Attachment 2
Haddam Neck Plant
Relay Evaluation Report

January 1994



# TRANSMITTAL RECORD

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# FOR CONNECTICUT YANKEE

# IN RESPONSE TO:

# NRC GENERIC LETTER 87-02/USI A-46

VERIFICATION OF SEISMIC ADEQUACY OF MECHANICAL AND ELECTRICAL EQUIPMENT IN OPERATING REACTORS

## PREPARED FOR:

NORTHEAST UTILITIES SERVICE COMPA'4Y
P.O. BOX 270
HARTFORD, CT 06141-0270

REPORT NUMBER: JOB NUMBER: REVISION: DATE: 03-0240-1352 0240-099 0 12/17/93

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# 1.0 INTRODUCTION

Seismic qualification of equipment in operating nuclear plants was identified as a potential safety concern in USNRC Unresolved Safety Issue (USI) A-46, "Seismic Qualification of Equipment in Operating Nuclear Power Plants". The specific NRC plan for demonstrating the seismic adequacy of equipment in operating nuclear plants is presented in NRC Generic Letter 87-02.

As part of the resolution of GL 87-02, it is necessary to perform a relay seismic functionality review. The purpose of this review is to determine if the plant's safe shutdown systems could be adversely affected by relay malfunction in the event of a Safe Shutdown Earthquake (SSE).

Basic technical guidance for this effort was obtained from the Generic Implementation Procedure (GIP) (Reference 5.1) and from the Electric Power Research Institute (EPRI) report EPRI NP-7148-SI (Reference 5.2). The methodology used to perform the relay evaluation is specified in ABB Impell Project Instructions (References 5.3 and 5.4).

# 2.0 SCOPE/METHOD

The process begins with obtaining a list of electrically operated USI A-46 components that require relay reviews from the Safe Shutdown Equipment List (SSEL) database. This list must not only include equipment that must change position or start to perform a safe shutdown function, it also must consider equipment whose inadvertent actuation due to contact chatter may compromise a safe shutdown function or provide misleading indications in the Control Room. This list of equipment will be a subset of the SSEL obtained by sorting the database using the "Evaluation Required" field. Components coded BR, SR and R will be included on the relay review list. The relay review SSEL is included as Attachment A. The subsequent steps are described in the following paragraphs.

Identify and obtain the associated electrical schematics and/or any other applicable drawings that will be required to identify relays associated with the selected electrical component. Review the circuit to identify those portions of the circuit which will affect the operation of the component. In completing the process of identifying associated relays, it may be necessary to review other schematics which contain other relays and contacts which may affect the subject component.

Evaluate the associated relays for each electrically operated component. Identify contacts that are inherently rugged or solid state which are considered not vulnerable to contact chatter and mark an "NV" in the Satisfactory (SAT) column on the relay tabulation sheet. The mechanically actuated limit and torque switches on motor operated valves are considered not seismically vulnerable. Therefore, these contacts were not listed on the relay tabulation sheets. Also identify the normal and required states of the component as indicated on the Relay Review List, and consider the required state of the component for a safe shutdown. Screen those relays whose contact chatter are acceptable; that is, relay chatter does not result in an unacceptable consequence or prevent the affected system from carrying out its required function. These relays are identified with a "CA" in the SAT column. Determine, along with Systems Engineers and Plant Operations, if operator action is an acceptable way of screening out the relay and

mark an "OA" in the SAT column. Add a note to the Relay Tabulation Sheets which will describe what operation action is to be taken. Relays whose SAT column remains blank after this evaluation are classified as "essential" and will have their seismic capacity compared to their seismic demand.

For essential relays, identify relay manufacturer, type and model number and also determine if the relay contact is normally open or normally closed, while de-energized, and if the relay coil is energized or not, by using the associated electrical schematics. Compare the essential relay's manufacturer, type and model number found with those identified in Appendix E of Document EPRI NP-7148-SL. Determine if there are any Seismically Sensitive Relays ("Bad Actors").

Identify the main and control power supplies and electrical distribution equipment for active electrically operated components so that this equipment can be included on the SSEL. When component relay reviews are complete, identify and highlight electrical distribution equipment on single line diagrams by tracing back from the electrical scheme power source to the preferred power supply.

Using the list of essential relays and associated data, identified in the above described process, the Seismic Capacity Engineers compare the capacity to the relays to the seismic demand. The methods used for this step are in accordance with the instructions of Reference 5.4 which requires compliance with Section 6 of the GIP and the referenced EPRI relay reports.

# 3.0 ASSUMPTIONS/LIMITATIONS

In accordance with the relay evaluation methodology outlined in the GIP (Ref. 5.1) and in EPRI NP-7148-SL (Ref. 5.2), the following assumptions were made.

- Relays/contact devices will be exposed to a 30-second earthquake.
- Relays/contact devices will not be permanently damaged, with the exception of two specific models: the GE IJD (non IE) and the English Electric YCG, as listed in Appendix E of EPRI NP-7148-SL (Ref. 5.2).
- "Chatter" is the inadvertent opening or closing of a contact with a sustained output of 2 milliseconds (Ref. 5.2).
- Relay/contact device failure modes are: a) contact chatter causes inadvertent and undesired equipment actuation, and b) contact chatter causes failure of equipment to actuate as desired.

# 4.0 RESULTS

A total of 1303 contacts were identified as associated relays and are listed in Attachment B.

A total of 453 contacts were identified as essential relays and are listed in Attachment C.

A total of 10 contacts were identified as seismically sensitive relays ("Bad Actors") and are

listed in Attachment D.

The Westinghouse COM-5 overcurrent (50/51) relays are all associated with pump breaker controls. The normally open contacts of the 50/51 relay are in series with the breaker lock-out (86) relay. Chatter of any of the normally open 50/51 contacts when the respective pump is running will energize the 86 relay. Energizing the 86 relays will trip open the breaker, stop the pump, and lock-out the breaker until the 86 relay is manually reset. In all cases, an operator action would be required to restart the pump or make the pump ready to start.

According to EPRI NP-7148-SL, all contacts on the **Westinghouse SV** (59) relays may chatter. These relay contacts are used in the diesel generator "ready to load" voltage permissive (52X) relay. One contact of the SV relay is in series with the "ready to load" permissive portion of the diesel breaker control circuit. Chattering of these relay contacts may prevent or delay the closing of the diesel generator output breaker.

All essential relays with known make and model and available capacities based on GERS were evaluated. All were shown to have higher capacity than demand. The results of these comparisons are included as Attachment F. Each unique make and model within a particular cabinet is documented on a SEWS; contact with identical make and model are then summarized as acceptable without an individual SEWS for each contact (since the SEWS will all be identical).

A listing and description of outliers is provided in Attachment G. Currently, these include the seismically sensitive relays listed in Attachment D, and relays with unknown make and models or with unknown seismic capacities

## 5.0 REFERENCES

- 5.1 "Generic Implementation Procedure (GIP) for Seismic Qualification of Nuclear Plant Equipment", Revision 2, Corrected February 1992.
- 5.2 EPRI NP-7148-SL, Project 2925-8 Final Report, December, 1990 "Procedure for Evaluating Nuclear Power Plant Relay Seismic Functionality".
- 5.3 ABB Impell Project Instruction 0240-099-002, "Identification of USI A-46 Safe Shutdown Equipment Relays", latest revision.
- 5.4 ABB Impell Project Instruction 0240-099-004, "Verification of Seismic Adequacy of Mechanical and Electrical Equipment at the Haddam Neck Plant", latest revision.
- 5.5 Connecticut Yankee Safe Shutdown Equipment List, Doc. No. 03-0240-1351, Revision 2, December 3, 1993.

# ATTACHMENT A

CONNECTICUT YANKEE - RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST

(14 Pages)

## PAGE No. 1 DATE 12/6/93

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

TRAIN		EOUIPMENT IO NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID		NORM STATE S REQD STATE EQ FUNCTION	POWER REQUI	SUPPORTING R SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
1	10	AC-23-1A	HVAC	SWITCHGEAR RM B AIR HANDLING UNIT		SB 43°5° SWGR FL3	SR	ON ON ACTIVE	MCC12-11		
	8	BA-MOV-32	cycs	RWST TO CHARGING PUMPS	26018 (4)	AB 15'6" PP 1A CUB	SR	CLOSED OPEN ACTIVE	MCCS-5		
3	8	BA-MOV-349	BA	BAMT TO METERING PUMP	26018 (3)	AB 21%* 2208	SR	CLOSED CLOP ACTIVE	MCC5-5		
10P	8	BA-MOV-373	cvcs	RWST TO CHARGING PUMPS	26018 (4)	AB 15%* PP 1A CUB	SR	CLOSED OPEN ACTIVE	MCC12-11		
30P	9	BA-MOV-386	cvcs	RWST TO CHARGING PUMPS	26018 (3)	AB 21'6" BOR AC TK	SR	CLOSED OPEN ACTIVE	MCC5-5		
2		BKR 11-3B	ELEC AC	FEEDER BREAKER TO MCC12-11	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-B	30008 (2)	
1		BKR 4-3C	ELEC AC	FEEDER BREAKER TO MCC13-4	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-A	30008 (1)	
1		BKR 4-4A	ELEC AC	FEEDER BREAKER TO MCC8-4	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-A	30008 (1)	
1		BKR 4850	ELEC AC	FEEDER BREAKER TO T485/BUS 1-5	30001		R	CLOSED CLOSED ACTIVE	DC-RUS-A	30008 (1)	
•		BKR 4651	ELEC AC	FEEDER BREAKER TO BUS 1-5	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-A	30008 (1)	

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# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

TRAIN	EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID	NOTES	NORM STATE REQUISTATE EQ FUNCTION	POWER REQD. CONTROL PWR	SUPPORTING SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
2	BKR 49110	ELEC AC	FEEDER BREAKER TO T4911/BUS 11	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-B	30008 (2)	
2	BKR 49111	ELEC AC	FEEDER BREAKER TO BUS 11	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-B	30008 (2)	
2	BKR 4960	ELEC AC	FEEDER BREAKER TO T496/BUS 1-6	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-B	30008 (2)	
2	BKR 4961	ELEC AC	FEEDER BREAKER TO BUS 1-6	30001		Я	CLOSED CLOSED ACTIVE	DC-BUS-BX	30008 (1)	
	BKR 4T5	ELEC AC	CROSS TIE BREAKER BUS 1-5 TO 1-4			R	OPEN CL/OP ACTIVE			
1	BKR 5-5C	ELEC AC	FEEDER BREAKER TO MCC10-5	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-A	30008 (1)	
1	BKR 5-8D	ELEC AC	FEEDER BREAKER TO MCC-8-5	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-A		
1	BKA 5-9C	ELEC AC	FEEDER BREAKER TO MCC5-5	30001		А	CLOP CLOP ACTIVE	DC-BUS-A	30006 (1)	
2	BKR 6-11C	ELEC AC	FEEDER BREAKER TO MCC5-6	30001		R	OP/CL OP/CL ACTIVE	DC-BUS-BX	30008 (1)	
2	BKR 6-120	ELEC AC	FEEDER BREAKER TO MCC8-6	30001		R	CLOSED CLOSED ACTIVE	DC-BUS-BX	30008 (1)	

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# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN FQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

RAIN		EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID		NORM STATE REQD STATE EQ FUNCTION	POWER REGD. CONTROL PWR	SUPPORTING SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
		BKR 6-14C	ELEC AC	FEEDER BREAKER TO MCC7-6 & 8-6	30001		A	CLOSED CLOSED ACTIVE	DC-BUS-BX	30008 (1)	
		BKR 6T7	ELEC AC	CROSS TIE BREAKER BUS 1-6 TO 1-7			R	OPEN CL/OP ACTIVE			
		BKR 8-1	ELEC AC	FEEDER BREAKER FROM EG-2A	30001		R	OPEN CLOSED ACTIVE	DC-BUS-A	30008 (1)	
		BKR 9-1	ELEC AC	FEEDER BREAKER 1 FROM EG-2B	30001		R	OPEN CLOSED ACTIVE	DC-BUS-B	30008 (2)	
	7	CC-FCV-608	ccw	RCP THERMAL BARRIER COOLING SUPPLY	26008 (5)	AB 21%* BLOWDOWN	SR	OPEN OPEN PASSIVE			
	8	CC-SOV-912	ccw	SOLENOID VALVE FOR RCP THERMAL BARRIER COOLING SUPPLY VLV TV-912	26008 (5)		R	PASSIVE	DCP-1D		
	8	CC-SOV-913	ccw	SOLENOID VALVE FOR RCP THERMAL BARRIER COOLING SUPPLY VLV TV-813	26008 (5)		R	PASSIVE	DCP-1C		
	8	CH-MOV-257	cvcs	VCT OUTLET	26018 (1)	AB 15'6" PP 18 CUB	SR	OPEN CLOSED ACTIVE	MCC5-6		
	8	CH-MOV-2578	cvcs	VCT OUTLET	26018 (1)	AB 15%* PP 18 CUB	SR	OPEN CLOSED ACTIVE	MCC12-11		
	8	CH-MOV-792B	cvcs	CHARGING VALVE LOOP 2	26018 (6)	CE 1%* LP2 LLOA	SR	CLOSED CLOSED PASSIVE	MCC5-6		

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# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

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RAIN	EO	EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID	NOTES	NORM STATE REQD STATE EQ FUNCTION	POWER REQD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
	8	CH-MOV-292C	cvcs	CHARGING VALVE LOOP 2	26018 (6)	CE 1'6" LP2 LLOA	SR	CLOSED CLOSED PASSIVE	MCC5-5	
	8	CH-MOV-298	cvcs	PZR AUX SPRAY	26018 (6)	CE 1'6" LP4 LLOA	SR	CLOSED OP/CL ACTIVE	MCC5-5	
	8	CH-MOV-311	cvcs	RCP SEAL LEAKOFF VALVES	26018 (5)	CE 160° RCP MEZZ	SR	OPEN CLOSED ACTIVE	MCC-5 (4FJ)	
	8	CH-MOV-312	cvcs	RCP SEAL LEAKOFF VALVES	26018 (5)	CE 160° RCP MEZZ	SR	OPEN CLOSED ACTIVE	MCC-5 (6FJ)	
	8	CH-MOV-313	cvcs	RCP SEAL LEAKOFF VALVES	26018 (5)	CE 160° RCP MEZZ	SR	OPEN CLOSED ACTIVE	MCC-5 (10FJ)	
	8	CH-MOV-314	cvcs	RCP SEAL LEAKOFF VALVES	26018 (5)	CE 160" RCP MEZZ	SR	OPEN CLOSED ACTIVE	MCC-5 (12FJ)	
	8	CH-SOV-110-S1	cvcs	SOV FOR CH-FCV-110	26018 (6)		BR		VAC-PNL-D	
								ACTIVE		
	8	CH-SOV-110-S2	cvcs	SOV FOR CH-FCV-110	26018 (6)		BR		SVAC-PNL-1	
								ACTIVE		
OP	8	CH-SOV-110A-S1	cvcs	SOV FOR CHECV-110A	26018 (6)		BR		VAC-PNL-B	
								ACTIVE		
OP	8	CH-SOV-110A-S2	cvcs	SOV FOR CHECY-110A	26018 (6)		BR		SVAC-PNL-2	
								ACTIVE		

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REPORT 03-0240-1351 REVISION 2

TRAIN		EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID		NORM STATE REQD STATE EQ FUNCTION	POWER REOD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
1	8	CH-SOV-242	cvcs	CHARGING PUMP SUCTION TO VCT	26018 (1)	AB 15%* CHG PMP18	SA	OPEN CLOSED ACTIVE	MCC5-6	
2	8	CH-SOV-2428	cvcs	CHARGING PUMP SUCTION TO VCT	26018 (1)	AB 15%* CHG PMP	SR	OPEN GLOSED ACTIVE	MCC12-11	
1	8	CH-SOV-278	CVCS	CHARGING METERING PUMP SUCTION	26018 (4)	AB 15%* MET PMP CUB	BR	OPEN OPEN PASSIVE	SVAC-PNL-1	
1	8	DH-MOV-507	RC	RCS LOOP #4 DRAIN	26007 (2)	CE 1'6" LP4 LL	Pl 29	CLOSED CLOSED PASSIVE	MCC5-6	
1	8	DH-MOV-521	RC	RCS LOOP #3 DRAIN	26007 (2)	CE 1%* LP3 LL	R	CLOSED CLOSED PASSIVE	MCC5-6	
1.	8	DH-MOV-534	RC	RCS LOOP #1 DRAIN	26007 (1)	CE 6'0" LP2 AREA	R	CLOSED CLOSED PASSIVE	MCC5-5	
1	8	DH-MOV-544	RC	RCS LOOP #2 DRAIN	26007 (1)	CE 1'6" LP1 AREA	R	CLOSED CLOSED PASSIVE	MCC5-5	
1	8	DH-MOV-562	RC	PRESSURIZER DRAIN	26007 (3)	CE 1'6" LP3/4 LL	R	CLOSED CLOSED PASSIVE	MCC5-6	
1	17	EG-2A	DG	DIESEL ENGINE	26020 (2)	DG 216" A DIESEL	SR	OFF ON ACTIVE	AIR	DA SOV-133,-134
2	17	EG-28	DG	DIESEL ENGINE	26020 (Z)	DG 216" 8 DIESEL	SA	OFF ON ACTIVE	AIR	DA-SOV-135,-136

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PAGE No. 6 DATE 12/6/93	No. 12/6	6/3		CONNECT SAFE SHUT	JCUT YANKEE -REL	CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)	EVIEW (SSEL			REPORT 03-0240-1351 REVISION 2
TRAIN	82	EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID	EVAL	EVAL NORM STATE NOTES REOD STATE EQ FUNCTION	POWER REGD SUPPORTING CONTROL PWR SYSTEM CONTROL PWR SYSTEM	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
64	N	F-89-1A	CVCS	AUXILIARY LUBE OIL COOLER FOR CYCS PUMP P. 18-1A	25018 (4)	AB 15'6* CH PP CUBE	RS R	OFF ON ACTIVE	MCC-12-11	
20P	Ev.	F-89-1B	cvcs	AUXILIARY LUBE OIL COOLER FOR CVCS PUMP P.18-18	26018 (4)	AB 15'6* CH PP CUBE	α o	OFF ON ACTIVE	MCC-13-4	
	60	FH-MOV-344	cvcs	RCS FILL MEADER FCV BYPASS	26018 (6)	AB 133° PP TR SAM	ec .	CLOSED CLOSED PASSIVE	MCC5-5	
0	60	FW-FCV-1301-1	¥	FEEDWATER REGULATING VALUE	26013 (9)	S76* S EAST	S S	OPEN CLOSED ACTIVE	SVAC-PNL-1	SV-1-1, 2-1, 3-1
62	0	FW-FCV-1301-2	¥	FEEDWATER REGULATING VALVE	26013 (9)	376° 8 EAST	K 03	OPEN CLOSED ACTIVE	SVAC-PNL-1	SV-1-2, 2-2, 3-2
0	60	FW-FCV-1301-3	FW	FEEDWATER HEGULATING VALVE	26013 (9)	78 376* \$ EAST	S S	OPEN CLOSED ACTIVE	SVAC-PNL-1	SV-1-3, 2-3, 3-3
en	100	FW-FCV-1301-4	F.W.	FEEDWATER REGULATING VALVE	26013 (9)	376" S EAST	S S	OPEN CLOSED ACTIVE	SVAC-PNL-1	SV-1-4, 2-4, 3-4
60	00	FW-HICV-1301-1	AFW	AFW REGULATING VALVE	26013 (9)	TB 376* 8 EAST	α -	CLOSED OPEN ACTIVE	VAC-PNL-A	FW-SOV-1301-1
· ·	0	FW-HICV-1301-2	AFW	AFW REGULATING VALVE	26013 (9)	TB 376" S EAST	g -	CLOSED OPEN ACTIVE	VAC-PNL-B	FW-SOV-1301-2
0	0	FW-HICV-1301-3	AFW	AFW REGULATING VALVE	26013 (9)	18 376 8 EAST	es -	CLOSED OPEN ACTIVE	VAC-PNL-C	FW SOV-1361-3

# CERTIFICATION:

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Equipment List		ne/Title
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o a safe shuldown condition on this Safe Shuldown Equipment List (SSEL) is, to the best of my knowledge and belief, correc	12/3/93	Dete
2		
E and		
ment required to bri		Signature
The information identifying the equipment required to bring the plant to accurate. (One or more signatures of Systems or Operations Engineers)	S. Reichle / Technical Manager	Print or Type Name/Title Signature

## PAGE No. 7 DATE 12/6/93

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

TRAIN	EQ CL	EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID		NORM STATE REQUISTATE EQ FUNCTION	POWER REOD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
3	8	FW-HICV-1301-4	AFW	AFW REGULATING VALVE	26013 (9)	TB 376° S EAST	SR 1	CLOSED OPEN ACTIVE	VAC-PNL-D	FW-SOV-1301-4
2	В	FW-MOV-11	FW	FEEDWATER REG BLOCK VALVE	26013 (9)	TB 376* 4210	SR	OPEN CLOSED ACTIVE	MCC5-5	
2	8	FW-MOV-12	FW	FEEDWATER REG BLOCK VALVE	26013 (9)	TB 37'6" 4210	SR	OPEN CLOSED ACTIVE	MCC5-5	
2	9	FW-MOV-13	FW	FEEDWAYER REG BLOCK VALVE	26013 (9)	TB 376* 4210	SR	OPEN CLOSED ACTIVE	MCC5-6	
2	8	FW-MOV-14	FW	FEEDWATER REG BLOCK VALVE	26013 (9)	TB 376* 4210	SR	OPEN CLOSED ACTIVE	MCC5-6	
1	8	FW-MOV-160	FW	AFW PUMP DISCHARGE DIV VALVE	26013 (12)	TT 21%* TERRY TRB	R	OPEN OPEN PASSIVE	MCC7-6	
3	8	FW-MOV-35	FW	AFW PUMP DISCHARGE TO CTMT	26013 (12)	TT 21%* TERRY TAB	SR	CLOSED CLOP ACTIVE	MCC7-6	
1	N/	A HEATER A, PZR	RCS	PRESSURIZER HEATERS, BACKUP GROUP A	26007 (3)	CE	R	ON/OFF ON ACTIVE	BUS 4	
1	N/	A HEATER B, PZR	RCS	PRESSURIZER HEATERS, BACKUP GROUP B	26007 (3)	CE	Я	ON/OFF ON ACTIVE	BUS 5	
2	N/	A HEATER D, PZR	RCS	PRESSURIZER HEATERS, BACKUP GROUP D	26007 (3)	CE	R	ON/OFF ON ACTIVE	BUS 6	

