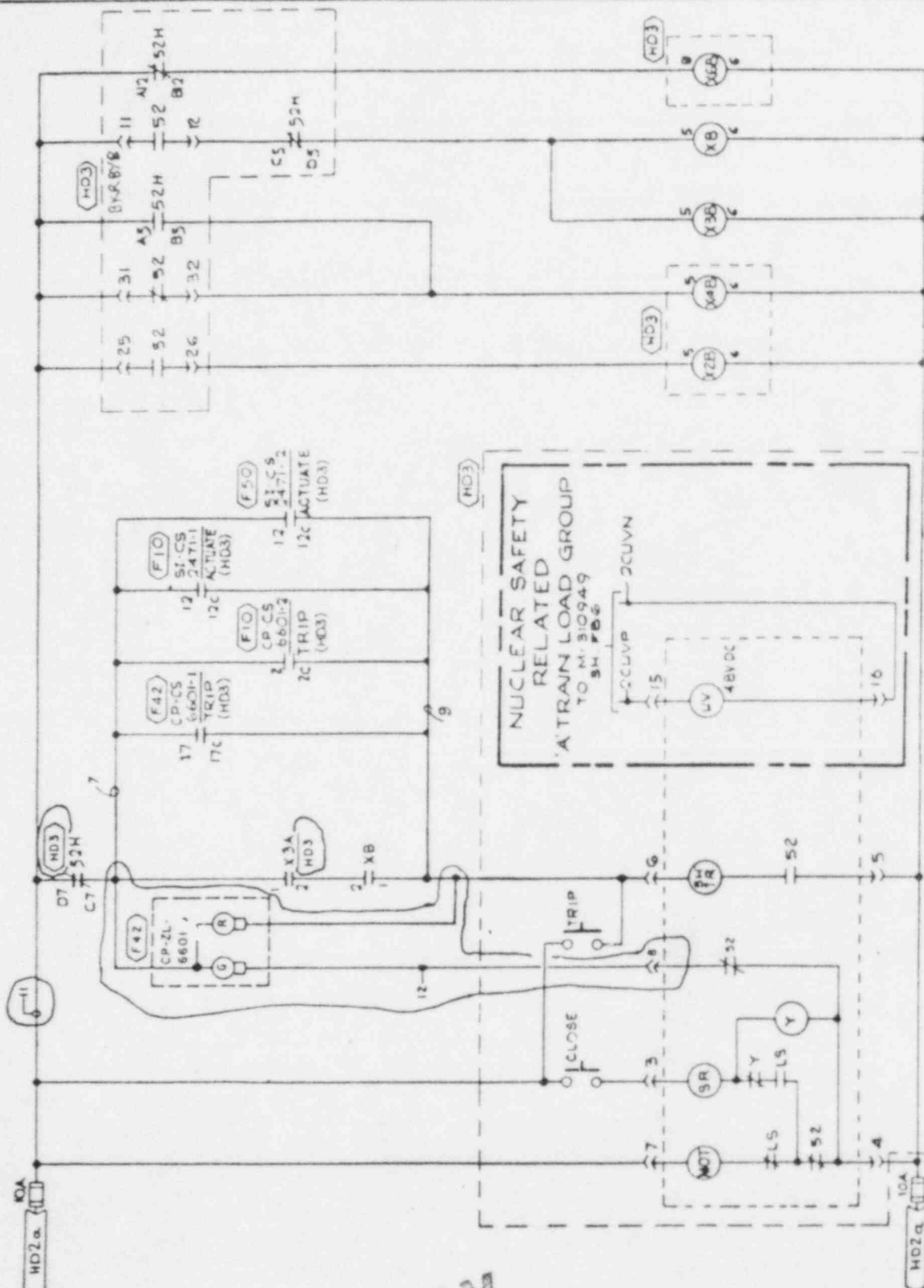
SCHEMATIC DIAGRAM  
PUBLIC SERVICE CO. OF NEW HAMPSHIRE  
SEABROOK STATION

United engineers

9763-M-310944 SH-HD2a

9763-M-310944 SH-HD2a

DISCIPLINE	LEAD ST	DATE	DISCIPLINE	SUBJ	DATE
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MECH	NA	-	ELECT	NA	12-84
NUCLEAR	NA	-	MECH SVCS	NA	-