## CERTIFICATION:

S. Reichle / Technical Manager		12/3/93			
		Management Supposed and Administrations			-
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Late

# PAGE No. 8 DATE 12/6/93

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

TRAIN		EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID		NORM STATE REQD STATE EQ FUNCTION	POWER REQD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
	N/A	HEATER E, PZR	ACS	PRESSURIZER HEATERS, BACKUP GROUP E	26007 (3)	CE	R	ON/OFF ON ACTIVE	BUS 7	
	8	LD-MOV-200	RC	LETDOWN ISOLATION	26018 (6)	CE 160" RCP MEZZ	SR	OPEN CLOSED ACTIVE	MCC5-6	
	8	LD-90V-230	RC	SOV FOR LD-TV-230	26018 (6)	CE 22%* OUT ANNUL	BR	OPEN CLOSED ACTIVE	(Not Req'd)	
	8	MS-TV-1211-1	MS	MAIN STEAM TRIP VALVE	26012 (1)	TT 59'6" UL NORTH	SR	OPEN CLOSED ACTIVE	DC-PNL-A	
	8	MS-TV-1211-2	MS	MAIN STEAM TRIP VALVE	26012 (1)	TT 59%* UL NORTH	SR	OPEN CLOSED ACTIVE	DC-PNL-A	
	8	MS-TV-1211-3	MS	MAIN STEAM TRIP VALVE	26012 (1)	TT 59%* UL SOUTH	SR	OPEN CLOSED ACTIVE	DC-PNL-A	
	8	MS-TV-1211-4	MS	MAIN STEAM TRIP VALVE	26012 (1)	TT 59%* UL SOUTH	SR	OPEN CLOSED ACTIVE	DC-PNL-A	
	5	P-10-1A	cvcs	CHARGING PUMP AUX L.O. PUMP A	26018 (4)	AB 15%* A PMP CUB	BR	OFF ON ACTIVE	MCC8-6	
2OP	5	P-10-18	cvcs	CHARGING PUMP AUX L.O. PUMP B	26018 (4)	AB 15%* B PMP CUB	BR	OFF ON ACTIVE	MCC8-5	
1	5	P-109-1A	DG	EDG FUEL OF TRANSFER PUMP	26020 (1)	DG 21'6" A DIESEL	SR 18	OFF ON/OFF ACTIVE	EGG-2A	

## CERTIFICATION:

S. Reichle / Technical Manager		12/3/93			
					-
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Date

PAGE No. 9 DATE 12/6/93

# CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

TRAIN		EQUIPMENT ID NUMBER	SYSTEM	EOUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID		NORM STATE S REQD STATE EQ FUNCTION	POWER REOD. CONTROL PWR	SUPPORTING SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
ž	5	P-109-1B	DG	EDG FUEL OIL TRANSFER PUMP	26020 (1)	DG 21'6" 8 DIESEL	SR 18	OFF ON/OFF ACTIVE	EGG-28		
	5	P-11-1A	cvcs	CHARGING METERING PUMP	26018 (4)	AB 15%* MT PP CUB	SR	OFF ON ACTIVE	BUS 11 DC-BUS-B	30008 (2)	
	5	P-118-1A	PWS	RECYCLED PRIMARY WTR TRANS PUMP	26046 (1)	AB 21%* LWLVL SEC	SR	OFF ON/OFF ACTIVE	MCC9-4		
3OP	5	P-118-1B	PWS	RECYCLED PRIMARY WTR TRANS	26046 (1)	AB 216° I WLVL SEC	SR	OFF ON/OFF ACTIVE	MCC10-5		
	5	P-13-1A	cc	COMPONENT COOLING PUMP	26008 (3)	AB 21'6" WEST HALL	SR 24	ONOFF ON ACTIVE	BUS 1-4 DC-BUS-A DC-PNL-A	30008 (1)	
	5	P-13-18	cc	COMPONENT COOLING PUMP	26008 (3)	AB 216" WEST HALL	SR 24	ON/OFF ON ACTIVE	BUS 1-6 DC-BUS-BX DC-PNL-B	30008 (1)	
	5	P-13-10	cc	COMPONENT COOLING PUMP	26009 (3)	AB 216" WEST HALL	SR 24	ON/OFF ON ACTIVE	BUS 11 DC-BUS-B	30008 (1)	
2	5	P-149-1A	cvcs	CHARGING PUMP MAIN L.O. PUMP	26018 (4)	AB 15%* CH PP CUB	BR	OFF OFF/ON ACTIVE	MCC5-6		
20P	5	P-149-1B	cvcs	CHARGING PUMP MAIN LO. PUMP	26018 (4)	AB 15'6" CH PP CUB	BR	OFF/ON ACTIVE	MCC5-6		
	5	P-18-1A	cvcs	CHARGING PUMP	26018 (4)	AB 15%* CH PP CUB	SR 6	OFF/ON OFF/ON ACTIVE	BUS 9 DC-BUS-B	30008 (2)	P-149-1A, P-10-1A

## CERTIFICATION:

5. Reichle / Technical Manager		12/3/93			
		Secretary recognises and descriptions			AND THE PARTY NAMED IN COLUMN
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Date
					201/00/2/00

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

PAGE No. 10 DATE 12/6/93 REPORT 03-0240-1351 REVISION 2

TRAIN		EQUIPMENT P38MUN CI	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID	NOTES	NORM STATE REOD STATE EQ FUNCTION	POWER REOD. CONTROL PWR	SUPPORTING SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
20P	5	P-18-18	cvcs	CHARGING PUMP	26018 (4)	AB 15'6" CH PP CUB	SR 6	OFF/ON OFF/ON ACTIVE	BUS 8 DC-BUS-A	30008 (1)	P-149-1B, P-10-1B
3	5	P-29-1A	PWS	PW TRANSFER PUMP	26046 (1)	AB 21%* UL SE COR	SR	OFF OFF/ON ACTIVE	MCC8-5		
3OP	5	P-29-1B	PWS	PW TRANSFER PUMP	26046 (1)	AB 21%* U. SE COR	SR	OFF OFF/ON ACTIVE	MCC8-6		
1	6	P-37-1A	sw	SERVICE WATER PUMP	26014 (2)	CW 8'0" LL-7102	SR	OFF/ON ON ACTIVE	BUS 1-4 DC-BUS-A		
1	6	P-37-1B	sw	SERVICE WATER PUMP	26014 (2)	CW 8'-0" LL-7102	SR	OFF/ON ON ACTIVE	BUS 1-5 DC-BUS-A		
2	6	P-37-10	sw	SERVICE WATER PUMP	26014 (2)	CW 8'-0" LL-7104	SR	OFF/ON ON ACTIVE	BUS 1-6 DC-BUS-B		
2	6	P-37-1D	sw	SERVICE WATER PUMP	26014 (2)	CW 8'-0" LL-7104	SR	OFFION ON ACTIVE	BUS 11 DC-BUS-B		
2	6	P-4-1A	FP	ELEC DRIVEN FIRE PMP	26056 (1)	216" UL NW	SR	OFF ON ACTIVE	BUS 1-4 DC-BUS-A		
1	6	P-5-1A	FP	DIESEL DRIVEN FIRE PUMP	26056 (1)	CW 21%* ULSOUTH	SR	OFF ON ACTIVE			
	8	PR-AOV-573	RC	PRESSURIZER SPRAY VALVE	26007 (3)		R	OPEN CLOSED ACTIVE			

## CERTIFICATION:

The information identifying the equipment required to bring the plant to a safe shutdown condition on this Safe Shutdown Equipment List (SSEL) is, to the best of my knowledge and belief, correct and accurate. (One or more signatures of Systems or Operations Engineers)

S. Reichle / Technical Manager

12/3/93

Print or Type Name/Title

Signature

Date

Print or Type Name/Title

Signature

Date

## PAGE No. 11 DATE 12/6/93

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

RAIN		EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID	NOTES	NORM STATE REQUISTATE EQ FUNCTION	POWER REQD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
	8	PR-AOV-574	AC	PRESSURIZER SPRAY VALVE	26007 (3)		R	OPEN CLOSED ACTIVE		
	8	PR-MOV-567	RC	PZR PORV BLOCK VALUE	26007 (3)	CE 49%* CHG FLR	R	CLOSED CLOSED PASSIVE	MCC5-5	
	8	PR-MOV-567	RC	PZR PORV BLOCK VALVE	26007 (3)	CE 48°6 CHG FLR	SR	CLOSED OPEN ACTIVE	MCC5-5	
	8	PR-MOV-569	AC	PZR PORV BLOCK VALVE	26007 (3)	CE 48'6" PRESS TOP	R	CLOSED CLOSED PASSIVE	MCC5-6	
	8	PR-MOV-569	RC	PZR PORV BLOCK VALVE	26007 (3)	CE 48%* PRESS TOP	SR	CLOSED OPEN ACTIVE	MCC5-6	
	8	PR-MOV-596	RC	LTOP RELIEF ISOLATION	26007 (3)	CE 48%* PRESS TOP	R 7	CLOSED CLOSED PASSIVE	MCC5-6	
	8	PR-MOV-597	RC	LTOP RELIEF ISOLATION	26007 (3)	CE 48%* PRESS TOP	R 7	CLOSED CLOSED PASSIVE	MCC5-5	
	8	PR-SOV-568	RC	SOV FOR PR-AOV-568	26007 (3)		BR	CLOSED OP/CL ACTIVE	SVAC-PNL-2	
	8	PR-SOV-570	RC	SOV FOR PR-AOV-570	26007 (3)		BA	CLOSED OP/CL ACTIVE	SVAC-PNL-2	
	8	RC-MOV-501	RC	RC LOOP 4 HOT LEG ISOLATION	26007 (2)		R	OPEN OPEN PASSIVE	MCC5-6	

#### CERTIFICATION:

S. Reichle / Technical Manager		12/3/93			
		-			Ministra Anna Maria Cara Cara Cara Cara Cara Cara Cara
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Date

## PAGE No. 12 DATE 12/6/93

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

RAIN	EO	EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL. ROOM/GRID		NORM STATE REOD STATE EQ FUNCTION	POWER REOD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
	8	RC-MOV-512	RC	RC LOOP 4 COLD LEG ISOLATION	26007 (2)		R	OPEN OPEN PASSIVE	MCC5-6	
	8	RC-MOV-513	RC	RC LOOP 3 HOT LEG ISOLATION	26007 (2)		R	OPEN OPEN PASSIVE	MCC5-6	
	8	RC-MOV-524	RC	RC LOOP 3 COLD LEG ISOLATION	26007 (2)		R	OPEN OPEN PASSIVE	MCC5-6	
	8	RC-MOV-528	AC	RC LOOP 2 HOT LEG ISOLATION	26007 (1)		В	OPEN OPEN PASSIVE	MCC5-5	
	8	RC-MOV-537	RC	RC LOOP 2 COLD LEG ISOLATION	26007 (1)		R	OPEN OPEN PASSIVE	MCC5-5	
	8	RC-MOV-538	RC	RC LOOP 1 HOT LEG ISOLATION	26007 (1)		R	OPEN OPEN PASSIVE	MCC5-5	
	8	RC-MOV-546	RC	RC LOOP 1 COLD LEG ISOLATION	26007 (1)		R	OPEN OPEN PASSIVE	MCC5-5	
	8	SI-MOV-24	SI	RWST OUTLET ISOLATION	26010 (1)	YD 24'8" YD-RWST	R 3	OPEN OPEN PASSIVE	MCC5-5	
	8	SW-MOV-1	sw	EAST SW HEADER SUPPLY	26014 (2)	TB 21%* NO EAST	SR	OPEN CLOSTO ACTIVE	MCC5-5	
	8	SW-MOV-2	sw	WEST SW HEADER SUPPLY	23014 (2)	TB 21%* NO EAST	SR	OPEN CLOSED ACTIVE	MCC5-5	

## CERTIFICATION:

S. Reichle / Technical Manager		12/3/93			
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Date

PAGE No. 13 DATE 12/6/93

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

REPORT 03-0240-1351 REVISION 2

TRAIN		EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	BUILDING FLOOR EL ROOM/GRID	NOTES	NORM STATE REOD STATE EQ FUNCTION	POWER REOD. SUPPORTING CONTROL PWR SYSTEM DRAWINGS	REQUIRED SUPPORT SYSTEMS AND COMPONENTS
	8	SW-MOV-3	sw	COMPONENT COOLING Hx 1A OUTLET	26014 (5)	AB 21'6" LL CC Hx	SR 16	OPEN OP/CL ACTIVE	MCC5-6	
	8	SW-MOV-4	SW	COMPONENT COOLING HX 18 OUTLET	26014 (5)	AB 21%* LL CC Hx	SR 16	OPEN OP/CL ACTIVE	MCC5-6	
	8	SW-MOV-5	sw	SW SUPPLY TO 1A RHR Hx	26014 (6)	AB 216* AB	SR 16	CLOSED OP/CL ACTIVE	MCC5-5	
	8	SW-MOV-6	SW	SW SUPPLY TO 18 RHR Hx	26014 (6)	AB 21'6" AB	SR 16	CLOSED OP/CL ACTIVE	MCC5-6	
2	8	SW-MOV-837A	sw	ADAMS FILTER 1A BYPASS	26014 (6)	AB 35'6" SE PAB	R 21	CLOSED CLOSED PASSIVE	MCC12-11	
	ē	SW-MOV-837B	SW	ADAMS FILTER 18 BYPASS	26014 (6)	AB 356° SE PAB	R 21	CLOSED CLOSED PASSIVE	MCC13-4	
	8	SW-SOV-129	SW	SOV FOR SW-FCV-129	26014 (8)	DG 21'6" A DIESEL	BR	OPEN CLOSED ACTIVE	LP-D1	
	8	SW-SOV-130	sw	SOV FOR SW-FCV-130	26014 (8)	DG 216" B DIESEL	BR	OPEN CLOSED ACTIVE	LP-D2	
	8	SW-SOV-2210	sw	SOV FOR SW-TY-2210	26014 (5)	AB 35%* 2ND FLOOR	BR	OPEN CLOSED ACTIVE	VAC-PNL-A 32001 (5E) DC-PNL-A DC-PNL-B	
	8	SW-SOV-2365A	SW	CONTROL VALVE FOR SW-TV-2365A	26014 (5)	SA	R			
								ACTIVE		

## CERTIFICATION:

S. Reichle / Technical Manager		12/3/93			
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Date

# ATTACHMENT A CONNECTICUT YANKEE -RELAY REVIEW SAFE SHUTDOWN EQUIPMENT LIST (SSEL)

PAGE No. 14 DATE 12/6/93 REPORT 03-0240-1351 REVISION 2

TRAIN		EQUIPMENT ID NUMBER	SYSTEM	EQUIPMENT DESCRIPTION	16103- DRAWING NUMBER	FLOOR EL ROOM/GRID	NOTE	S REOD STATE EQ FUNCTION	CONTROL PWR SYSTEM DRAWINGS	SUPPORT SYSTEMS AND COMPONENTS
1	8	SW-SOV-23658	sw	CONTROL VALVE FOR SW-TV-2365B	26014 (5)	AB	R			
								ACTIVE		
2	8	SW-SOV-606	SW	SOV FOR SW-PCV-608	26014 (1)	CW	BR	OP/CL CLOSED PASSIVE		

#### CERTIFICATION:

S. Reichle / Technical Manager		12/3/93			
					-
Print or Type Name/Title	Signature	Date	Print or Type Name/Title	Signature	Date

# ATTACHMENT C

CONNECTICUT YANKEE RELAY SCREENING AND EVALAUTION TABULATION
"ESSENTIAL RELAYS"

(99 Pages)

# ATTACHMEN. C - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

PAGE 1 DATE 12/7/93 REV. 0

Equipment ID No. : BA-MOV-32

"ESSENTIAL RELAYS"

Relay Mfg. 8	Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	A211K1JA	42/C			32112 SH 28EE	MCC-5	SB	41'6"
XX	AA13A J	49			32112 SH 28EE	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN 2 - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

DATE 12/7/93 REV. 0

PAGE 2

Equipment ID No. :

BA-MOV-349

Relay Mfg. & Type Relay Model No.	Contact	Y/N NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W A211K1JA	42/0		32112 SH 28AA	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHME C-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

DATE 12/7/93

REV. 0

PAGE 3

BA-MOV-373 Equipment ID No. :

"ESSENTIAL RELAYS"

Relay Mfg.	& Type Relay Model No.	Contact	Y/N NO/NO	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	A211K1JA	42/C		32112 SH 29P	MCG-12	SB	41'6"
W	A211K1JA	42/0		32112 SH 29P	MCC-12	SB	41'6"
W	AA13A J	49		32112 SH 29P	MCC-12	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

# DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

PAGE 4 DATE 12/7/93

REV. 0

Egulpment ID No. :

BA-MOV-386

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	A211K1JA	42/C			32112 SH 28CC	MCC-5	SB	41'6"
W	A211K1JA	42/0			32112 SH 28CC	MCC-5	SB	41'6"
W	AA13A J	49			32112 SH 28CC	MCC-5	SB	41'6"
-								-

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

PAGE 5 DATE 12/7/93 REV. 0

ENERG NO/NC Ref. Drawings(s) Elev. SAT. \* Relay Mfg. & Type Relay Model No. Panel Contact Y/N Bldg. 32001 SH 5Q 1875276A 50/51 NO NO BUS 8 DG 21'6" W CO-8

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

**BKR 4850** 

Equipment ID No. :

CR - Corrective action required.

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93 Date:

Reviewed by: James J. Buckley

# ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

PAGE 6 DATE 12/7/93 REV. 0

Equipment ID No. :

BKR 49110

Rel	ay Mfg. &	Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT	*
W	CO-8	1456C05R21	50/51	NO	NO	32001 SH 5QB	BUS 9	DG	21'6"	

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

PAGE 7 DATE 12/7/93 REV. 0

"ESSENTIAL RELAYS"

BKR 4960 Equipment ID No. :

Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W CO-8 1875276A	50/51	NO	NO	32001 SH 5QA	BUS 9	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN \_:- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

PAGE 8 DATE 12/7/93

REV. 0

Equipment ID No.: BKR 4T5

Relay Mig. & Type Relay Modei No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
		NO	NO	32001 SH 6AK	BUS 1-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR - Operator action.

OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN. 2-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

LRELAYS"

PAGE 9 DATE 12/7/93 REV. 0

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Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bidg.	Elev. SAT. *
	# 27-5	YES	NC	32001 SH 6J	AB/4	SB	59'6"
	# 27X-5	NO	NO	32001 SH 6G	BUS 1-5	SB	41'6"
Ser. # 1342925A	# 27X1-5	NO	NO	32001 SH 6J	AB/4	SB	59'6"
12HFA151A2H	# 94LS/1-8 (Note 13)	NO	NO	32001 SH 6J	CB/8DB1A	SB	59'6"
		# 27-5 # 27X-5 Ser. # 1342925A # 27X1-5	Type Relay Model No.         Contact         Y/N           # 27-5         YES           # 27X-5         NO           Ser. # 1342925A         # 27X1-5         NO	Type Relay Model No.         Contact         Y/N         NO/NC           # 27-5         YES         NO           # 27X-5         NO         NO           Ser. # 1342925A         # 27X1-5         NO         NO	Type Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)           # 27-5         YES         NO         32001 SH 6J           # 27X-5         NO         NO         32001 SH 6G           Ser. # 1342925A         # 27X1-5         NO         NO         32001 SH 6J	Type Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel           # 27-5         YES         NC         32001 SH 6J         AB/4           # 27X-5         NO         NO         32001 SH 6G         BUS 1-5           Ser. # 1342925A         # 27X1-5         NO         NO         32001 SH 6J         AB/4	Type Relay Model No.         Cotitact         Y/N         NO/NC         Ref. Drawings(s)         Panel         Bidg.           # 27-5         YES         NC         32001 SH 6J         AB/4         SB           # 27X-5         NO         NO         32001 SH 6G         BUS 1-5         SB           Ser. # 1342925A         # 27X1-5         NO         NO         32001 SH 6J         AB/4         SB

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

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CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

**BKR 5-8D** 

Equipment ID No. :

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93 Date:

Reviewed by: James J. Buckley

# ATTACHMEN. C - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

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Equipment ID No. :

BKR 5-9C

"ESSENTIAL RELAYS"

Relay Mfg. & T	ype Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W MG-6	289B363A11	52X	NO NO	NO	32001 SH 6AP	BUS 1-5	SB	41'6"
AGA E7000	E7022	# 62-5A	YES	NC .	32001 SH 6AP	BUS 1-5	SB	41'6"
AGA E7000	E7012	62-5B	YES	NO	32001 SH 6AP	BUS 1-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR

OA - Operator action. - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHME. C-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. 8	& Type Relay Model No.		Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W MG-6	289B363A11	-	52X	NO	NO	32001 SH 6AQ	BUS 1-6	SB	41'6"
AGA E7000	E7022	#	62-5A	NO	NO	32001 SH 6AQ	BUS 1-5	SB	41'6"
AGA E7000	E7022	#	62-6A	YES	NO/NC	32001 SH 6AQ	BUS 1-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No. :

BKR 6-11C

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN\_ J. CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

PAGE 12 DATE 12/7/93

REV. 0

Equipment ID No. :

BKR 6-12D

	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
#	27-6	YES	NC	32001 SH 6X	AB/4	SB	59'6"
#	27X-6	NO	NO	32001 SH 6G	AB/4	SB	59'6"
#	27X1-6	NO	NO	32001 SH 6X	AB/4	SB	59'6"
Ħ	94LS/1-9 (Note 14)	NO	NO	32001 SH 6X	CB/9DB1A	SB	59'6"
	# #	# 27-6 # 27X-6 # 27X1-6 # 94LS/1-9 (Note 14)	# 27-6 YES # 27X-6 NO # 27X1-6 NO	# 27-6 YES NC # 27X-6 NO NO # 27X1-6 NO NO	# 27-6 YES NG 32001 SH 6X  # 27X-6 NO NO 32001 SH 6G  # 27X1-6 NO NO 32001 SH 6X	# 27-6 YES NG 32001 SH 6X AB/4  # 27X-6 NO NO 32001 SH 6G AB/4  # 27X1-6 NO NO 32001 SH 6X AB/4	# 27-6 YES NG 32001 SH 6X AB/4 SB # 27X-6 NO NO 32001 SH 6G AB/4 SB # 27X1-6 NO NO 32001 SH 6X AB/4 SB

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA CR

- Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHME 2-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

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"ESSENTIAL RELA	AY	S"
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Relay Mig. & T	ype Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
W CV-7		#	27-6	YES	NC	32001 SH 6X	AB/4	SB	59'6"
W SG	Ser. # 1342925A	#	27X1-6	NO	NO	32001 SH 6X	AB/4	SB	59'6"
GE - HEA	12HEA61C239	#	27Y-6	NO	NO	32001 SH 6GA	AB/4	SB	59'6"
GE - HFA	12HFA151A2H	#	94LS/1-9 (Note 14)	NO	NO	32001 SH 6X	CB/9DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No. :

BKR 6-14C

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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BKR 6T7 Equipment ID No. :

Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
	52X	NO	NO	32001 SH 6AL	BUS 1-6	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

## ATTACHMEN, C. CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

PAGE 15 DATE 12/7/93

REV. 0

Equipment ID No. :

BKR 8-1

Relay Mfg. & Ty	pe Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
GE - HEA	12HEA61C239	#	27Y/1-8 (Note 9)	NO	NO	32001 SH 5M	CB/8DB1	SB	59'6"
W CRN-1	290B038A09		32/CRN-1	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
W WL		#	4/EG2A	NO	NO	31099 SH 3	CB/8DB1A	SB	59'6"
SQ D 1933	1933G2		40T			31099 SH 2	EGP2A	DG	21'6"
W AV	160087GH		40V			31099 SH 2	EGP2A	DG	21'6"
W SERIES C	FDB14K	a capital recitor	41			32001 SH 5M	EGP2A	DG	21'6"
W CO-8	1875276A		50/51-A	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
W CO-8	1875276A		50/51-B	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
W CO-8	1875276A		50/51-C	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
SQ D EQ1933 EQ1933G2	EQ1933G2	#	52V (A)			31099 SH 3	EGP2A	DG	21'6"
		Name Administration	52X			32001 SH 5M	BUS 8	DG	21'6"
W SV			59A/1-8	YES	NO	32001 SH 5M	CB/8DB1	SB	59'6"
W SV			59B/1-8	YES	NO	32001 SH 5M	CB/8DB1	SB	59'6"
W MG-6	Ser. # 289B360A16	#	86 (A)	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
W CA	2908892A09		87-A	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
W CA	2908892A09		87-B	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
W CA	290B892A09		87-C	NO	NO	32001 SH 5MA	BUS 8	DG	21'6"
GE HEA	12HEA61C238X2	#	87X	NO	NO	32001 SH 5M, 5MA	BUS 8	DG	21'6"
SQ D 7001	7001 PO453	g	ESR1 (A)			31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	g	ESR2 (A)		HEIL	31099 SH 3	EGP2A	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; Include GERS number.

- Component not affected by relays. NA

- Corrective action required.

- Operator action. OA

CR

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

# ATTACHMEL C-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

### DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

PAGE 16 DATE 12/7/93 REV. 0

Equipment ID No. :

BKR 8-1

Relay Mfg. & Ty	pe Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
SQ D 7001	7001 PO453	#	ESTR (A)			32001 SH 5MA	EGP2A	DG	21'6"
		#	FFC (A)	YES	NO	31099 SH 4	EGP2A	DG	21'6"
M 2A	292B402A0	#	FFCO (A)	NO	NC	31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	Ħ	FSR1 (A)			32001 SH 5M	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	#	FSR2 (A)			32001 SH 5M	EGP2A	DG	21'6"
AGA	EGPD002	Ħ	IOPLR (A)			31099 SH 3	AUX EG2A	DG	21'6"
AGA	EGPD002		NFLD	NO	NO	32001 SH 5MA	ECP2A	DG	21'6"
AGA	EGPD002	#	NFLDA (A)			32001 SH 5M	ECP2A	DG	21'6"
			OT			32001 SH 5M	ECP2A	DG	21'6"
SQ D 7001	7001 PO453	#	OTR (A)			32001 SH 5MA	EGP2A	DG	21'6"
GE - HFA	12HFA154B22H	#	R1 (A)	NO	NO	31099 SH 3	AUX EG2A	DG	21'6"
AGA	EGPD002	#	ROPLR (A)			31099 SH 3	AUX EG2A	DG	21'6"
BARBER	COLEMAN-68	#	SSP1 (A)	dia challe		31099 SH 3	EGP2A	DG	21'6"
BARBER	COLEMAN-68		SSP2 (A)			31099 SH 3	EGP2A	DG	21'6"
SQ D EQ1933	EQ1933G2	#	STLO1 (A)			31099 SH 3	EGP2A	DG	21'6"
SQ D EQ1933	EQ1933G2	#	STLO2 (A)			31099 SH 3	EGP2A	DG	21'6"
AGA E7000	E7024PE	#	T1 (A)			31099 SH 3	AUX EG2A	DG	21'6"
AGA E7000	E7014PA	#	T1A (A)		7-41	31099 SH 3	AUX EG2A	DG	21'6"
AGA E7000	E7014PA002	#	T1B (A)			31099 SH 3	AUX EG2A	DG	21'6"
SQ D 7001	7001 PO453	#	VSR1 (A)			32001 SH 5M	EGP2A	DG	21'6"
NAME AND POST OF THE PARTY OF T	THE RESERVE OF THE PROPERTY OF	ORF School or Street	A PARTIE OF THE PROPERTY OF THE PARTY OF THE	THE R. P. LEWIS CO., LANSING MICHIGAN PROPERTY AND ADDRESS OF THE PARTY	Control Section (Control Section Secti	THE RESIDENCE OF THE PARTY OF T		The same of the sa	THE RESERVE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE PERSON NAME

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

### ATTACHMEN. . - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Bldg.

Equipment ID No. :

BKR 8-1

Contact

Relay Mfg. & Type Relay Model No.

NO/NC Ref. Drawings(s) Y/N

Panel

Elev. SAT. \*

SQ D 7001 7001 PO453 # VSR2 (A) 32001 SH 5M EGP2A DG 21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

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CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

- Seismically adequate based on GERS; include GERS number. GERS

NA - Component not affected by relays.

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN. . - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

PAGE 18 DATE 12/7/93 REV. 0

Equipment ID No. :

BKR 9-1

Relay Mfg. & Ty	pe Relay Model No.		Contact	ENERG Y/N		Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
GE - HEA	12HEA61C239	-	27Y/1-9 (Note 11)	NO	NO	32001 SH 5N	CB/9DB1	SB	596*
W CRN-1	290B038A09		32/CRN-1	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
W WL		#	4/EG2B	NO	NO	31099 SH 3	CB/9DB1A	SB	59'6"
SQ D 1933	1933G2		40T			31099 SH 2	EGP2B	DG	21'6*
W AV	160087GH		40V			31099 SH 2	EGP2B	DG	21'6"
			41			32001 SH 5N	EGP2B	DG	21'6"
W CO-8	1875276A		50/51-A	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
W CO-8	1875276A		50/51-B	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
₩ CO-8	1875276A		50/51-C	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
SQ D EQ1933	EQ1933G2	Ħ	52V (B)			31099 SH 3	EGP2B	DG	21'6"
			52X			32001 SH 5N	BUS 9	DG	21'6"
M 2A			59A/1-9	YES	NO	32001 SH 5N	CB/9DB1	SB	59'6"
W SV			598/1-9	YES	NO	32001 SH 5N	CB/9DB1	SB	59'6"
W MG-6	Ser. # 289B360A16	#	86 (B)	NO	NO	32001 SH 5N	BUS 9	DG	21'6"
W CA	290B892A09		87-A	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
W CA	290B892A09		87-B	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
W CA	290B892A09		87-C	NO	NO	32001 SH 5NA	BUS 9	DG	21'6"
GE HEA	12HEA61C238X2	#	87X	NO	NO	32001 SH 5N, NA	BUS 9	DG	21'6"
SQ D 7001	7001 PO453	#	ESR1 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453	#	ESR2 (B)			31099 SH 3	EGP2B	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

### ATTACHMEN. \_ - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Relay Mfg. & Ty	pe Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
SQ D 7001	7001 PO453	#	ESTR (B)			32001 SH 5N	EGP2B	DG	21'6"
		#	FFC (B)	YES	NO ·	31099 SH 4	EGP2B	DG	21'6"
W SV	292B402A0	#	FFCO (B)	NO	NC	31099 SH 3	EGP28	DG	21'6"
SQ D 7001	7001 PO453	#	FSR1 (B)			32001 SH 5N	EGP28	DG	21'6"
SQ D 7001	7001 PO453	#	FSR2 (8)			32001 SH 5N	EGP28	DG	21'6"
AGA	EGPD002	#	IOPLR (B)			31099 SH 3	AUX EG2B	DG	21'6*
AGA	EGPD002		NFLD	NO	NO	32001 SH 5NA	ECP28	DG	21'6"
AGA	EGPD002	#	NFLDA (B)			32001 SH 5N	ECP2B	DG	21'6"
	Aleksandeletter		ОТ			32001 SH 5NA	ECP2B	DG	21'6"
SQ D 7001	7001 PO453	#	OTR (B)			32001 SH 5N	EGP2B	DG	21'6"
GE - HFA	12HFA154B22H	#	R1 (B)	NO	NO	31099 SH 3	AUX EG2B	DG	21'6"
AGA	EGPD002	#	ROPLR (B)			31099 SH 3	AUX EG2B	DG	21'6"
BARBER	COLEMAN-68	#	SSP1 (B)			31099 SH 3	EGP2B	DG	21'6"
BARBER	COLEMAN-68	#	SSP2 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D EQ1933	EQ1933G2	#	STLO1 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D EQ1933	EQ1933G2	#	STLO2 (B)			31099 SH 3	ECP2B	DG	21'6"
AGA E7000	E7024PE002	#	T1 (B)		19748	31099 SH 3	AUX EG2B	DG	21'6"
AGA E7000	E7014PA002	#	T1A (B)			31099 SH 3	AUX EG28	DG	21'6"
AGA E7000	E7014PA002	#	T18 (B)			31099 SH 3	AUX EG2B	DG	21'6"
SQ D 7001	7001 PO453	#	VSR1 (B)			32001 SH 5N	EGP2B	DG	21'6"
Annual State of Control of Contro	and the second s	Williams Proportion and Belle	AND REAL PROPERTY AND ADDRESS OF THE PARTY AND				THE RESIDENCE OF THE PARTY OF T	SECURITION AND ADDRESS OF THE PARTY OF THE P	THE RESIDENCE OF THE PARTY OF T

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

BKR 9-1

Equipment ID No.:

CR - Corrective action required.

OA - Operatur action. - No entry necessary. Prepared by: Joseph M. Pescatore Date: 12/7/93

Reviewed by: James J. Buckley

#### - CONNECTICUT YANKEE ATTACHMEN RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

REV. 0

PAGE 20

DATE 12/7/93

ENERG

Elev. SAT. \* NO/NC Ref. Drawings(s) Bldg Panel Relay Mig. & Type Relay Model No. Contact 21'6" 32001 SH 5N EGP2B DG 7001 PO453 # VSR2 (B) SQ D 7001

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

BKR 9-1

Equipment ID No. :

- Corrective action required. CR

- Operator action. OA - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN. \_ - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

DATE 12/7/93 REV. 0

PAGE 21

Equipment ID No. : CH-MOV-257

"ESSENTIAL RELAYS"

Relay Mig.	& Type Relay Model No.	Contact	Y/N NC	D/NC Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	A251K1CA	42/C		32112 SH 29N	MCC-5	SB	41'6"
M	A251K1CA	42/0		32112 SH 29N	MCC-5	SB	41'6"
W	AA13A	49		32112 SH 29N	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO .0240-099-001 "ESSENTIAL RELAYS" PAGE 22 DATE 12/7/93 REV. 0

Equipment ID No. :

CH-MOV-257B

ENERG

Relay Mfg. & To	ype Relay Model No.	Contact	Y/N NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A251K1CA	42/C		32112 SH 29Q	MCC-12	SB	41'6"
W	A251K1CA	42/0		32112 SH 29Q	MCC-12	SB	41'6"
CT-HM C300	C300CN3	49		32112 SH 29Q	MCC-12	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Reiay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

re Da

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN 2-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg.	& Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A211K1JA	42/0			32112 SH 29A	MCC-5	SB	41'6"
M Mr		4A (Note 1)	NO	NO	32112 SH 29A	CB/B	SB	59'6"
M Mr		4B (Note 5)	NO	NO	32112 SH 29A	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No.:

CH-MOV-292B

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. :

CH-MOV-292C

Relay Mfg. & Type Relay Model No.		Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W A211K1JA		42/0			32112 SH 29D	MCC-5	SB	41'6"
M Mr	2	4A (Note 1)	NO	NO	32112 SH 29D	CB/B	SB	59'6"
W WL	#	4B (Note 5)	NO	NO	32112 SH 29D	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. - Operator action.

- No entry necessary.

OA

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN C-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

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"ESSENTIAL RELAYS"

Relay Mfg	& Type Relay Model No.	Contact	Y/N NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A211K1JA	42/C		32112 SH 28U	MCC-5	SB	41'6"
M	A211K1JA	42/0		32112 SH 28U	MCC-5	SB	41'6"
W	AA13A J	49		32112 SH 28U	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable. NV

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CH-MOV-298

Equipment ID No. :

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN. C. CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

Relay Mig. & Type Relay Model No.

Equipment ID No. :

CH-SOV-242

Contact

Y/N NO/NC Ref. Drawings(s)

Panel

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> Elev. SAT. \* Bldg.

Note 15

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN'1 \_ - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

Y/N

"ESSENTIAL RELAYS"

ENERG NO/NC Ref. Drawings(s) Panel

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DATE 12/7/93

Relay Mfg. & Type Relay Model No.

DH-MOV-507

Equipment ID No. :

Contact 42/0

Bldg.

Elev. SAT. \*

32112 SH 28W MCC-5 SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number. NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN. C-CONNECTICUT YANKEE RELAY SCRIENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

PACK 78 DATE 12///93 REV. 0

Equipment ID No. :

DH-MOV-521

ENERG Relay Mig. & Type Relay Model No. Y/N NO/NC Ref. Drawings(s) Elev. SAT. \* Contact Panel Bldg. 42/0 32112 SH 28Y MCC-5 SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN. - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABU! ATION DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Equipment ID No. :

DH-MOV-534

ENERG Elev. SAT. \* Relay Mfg. & Type Relay Model No. NO/NC Ref. Drawings(s) Blda. Contact Panel YIN 42/0 32112 SH 28N MCC-5 SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays. CR - Corrective action required.

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93 Date:

Reviewed by: James J. Buckley

# ATTACHMEN. \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. & Type Relay Model No.

Equipment ID No. :

DH-MOV-544

Contact 42/0

NO/NC Ref. Drawings(s) 32112 SH 28P

Panel MCC-5

Elev. SAT. \* Bldg.

SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN. J-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

REV. 0

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ENERG

Relay Mig. & Type Relay Model No.	Contact	Y/N I	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
	42/0			32112 SH 28Z	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable. NV

Equipment ID No. : DH-MOV-562

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismirally adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. OA

- Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

PAGE 32 DATE 12/7/93 REV. 0

Equipment ID No. : EG-2A

"ESSENTIAL RELAYS"

Relay Mfg. & Type	Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W WL	mind prints.	#	4/EG2A	NO	NO	31099 SH 3	CB/8DB1A	SB	59'6"
SQ D EQ1933	EQ1933G2	Ħ	52V (A)			31099 SH 3	EGP2A	DG	21'6"
W MG-6	Ser. # 289B350A16	#	86 (A)	NO	NO	31099 SH 3	BUS 8	DG	21'6"
GE - HEA	12HEA61C238X2	#	87X	NO	NO	31099 SH 3	BUS 8	DG	21'6"
AGA 2400	2412PGE		ECR			31099 SH 3	EGP2A	DG	21'6"
SQ D 8501	8501 FSD022-55		ECRA			31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	#	ESR1 (A)			31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	#	ESR2 (A)			31099 SH 3	EGP2A	DG	21'6"
AGA 2422	2422 PGE	#	ESTD (A)	NO	NO	31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	#	ESTR (A)			31099 SH 3	EGP2A	DG	21'6"
SQD CLASS 8504	EQ1985-G13	#	FFC (A)	YES	NO .	31099 SH 3	EGP2A	DG	21'6"
W SV	292B402A0	#	FFCO (A)	NO	NC	31099 SH 3	EGP2A	DG	21'6"
VAPOR CORP	(not identified)		FPR			31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	3	FSR1 (A)			31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	Ħ	FSR2 (A)			31099 SH 3	EGP2A	DG	21'6"
VAPOR CORP	(not identified)		GS			31099 SH 3	EGP2A	DG	21'6"
			HS		NC	31099 SH 3	EG2A	DG	21'6"
AGA	EGPD002	#	IOPLR (A)			31099 SH 3	AUX EG2A	DG	21'6"
SQD 8411520	AOW23		MB1		NC	31099 SH 3	ECP2A	DG	21'6*
SQD 8411520	AOW23		MB3			31099 SH 3	ECP2A	DG	21'6*
and an internal contract of the contract of th		-	Control of the Contro						

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA

- Corrective action required. CR

- Operator action. OA - No entry necessary.

- Component not affected by relays.

Reviewed by: James J. Buckley

Prepared by: Joseph M. Pescatore

Date: 12/7/93 Date: 12/7/93

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

# ATTACHMEN -- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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	ent			G	

Relay Mfg. & T	ype Relay Model No.		Contact		ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
SQ D 7001	7001 PO453		MSR1 (A)				31099 SH 3	EGP2A	DG DG	21'6"
SQ D 7001	7001 PO453		MSR2 (A)				31099 SH 3	EGP2A	DG	21'6*
AGA	EGPD002	#	NFLDA (A)		VO	NC	31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	#	OTR (A)				31099 SH 3	EGP2A	DG	21'6*
SQ D 1933	1933G2		PFD1				31099 SH 3	EGP2A	DG	21.6.
SQ D 1933	1933G2		PFD2				31099 SH 3	EGP2A	DG	21'6"
SQ D 1933	1933G2		PFDA1 (A)		-		31099 SH 3	EGP2A	DG	21'6*
SQ D 1933	1933G2		PFDA2 (A)		-	THE RESERVE OF THE PARTY OF THE	31099 SH 3	EGP2A	DG	21'6"
GE - HFA	12HFA154B22H	#	R1 (A)				31099 SH 3	AUX EG2A	DG	21'6"
AGA	EGPD002	#	ROPLR (A)				31099 SH 3	AUX EG2A	DG	21'6"
SQ D 1933	1933G2		SFD1 (A)	The state of the s			31099 SH 3	EGP2A	DG	21'6"
SQ D 1933	1933G2		SFD2 (A)				31099 SH 3	EGP2A	DG	21'6"
BARBER	COLEMAN-68	ž	SSP1 (A)				31099 SH 3	EGP2A	DG	21'6"
BARBER	COLEMAN-68	#	SSP2 (A)				31099 SH 3	EGP2A	DG	
SQ D EQ1933	EQ1933G2	#	STLO1 (A)				31099 SH 3	EGP2A		21'6"
SQ D EQ1933	EQ1933G2	THE PERSON NAMED IN COLUMN	STLO2 (A)	The state of the s			31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453		STR1 (A)				31099 SH 3		DG	21'6"
SQ D 7001	7001 PO453		STR2 (A)			_	31099 SH 3	EGP2A	DG	21'6"
AGA E7000	E7024PE	,	T1 (A)					EGP2A	DG	21'6"
AGA E7000	E7014PA	-	T1A (A)				31099 SH 3	AUX EG2A	DG	21'6"
	270171		11A (A)				31099 SH 3	AUX EG2A	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN J-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. : EG-2A

Relay Mfg. & T	ype Relay Model No.	Contact	YN NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
AGA E7000	E7014PA002	# T1B (A)		31099 SH 3	AUX EG2A	DG	21'6"
AGA E7000	E7024PH	# T2 (A)		31099 SH 3	AUX EG2A	DG	21'6"
SQ D 7001	7001 PO453	ZSR1 (A)		31099 SH 3	EGP2A	DG	21'6"
SQ D 7001	7001 PO453	ZSR2 (A)		31099 SH 3	EGP2A	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation". \* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN \_ J - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. & Typ	e Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M Mr		#	4/EG2B	NO	NO	31099 SH 3	CB/9DB1A	SB	59'6"
SQ D EQ1933	EQ1933G2	#	52V (8)			31099 SH 3	EGP2B	DG	21'6"
W MG-6	Ser. # 289B360A16	#	86 (B)	NO	NO	31099 SH 3	BUS 9	DG	21'6"
GE - HEA	12HEA61C238X2	#	87X	NO	NO	31099 SH 3	BUS 9	DG	21'6"
AGA 2400	2412PGE		ECR			31099 SH 3	EGP2B	DG -	21'6"
SQ D 8501	8501 FSD022-55		ECRA			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453	#	ESR1 (8)			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453	#	ESR2 (B)			31099 SH 3	EGP2B	DG	21'6"
AGA 2422	2422 PGE	#	ESTD (B)	NO	NO	31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453	Ħ	ESTR (B)			31099 SH 3	EGP2B	DG	21'6"
SQD CLASS 8504	EQ1965-G13	#	FFC (B)	YES	NO	31099 SH 3	EGP2B	DG	21'6"
W SV	292B402A0	#	FFCO (B)	NO	NO	31099 SH 3	EGP2B	DG	21'6"
VAPOR CORP	(not identified)		FPR			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453	Ħ	FSR1 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453		FSR2 (B)			31099 SH 3	EGP2B	DG	21'6*
VAPOR CORP	(not identified)		GS			31099 SH 3	EGP2B	DG	21'6"
			HS		NC	31099 SH 3	EG28	DG	21'6"
AGA	EGPD002	#	IOPLR (B)			31099 SH 3	AUX EG2B	DG	21'6"
SQD 8411520	AOW23		MB1		. NC	31099 SH 3	ECP2B	DG	21'6"
SQD 8411520	AOW23		МВ3			31099 SH 3	ECP2B	DG	21'6"
		-		The second secon		The same of the sa			Name and Address of the Owner, which was not to the

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

Equipment ID No. :

EG-2B

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN ... - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Onlay Mfn & Ty	pe Relay Model No.		Contact	NERG Y/N	NO/NO	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
SQ D 7001	7001 PO453		MSR1 (B)	17/14	110/110	31099 SH 3	EGP28	DG DG	21'6"
SQ D 7001	7001 PO453		MSR2 (B)			31099 SH 3	EGP2B	DG	21'6"
AGA	EGPD002	#	NFLDA (B) N	0	NC	31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453	#	OTR (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D 1933	1933G2		PFD1			31099 SH 3	EGP2B	DG	21'6"
SQ D 1933	1933G2		PFD2			31099 SH 3	EGP2B	DG	21'6"
SQ D 1933	1933G2		PFDA1 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D 1933	1933G2		PFDA2 (B)			31099 SH 3	EGP2B	DG	21'6"
GE - HFA	12HFA154B22H	#	R1 (B)			31099 SH 3	AUX EG2B	DG	21'6"
AGA	EGPD002	#	ROPLR (B)			31099 SH 3	AUX EG2B	DG	21'6"
SQ D 1933	1933G2		SFD1 (8)			31099 SH 3	EGP28	DG	21'6"
SQ D 1933	1933G2		SFD2 (B)			31099 SH 3	EGP28	DG	21'6"
BARBER	COLEMAN-68	#	SSP1 (B)	ing i		31099 SH 3	EGP28	DG	21'6"
BARBER	COLEMAN-68	#	SSP2 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D EQ1933	EQ1933G2	#	STLO1 (B)	16.00		31099 SH 3	EGP2B	DG	21'6"
SQ D EQ1933	EQ1933G2	#	STLO2 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453		STR1 (B)			31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453		STR2 (B)			31099 SH 3	EGP2B	DG	21'6"
AGA E7000	E7024PE002	#	T1 (B)			31099 SH 3	AUX EG28	DG	21'6"
AGA E7000	E7014PA002	#	T1A (B)			31099 SH 3	AUX EG28	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

Equipment ID No. : EG-2B

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR

- Operator action. OA - No entry necessary.