NUCLEAR SAFETY RELATED  
B TRAIN LOAD GROUP

REACTOR TRIP BREAKER

BYB

SCHEMATIC DIAGRAM

PUBLIC SERVICE CO. OF NEW HAMPSHIRE

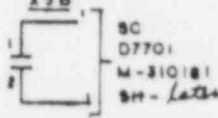
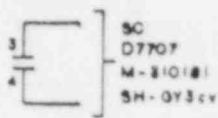
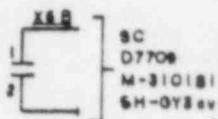
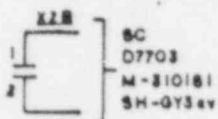
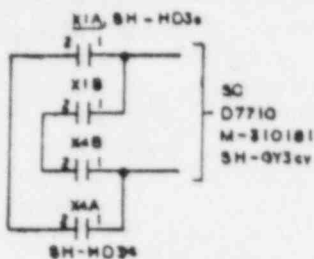
SEASON-ONE STATION

 **united engineers**, INCORPORATED

9763-M-310944 SH-HD2b

3	20-04	REV PER ECA 05/1852A	AFB
2	12-17-82	REV AS NOTED	AF
1	2-15-84	REVISED PER DCN- 05/0970A 05/0401A	REP
0	11-8-79	FIRST ISSUE PER DCN 03/0130A	AF
	REV. DATE	DESCRIPTION	OWN. BY

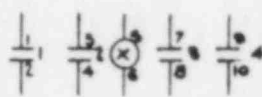
9763-M-310944SH-HD2b



# LEGEND

DEV	DESCRIPTION	MFR	TYPE
C5	CONTROL SWITCH	GE	SBM
52	CIRCUIT BREAKER		
52H	TRUCK OPERATED CONTACTS		
X8	AUX RELAY		
X1A,8	AUX RELAY		
X2B	AUX RELAY		
X3B	AUX RELAY		
X4A,8	AUX RELAY		
X5B	AUX RELAY		
X6B	AUX RELAY		

9763-M-310944 SH-HD2c



RELAY DESIGNATION							
	X8	X1B	X2B	X3B	X4B	X5B	X6B
1	HD2b	TH. SH.	TH. SH.	HD3b	TH. SH.	TH. SH.	TH. SH.
2	SPARE	SPARE	TH. SH.	SPARE	SPARE	SPARE	SPARE
3	SPARE	M310941 SH F83/1A	M310941 SH F83/1A	SPARE	M310941 SH F83/1A	M310941 SH F83/1A	SPARE
4	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE

## REFERENCE DRAWINGS

### BREAKER-RTB

#### DEV 52

- 1-2 HD2a
- 11-12 SPARE
- 13-14 M-310966, EHO/15b
- 21-22 SPARE
- 23-24 M310949 F89\*
- TP3 25-26 SPARE TP4  
TIME RESPONSE  
TEST  
POINTS
- 27-28 SPARE
- 29-30 SPARE
- 31-32 HD2a

#### DEV 52H

- 45-46 HD2a
- 46-47 SPARE
- 48-49 M-310966, EHO/15b
- 49-50 M310949 F89\*
- 51-52 SPARE
- 53-54 SPARE
- 55-56 SPARE
- 57-58 SPARE
- 59-60 SPARE
- 61-62 SPARE
- 63-64 SPARE
- 65-66 SPARE
- 67-68 SPARE
- 69-70 SPARE
- 71-72 SPARE
- 73-74 SPARE
- 75-76 SPARE
- 77-78 SPARE
- 79-80 SPARE
- 81-82 SPARE
- 83-84 SPARE
- 85-86 SPARE
- 87-88 SPARE
- 89-90 SPARE
- 91-92 SPARE
- 93-94 SPARE
- 95-96 SPARE
- 97-98 SPARE
- 99-100 SPARE