- Corrective action required.

Reviewed by: James J. Buckley

Prepared by: Joseph M. Pescatore

Date: 12/7/93 Date: \_12/7/93

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

### ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

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Equipment ID No. : EG-2B

Relay Mfg. & T	ype Relay Model No.		Contact	ENERG Y/N	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
AGA E7000	E7014PA002	#	T18 (B)		31099 SH 3	AUX EG2B	DG	21'6"
AGA E7000	E7024PH002	Ħ	T2 (B)		31099 SH 3	AUX EG28	DG	21'6"
SQ D 7001	7001 PO453		ZSR1 (B)		31099 SH 3	EGP2B	DG	21'6"
SQ D 7001	7001 PO453		ZSR2 (B)		31099 SH 3	EGP2B	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN, C-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

PAGE & DATE 12/7/93

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Equipment ID No. :

FH-MOV-344

ENERG Relay Mig. & Type Relay Model No. NO/NC Ref. Drawings(s) Elev. SAT. \* Contact Y/N Panel Bidg. 32001 SH 6ST MCC-5 - 3 W A211K1JA 42/0 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN. C-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No.:

FW-MOV-11

Relay Mfg.	& Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	A250M1CAC	42/C			32001 SH 6SL	MCC-5	SB	41'6"
W	A250M1CAC	42/0			32001 SH 6SL	MCC-5	SB	41'6"
W	AA13A J	49			32001 SH 6SL	MCC-5	S8	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. :

FW-MOV-12

Relay Mfg.	& Type Relay Model No.	Contact	Y/N NO/NO	Ref. Drawings(s)	Panel	Bldg.	Elev, SAT.*
M	A250M1CAC	42/C		32112 SH 6SM	MCC-5	SB	41'6"
¥	A250M1CAC	42/0		32112 SH 6SM	MCC-5	SB	41'6"
W	AA13A J	49		32112 SH 6SM	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabu".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. - Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN · CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS" PAGE 41 DATE 12/7/93 REV. 0

Equipment ID No. :

FW-MOV-13

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N N(	O/NC Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A250M1CAC	42/C		32001 SH 6SN	MCC-5	SB	41'6"
¥	A250M1CAC	42/0		32001 SH 6SN	MCC-5	SB	41'6"
W	AA13A J	49		32001 SH 6SN	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. :

FW-MOV-14

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
M	A250M1CAC	42/C		32001 SH 6SP	MCC-5	SB	41'6"
¥	A250M1CAC	42/0		32001 SH 6SP	MCC-5	SB	41'6"
W	AA13A J	49		32001 SH 6SP	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. :

FW-MOV-160

ENERG Elev. SAT. \* Y/N NO/NC Ref. Drawings(s) Panel Bldg. Relay Mfg. & Type Relay Model No. Contact 32112 SH 97 MCC-7 CV 21'6" 42/C

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. - Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

12/7/93 Date:

### ATTACHMEN. - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

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Equipment ID No.:

FW-MOV-35

Relay Mfg. & Type Relay Model No.	Contact	ENERG Y/N NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
	42/C		32112 SH 30G	MCC-7	CV	21'6"
	42/0		32112 SH 30G	MCC-7	CV	21'6"
	49		32112 SH 30G	MCC-7	CV	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required. - Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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SB

41'6"

Equipment ID No. :

W

W

LD-MOV-200

42/0

49

A211K1JA

AA13A J

Relay Mfg. & Type Relay Model No.

ENERG NO/NC Ref. Drawings(s) Contact Elev. SAT. \* Panel Bldg. 32112 SH 28L MCC-5 SB 41'6"

MCC-5

32112 SH 28L

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

OA - Operator action. - No entry necessary. Prepared by: Josep's M. Pescatore Date: 12/7/93 Date: 12/7/93 Reviewed by: James J. Buckley

### ATTACHMEN \_ - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No.: P-118-1A

Relay Mfg.	& Type Relay Model No.	Contact	Y/N NO/	NC Ref. Drawings(s)	) Panel	Bldg.	Elev. SAT.*
		42		32137 SH 7A	MCC-9	WD	21'6"
X	AN43A	49		32137 SH 7A	MCC-9	WD	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHME 2- CONNECTICUT YANKEL RELAY SCREENING / ND EVALUATION TABULATION DOCUMENT NO. 0240-299-001

"ESSENTIAL RELAYS"

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Equipment ID No.: P-118-1B

Relay Mfg. &	Type Relay Model No.	Contact	YN NO/N	C Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
		42		32137 SH 7B	MCC-10	WD	21'6"
W	AN43A	49		32137 SH 7B	MCC-10	WD	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; Include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

PAGE 48 DATE 12/7/93 REV. 0

Equipment ID No.: P-13-1A

"ESSENTIAL RELAYS"

Relay Mfg. &	Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
W CV-7			27-4	YES	NC	32001 SH 6J	AB/4	\$8	59'6"
W MG-6		#	27X-4	NO	NO	32112 SH 14A	AB/4	SB	59'6"
			74			32112 SH 14A	BUS 1-4	SB	41'6"
GE - HFA	12HFA151A2H	#	94LS/1-8 (Note 13)	NO	NO	32001 SH 6J	CB/8DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

OA - No entry necessary.

- Operator action.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J Buckley

DOCUMENT NO. 0240-099-001

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Equipment ID No. :

P-13-1B

"ESSENTIAL RELAYS"

	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
#	27-6	YES	NC	32001 SH 6X	AB/4	SB	59'6"
#	27X-6	NO	NO	32112 SH 14B	AB/4	SB	59'6"
#	27X1-6	NO	NO	32112 SH 6X	AB/4	SB	59'6"
	74			32112 SH 14B	BUS 1-6	SB	41'6"
#	94LS/1-9 (Note 14)	NO	NO	32001 SH 6X	CB/9DB1A	SB	59'6"
	Ħ	# 27-6 # 27X-6 # 27X1-6 74 # 94LS/1-9 (Note 14)	# 27-6 YES  # 27X-6 NO  # 27X1-6 NO  74	# 27-6 YES NC # 27X-6 NO NO # 27X1-6 NO NO 74	# 27-6 YES NC 32001 SH 6X  # 27X-6 NO NO 32112 SH 14B  # 27X1-6 NO NO 32112 SH 6X  74 32112 SH 14B	# 27-6 YES NC 32001 SH 6X AB/4  # 27X-6 NO NO 32112 SH 14B AB/4  # 27X1-6 NO NO 32112 SH 6X AB/4  74 32112 SH 14B BUS 1-6	# 27-6 YES NC 32001 SH 6X AB/4 SB  # 27X-6 NO NO 32112 SH 14B AB/4 SB  # 27X1-6 NO NO 32112 SH 6X AB/4 SB  74 32112 SH 14B BUS 1-6 SB

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

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Equipment ID No.: P-13-1C

"ESSENTIAL RELAYS"

Relay Mfg. & Type Relay Model No.		Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
BBC Type ITE-27 211R1175	E	27-11	YES	NC	30004 SH 1A	BUS 11	SB	41'6"
	#	27X1/11	NO	NO	32001 SH 6XB	BUS 11	SB	41'6"
		74			32112 SH 14C	BUS 11	SB	41'6"
U apparation of the second of	Ħ	94LS-1/1-9			32001 SH 6XB	CB/9DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.
OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN -- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

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Equipment ID No. :

P-149-1A

"ESSENTIAL RELAYS"

Relay Mfg.	& Type Relay Model No.	Contact	Y/N N	IO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	A200M1CAC	42			32112 SH 24C	MCC-5	SB	41'6*
M	AN13A	49			32112 SH 24C	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA CR - Corrective action required.

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS" PAGE 52 DATE 12/7/93 REV. 0

Equipment ID No. :

P-149-1B

Relay Mfg.	& Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
		42			32112 SH 240	MCC-5	SB	41'6"
M	AN13A	49			32112 SH 24C	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; Include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.
OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMENA \_ - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

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DATE 12/7/93

Equipment ID No.: P-18-1A

"ESSENTIAL RELAYS"

ype Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
Ser. # 289B360A20	#	27Y1/1-9 (Note 11)	NO	NO	32112 SH 8A	CB/9DB1	SB	59'6"
289B456A19		50/51	NO	NO	32112 SH 8A	BUS 9	DG	21'6"
7022PC		62/P18-1A	NO	NO	32112 SH 8A	BUS 9	DG	21'6"
Ser. # 289B360A16		86	NO	NO	32112 SH 8A	BUS 9	DG	21'6"
12HFA151A2H	#	94LS/1-9 (Note 14)	NO	NO	32112 SH 8A	CB/9BD1	SB	59'6"
	Ser. # 289B360A20 289B456A19 7022PC Ser. # 289B360A16	Ser. # 289B360A20 # 289B456A19 7022PG Ser. # 289B360A16	Ser. # 289B360A20       # 27Y1/1-9 (Note 11)         289B456A19       50/51         7022PC       62/P18-1A         Ser. # 289B360A16       86	Ser. # 289B360A20       # 27Y1/1-9 (Note 11)       NO         289B456A19       50/51       NO         7022PC       62/P18-1A       NO         Ser. # 289B360A16       86       NO	ype Relay Model No.         Contact         Y/N         NO/NC           Ser. # 289B360A20         # 27Y1/1-9 (Note 11)         NO         NO           289B456A19         50/51         NO         NO           7022PC         62/P18-1A         NO         NO           Ser. # 289B360A16         86         NO         NO	ype Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)           Ser. # 289B360A20         # 27Y1/1-9 (Note 11)         NO         NO         32112 SH 8A           289B456A19         50/51         NO         NO         32112 SH 8A           7022PC         62/P18-1A         NO         NO         32112 SH 8A           Ser. # 289B360A16         86         NO         NO         32112 SH 8A	ype Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel           Ser. # 289B360A20         # 27Y1/1-9 (Note 11)         NO         NO         32112 SH 8A         CB/9DB1           289B456A19         50/51         NO         NO         32112 SH 8A         BUS 9           7022PC         62/P18-1A         NO         NO         32112 SH 8A         BUS 9           Ser. # 289B360A16         86         NO         NO         32112 SH 8A         BUS 9	ype Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel         Bldg.           Ser. # 289B360A20         # 27Y1/1-9 (Note 11)         NO         NO         32112 SH 8A         CB/9DB1         SB           289B456A19         50/51         NO         NO         32112 SH 8A         BUS 9         DG           7022PC         62/P18-1A         NO         NO         32112 SH 8A         BUS 9         DG           Ser. # 289B360A16         86         NO         NO         32112 SH 8A         BUS 9         DG

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

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Equipment ID No. : P-18-1B

"ESSENTIAL RELAYS"

ype Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
Ser. # 289B360A20	# 27Y1/1-8 (Note 9)	NO	NO	32112 SH 8B	CB/8DB1	SB	59'6*
289B456A19	50/51	NO	NO	32112 SH 8B	BUS 8	DG	21'6"
2422PC	62/P18-1B	NO	NO	32112 SH 8B	BUS 8	DG	21'6"
Ser. # 289B360A16	86	NO	NO	32112 SH 8B	BUS 8	DG	21'6"
12HFA151A2H	# 94LS/1-8 (Note 13)	NO	NO	32112 SH 8B	CB/8DB1	SB	59'6"
	Ser. # 289B360A20 289B456A19 2422PC Ser. # 289B360A16	Ser. # 289B360A20       # 27Y1/1-8 (Note 9)         289B456A19       50/51         2422PC       62/P18-1B         Ser. # 289B360A16       86	ype Relay Model No.         Contact         Y/N           Ser. # 289B360A20         # 27Y1/1-8 (Note 9)         NO           289B456A19         50/51         NO           2422PC         62/P18-1B         NO           Ser. # 289B360A16         86         NO	ype Relay Model No.         Contact         Y/N         NO/NC           Ser. # 289B360A20         # 27Y1/1-8 (Note 9)         NO         NO           289B456A19         50/51         NO         NO           2422PC         62/P18-1B         NO         NO           Ser. # 289B360A16         86         NO         NO	ype Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)           Ser. # 289B360A20         # 27Y1/1-8 (Note 9)         NO         NO         32112 SH 8B           289B456A19         50/51         NO         NO         32112 SH 8B           2422PC         62/P18-1B         NO         NO         32112 SH 8B           Ser. # 289B360A16         86         NO         NO         32112 SH 8B	ype Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel           Ser. # 289B360A20         # 27Y1/1-8 (Note 9)         NO         NO         32112 SH 8B         CB/8DB1           289B456A19         50/51         NO         NO         32112 SH 8B         BUS 8           2422PC         62/P18-1B         NO         NO         32112 SH 8B         BUS 8           Ser. # 289B360A16         86         NO         NO         32112 SH 8B         BUS 8	ype Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel         Bldg.           Ser. # 289B360A20         # 27Y1/1-8 (Note 9)         NO         NO         32112 SH 8B         CB/8DB1         SB           289B456A19         50/51         NO         NO         32112 SH 8B         BUS 8         DG           2422PC         62/P18-1B         NO         NO         32112 SH 8B         BUS 8         DG           Ser. # 289B360A16         86         NO         NO         32112 SH 8B         BUS 8         DG

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR - Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

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"ESSENTIAL RELAYS"

Re	ay Mfg. & Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
		42			32001 SH 6MT	MCC-8	AB	21'6"
W	AN33A	49			32001 SH 6MT	MCC-8	AB	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

Equipment ID No. :

P-29-1A

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

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Equipment ID No.: P-29-1B

"ESSENTIAL RELAYS"

Relay Mfg. & T	Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bidg.	Elev. SAT. *
		42			32001 SH 6MU	MCC-8	AB	21'6"
W	AN33A	49			32001 SH 6MU	MCC-8	AB	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required.

OA - Operator action. - No entry necessary.

CR

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

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Equipment ID No.: P-37-1A

"ESSENTIAL RELAYS"

Relay Mfg. & Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
<u>W</u> CV-7	# 27-4	YES	NC	32001 SH 6J	AB/4	SB	59'6*
₩ MG-6	# 27X-4	NO	NO	32001 SH 6E	AB/4	SB	59'6*
GE - HFA 12HFA151A2H	# 94LS/1-8 (Note 13)	NO	NO	32001 SH 6J	CB/8DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

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Equipment ID No.: P-37-18

"ESSENTIAL RELAYS"

Rela	ay Mfg. &	Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	CV-7		#	27-5	YES	NO	32001 SH 6J	AB/4	SB	59'6"
W	MG-6		#	27X-5	NO	NO	32001 SH 6EA	AB/4	SB	59'6"
W	SG	Ser. # 1342925A	#	27X1-5	NO	NO	32001 SH 6J	AB/4	SB	59'6"
GE	- HFA	12HFA151A2H	#	94LS/1-8(Note 13)	NO	NO	32001 SH 6J	CB/8DB1A	SB	59'6"
-	the same of the same of the same of	The second secon	NAME OF STREET		The state of the s	Company of the Park Street Company				Control of the Contro

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR

OA - No entry necessary.

- Operator action.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN. C- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

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Equipment ID No.: P-37-1C

"ESSENTIAL RELAYS"

Rel	ay Mfg. &	Type Relay Model No.	-	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	CV-7		#	27-6	YES	NC	32001 SH 6X	AB/4	SB	59'6"
W	SG	Ser. # 1342925A	3	27X1-6	NO	NO	32001 SH 6X	AB/4	SB	59'6"
GE	- HFA	12HFA151A2H	#	94LS/1-9(Note 14)	NO	NO	32001 SH 6X	CB/9DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Corrective action required

Prepared by: <u>Joseph M. Pescatore</u> Date: <u>12/7/93</u>

Reviewed by: <u>James J. Buckley</u> Date: <u>12/7/93</u>

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Equipment ID No.: P-37-1D

Pelay Mig. & Typ	e Relay Model No.	-	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Pldg.	Elev. SAT. *
BBC Type ITE-27	211R1175	#	27-11	YES	NO	32001 SH 6XB	BUS 11	SB	41'6"
		Ħ	27X1/11	NO	NO	32001 SH 6EC	BUS 11	SB	41'6"
GE - HFA	12HFA151A2H	#	94LS/1-9 (Note 14)	NO	NO	32001 SH 6EC	CB/9DB1A	SB	59'6*

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required. OA

- Operator action. - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHMEN. \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Equipment ID No.:

PR-MOV-567

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
W	A211K1JA	42/0			32112 SH 28S	MCC-5	SB	41'6"
W	AR440A	# 63Y/PCV 568	NO	NO	32112 SH 28S	CB/C	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Date: 12/7/93 Prepared by: Joseph M. Pescatore

Date: 12/7/93 Reviewed by: James J. Buckley

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"ESSENTIAL RELAYS"

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Equipment ID No. :

PR-MOV-569

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
W	A211K1JA	42/O			32112 SH 28T	MCC-5	SB	41'6"
W	AR440A	# 63Y/PCV 570	NO	NO	32112 SH 28T	CB/C	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

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Relay Ng. &	Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.	*
M	Unknown	42/O			32112 SH 74	LOCAL	SB	41'6"	

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No. :

PR-MOV-596

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# ATTACHMEN - CONNECTICUT YANKEE

### RELAY SCREENING AND EVALUATION TABULATION

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Equipment ID No. : PR-MOV-597

Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W Unknown	42/0			32112 SH 75	LOCAL	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Reviewed by: James J. Buckley

Prepared by: Joseph M. Pescatore

Date: 12/7/93

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Equipment ID No.: PR-SOV-568

-	Relay Mfg. &	Type Relay Model No.	Contact	ENERG	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
	M	AR440A	63X/568			32112 SH 70	CB/B	SB	59'6"
	W	AR440A	# 63Y/PCV 568	NO	NO	32112 SH 70	CB/C	SB	59'6*

A "#" indicates that this "elay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary. Prepared by: Joseph M. Pescatore

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Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

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Equipment ID No. :

PR-SOV-570

"ESSENTIAL RELAYS"

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	AR440A	63X/570			32112 SH 70A	CB/B	SB	59'6"
M	AR440A	# 63Y/PCV 570	NO	NO	32112 SH 70A	CB/C	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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_ Relay Mfg. 8	Type Relay Model No.	Contact	Y/N NO/NC F	ef. Drawings(s)	Panel	Rida	Elev. SAT. *
M	A211K1JA	42/C		2112 SH 27A	MCC-5	SB	41'6"
				THE RESIDENCE OF THE PARTY OF T			

A "#" Indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No. :

RC-MOV-501

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.
OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

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"ESSENTIAL RELAYS"

Relay Mfg. &	Type Relay Model No.	Contact	YN NO/N	C Ref. Drawings(s)	Panel	Bldg.	Elev. S	SAT. *
W	A211K1JA	42/C		32112 SH 27B	MCC-5	SB	41'6"	

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

RC-MOV-512

Equipment ID No. :

CR - Corrective action required.

OA - Operator action. - No entry necessary. Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS" PAGE 69 DATE 12/7/93 REV. 0

NEBO

Helay Mig. & Ty	pe Relay Model No.	Contact	Y/N NO/NC Ref. Drawl	ings(s) Panel	Dide	FI- CAT 4
W	A211K1JA	42/0		A STATE OF THE PARTY OF THE PAR	Biog.	Elev. SAT. *
-	74611111074	400	32112 SH 2	PTC MCC-5	SB	41%"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory.

CA - Chatter acceptable.