### BREAKER-BYB

#### DEV 52

- 1-2 SPARE
- 11-12 HD2b
- 13-14 M-310966, EHO/15b
- 21-22 SPARE
- 23-24 M310949 F89\*
- 25-26 HD2b
- 27-28 SPARE
- 29-30 M310949 F89\*
- 31-32 HD2b

#### DEV 52H

- 45-46 HD2b
- 46-47 HD2b
- 48-49 M-310966, EHO/15b
- 49-50 HD2b
- 51-52 HD2b
- 53-54 M310949 F89\*
- 55-56 HD2b
- 57-58 SPARE
- 59-60 HD2b
- 61-62 M310949 F89\*
- 63-64 HD2b
- 65-66 M310949 F89\*
- 67-68 SPARE
- 69-70 HD2b
- 71-72 M310949 F89\*
- 73-74 SPARE
- 75-76 HD2b
- 77-78 M310949 F89\*
- 79-80 SPARE
- 81-82 HD2b
- 83-84 M310949 F89\*
- 85-86 SPARE
- 87-88 HD2b
- 89-90 M310949 F89\*
- 91-92 SPARE
- 93-94 HD2b
- 95-96 M310949 F89\*
- 97-98 SPARE
- 99-100 HD2b

\* AUTOMATIC SHUNT TRIP  
MODIFICATION CHANGE

INFO ONLY

REV.	DATE	DESCRIPTION	OWN.	BY
1	12-78	REV. PER ECA 05/1852A	APB	
2	12-78	REV. AS NOTED	APB	
3	12-78	REVISED CONTACTS, ADDED DNG NOS ECC PER D1403/0609	APB	
4	11-8-78	FIRST ISSUE	APB	

REACTOR TRIP BREAKERS  
RTB, BYB  
LEGEND & SW DEVELOPMENT  
PUBLIC SERVICE CO. OF NEW HAMPSHIRE  
SEABROOK STATION  
United engineers  
9763-M-310944 SH-HD2c