Equipment ID No. : RC-MOV-513

NV - Not vulnerable (mechanically actuated contacts or solid state relays).
GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

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Equipment ID No. :

RC-MOV-524

Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
)¥ A211K1JA	42/C		1999	32112 SH 27D	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satifactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Prickley

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Equipment ID No. :

RC-MOV-526

"ESSENTIAL RELAYS"

_ Relay Mfg. &	Type Relay Model No.	Contact	Y/N NO/NO	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A251K1CA	42/C		32112 SH 27E	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mig. & Type Relay Model No.

Contact

42/C

RC-MOV-537

A211K1JA

ENERG

NO/NC Ref. Drawings(s)

Panel

Bldg.

Elev. SAT. \*

32112 SH 27F

MCC-5

SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory. - Chatter acceptable. CA

Equipment ID No. :

W

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not aff ...ed by relays. NA CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James I. Buckley

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. :

W

RC-MOV-538

A211K1JA

Contact

42/C

Relay Mig. & Type Relay Model No.

ENERG

NO/NC Ref. Drawings(s) Panel Elev. SAT. \* Bidg. 32112 SH 27G MCC-5 SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays. CR

- Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No.:

RC-MOV-546

NO/NC Ref. Drawings(s)

Panel

Bldg. Elev. SAT. \*

Relay Mig. & Type Relay Model No. W A211K1JA

Contact 42/C

32112 SH 27H

MCC-5

SB 41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Croup being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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RELAY 27Y/1-8 Equipment ID No.:

Relay Mig. & T	ype Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
W CV-7	1875524A	#	27A/1-8	YES	NO	32001 SH 5F	CB/8DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	27AX/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'6"
W CV-7		ä	27B/1-8	YES	NC	32001 SH 5F	CB/8DB1	SB	59'6"
GE - HFA	12HFA151A2H	ff	27BX/1-8	NO	NO	32001 SH 5F	C8/8DB1A	SB	59'6"
₩ CV-7		#	27C/1-8	NO	NC	32001 SH 5F	CB/8DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	27CX/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27K/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27L/1-8	Y. 3	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27M/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27R/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	275/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27T/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
₩ MG-6		#	27X/1-8	NO	NO	32001 SH 5F	C8/8DB1	SB	59'6"
W WL		#	4A (Note 1)	NO	NO	32001 SH 5FA	CB/B	S8	59'6"
W WL		#	4B (Note 5)	NO	NO	32001 SH 5FA	CB/B	SB	59'6"
GE - NGV	12NVG15A21	#	59/8	YES	NO	32001 SH 5F	CB/8DB1	SB	59'6"
AGA E7000	E7022PC003	2	628/1-8	YES	NC	32001 SH 5FA	CB/8DB1A	SB	59*6*
AGA E7000	E7024PC001	9	62C/1-8	YES	NC	32001 SH 5FA	CB/8DB1A	SB	59'6*
AGA E7000	E7012PD		82E8-2	YES	NC	32001 SH 5FA	CB/8DB1	SB	59'6*
GE - HEA	12HEA61A223	#	86/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; Include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

Date: 12/7/93

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

# ATTACHMEN - CONNECTICUT YANKEE

RELAY SCREENING AND EVALUATION TABULATION

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Equipment ID No.: RELAY 27Y/1-8

"ESSENTIAL RELAYS"

Rel	ay Mfg.	& Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
M	CA	Ser. # 290B892A09	#	87A/8T2	NO	NO	32001 SH 5J	BUS 8	DG	21'6"
M	CA	Ser. # 290B892A09	#	87B/8T2	NO	NO	32001 SH 5J	BUS 8	DG	21'6"
W	CA	Ser. # 290B892A09	Ħ	87C/8T2	NO	NO	32001 SH 5J	BUS 8	DG	21'6"
W	WL	300P762G01	#	87X/8T2	NO	NO	32001 SH 5F	BUS 8	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

# DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

PAGE 77 DATE 12/7/93 REV. 0

Relay Mig. & Ty	pe Relay Model No.		Contact	ENERG Y/N		Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
W CV-7		#	27A/1-9	YES	NC	32001 SH 5G	CB/9DB1	SB	59'6*
GE - HFA	12HFA151A2H	#	27AX/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6*
W CV-7		#	278/1-9	YES	NC	32001 SH 5G	CB/9D81	S8	59'6"
GE - HFA	12HFA151A2H	#	278X/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6"
<u>W</u> CV-7		#	27C/1-9	YES	NC	32001 SH 5G	CB/9DB1	SB	59'6"
GE - HFA	12HFA151A2H	Ħ	27CX/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6*
DEVAR	18-114	#	27K/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27L/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27M/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27R/1-9	YES	NO	32001 SH 5GB	CB/9D81A	SB	59'6"
DEVAR	18-114	#	27S/1-9	YES	NO	32001 SH 5G8	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	271/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
W MG-6		#	27X/1-9	NO	NO	32001 SH 5G	CB/9DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	4AX1 (Note 3)	NO	NO	32001 SH 5GA	CB/F	SB	59°6*
₩ MG-6	289B360A20	#	4BX1 (Note 7)	NO	NO	32001 SH 5GA	CB/F	SB	59'6"
GE - NGV	12NGV15A21	#	59-9	YES	NO	32001 SH 5G	CB/9DB1	SB	59'6"
AGA E7000	E7022PC003	#	62B/1-9	YES	NC	32001 SH 5GA	CB/9DB1A	SB	59'6"
AGA E7000	E7024PC001		62C/1-9	YES	NC	32001 SH 5GA	CB/9DB1A	SB	59'6"
AGA E7000	E7012PD	ě	62E9-2	YES	NC	32001 SH 5GA	CB/9DB1	SB	59'6"
GE - HEA	12HEA61A223	n	86/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6"
		-	The second secon			THE RESERVE AND ADDRESS OF THE PARTY OF THE			

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

CA - Chatter acceptable.

Equipment ID No. :

RELAY 27Y/1-9

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

ATTACHMEN RELAY SCREENING AND EVALUATION TABULATION

- CONNECTICUT YANKEE

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Equipment ID No.: RELAY 27Y/1-9

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

Rel	lay Mfg. 8	Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
W	CA	Ser. # 290B892A09	#	87A/9T3	NO	NO	32001 SH 5L	BUS 9	DG	21'6"
W	CA	Ser. # 290B892A09	#	87B/9T3	NO	NO	32001 SH 5L	BUS 9	DG	21'6"
W	CA	Ser. # 290B892A09	#	87C/9T3	NO	NO	32001 SH 5L	BUS 9	DG	21'6"
W	WL		#	87X/9T3	NO	NO	32001 SH 5G	BUS 9	DG	21'6"
-						The second secon				N. To the second

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

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Relay Mlg. & Typ	e Relay Model No.		Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W CV-7	1875524A	Ħ	27A/1-8	YES	NC	32001 SH 5F	CB/8DB1	SB	59'6*
GE - HFA	12HFA151A2H	#	27AX/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'6"
W CV-7		Ħ	278/1-8	YES	NC	32001 SH 5F	CB/8DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	27BX/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'8"
₩ CV-7		Ħ	27C/1-8	NO	NC	32001 SH 5F	CB/8DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	27CX/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27K/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27L/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6*
DEVAR	18-114	#	27M/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27R/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	#	27\$/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
DEVAR	18-114	8	27T/1-8	YES	NO	32001 SH 5FB	CB/8DB1A	SB	59'6"
W MG-6		#	27X/1-8	NO	NO	32001 SH 5F	CB/8DB1	SB	59'6"
W WL		#	4A (Note 1)	NO	NO	32001 SH 5FA	CB/B	SB	59'6"
W WL		#	4B (Note 5)	NO	NO	32001 SH 5FA	CB/B	SB	59'6"
GE - NGV	12NVQ15A21	g	59/8	YES	NO	32001 SH 5F	CB/8DB1	SB	59'6"
AGA E7000	E7022PC003	#	628/1-8	YES	NC	32001 SH 5FA	CB/8DB1A	SB	59'6"
AGA E7000	E7024PC001	#	62C/1-8	YES	NC	32001 SH 5FA	CB/8DB1A	SB	596*
AGA E7000	E7012PD	ž	62E8-2	YES	NC	32001 SH 5FA	CB/8DB1	SB	59'6"
GE - HEA	12HEA61A223	#	86/1-8	NO	NO	32001 SH 5F	CB/8DB1A	SB	59'6"
AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER.		NAME OF TAXABLE PARTY.			THE RESERVE AND ADDRESS.				Committee of the Commit

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

Equipment ID No.: RELAY 27Y2/1-8

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

ATTACHMEN .- CONNECTICUT YANKEE

RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

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Equipment ID No. :

**RELAY 27Y2/1-8** 

"ESSENTIAL RELAYS"

Re	lay Mfg. 8	Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	CA	Ser. # 290B892A09	#	87A/8T2	NO	NO	32001 SH 5J	BUS 8	DG	21'6"
W	CA	Ser. # 290B892A09	#	87B/8T2	NO	NO	32001 SH 5J	BUS 8	DG	21'6*
W	CA	Ser. # 290B892A09	- 4	87C/8T2	NO	NO	32001 SH 5J	BUS 8	DG	21'6"
W	WL	300P762G01	n	87X/8T2	NO	NO	32001 SH 5F	BUS 8	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

ENTIAL RELAYS"

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Equipment ID No. :	DELAV	27V2/4-0	0.0.0.0113
Edulbulent in Mo. :	UETWI	211211-3	"ESSI
			Rest Control

Relay Mig. & Ty	pe Relay Model No.		Contact	Y/N		Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W CV-7		#	27A/1-9	YES	NC	32001 SH 5G	CB/9DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	27AX/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6"
W CV-7		#	278/1-9	YES	NC	32001 SH 5G	CB/9D81	SB	59'6"
GE - HFA	12HFA151A2H	Ħ	27BX/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6"
W CV-7		#	27C/1-9	YES	NC	32001 SH 5G	CB/9DB1	SB	59'6"
GE - HFA	12HFA151A2H	R	27CX/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27K/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27L/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6*
DEVAR	18-114	#	27M/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27R/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	#	27S/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
DEVAR	18-114	B	271/1-9	YES	NO	32001 SH 5GB	CB/9DB1A	SB	59'6"
W MG-6		Ħ	27X/1-9	NO	NO	32001 SH 5G	CB/9DB1	SB	59'6"
GE - HFA	12HFA151A2H	#	4AX1 (Note 3)	NO	NO	32001 SH 5GA	CB/F	SB	59'6"
W MG-6	289B360A20	#	48X1 (Note 7)	NO	NO	32001 SH 5GA	CB/F	SB	59'6"
GE - NGV	12NGV15A21	#	59-9	YES	NO	32001 SH 5G	CB/9DB1	SB	59'6"
AGA E7000	E7022PC003	#	62B/1-9	YES	NC	32001 SH 5GA	CB/9DB1A	SB	59'6"
AGA E7000	E7024PC001	#	62C/1-9	YES	NC	32001 SH 5GA	CB/9DB1A	SB	59'6"
AGA E7000	E7012PD	#	62E9-2	YES	NC	32001 SH 5GA	CB/9DB1	SB	59'6"
GE - HEA	12HEA61A223	#	86/1-9	NO	NO	32001 SH 5G	CB/9DB1A	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93 Date:

Reviewed by: James J. Buckley

<sup>\*</sup> Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

DOCUMENT NO. 0240-099-001

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Equipment ID No. :

RELAY 27Y2/1-9

"ESSENTIAL RELAYS"

Type Relay Model No.		Contact		NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
Ser. # 290B892A09	#	87A/9T3	NO	NO	32001 SH 5L	BUS 9	DG	21'6"
Ser. # 290B892A09	Ħ	878/9T3	NO	NO	32001 SH 5L	BUS 9	DG	21'6*
Ser. # 290B892A09	#	87C/9T3	NO	NO	32001 SH 5L	BUS 9	DG	21'6"
	#	87X/9T3	NO	NO	32001 SH 5G	BUS 9	DG	21'6"
	Ser. # 290B892A09 Ser. # 290B892A09	Ser. # 290B892A09 # Ser. # 290B892A09 # Ser. # 290B892A09 #	Type Relay Model No. Contact Ser. # 2908892A09 # 87A/9T3 Ser. # 2908892A09 # 878/9T3 Ser. # 2908892A09 # 87C/9T3 # 87X/9T3	Type Relay Model No.         Contact         Y/N           Ser. # 290B892A09         # 87A/9T3         NO           Ser. # 290B892A09         # 87B/9T3         NO           Ser. # 290B892A09         # 87C/9T3         NO	Type Relay Model No.         Contact         Y/N         NO/NC           Ser. # 290B892A09         # 87A/9T3         NO         NO           Ser. # 290B892A09         # 87B/9T3         NO         NO           Ser. # 290B892A09         # 87C/9T3         NO         NO	Ser. # 290B892A09       # 87A/9T3       NO       NO       32001 SH 5L         Ser. # 290B892A09       # 87B/9T3       NO       NO       32001 SH 5L         Ser. # 290B892A09       # 87C/9T3       NO       NO       32001 SH 5L	Type Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel           Ser. # 290B692A09         # 87A/9T3         NO         NO         32001 SH 5L         BUS 9           Ser. # 290B892A09         # 87B/9T3         NO         NO         32001 SH 5L         BUS 9           Ser. # 290B892A09         # 87C/9T3         NO         NO         32001 SH 5L         BUS 9	Type Relay Model No.         Contact         Y/N         NO/NC         Ref. Drawings(s)         Panel         Bldg.           Ser. # 290B892A09         # 87A/9T3         NO         NO         32001 SH 5L         BUS 9         DG           Ser. # 290B892A09         # 87B/9T3         NO         NO         32001 SH 5L         BUS 9         DG           Ser. # 290B892A09         # 87C/9T3         NO         NO         32001 SH 5L         BUS 9         DG

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *	ile.
<u>W</u> WL Ser. # 780A542G01	# HCP/A (Note 4)	NO	NO	32112 SH 32A	CB/F	SB	59'6"	

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays. CR - Corrective action required.

RELAY 4A

Equipment ID No. :

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date:

12/7/93

Reviewed by: James J. Buckley

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
X Mr	# 4A (Note 1)	NO	NO	32112 SH 32A	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; Include GERS number.

NA - Component not affected by relays.

RELAY 4AX

Equipment ID No. :

- Corrective action required. CR

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M Mr	# 4A (Note 1)	NO .	NO	32112 SH 32A	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

**RELAY 4AX1** 

Equipment ID No.:

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. :

**RELAY 4B** 

Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
<u>W</u> WL Ser. # 785A839G01 #	HCP/8 (Note 8)	NO	NO	32112 SH 32B	CB/F	SB	59'6*

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Equipment ID No. : **RELAY 4BX** 

Relay Mig. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M Mr	# 4B (Note 5)	NO	NO	32112 SH 32B	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA Component not affected by relays. CR rrective action required.

OA - perator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

## ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

DATE 12/7/93 REV. 0

PAGE 88

Equipment ID No. :

**RELAY 4BX1** 

"ESSENTIAL RELAYS"

Relay Mfg. & Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Blda.	Elev. SAT. *
W WL	#	48 (Note 5)	NO	NO	32112 SH 32B	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.
OA - Operator action.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

PAGE 89 DATE 12/7/93 REV. 0

Equipment ID No. :

**RELAY 94LS/1-8** 

"ESSENTIAL RELAYS"

Relay Mfg. &	Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
GE - HEA	12HEA61C239	#	27Y/1-8 (Note 9)	NO	NO -	32001 SH 5FA	CB/8DB1	SB	59'6*
GE - HFA	12HFA151A2H	#	4AX1 (Note 3)	NO	NO	32001 SH 5FA	CB/F	SB	59'6"
W MG-6	289B360A20	#	4BX1 (Note 7)	NO	NO	32001 SH 5FA	CB/F	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93

Reviewed by: James J. Buckley

RELAY SCREENING AND EVALUATION TABULATION

ATTACHMEN -- CONNECTICUT YANKEE

PAGE 90

DATE 12/7/93 REV. 0

Equipment ID No.: RELAY 94LS/1-9

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

Relay	Mfg. 8	Type Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
GE - H	IEA	12HEA61C239	22	27Y/1-9 (Note 11)	NO	NO	32001 SH 5GA	CB/9DB1A	SB	59'6"
GE - H	FA	12HFA151A2H	#	4AX1 (Note 3)	NO	NO	32001 SH 5GA	CB/F	SB	59'6"
W MC	3-6	289B360A20	#	48X1 (Note 7)	NO	NO	32001 SH 5GA	CB/F	SB	59'6*

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

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- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required.

OA - No entry necessary.

- Operator action.

Date: 12/7/93 Prepared by: Joseph M. Pescatore

Reviewed by: James J. Buckley

### ATTACHMEN \_ - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

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Equipment ID No.:

RELAY HCP/A

"ESSENTIAL RELAYS"

Relay Mig. 8	Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	ARD440S	43AX	NO	NO	32001 SH 11BA	CB/F	SB	59'6*
M	ARD440S	43AY	NO	NC	32001 SH 11BA	CB/F	SB	59'6"
M Mr		# 4A (Note 1)	NO	NO	32001 SH 11BA	CB/B	SB	59'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

## ATTACHMEN. \_ - CONNECTICUT YANKEE RELAY SCRIENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

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Equipment ID No.:

RELAY HCP/B

"ESSENTIAL RELAYS"

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
W	ARD440S	43BX	NO	NO	32001 SH 11F	CB/F	SB	59'6*
W	ARD440S	43BY	NO	NO	32001 SH 11F	CB/F	SB	59'6"
W WL		# 4B (Note 5)	NO	NO	32001 SH 11F	CB/B	SB	59'6"

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CR - Corrective action required.
OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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SB

Equipment ID No. :

SI-MOV-24

Relay Mfg. & Type Relay Model No.

ENERG

NO/NC Ref. Drawings(s)

Panel

Elev. SAT. \* Blda

Contact 42/C

32001 SH 6SG

MCC-5

41'6"

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GERS Seismically adequate based on GERS; include GERS number. NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93 Date:

Reviewed by: James J. Buckley

### ATTACHMEN 2-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS" PAGE 94 DATE 12/7/93 REV. 0

Equipment ID No.:

SW-MOV-3

Relay Mfg. & Type Re	elay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.
		#	27/X2-11			32001 SH 6KB	BUS 11	SB	41'6"
GE-HGA		#	27/X2-4	YES	NC	32001 SH 6KB	AB/4	SB	59'6"
GE-HGA		#	27/X2-5	YES	NC	32001 SH 6KB	AB/4	SB	59'6"
GE-HGA		#	27/X2-8	YES	NC	32001 SH 6KB	AB/4	SB	59'6"
		Ħ	27/X3-11			32001 SH 6KA	BUS 11	SB	41'6"
GE-HGA		#	27/X3-4	YES	NC	32001 SH 6KA	AB/4	SB	59'6"
GE-HGA		#	27/X3-5	YES	NC	32001 SH 6KA	AB/4	SB	59'6"
GE-HGA		#	27/X3-6	YES	NO	32001 SH 6KA	AB/4	SB	59'6"
GE - HEA 12	HEA61B236X2	#	27/X4	NO	NO	32001 SH 6SC	AB/5	SB	59'6"
GE - HEA 12	HEA61B236X2	#	27/X5	NO	NO	32001 SH 6SC	AB/5	SB	59'6*
<u>W</u> A2	211K1JA		42/C			32001 SH 6SC	MCC-5	SB	41'6"
	the Control of the Co	100000000000000000000000000000000000000			The second secon				

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

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GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

- Corrective action required

Prepared by: <u>Ioseph M. Pescatore</u> Date: <u>12/7/93</u>

Reviewed by: <u>Iames J. Buckley</u> Date: <u>12/7/93</u>

#### ATTACHMEN 2-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

#### DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg. & Typ	e Relay Model No.		Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
		#	27/X2-11			32001 SH 6KB	BUS 11	SB	41'6"
GE-HGA		#	27/X2-4	YES	NC	32001 SH 6KB	AB/4	SB	59%*
GE-HGA		#	27/X2-5	YES	NC	32001 SH 6KB	AB/4	SB	59'6"
GE-HGA		#	27/X2-6	YES	NC	32001 SH 6KB	AB/4	SB	59'6"
		#	27/X3-1.			32001 SH 6KA	BUS 11	SB	41'6"
GE-HGA		#	27/X3-4	YES	NC	32001 SH 6KA	AB/4	SB	59'6"
GE-HGA		#	27/X3-5	YES	NC	32001 SH 6KA	AB/4	SB	59'6"
GE-HGA		#	27/X3-6	YES	NC	32001 SH 6KA	AB/4	SB	59'6"
GE - HEA	12HEA61B236X2	#	27/X4	NO	NO	32001 SH 6SD	AB/5	SB	59'6"
GE - HEA	12HEA61B236X2	#	27/X5	NO	NO	32001 SH 6SD	AB/5	SB	59'6"
W	A211K1JA		42/C			32001 SH 6SD	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV

- Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action. - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN .- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001 "ESSENTIAL RELAYS"

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Equipment ID No. : SW-MOV-5

Relay Mfg.	& Type Relay Model No.	Contact	ENERG Y/N NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A211K1JA	42/C		32001 SH 6SJ	MCC-5	SB	41'6"
M	A211K1JA	42/0		32001 SH 6SJ	MCC-5	SB	41'6"
M	AA13A J	49		32001 SH 6SJ	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple o rurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

### ATTACHME. 2 - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

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Relay Mfg.	& Type Relay Model No.	Contact	Y/N NO/NO	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
M	A211K1JA	42/C		32001 SH 6SK	MCC-5	SB	41'6"
M	A211K1JA	42/0		32001 SH 6SK	MCC-5	SB	41'6"
W	AA13A J	49		32001 SH 6SK	MCC-5	SB	41'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No. :

SW-MOV-6

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.

OA - Operator action.
- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: \_12/7/93

Reviewed by: James J. Buckley

ATTACHMEN \_- CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"ESSENTIAL RELAYS"

Y/N NO/NC Ref. Drawings(s) 32001 SH 37A

Panel MCC-12 Elev. SAT. \*

41'6"

PAGE 98

Bldg

SB

REV. 0

DATE 12/7/93

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

- Chatter acceptable. CA

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

SW-MOV-837A

Contact

42/0

Equipment ID No. :

Relay Mig. & Type Relay Model No.

- Corrective action required. CR

- Operator action. OA - No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN, - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

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Equipment ID No. :

SW-MOV-837B

"ESSENTIAL RELAYS"

Relay Mfg. & Type Relay Model No.	Contact	Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
	42/0			32001 SH 37B	MCC-13	SB	41'6"
	AND THE PROPERTY OF THE PROPER	SALES OF SUPERIOR STATES	municipality and a second respectable to a			The second secon	NAME AND ADDRESS OF TAXABLE PARTY.

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

- Corrective action required. CR OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

12/7/93 Date:

Reviewed by: James J. Buckley

#### ATTACHMENT D

CONNECTICUT YANKEE RELAY SCREENING AND EVALAUTION TABULATION
"BAD ACTORS"

(6 Pages)

#### ATTACHMEN J - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

**DOCUMENT NO. 0240-099** 

"BAD ACTORS"

PAGE 1 DATE 12/7/93 EV. 0

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OB S"			

Rel	lay Mig. 8	Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
W	SV		59A/1-8	YES	NO	32001 SH 5M	CB/8DB1	SB	59'6"
W	SV		59B/1-8	YES	NO	32001 SH 5M	CB/8DB1	SB	59'6"
W	sv	292B402A0	# FFCO (A)	NO	NC	31099 SH 3	EGP2A	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA CR - Corrective action required.

BKR 8-1

Equipment ID No. :

OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

## ATTACHMEN \_ J - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

PAGE 2 DATE 12/7/93 REV. 0

"BAD ACTORS"

Equipment ID No. : BKR 9-1

Rel	ay Mfg. &	Type Relay Model No.	Contact	ENERG Y/N		Ref. Drawings(s)	Panel	Bldg.	Elev. SAT.*
M	SV		59A/1-9	YES	NO	32001 SH 5N	CB/9DB1	SB	59'6"
W	SV		59B/1-9	YES	NO	32001 SH 5N	CB/9DB1	SB	59'6"
W	SV	292B402A0	# FFCO (B)	NO	NC	31099 SH 3	EGP2B	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

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CA - Chatter acceptable.

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required.
OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEL J-CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"BAD ACTORS"

PAGE 3 DATE 12/7/93 REV. 0

Relay Mfg. &	Type Relay Model No.	-	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev.	SAT.
W SV	292B402A0	#	FFCO (A)			21000 0110	P	DG	the second second second	

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

\* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

Equipment ID No. : EG-2A

NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays. CR

- Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHME? - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION DOCUMENT NO. 0240-099-001

DATE 12/7/93

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Equipment ID No. : EG-2B

"BAD ACTORS"

Relay Mfg. & Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
<u>W</u> SV 292B402A0	# FFCO (B)	NO	NC	31099 SH 3	EGP2B	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

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GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays.

CR - Corrective action required. - Operator action. OA

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHMEN - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

"BAD ACTORS"

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Equipment ID No. :

P-18-1A

Relay Mfg. 8	k Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Bldg.	Elev. SAT. *
	289B456A19	50/51	NO	NO	32112 SH 8A	BUS 9	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation".

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NV - Not vulnerable (mechanically actuated contacts or solid state relays).

GERS - Seismically adequate based on GERS; include GERS number.

- Component not affected by relays. NA

CR - Corrective action required. OA - Operator action.

- No entry necessary.

Prepared by: Joseph M. Pescatore

Date: 12/7/93

Reviewed by: James J. Buckley

#### ATTACHME ) - CONNECTICUT YANKEE RELAY SCREENING AND EVALUATION TABULATION

DOCUMENT NO. 0240-099-001

DATE 12/7/93

REV. 0

PAGE 6

Equipment ID No. : P-18-1B

"BAD ACTORS"

Relay Mfg. & Type Relay Model No.	Contact	ENERG Y/N	NO/NC	Ref. Drawings(s)	Panel	Blda	Elev. SAT. *
W COM-5 289B456A19	50/51			32112 SH 8B	BUS 8	DG	21'6"

A "#" indicates that this relay has multiple occurences (i.e. may be found associated with other equipment) in the "Relay Tabulation". \* Identify reason for Contact/Contact Group being satisfactory or unsatisfactory.

CA - Chatter acceptable.

- Not vulnerable (mechanically actuated contacts or solid state relays). NV

GERS - Seismically adequate based on GERS; include GERS number.

NA - Component not affected by relays. CR - Corrective action required.

OA - Operator action. - No entry necessary. Reviewed by: James J. Buckley

Prepared by: Joseph M. Pescatore

Date: 12/7/93

## ATTACHMENT E RESUME OF LEAD RELAY REVIEWER

(3 Pages)

#### JAMES J. BUCKLEY

SPECIALTIES

ELECTRICAL ENGINEERING AND DESIGN

#### PROFESSIONAL EXPERIENCE

Mr. Buckley is the Supervisor of Design and Drafting for ABB Impell's Boston office Design/Engineering Section of the Electrical Systems Division. He has over 23 years of experience in the engineering, design and installation of electrical systems for power generation and various industrial facilities including pulp and paper projects and water/sewerage treatment plants.

Mr. Buckley has attended the SQUG training course for Safe Shutdown Equipment Selection and Relay Screening and Evaluation which qualifies him as a Lead Relay Reviewer. Presently, Mr. Buckley is the Lead Relay Reviewer for the identification of USI A-46 Safe Shutdown Equipment and Relays for Northeast Utilities Service Company (NUSCO) projects for Connecticut Yankee and Millstone Units 1 and 2 Stations. The overall project scope is to retrieve each electrical component from the Safe Shutdown List for Relay Evaluation and review schematics, wiring diagrams, cable schedules, and raceway schedules associated with each component to identify relays and raceways required to be verified as seismically adequate per the requirements of the SQUG Generic Implementation Procedure (GIP). He has also been the Lead Relay Reviewer for the Philadelphia Electric Company (PECo) Peach Bottom Atomic Power Station Units 2 and 3 and the Public Service Electric & Gas Company (PSE&G) Salem Generating Station Units 1 and 2.

Recently, Mr. Buckley served as Lead Engineer for the Electric Load Management System project, a data collection effort for NUSCO's Millstone Unit 1 Station. He also held the same position for an identical project at NUSCO's Connecticut Yankee Station.

Prior to this assignment, Mr. Buckley was assigned to the Carolina Power and Light, Brunswick Plant, Appendix R separation analysis documentation review. He also supported the Niagara Mohawk, Nine Mile Unit 1, project which consisted of 125VDC system modifications, fuse and molded-case switch additions to the 125VDC distribution boards and addition of battery monitoring systems for 125VDC batteries.

#### **EXPERIENCE** (Cont.)

In a previous assignment, he was a Project Engineer on the Commonwealth Edison, Dresden Unit 2 Annunciator Modifications Project. This modification addressed the human engineering deficiencies associated with the plant annunciator system. Changes to the system included auditory coding, ringback and flashrate adjustment and reflash. These changes resulted in extensive revisions to the plant's wiring and schematic drawings.

Previously, he was the Lead Electrical Design/Engineer for the No. 4 Chemical Recovery Boiler Project for Miramichi Pulp and Paper. His responsibilities included checking electrical specifications and calculations, development of the wiring design for connection of field cables as well as the design of raceways, grounding, lighting, etc.

His earlier assignments at ABB Impell included experience in an as-built verification of wiring diagrams for control panels and the development of design change packages required to resolve any deficiencies and updating all affected drawings for Boston Edison's Pilgrim Station. Other activities at Pilgrim Station included lighting design of the Computer Room, answering Engineering Service Requests (ESR), issuing and resolving Potential Conditions Adverse to Quality (PCAQ), writing and implementing Maintenance Work Request (MWR), evaluating plant conditions for circuit isolations and the preparing Appendix R Plant Design Change Packages. These packages included cable rerouting, and the installation of fire detection and suppression systems.

His previous assignments include a staff position on the Equipment Qualification Program team for Northeast Utilities and at the Seabrook Station which also included walkdown assignments. Earlier assignments with ABB Impell include the electrical design of the Appendix R Emergency Lighting System for Connecticut Yankee.

In an assignment at the NYPA Fitzpatrick plant, Mr. Buckley was responsible for coordinating the installation of electrical modifications in accordance with 10 CFR 50, Appendix R. His responsibilities included the layout of equipment, conduit routing and design of conduit supports.

Mr. Buckley previously worked with the C.T. Main Corporation Pulp and Paper Division where he was responsible for the electrical design of recovery boiler systems including precipitators, evaporators, and air compressors for the Ngodwana Mill Expansion Program in South Africa. In connection with this work, he was also responsible for raceway layout and design, and field engineering support. He prepared the secondary electrical power drawings, motor control center arrangements, computerized cable schedules, and related PLC drawings. He was assigned to the site for four months for

#### **EXPERIENCE** (Cont)

the checkout and start-up of the recovery boiler, and the review of the electrical subcontractor's work. Other projects included the design of paper machines, power boilers, coal and wood yards and turbine generators.

With Metcalf & Eddy, Mr. Buckley was involved in the electrical design of various water and sewerage treatment plants. His work included a three month field assignment to determine the sources of computer analog and digital inputs associated with the computerization of an existing sewage treatment plant in St. Paul, Minnesota. In an earlier assignment, he spent three months overseas providing engineering support for the construction of military air base facilities in the Kingdom of Saudi Arabia.

#### EDUCATION

Attended Northeastern University's Lincoln College

#### ATTACHMENT F

CONNECTICUT YANKEE - SEISMIC CAPACITY EVALUATIONS OF ESSENTIAL RELAYS

(185 Pages)

#### Relay Evaluation Report for Connecticut Yankee Attachment F - Seismic Capacity Evaluations of Essential Relays

#### Valle of Contents:

	No. of Pages of	No. of Relay	
CAB ID	Summary List	Functional Review	The state of the s
AB/4	3	5	18
AB/5	1	1	4
AUX-EG2A	2	4	14
AUX-EG2B	2	0	2
BUS 1-5	1	3	10
BUS 1-6	1		4
BUS 11	1	1	3
BUS 8	2	6	20
BUS 9	3	0	3
CB/8DB1	2	4	14
CB/8DB1A	3	5	18
CB/9DB1	2	0	2
CB/9DB1A	3	1	6
CB/B	2	2	8
CB/C	1	1	4
CB/F	2	5	17
ECP-2A	1	1	4
ECP-2B	1	0	1
EG-2A	1	0	1
EG-2B	1	0	1
EGP-2A	5	3	14
EGP-2B	4	0	4
LOCAL	1	0	1
MCC5-5	5	0	5
MCC7-6	1	0	1
MCC8-6	1	0	1
MCC9-4	1	0	1
MCC10-5	1	0	1
MCC12-1	1	0	1
MCC13-4	1	0	1
Communication of the state of t	and the state of t	TOTAL>>	184

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID AB/4

BUILDING SB ELEVATION 59.50

LOCATION CONTROL AUX

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27Y-6-BKR 6-14C	GE - HEA	12HEA61C239	ИО	NO	RLY_FUNC_REVIEW
27/X2-4-SW-MOV-3	GE-HGA		NC	YES	RLY_FUNC_REVIEW
27/X2-4-SW-MOV-4	GE-HGA		NC	YES	ОК
27/X2-5-SW-MOV-3	GE-HGA		NC	YES	ОК
27/X2-5-SW-MOV-4	GE-HGA		NC	YES	ОК
27/X2-6-SW-MOV-3	GE-HGA		NC	YES	ОК
27/X2-6-SW-MOV-4	GE-HGA		NC	YES	OK
27/X3-4-SW-MOV-3	GE-HGA		NC	YES	ОК
27/X3-4-SW-MOV-4	GE-HGA		NC	YES	OK
27/X3-5-SW-MOV-3	GE-HGA		NC	YES	ОК
27/X3-5-SW-MOV-4	GE-HGA		NC NC	YES	ОК
27/X3-6-SW-MOV-3	GE-HGA		NC	YES	ОК

Connecticut Yankee A-46 Essantial Relays Relay functional Review List CAB\_ID AB/4

BUILDING SB ELEVATION 59.50

LOCATION CONTROL AUX

CONTACT ID	MAKE	MODEL	CONT_COND	EMERGIZE	REMARK
27/X3-6-SW-MOV-4	GE-HGA		NC	YES	ок
27-4-P-13-1A	W CV-7		NC	YES	RLY_FUNC_REVIEW
27-4-P-37-1A	W CV-7		NC	YES	ОК
27-5-P-37-1B	W CV-7		NC	YES	ОК
27-6-BKR 6-12D	W CV-7		NC	YES	GK
27-6-BKR 6-14C	W CV-7		NC	YES	ОК
27-6-P-13-1B	W CV-7		NC	YES	OK
27-6-P-37-1C	W CV-7		NC	YES	ОК
27X-4-P-13-1A	W MG-6		NO	NO	RLY_FUNC_REVIEW
27X-4-P-37-1A	W MG-6		NO	NO	ОК
27X-5-P-37-1B	W MG-6		NO	NO	ОК
27X-6-BKR 6-12D	W MG-6		NO	NO	ОК

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID AB/4

BUILDING SB ELEVATION 59.50

LOCATION CONTROL AUX

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27X-6-P-13-1B	W MG-6		NO	NO	ОК
27X1-5-BKR 5-8D	W SG	Ser. # 1342925A	NO	NO	RLY_FUNC_REVIEW
27X1-5-P-37-1B	W SG	Ser. # 1342925A	NO	NO	ОК
27X1-6-BKR 6-12D	W SG	Ser. # 1342925A	NO	NO	ОК
27X1-6-BKR 6-14C	W SG	Ser. # 1342925A	NO	NO	ОК
27X1-6-P-13-1B	W SG	Ser. # 1342925A	NO	NO	ОК
27X1-6-P-37-1C	W SG	Ser. # 1342925A	NO	NO	ОК
27X1-7-BKR 7-16C	W SG	Ser. # 1342925A	NO	NO	ОК
				-	

## RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3 ID: 27Y-6-BKR 6- Make: GE - HEA Drawing: 32001 SH 6GA 14C (Rev. 0) System: ELEC Subsystem/Component: Description: 12HEA61C239 Location: CONTROL AUX

#### SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

#### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

#### Relay Capacity Level

Class : Auxiliary Relay	SubClass : Lockout
Relay Model : GE HEA61A,-B,-C (AC/DC)	Operating Mode : Non-operate, normally open
Required Settings:	

Capacity GERS Level: 10.00

#### Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : AB/4 (Rev. 0)	Cabinet Class : 20 Cabinets	Cabinet Class: 20 - Instrumentation and Control Panels and Cabinets	
Cabinet Description: 480V Bt	JS PANEL		
Building : SB	Floor Et.: 59.5	Room, Row/Col : CONTROL AUX	

Is cabinet seismically adequate?

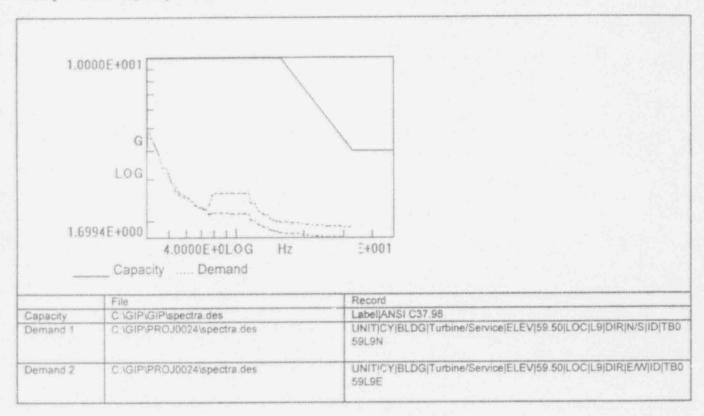
Yes

#### Cabinet Frequency

Cabinet fundamental frequency greater than 8 Hz

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3 ID : 27Y-6-BKR 6- | Make : GE - HEA | Drawing : 32001 SH 6GA 14C (Rev. 0) System : ELEC | Subsytem/Component : Description : 12HEA61C239 Location : CONTROL AUX

#### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c. m. phisoudia

Date

12-16-93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27Y-6-BKR 6- 14C (Rev. 0)	Make : GE - HEA	Drawing : 33	2001 SH 6GA
System : ELEC	The state of the s	Subsytem/0	Component:
Description: 12HEA	A61C239		
Location : CONTRO	L AUX		

RELAY	FUNCTIONALITY RE	VIEW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3
ID: 27/X2-4-SW- MOV-3 (Rev. 0)			32001 SH 6KB
System:		Subsytem/	Component:
Description :			
Location : CONTRO	DL AUX		
is relay not a low ru	iggedness relay?		LRR
Relay Capacity Le	vel		
Relay Capacity Le		SubClass : Double-F	
Class : Auxiliary Re Relay Model : HGA	lay 11 (AC)	Operating Mode : O	Pole, Double-Throw perate, normally closed
Relay Model : HGA	lay	Operating Mode : O	
Class : Auxiliary Re Relay Model : HGA	lay 11 (AC) high tension spring settir	Operating Mode : O	
Class : Auxiliary Re Relay Model : HGA Required Settings : Capacity GERS Let	elay 11 (AC) high tension spring settir vel: 10.00 capacity vs Γemand	Operating Mode : O	
Class : Auxiliary Re Relay Model : HGA Required Settings : Capacity GERS Let Cabinet Seismic C Demand Amplicati	elay 11 (AC) high tension spring settir vel: 10.00 capacity vs Γemand	Operating Mode : O	

Cabinet ID : AB/4 (Rev. 0)	Cabinet Class : 20 - Cabinets	Instrumentation and Control Paneis and
Cabinet Description : 480V Et	JS PANEL	
Building : SB	rioor El. : 59.5	Room, Row/Col : CONTROL AUX

Is cabinet seismically adequate?

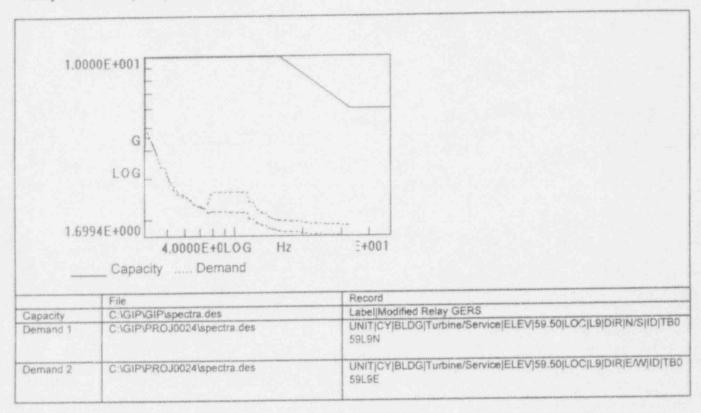
Yes

#### Cabinet Frequency

Cabinet fundamental frequency greater than 8 Hz

## RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 2 of 3 ID: 27/X2-4-SW- Make: GE-HGA Drawing: 32001 SH 6KB MOV-3 (Rev. 0) System: Subsystem/Component: Description: Location: CONTROL AUX

#### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c.m. Plan Bers as

Date: 12/16/43

12-16-93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27/X2-4-SW- MOV-3 (Rev. 0)	Make: GE-HGA	Drawing: 3	2001 SH 6KB
System		Subsytem/0	Component:
Description :	DL AUX		

# RELAY FUNCTIONALITY REVIEW REPORT ID: 27-4-P-13-1A | Make: W CV-7 | Drawing: 32001 SH 6J | (Rev. 0) | System: ELEC | Subsytem/Component: | Description: | Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

## Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

SubClass : Induction Disk - Westinghouse Class 1E
Operating Mode : Operate, normally closed

Capacity GERS Level: 14.20

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : AB/4 (Rev. 0)	Cabinet Class : 20 Cabinets	Cabinet Class: 20 - Instrumentation and Control Panels and Cabinets		
Cabinet Description: 480V BUS	PANEL			
Building : SB	Floor El.; 59.5	Room, Row/Col : CONTROL AUX		

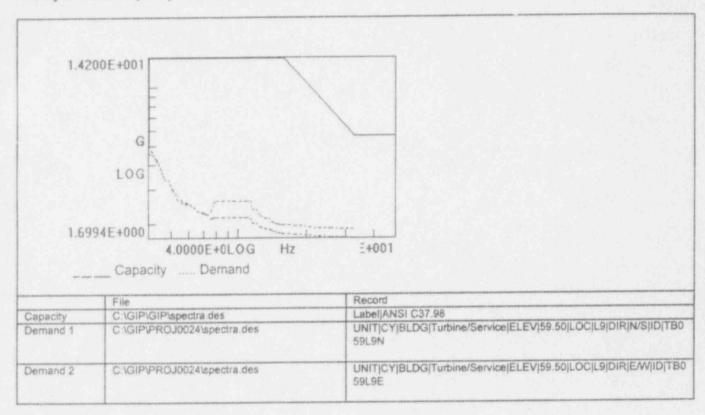
Is cabinet seismically adequate?

Yes

#### Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3 ID: 27-4-P-13-1A | Make: W CV-7 | Drawing: 32001 SH 6J (Rev. 0) System: ELEC | Subsytem/Component: Description: Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c.m. Don Budie

Date: 12/16/93
12-16-93

RELAY FUNCTIONALITY REVIEW REPORT		W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: 27-4-P-13-1A (Rev. 0)	Make: W CV-7	Drawing: 32		
System : ELEC		Subsytem/Component :		
Description :				
Location : CONTRO	L AUX			

80-57-50-6

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 27X-4-P-13-1A | Make: W MG-6 | Drawing: 32112 SH 14A (Rev. 0) System: ELEC | Subsytem/Component: Description: Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

## Low Ruggedness

Is relay not a low ruggedness relay?

LRR

## Relay Capacity Level

Class: Auxiliary Relay	SubClass : Hinged Armature Multi-contact Operating Mode : Non-operate, normally open		
Relay Model: Westinghouse MG-6 (DC)			
Required Settings: 80 ms operation time			

Capacity GERS Level: 10.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : AB/4 (Rev. 0)	Cabinet Class : 20 Cabinets	Cabinet Class: 20 - Instrumentation and Control Panels and Cabinets		
Cabinet Description: 480V BU	SPANEL			
Building : SB	Floor El. ; 59.5	Room, Row/Col : CONTROL AUX		

Is cabinet seismically adequate?