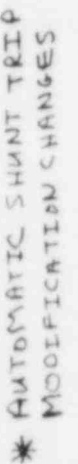


**INFO ONLY**

NUCLEAR SAFETY RELATED  
A TRAIN LOAD GROUP

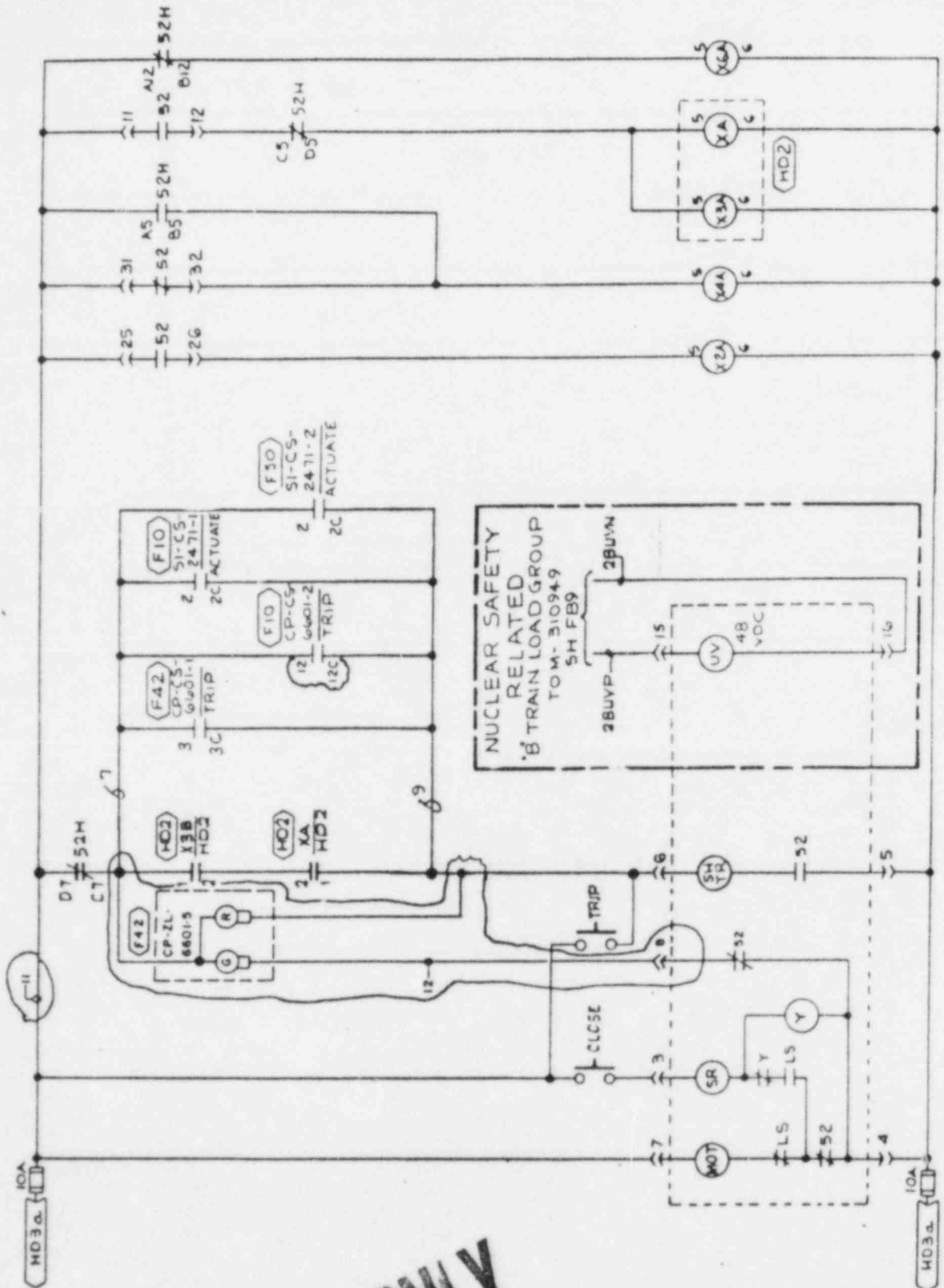
SCHEMATIC DIAGRAM  
PUBLIC SERVICE CO. OF NEW HAMPSHIRE  
SEABROOK STATION

9763-M-310944 SH-H03a



9763-M-310944 SH-HD3a

DISCIPLINE	CD BY	DATE	DISCIPLINE	CD BY	DATE
STRUCT	NA	-	INST & CONTR	NA	12/24/64
MECH	NA	-	ELECT	NA	1/24/64
NUCLEAR	NA	-	MECH SVCS	NA	-



INFO ONLY

NUCLEAR SAFETY RELATED  
A TRAIN LOAD GROUP

REACTOR TRIP BREAKER  
BYA

SCHEMATIC DIAGRAM  
PUBLIC SERVICE CO. OF NEW HAMPSHIRE

SEABROOK STATION  
United engineers

REV.	DATE	DESCRIPTION	OWN.	CD.
1	11-8-78	FIRST ISSUE PER OCN 05/0154A	RW	
2	12-7-82	REV. PER OCN 05/0154A, 05/0401A	RIF	
3	12-7-82	REV. AS NOTED	AFB	
4	12-20-84	REV. PER ECA 05/1852A	AFB	