Yes

## Cabinet Frequency

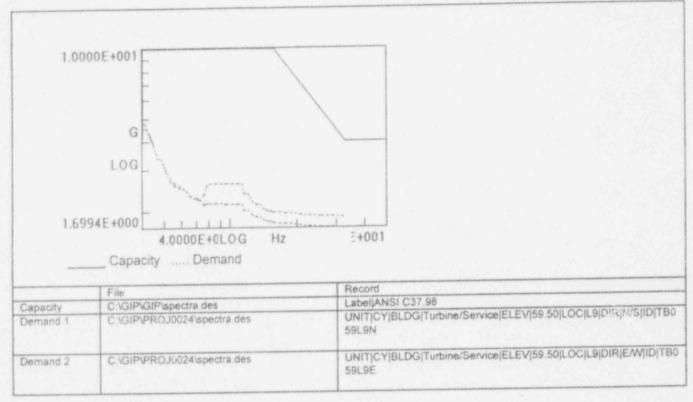
RELAY FUNCTIONALITY REVIEW REPORT

ID: 27X-4-P-13-1A | Make: W MG-6 | Drawing: 32112 SH 14A |

(Rev. C | System: ELEC | Subsytem/Component: |

Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c. m. Da Duas

Date: 12/16/93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27X-4-P-13-1A (Rev. 0)	Make: W MG-6	Drawing: 32	112 SH 14A
System : ELEC		Subsytem/C	omponent:
Description:			
Location : CONTRO	LAUX		

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Capacity GERS Level: 9.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : AB/4 (Rev. 0)	Cabinet Class : 20 Cabinets	Cabinet Class: 20 - Instrumentation and Control Panels and Cabinets	
Cabinet Description: 480V BUS	SPANEL		
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX	

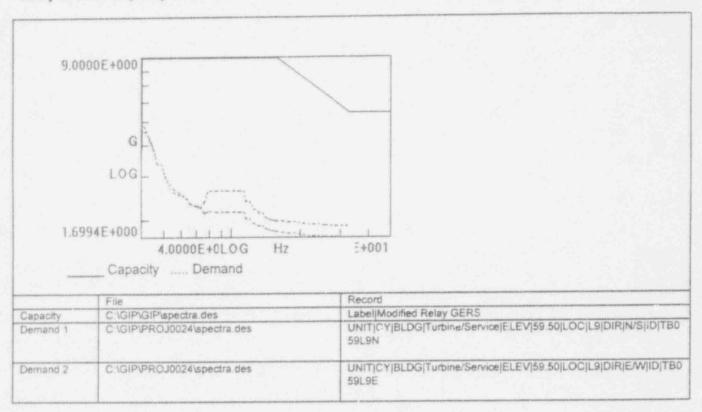
Is cabinet seismically adequate?

Yes

## Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT ID: 27X1-5-BKR | Make: W | SG | Drawing: 32001 SH 6J 5-6C (Rev. 0) System: ELEC | Subsytem/Component: Description: Ser. # 1342925A Location: CONTROL AUX

## Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS " AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. m. Da Davides 12-

RELAY	FUNCTIONALITY REVIE	EW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: 27X1-5-BKR 5-6C (Rev. 0)	Make: W SG	Drawing :	32001 SH 6J	
System ELEC		Subsytem/Component :		
Description : Ser. #	1342925A			
Location : CONTRO	DL AUX			

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID AB/5

BUILDING SB

ELEVATION 59.50

LOCATION CONTROL AUX

CONTACTIO	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27/X4-SW-MOV-3	GE - HEA	12HEA61B236X2	NO	NO	RLY_FUNC_REVIEW
27/X4-SW-MOV-4	GE - HEA	12HEA61B236X2	NO	NO	ОК
27/X5-SW-MOV-3	GE - HEA	12HEA61B236X2	NO	NO	ОК
27/X5-SW-MOV-4	GE - HEA	12HEA61B236X2	NO	NO	OK

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class: Auxiliary Relay	SubClass : Lockout Operating Mode : Non-operate, normally open		
Relay Model : GE HEA61A,-B,-C (AC/DC)			
Required Settings			

Capacity GERS Level: 10.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : AB/5 (Rev. 0)	Cabinet Class : 20 Cabinets	) - Instrumentation and Control Panels and
Cabinet Description : EMER	GENCY POWER PANEL	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

Is cabinet seismically adequate?

Yes

# Cabinet Frequency

# GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3

ID 27/X4-SW-MOV-3 (Rev. 0)

Make : GE - HEA

Drawing: 32001 SH 6SC

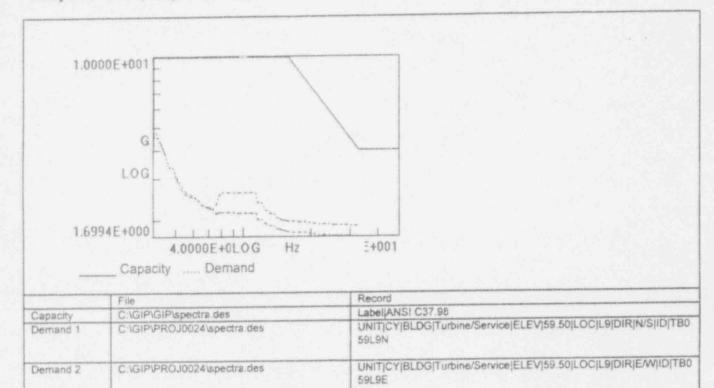
Subsytem/Component

System:

Description: 12HEA61B236X2

Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27/X4-SW- MOV-3 (Rev. 0)	Make : GE - HEA	Drawing: 3	2001 SH 6SC
		Subsytem/0	Component:
Description: 12HE	A61B236X2		
Location : CONTRO	OL AUX		

or littly

Connecticut Yankee A-46 Essential Relays Relay functional Review List CAB\_ID AUX-EG2A

BUILDING DG
ELEVATION 21.50
LOCATION A DIESEL

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
T1A (A)-BKR 8-1	AGASTAT E7000	E7014PA			RLY_FUNC_REVIEW
T1A (A)-EG-2A	AGASTAT E7000	E7014PA			ОК
T18 (A)-BKR 8-1	AGASTAT E7000	E7014PA002			ОК
T1B (A)-EG-2A	AGASTAT E7000	E7014PA002			ОК
T1 (A)-BKR 8-1	AGASTAT E7000	E7024PE			RLY_FUNC_REVIEW
T1 (A)-EG-2A	AGASTAT E7000	E7024PE			ОК
†2 (A)-EG-2A	AGASTAT E7000	E7024PH			ОК
IOPLR (A)-BKR 8-1	AGASTAT EGPDO	0 EGPD002			RLY_FUNC_REVIEW
IOPLR (A)-EG-2A	AGASTAT EGPDO	0 EGPD002			ОК
ROPLR (A)-BKR 8-1	AGASTAT EGPDO	0 EGPD002			ОК
ROPLR (A)-EG-2A	AGASTAT EGPDO	0 EGPD002			ОК
R1 (A)-BKR 8-1	GE - HFA	12HFA154B22H	NO	NO	RLY_FUNC_REVIEW

Connecticut Yankee A-46 Essential Relays Relay functional Review List CAB\_ID AUX-EG2A

BUILDING DG
ELEVATION 21.50
LOCATION A DIESEL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
R1 (A)-EG-2A	GE - HFA	12HFA154B22H	NO	NO	ОК

# RELAY FUNCTIONALITY REVIEW REPORT ID: T1A (A)-BKR | Make: AGASTAT E7000 | Drawing: 31099 SH 3 8-1 (Rev. 0) | System: ELEC | Subsytem/Component: Description: E7014PA | Location: A DIESEL

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Pneumatic Timing Relays
Relay Model : Agastat E7014, 7014, 2414	Operating Mode : Non-operate, normally open
Required Settings:	

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 6.75

Cabinet ID : AUX-EG2A (Rev	(Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : EMERG	ENCY STOP/TRIP/BYPASS AUX PA	ANEL
Building : DG	Floor El.: 21.5	Room, Row/Col: A DIESEL

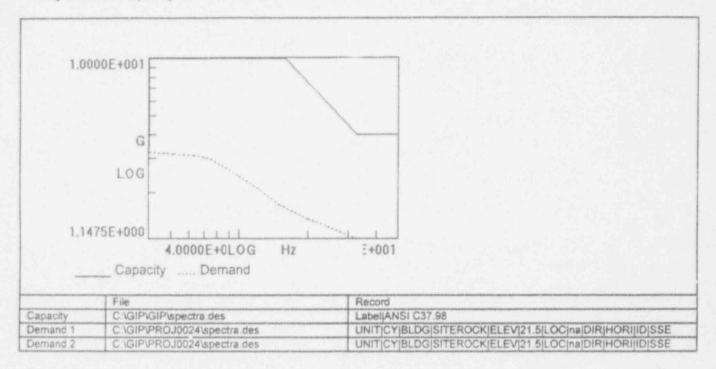
Is cabinet seismically adequate?

Yes

Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT ID : T1A (A)-BKR | Make : AGASTAT | E7000 | Drawing : 31099 SH 3 8-1 (Rev. 0) System : ELEC | Subsytem/Component : Description : E7014PA Location : A DIESEL

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. 2.25"SSE " AMP FACTOR

Elevation Above Grade

Elevation of cabinet below about 40' from grade Cabinet Frequency Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Operating mode and contact condition is unknown, used lowest GERS.

Evaluated by:

C. M. Hou Sewolee

ate: 12/16/9

12.16.93

RELAY	FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: T1A (A)-BKR 8-1 (Rev. 0)	Make: AGASTAT E7000	Drawing: 31099 SH 3		
		Subsytem/Co	Subsytem/Component :	
Description : E7014	IPA	19 mm		
Location : A DIESE	L.			

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: T1 (A)-BKR 8- Make: AGASTAT E7000 Drawing: 31099 SH 3 1 (Rev. 0) System: ELEC Subsytem/Component Description: E7024PE Location: A DIESEL

## SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

## Low Ruggedness

Is relay not a low ruggedness relay?

LRR

## Relay Capacity Level

Class : Auxiliary Relay	SubClass : Pneumatic Timing Relays
Relay Model : Agastat E7024, 7024, 2424	Operating Mode: Transition, normally open
Pequired Settings :	. The second control of the second district control of the second

Capacity GERS Level: 5.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 6.75

Cabinet ID : AUX-EG2A (Re	v. 0) Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : EMER	GENCY STOP/TRIP/BYPASS AUX P	ANEL
Building : DG	Floor El.: 21.5	Room, Row/Col : A DIESEL

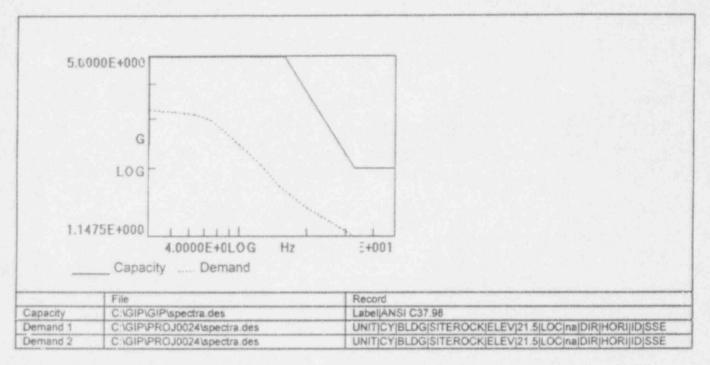
Is cabinet seismically adequate?

Yes

# Cabinet Frequency

#### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3 Drawing: 31099 SH 3 ID: T1 (A)-BKR 8- | Make: AGASTAT E7000 1 (Rev. 0) Subsytem/Component System: ELEC Description: E7024PE Location: A DIESEL

## Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. 2.25\*SSE \* AMP FACTOR

Elevation Above Grade

Elevation of cabinet below about 40' from grade Cabinet Frequency

Yes

Cabinet fundamental frequency greater than 8 Hz.

Yes

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Operating mode and contact condition is unknown, used lowest GERS.

Evaluated by:

Date: 12/16/93

RELAY FUNCTIONALITY REVIEW	REPOR	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID : T1 (A)-BKR 8-   Make : AGASTAT E700U 1 (Rev. 0)	Drawing : 313	
System : ELEC	Subsytem/Component:	
Description : E7024PE		
Location : A DIESEL		The second secon

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

is relay not a low ruggedness relay?

LRB

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Socket Type
Relay Model : Agastat GP	Operating Mode : Non-operate, normally open
Required Settings:	

Capacity GERS Level: 3,30

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 6.75

Cabinet ID : AUX-EG2A (Re	v. 0) Cabinet Cla Cabinets	ss : 20 - Instrumentation and Control Panels and
Cabinet Description : EMER	GENCY STOP/TRIP/BYPASS	AUX PANEL
Building : DG	Floor El. : 21.5	Room, Row/Cel: A DIESEL

Is cabinet seismically adequate?

Yes

## Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT

GIP Rev 2, Corrected, 2/14/92

Status: Yes Sheet 2 of 3

ID : IOPLR (A)-

Make AGASTAT EGPD002

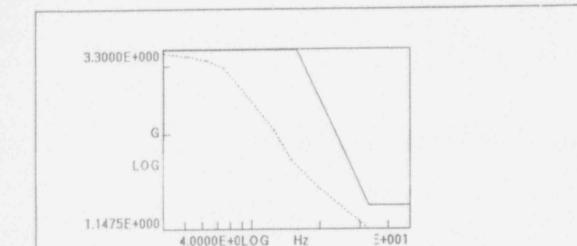
Drawing: 31099 SH 3

BKR 8-1 (Rev. 0) System : ELEC

Subsytem/Component

Description : EGPD002 Location : A DIESEL

Relay Seismic Capacity vs Demand



File Record

Capacity C. VGIPVGIPIspectra des LabeljANSI C37.98

Demand 1 C. VGIPVROJ0024\spectra des UNITICYJBLDGISITEROCKJELEVJ21.5JLOC|na|DIRJHORIJIDJSSE

Demand 2 C. VGIPVROJ0024\spectra des UNITICYJBLDGISITEROCKJELEVJ21.5JLOC|na|DIRJHORIJIDJSSE

Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. 2.25\*SSE \* AMP FACTOR

Elevation Above Grade

Elevation of cabinet below about 40' from grade

Capacity ..... Demand

Cabinet Frequency

Yes

Cabinet aungain atal frequency greater than 8 Hz

Yes

IS RELAY SEISMICALLY ADEQUATE?

Yes

#### COMMENTS

Operating mode and contact condition is unknown, used lowest GERS. If mode is Operated than the GER level will be 10g.

RELAY	FUNCTIONALITY REVIEW RE	PORT	GIP Rev 2, Co Status: Yes Sheet 3 of 3	orrected, 2/14/92
ID : IOPLR (A)- Make : AGASTAT EGPD002 Drawing : 3109 BKR 8-1 (Rev. 0)		99 SH 3		
		Subsytem/Cor	Component :	
Description : EGPD	002			- Annual Control of the Control of t
Location : A DIESEI				
Evaluated by: <	2.00		Date	12/16/93
	c. m. Al. Paud	e e		12.16-93

# RELAY FUNCTIONALITY REVIEW REPORT ID : R1 (A)-BKR 8- | Make : GE - HFA | Drawing : 31099 SH 3 I (Rev. U) | System : ELEC | Subsytem/Component : | Description : 12HFA154B22H | Location : A DIESEL

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

## Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Hinged Armature Multi-contact
Relay Model: GE HFA151 (DC) (1E)	Operating Mode: Non-operate, normally open
Required Settings: 80 ms operation time	

Capacity GERS Level: 7.50

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 6.75

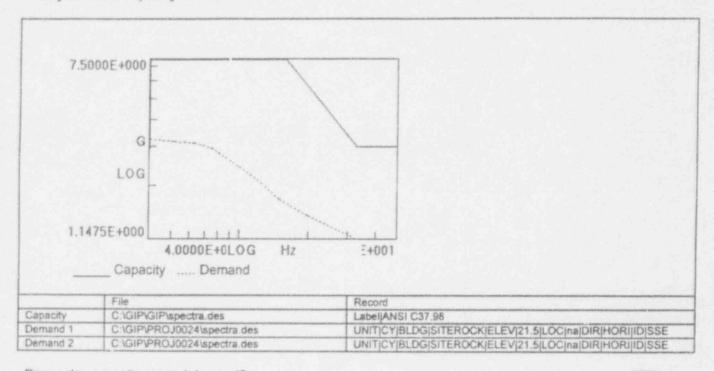
Cabinet ID : AUX-EG2A (Rev	(20) Cabinet Class : 20 - Cabinets	- Instrumentation and Control Panels and
Cabinet Description : EMERG	SENCY STOP/TRIP/BYPASS AUX PA	
Building : DG	Floor El. : 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

Yes

## Cabinet Frequency

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

# GERS BASIS: LEVEL 2: GERS/TRS V. 2.25\*SSE \* AMP FACTOR

Elevation Above Grade

Elevation of capinet below about 40' from grade Cabinet Frequency

Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

#### IS RELAY SEISMICALLY ADEQUATE?

Yes

## COMMENTS

Actual relay is HFA154, its construction and overall size is similar to GE HFA 151, the HFA154 has electrical or manual reset. Both relays have the same weight and mounting configuration.

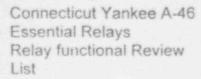
GERS for GE HFA151 is used.

RELAY	FUNCTIONALITY REVIEW	REPORT	GIP Rev 2, Co Status: Yes Sheet 3 of 3	rrected, 2/14/92
ID : R1 (A)-BKR 8- 1 (Rev. 0)				
System ELEC Subsytem/Com		Component:		
Description: 12HFA	154B22H			A STATE OF THE PARTY OF THE PAR
Location : A DIESEL				
Evaluated by:	3,00		Date:	14/16/93
	m. Dan Van	udil_		12-16-73

Connecticut Yankee A-46 Essentia! Relays Relay functional Review List CAB\_ID AUX-EG2B

BUILDING DG
ELEVATION 21.50
LOCATION B DIESEL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
T1A (B)-BKR 9-1	AGASTAT E7000	E7014PA002			ОК	
T1A (B)-EG-2B	AGASTAT E7000	E7014PA002			ОК	
T1B (B)-BKR 9-1	AGASTAT E7000	E7014PA002			OK	
T1B (B)-EG-2B	AGASTAT E7000	E7014PA002			ОК	
T1 (B)-BKR 9-1	AGASTAT E7000	E7024PE002			OK	
T1 (B)-EG-2B	AGASTAT E7000	E7024PE002			ОК	
T2 (B)-EG-2B	AGASTAT E7000	E7024PH002			ОК	
IOPLR (B)-BKR 9-1	AGASTAT EGPDO	0 EGPD002			ОК	
ICPLR (B)-EG-2B	AGASTAT EGPDO	0 EGPD002			ОК	
ROPLR (B)-BKR 9-1	AGASTAT EGPDO	0 EGPD002			ОК	
ROPLR (B)-EG-2B	AGASTAT EGPDO	0 EGPD002			ОК	
R1 (B)-BKR 9-1	GE - HFA	12HFA154B22H	NO	NO	ОК	



CAB\_ID AUX-EG2B

BUILDING DG

**ELEVATION** 21.50

LOCATION B DIESEL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
R1 (B)-EG-2B	GE - HFA	12HFA154B22H	NO	NO	ОК	

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID BUS 1-5

BUILDING SB **ELEVATION** 41.50 LOCATION A SWGR

MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
AGA E7000	E7012	NO	YES	RLY_FUNC_REVIEW
AGA E7000	E7022	NC	YES	RLY_FUNC_REVIEW
AGA E7000	E7022	NO	NO	ОК
AGA E7000	E7022	NO/NC	YES	ОК
W MG-6		NO	NO	RLY_FUNC_REVIEW
W MG-6	289B363A11	NO	NO	ОК
W MG-6	289B363A11	NO	NO	ОК
	AGA E7000  AGA E7000  AGA E7000  W MG-6  W MG-6	AGA E7000 E7022  AGA E7000 E7022  AGA E7000 E7022  W MG-6  W MG-6 289B363A11	AGA E7000 E7022 NC  AGA E7000 E7022 NO  AGA E7000 E7022 NO  AGA E7000 E7022 NO/NC  W MG-6 289B363A11 NO	AGA E7000 E7022 NO YES  AGA E7000 E7022 NO NO NO  AGA E7000 E7022 NO NO NO  AGA E7000 E7022 NO/NC YES  W MG-6 NO NO NO  W MG-6 289B363A11 NO NO

# RELAY FUNCTIONALITY REVIEW REPORT ID: 62-5B-BKR 5- Make AGASTAT 7000 Drawing: 32001 SH 6AP 9C (Rev. 0) System: ELEC Description: E7012 Location: A SWGR

# SCREENING BASIS : RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Pneumatic Timing Relays
Relay Model : Agastat E7012, 7012, 2412	Operating Mode : Operate, normally open
Required Settings	

Capacity GERS Level: 12.50

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 3

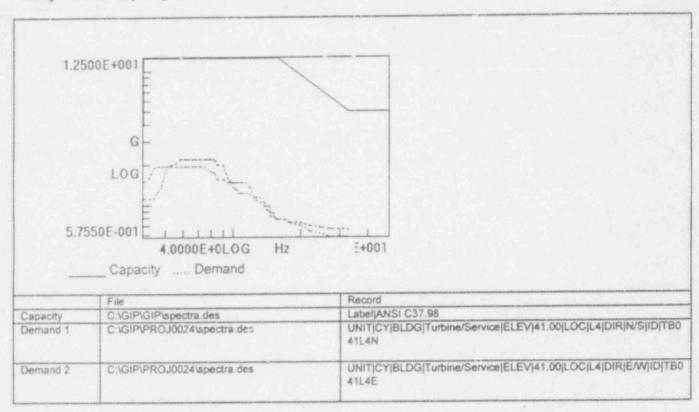
Cabinet ID : BUS 1-5 (Rev. 0)	Cabinet Class : 2 - Low Voltage Switchgear	
Cabinet Description: 480V BUS 1-5	LOLL & CIAICD	-
Building : SB	Floor El.: 41.5 Room, Kow/Col: A SWGR	

Is cabinet seismically adequate?