9763-M-310944 SH-HD3b

9763-M-310944 SH-HD3b

# CONTROL SWITCH SI-CS-2471-1

G.E. CO. TYPE SBI CAT NO. (SPECIAL)	CONTACTS HANDLE END	CONTACTS	ACTUATE	REFERENCE DRAWING
1	1C 2C 2	1	X	HD3a
2	1C 2C 2	2	X	HD3b
3	3C 4C 4	3	X	SPARE
4	3C 4C 4	4	X	SPARE
5	5C 6C 6	5	X	SPARE
6	5C 6C 6	6	X	SPARE
7	7C 8C 8	7	X	M-310890 SH4d
8	7C 8C 8	8	X	M-310949 FB6f
9	9C 10C 10	9	X	M-310949 FB6f
10	9C 10C 10	10	X	SPARE
ISOLATION BARRIER				
11	11C 12C 12	11	X	HD2a
12	11C 12C 12	12	X	HD2b
13	13C 14C 14	13	X	SPARE
14	13C 14C 14	14	X	SPARE
15	15C 16C 16	15	X	SPARE
16	15C 16C 16	16	X	SPARE
17	17C 18C 18	17	X	M-310890 SH4d
18	17C 18C 18	18	X	M-310949 FB9f
19	19C 20C 20	19	X	M-310949 FB9f
20	19C 20C 20	20	X	SPARE
SPRING RETURN				

# LEGEND

DEV	DESCRIPTION	MFR	TYPE
CS	CONTROL SWITCH	GE	SBM
32	CIRCUIT BREAKER	W	
32H	TRUCK OPERATED CONTACT	W	
XA	AUX RELAY	W	
X2A	AUX RELAY	W	
X3A	AUX RELAY	W	
X4A	AUX RELAY	W	
X6A	AUX RELAY	W	
X1A	AUX RELAY	W	
X9A	AUX RELAY	W	

# CONTROL SWITCH SI-CS-2471-2

G.E. CO. TYPE SBI CAT NO. (SPECIAL)	CONTACTS HANDLE END	CONTACTS	ACTUATE	REFERENCE DRAWING
1	1C 2C 2	1	X	HD3a
2	1C 2C 2	2	X	HD3b
3	3C 4C 4	3	X	SPARE
4	3C 4C 4	4	X	SPARE
5	5C 6C 6	5	X	SPARE
6	5C 6C 6	6	X	SPARE
7	7C 8C 8	7	X	M-310890 SH4d
8	7C 8C 8	8	X	M-310949 FB6f
9	9C 10C 10	9	X	M-310949 FB6f
10	9C 10C 10	10	X	SPARE
ISOLATION BARRIER				
11	11C 12C 12	11	X	HD2a
12	11C 12C 12	12	X	HD2b
13	13C 14C 14	13	X	SPARE
14	13C 14C 14	14	X	SPARE
15	15C 16C 16	15	X	SPARE
16	15C 16C 16	16	X	SPARE
17	17C 18C 18	17	X	M-310890 SH4d
18	17C 18C 18	18	X	M-310949 FB9f
19	19C 20C 20	19	X	M-310949 FB9f
20	19C 20C 20	20	X	SPARE
SPRING RETURN				

DISCIPLINE	CRD. BY	DATE	DISCIPLINE	CRD. BY	DATE
STRUCT.	NA	5/17/84	INST. & CONTR.	NA	5/17/84
MECH.	NA	5/17/84	ELECT.	NA	5/17/84
WELDER	NA	5/17/84	MECH SVCS	NA	5/17/84

INFO ONLY

REV.	DATE	DESCRIPTION	CHKD. BY	CRD. BY
1	5-17-84	ADDED CS TRAIN SEPARATION PER SB-17600	AL	NA
2	5-20-84	REV. AS NOTED	AFB	NA
1	5-25-84	REVISED SW TYPE ADDED & REVISED DWH. NOS.	RFP	NA
0	11-8-78	FIRST ISSUE	RW	NA
REACTOR TRIP BREAKERS RTA, BYA LEGEND & SW DEVELOPMENT PUBLIC SERVICE CO. OF NEW HAMPSHIRE SEABOARD STATION united engineers & architects, inc. 9763-M-310944 SH+HD3c				

9763-M-310944 SH+HD3c

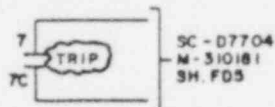
CONTROL SWITCH CP-CS-6601-1

CONTACTS HANDLE END	CONTACTS	TRIP	CENTER	REFERENCE DRAWING
1 1C 2C 2	1	X		HD3a
3 3C 4C 4	2		X	SPARE
5 5C 6C 6	3	X		HD3b
7 7C 8C 8	4		X	SPARE
9 9C 10C 10	5	X		SPARE
11 11C 12C 12	6		X	SPARE
13 13C 14C 14	7	X		THIS SH
	8		X	SPARE
	9	X		SPARE
	10		X	SPARE
	11	X		E93/10a
	12		X	SPARE
	13	X		SPARE
	14		X	SPARE
ISOLATION BARRIER				
15 15C 16C 16	15	X		HD2a
17 17C 18C 18	16		X	SPARE
19 19C 20C 20	17	X		HD2b
	18		X	SPARE
21 21C 22C 22	19	X		SPARE
	20		X	SPARE
23 23C 24C 24	21	X		SPARE
	22		X	SPARE
25 25C 26C 26	23	X		E94/10a
	24		X	SPARE
	25	X		SPARE
	26		X	SPARE
SPRING RETURN				

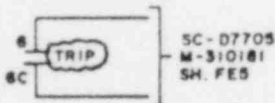
TRAIN A

TRAIN B

CP-CS-6601-1



CP-CS-6601-2



CONTROL SWITCH CP-CS-6601-2

CONTACTS HANDLE END	CONTACTS	TRIP	CENTER	REFERENCE DRAWING
1 1C 2C 2	1	X		HD2a
3 3C 4C 4	2		X	HD2b
5 5C 6C 6	3	X		SPARE
7 7C 8C 8	4		X	SPARE
	5	X		E94/10a
	6		X	THIS SH
	7	X		SPARE
	8		X	SPARE
ISOLATION BARRIER				
9 9C 10C 10	9	X		HD3a
11 11C 12C 12	10		X	HD3b
13 13C 14C 14	11		X	SPARE
15 15C 16C 16	12		X	SPARE
17 17C 18C 18	13	X		E93/10a
	14		X	SPARE
	15	X		SPARE
	16		X	SPARE
SPRING RETURN				

TRAIN B

TRAIN A

CONTROL SWITCH CP-CS-6611-1

CONTACTS HANDLE END	CONTACTS	CENTER	CLOSE	REFERENCE DRAWINGS
1 1C 2C 2	1	X		SPARE
3 3C 4C 4	2		X	HD3a
5 5C 6C 6	3	X		SPARE
	4		X	E93/10a
	5	X		SPARE
	6		X	SPARE
ISOLATION BARRIER				
7 7C 8C 8	7	X		SPARE
9 9C 10C 10	8		X	HD2a
11 11C 12C 12	9	X		SPARE
	10		X	E94/10a
	11	X		SPARE
	12		X	SPARE
SPRING RETURN				

TRAIN A

TRAIN B

DISCIPLINE	CRD. BY	DATE	DISCIPLINE	CRD. BY	DATE
STRUCT.	NA	7-20-84	INST. & CONTR.	NA	7-20-84
MECH.	NA	7-20-84	ELECT.	NA	7-20-84
NUCLEAR	NA	7-20-84	MECH. SVCS.	NA	7-20-84

INFO ONLY

REV.	DATE	DESCRIPTION	OWN.	CRD. BY
4		REV AS NOTED	RW	
3	9-21-83	REV. PER ECA 99/1098A	Ad	
2	12-17-82	REV. AS NOTED	Ad	
1	1-15-81	REVISED CAT. NO TYPE, CONTACT DESIGNATION & PER DGN 03/0735A & 03/0736A	ECP	
0	11-8-79	FIRST ISSUE PER DGN 03/0196	RW	

REACTOR TRIP BREAKERS  
RTA, BYA  
SWITCH DEVELOPMENT

PUBLIC SERVICE CO. OF NEW HAMPSHIRE  
SEABOARD STATION

United engineers & architects inc.

9763-M-310944 SH-HD3d

BREAKER RTA

BREAKER BYA

DEV-52

DEV-52H

DEV-52

DEV-52H

1  $\rightarrow$  2 HD3a  
 11  $\rightarrow$  12 SPARE  
 13  $\rightarrow$  14 M310961 E91/4a  
 21  $\rightarrow$  22 SPARE  
 23  $\rightarrow$  24 M310949 FB6F  
 TP3 25  $\rightarrow$  26 SPARE TP4  
 27  $\rightarrow$  28 SPARE TIME RESPONSE  
 29  $\rightarrow$  30 SPARE TEST  
 31  $\rightarrow$  32 HD3a POINTS

A5 B5 HD3a  
 A6 B6 SPARE  
 A1 B1 M310961 E91/4a  
 A11 B11 M310949 FB6F  
 C12 D12 SPARE  
 A7 B7 SPARE

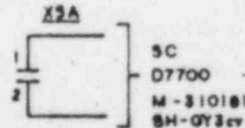
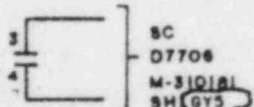
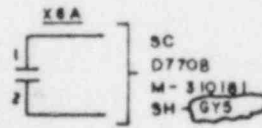
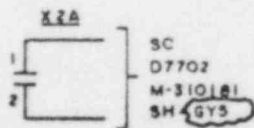
1  $\rightarrow$  2 SPARE  
 11  $\rightarrow$  12 HD3b  
 13  $\rightarrow$  14 M310961 E91/4a  
 21  $\rightarrow$  22 SPARE  
 23  $\rightarrow$  24 M310949 FB6F  
 25  $\rightarrow$  26 HD3b  
 27  $\rightarrow$  28 SPARE  
 29  $\rightarrow$  30 M310949 FB6G  
 31  $\rightarrow$  32 HD3b

A5 B5 HD3b  
 A12 B12 HD3b  
 A1 B1 M310961 E91/4a  
 C7 D7 HD3b  
 A11 B11 M310949 FB6F  
 A6 B6 SPARE  
 C12 D12 SPARE  
 C5 D5 HD3b  
 C6 D6 M310949 FB6G  
 A7 B7 SPARE

\* AUTOMATIC SHUNT TRIP  
 MODIFICATION CHANGE

CONTACTS	RELAY DESIGNATION						
	XA	X1A	X2A	X3A	X4A	X5A	X6A
1	HD3b	HD2c	TH. SH.	HD2b	HD2c	TH. SH.	TH. SH.
2	SPARE	SPARE	TH. SH.	SPARE	SPARE	SPARE	SPARE
3	SPARE	M310841 SH FB3/1	SPARE	SPARE	M310841 SH FB3/1	SPARE	SPARE
4	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE

REFERENCE DRAWINGS



**INFO ONLY**

REV.	DATE	DESCRIPTION	BY	CHKD.
3	11-82	PER ECA 05/1852A	AFB	
2	12-78	REV. AS NOTED	AFB	
1	1-79	REVISED AND ADDED REF DWH NRS PER 0405/0607A	BCF	
0	11-79	FIRST ISSUE	RW	
			DWH	BY

REACTOR TRIP BREAKERS  
 RTA, BYA  
 LEGEND & SW DEVELOPMENT  
 PUBLIC SERVICE CO. OF NEW HAMPSHIRE  
 SEABROOK STATION  
 United engineers  
 9763-M-310944 SH-HD3e

STRUCT	MECH	NUCLEAR	INST & CONTR	ELECT	MECH SVCS
N/A	N/A	N/A	N/A	N/A	N/A

9763-M-310944 SH-HD3e