Yes

# Cabinet Frequency

## Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. m. Plan Doward

Date: 12/16/93

RELAY	FUNCTIONALITY REVIEW F	REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 62-5B-BKR 5- 9C (Rev. 0)	Make : AGASTAT 7000	Drawing: 32001 SH 6AP	
System : ELEC	AND THE PARTY OF T	Subsytem/C	Component:
Description: E7012			
Location : A SWGR			

# RELAY FUNCTIONALITY REVIEW REPORT ID: 62-5A-BKR 5- Make: AGASTAT 7000 Drawing: 32001 SH 6AP 9C (Rev. 0) System: ELEC Description: E7022 Location: A SWGR

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Pneumatic Timing Relays		
Relay Model : Agastat E7022, 7022, 2422	Operating Mode : Operate, normally closed		
Required Settings :			

Capacity GERS Level: 10.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 3

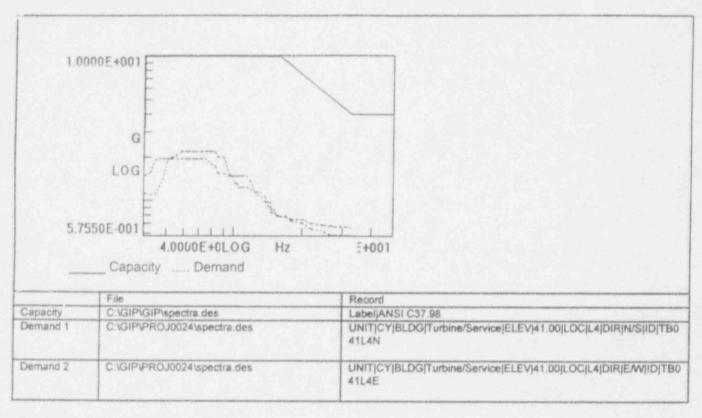
Cabinet ID : BUS 1-5 (Rev. 0)	Cabinet Class : 2	- Low Voltage Switchgear
Cabinet Description: 480V BUS 1-5		6.1.4.6000
Building: SB	Floor El.: 41.5	Room, Row/Col : A SWGR

Is cabinet seismically adequate?

Yes

# Cabinet Frequency

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. m. Ph. Ten du

12/16/93

RELAY FUNCTIONALITY REVIEW F	REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 62-5A-BKR 5- Make: AGASTAT 7000 9C (Rev. 0)	Drawing: 3200	11 SH 6AP
System : ELEC	Subsytem/Con	nponent:
Description : E7022	VII GA S. MIGA SI AND	
Location: A SWGR		

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 27X-5-BKR 5- Make: W MG-6 BD (Rev. 0) System: ELEC Description: Location: A SWGR

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass: Hinged Armature Multi-contact	
Relay Model: Westinghouse MG-6 (DC)	OC) Operating Mode : Non-operate, normally open	
Required Settings: 80 ms operation time		

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 3

Cabinet ID : BUS 1-5 (Rev. 0)	Cabinet Class: 2 - Low Voltage Ewitchgear		
Cabinet Description : 480V BUS 1-5			
Building : SB	Floor El.: 41.5	Room, Row/Col : A SWGR	

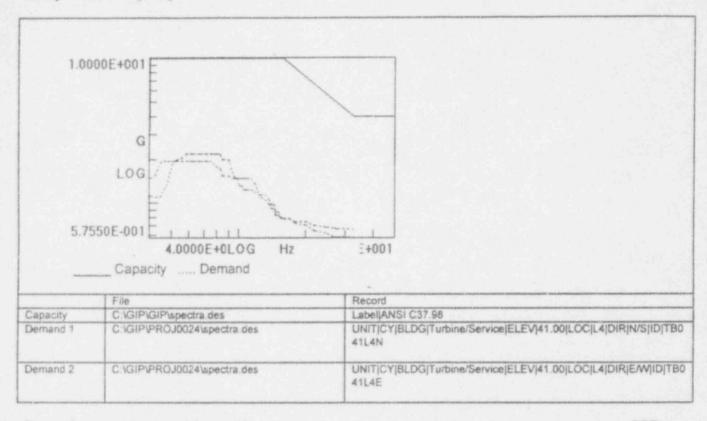
Is cabinet seismically adequate?

Yes

Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 2 of 3 ID: 27X-5-BKR 5- Make: W MG-6 BD (Rev. 0) System: ELEC Description: Location: A SWGR

## Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by

C. M. Ph. Burio

ate: /

12.16.93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27X-5-BKR 5- 8D (Rev. 0)	Make: W MG-6	Drawing: 32	001 SH 6G
System : ELEC		Subsylem/Co	omponent:
Description:		agestur acceptation to an appropriate source color decrease and the second	
Location: A SWGR			

CAB\_ID BUS 1-6

BUILDING SB

ELEVATION 41.50

LOCATION A SWGR

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	, SVARK
52X-BKR 6-11C	W MG-6	289B363A11	NO	NO	RLY_FUNC_REVIEW
52X-BKR 6T7	W MG-6	289B363A11	NO	NO	ОК

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LEB

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Hinged Armature Multi-contact
Relay Model: Westinghouse MG-6 (DC)	Operating Mode : Non-operate, normally open
Required Settings : 80 ms operation time	

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type : Low Amplification (MCC-like cabinets)

Demand Amplification Factor: 3

Cabinet ID : BUS 1-6 (Rev. 0)	Cabinet Class : 2	- Low Voltage Switchgear
Cabinet Description : 480V BUS 1-6		
Building : SB	Floor El. 41.5	Room, Row/Col : A SWGR

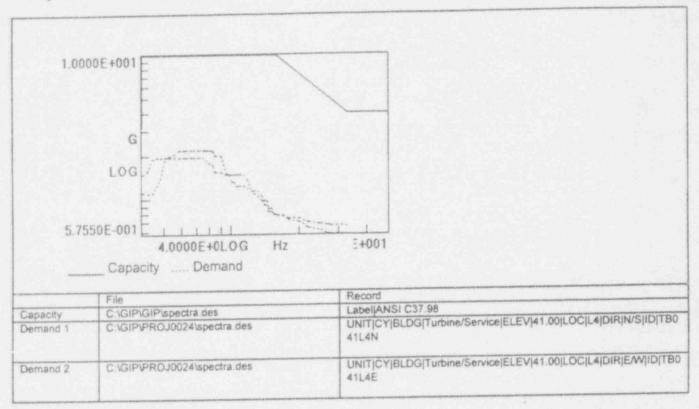
Is cabinet seismically adequate?

Yes

# Cabinet Frequency

#### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3 Drawing: 32001 SH 6AQ Make: W MG-6 ID: 52X-BKR 6-11C (Rev. 0) Subsytem/Component System: ELEC Description: 289B363A11 Location: A SWGR

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c.m. Don Rugel

Date: 12/16/93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 52X-BKR 6- 11C (Rev. 0)	Make: W MG-6	Drawing : 32	2001 SH 6AQ
System : ELEC	William William S. Francisco Co. Co. Co. Co. Co. Co. Co. Co. Co. Co	Subsytem/C	omponent:
Description: 289B	363A11		
Location : A SWGF			

CAB\_ID BUS 11

BUILDING SB ELEVATION 41.50 LOCATION B SWGR

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27/X2-11-SW-MOV-3					UNKNOWN
27/X2-11-SW-MOV-4					UNKNOWN
27/X3-11-SW-MOV-3					UNKNOWN
27/X3-11-SW-MOV-4					UNKNOWN
27X1/11-P-37-1D			NO	NO	UNKNOWN
27X1/11-P-13-1C	BBC Type ITE-27		NO	NO	ОК
27-11-P-13-1C	BBC Type ITE-27	211R1175	NC	YES	RLY_FUNC_REVIEW
27-11-P-37-1D	BBC Type ITE-27	211R1175	NO	YES	ок

# RELAY FUNCTIONALITY REVIEW REPORT ID: 27-11-P-13-1C | Make: BBC Type ITE-27 | Drawing: 30004 SH 1A (Rev. 6) System: ELEC | Subsytem/Component: Description: 211R1175 Location: B SWGR

SCREENING BASIS : RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Protective Relay	SubClass: Miscellaneous Types
Relay Model : ITE 27	Operating Mode : Operate, normally closed
Required Settings :	Operating mode. Specially

Capacity GERS Level: 15.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : BUS 11 (Rev. 0)	Cabinet Class: 2	- Low Voltage Switchgear
Cabinet Description: 480V BUS 11		
Building : SB	Floor El.: 41.5	Room, Row/Col : B SWGR

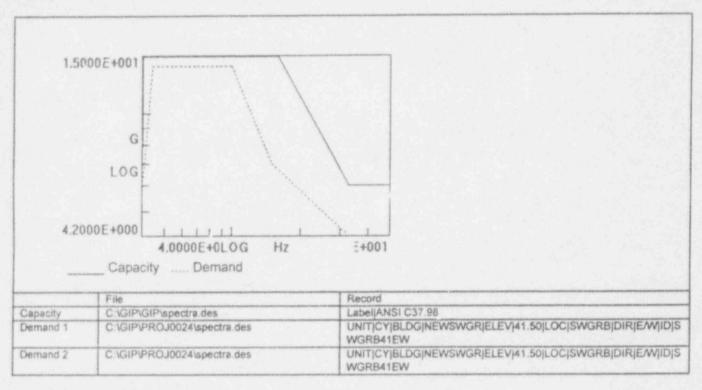
Is cabinet seismically adequate?

Yes

Cabinet Frequency

#### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 2 ID: 27-11-P-13-1C | Make: BBC Type ITE-27 Drawing: 30004 SH 1A (Rev. 0) stem : ELEC Subsytem/Component Description: 211R1175 Location : B SWGR

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

Date: 12/16/93

CAB\_ID BUS 8

BUILDING DG
ELEVATION 21.50
LOCATION A DIESEL

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
52X-BKR 8-1					BKR CAP
62/P18-1B-P-18-1B	AGA 2400	2422PC	NO	NO	RLY_FUNC_REVIEW
87X-BKR 8-1	GE HEA	12HEA61C238X2	NO	NO	RLY_FUNC_REVIEW
87X-EG-2A	GE - HEA	12HEA61C238X2	NO	NO	ОК
87-A-BKR 8-1	W CA	290B892A09	NO	NO	RLY_FUNC_REVIEW
87-B-BKR 8-1	W CA	290B892A09	NO	NO	ОК
87-C-BKR 8-1	W CA	290B892A09	NO	NO	ОК
87A/8T2-RELAY 27Y/1-8	W CA	Ser. # 2908892A09	NO	NO	ОК
87A/8T2-RFLAY 27Y2/1-8	W CA	Ser. # 290B892A09	NO	NO	ОК
87B/8T2-RELAY 27Y/1-8	W CA	Ser. # 290B892A09	NO	NO	ОК
87B/8T2-RELAY 27Y2/1-8	W CA	Ser. # 290B892A09	NO	NO	ОК
87C/8T2-RELAY 27Y/1-8	W CA	Ser. # 290B892A09	NO	NO	ОК

CAB\_ID BUS 8

BUILDING DG ELEVATION 21.50

TION A DIESE

LOCATION A DIESEL

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
87C/8T2-RELAY 27Y2/1-8	W CA	Ser. # 290B892A09	NO	NO	ОК
50/51-A-BKR 8-1	W CO-8	1875276A	NO	NO	RLY_FUNC_REVIEW
50/51-B-BKR 8-1	W CO-8	1875276A	NO	NO	ОК
50/51-BKR 4850	W CO-8	1875276A	NO	NO	ОК
50/51-C-BKR 8-1	W CO-8	18/5276A	NO	NO	ОК
50/51-P-18-1B	W COM-5	289B456A19	NO	NO	BAD ACTOR
32/CRN-1-BKR 8-1	W CRN-1	290B038A09	NO	NO	NO GERS
86 (A)-BKR 8-1	W MG-6	Ser. # 289B360A16	NO	NO	RLY_FUNC_REVIEW
86 (A)-EG-2A	W MG-6	Ser. # 289B360A16	NO	NO	ОК
86-P-18-1B	W MG-6	Ser. # 289B360A16	NO	NO	ок
87X/8T2-RELAY 27Y/1-8	W WL	300P762G01	NO	NO	RLY_FUNC_REVIEW
87X/8T2-RELAY 27Y2/1-8	W WL	300P762G01	NO	NO	OK

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 62/P18-1B-P- | Make: AGASTAT 2400 | Drawing: 32112 SH 8B 18-1B (Rev. 0) System: ELEC | Subsytem/Component: Description: 2422PC Location: A DIESEL

## SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class: Auxiliary Relay	SubClass : Pneumatic Timing Relays		
Relay Model : Agastat E7022, 7022, 2422	Operating Mode : Non-operate, normally open		
Required Settings	A contract of the second secon		

Capanity GERS Level: 6.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

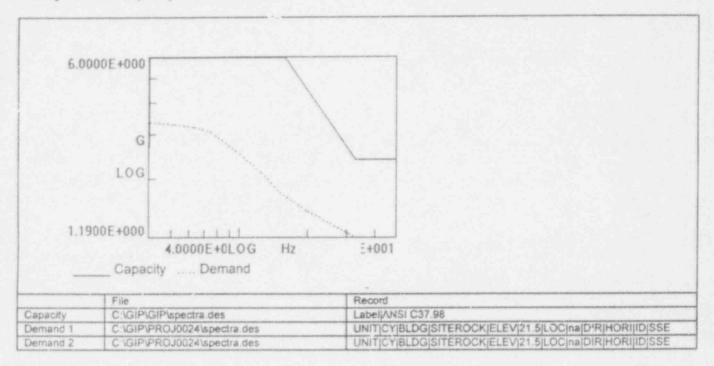
Cabinet ID : BUS 8 (Rev. 0)	Cabinet Class: 3	- Medium Voltage Switchgear
Cabinet Description : 4160V	EMERGENCY BUS 8	
Building : DG	Floor El : 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

Yes

# Cabinet Frequency

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

#### GERS BASIS: LEVEL 2: GERS/TRS V. SSE \* AMP FACTOR (NOTE 1)

### Elevation Above Grade

Elevation of cabinet below about 40' from grade. Cabinet Frequency Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

#### IS RELAY SEISMICALLY ADEQUATE?

Yes

#### COMMENTS

NOTE 1: For GERS Basis Level 2 screening, the 2.25 factor was taken out since the cabinet is located in the Diesel Building which is a one story structure founded on compacted back-fill (Grade); therefore the ground SSE is considered to be a conservative design spectra (The excessively conservative floor spectra was not used). In addition, the relay was mounted on the side panel of Bus 8 and its location will not experience high amplification such as on the door panel. The side to side motion of the switchgear is also considerably less than the front to back motion.

RELAY	FUNCTIONALITY REVIEW R	REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 62/P18-1B-P- 18-1B (Rev. 0)	Make AGASTAT 2400	Drawing 321	112 SH 8B
System : ELEC		Subsytem/Co	imponent:
Description 2422F	And the second s		

Bus 8 is braced at top and is shown to have a fundermental frequency greater than 8 Hz.

Evaluated by Date: 12/16/93

12.16-93

# RELAY FUNCTIONALITY REVIEW REPORT ID: C7/X-BKR 8-1 | Make: GE - HEA | Drawing: 32001 SH 5M, 5MA | (Rev. J) | System: ELEC | Subsytem/Component: | Description: 12HEA61C238X2 | Location: A DIESEL

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Lockout
Relay Model: GE HEA61A,-B,-C (AC/DC)	Operating Mode : Non-operate, normally open
Required Settings	

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 15.75

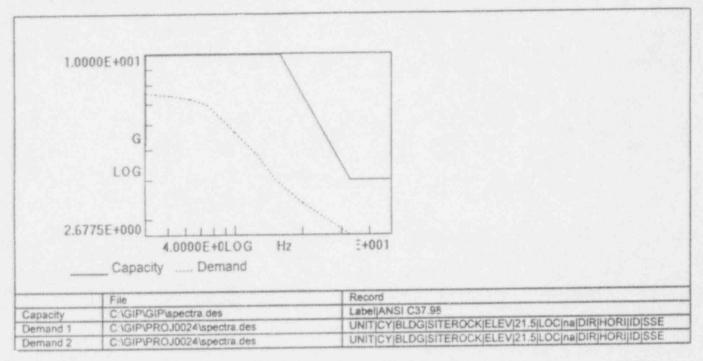
Cabinet ID : BUS 8 (Rev. 0)	Cabinet Class: 3 -	- Medium Voltage Switchgear
Cabinet Description: 4160V EMER	GENCY BUS 8	
Building : DG	Floor El.: 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

Yes

## Cabinet Frequency

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS : LEVEL 2: GERS/TRS V. 2.25\*SSE \* AMP FACTOR

Elevation Above Grade

Elevation of cabinet below about 40' from grade Cabinet Frequency Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C.M. Don Forde

Date: 12/16/93

12-16-93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 87/X-BKR 8-1 (Rev. 0)	Make : GE - HEA	Drawing: 3	32001 SH 5M, 5MA
System: ELEC		Subsytem/0	Component:
Description: 12HE	A61C238X2		
Location : A DIESE			

# RELAY FUNCTIONALITY REVIEW REPORT ID: 87-A-BKR 8-1 | Make: W CA | Drawing: 32001 SH 5MA (Rev. 0) | System: ELEC | Subsytem/Component: Description: 290B892A09 | Location: A DIESEL

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Protective Relay	SubClass : Induction Disk - Westinghouse Class 1E.		
Relay Model : CA-16 Style 1330D93	Operating Mode : Non-operate, normally open		
Required Settings			

Capacity GERS Level: 14.20

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

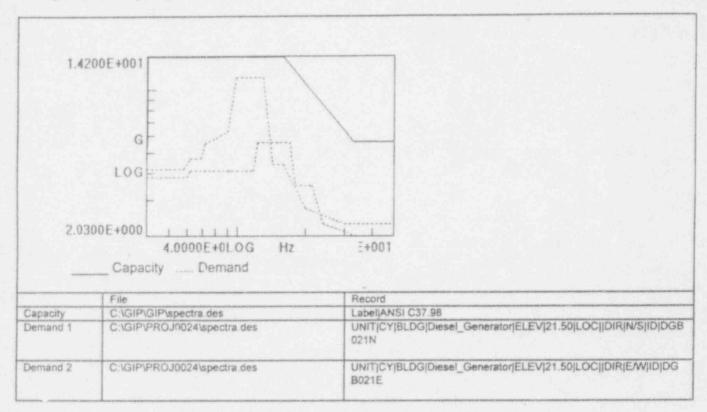
Cabinet ID : BUS 8 (Rev. 0)	Cabinet Class: 3	- Medium Voltage Switchgear
Cabinet Description : 4160V EN	MERGENCY BUS 8	(A) 1 (P) (A) (A)
Building : DG	Floor El.: 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

Yes

# **Cabinet Frequency**

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

2.0%	And Bernit . The	74.77 Mrs. 90	*****	1 Ph B 1	5 34 A	Start See See 5	JATE?
E 7%	200 to 1 (D)	W 26 H	- 5 % Est	11	1 Y E	1.14~1.31	120 1 2- 2

Yes

#### COMMENTS

Operating mode and contact condition is unknown, used lowest GERS.

Evaluated by:

Date:

12.16.93

RELAY	FUNCTIONALITY REVIE	EW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 87-A-BKR 8-1 (Rev. 0)	Make: W CA	Drawing: 320	The second secon
System : ELEC		Subsytem/Co	mponent:
Description: 29088	92A09		
Location : A DIESEI			

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 50/51-A-BKR Make: W CO-8 8-1 (Rev. 0) System: ELEC Description: 1875276A Location: A DIESEL

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

#### Relay Capacity Level

Class : Protective Relay	SubClass : Induction Disk - Westinghouse Class 1E
Relay Model: CO-2, -5, -6, -7, -8, -9, -11; HILO Style 1456CO5, 1472C25	Operating Mode: Non-operate, normally open
Required Settings :	

Capacity GERS Level: 14.20

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : BUS 8 (Rev. 0)	Cabinet Class: 3 -	Medium Voltage Switchgear
Cabinet Description : 4160V E	MERGENCY BUS 8	
Building : DG	Floor El.: 21.5	Room, Row/Col : A DIESEL

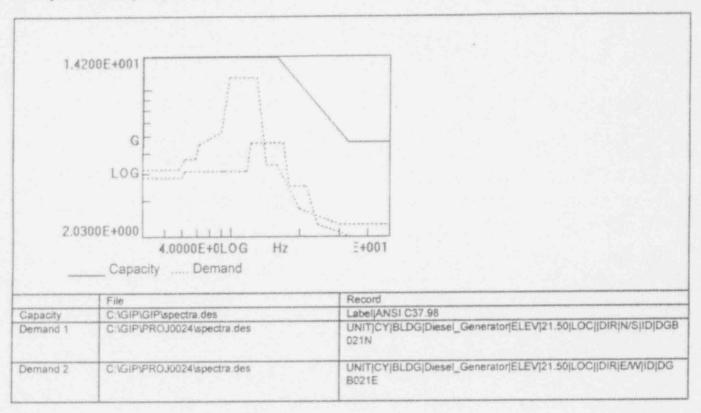
Is cabinet seismically adequate?

Yes

## **Cabinet Frequency**

#### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3 Drawing: 32001 SH 5MA ID: 50/51-A-BKR | Make: W CO-8 8-1 (Rev. 0) Subsytem/Component: System: ELEC Description: 1875276A Location: A DIESEL

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

12/16/23 Date:

RELAY	FUNCTIONALITY REVIE		GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: 50/51-A-BKR	Make: W CO-8	Drawing: 3	32001 SH 5MA	
8-1 (Rev. 0) System : ELEC		Subsytem/Component :		
Description: 1875	The state of the s			

# RELAY FUNCTIONALITY REVIEW REPORT ID: 86 (A)-BKR 8- Make: W MG-6 1 (Rev. 0) System: ELEC Description: Ser. # 289B360A16 Location: A DIESEL GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3 Drawing: 32001 SH 5MA Subsytem/Component:

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Hinged Armature Multi-contact
Relay Model : Westinghouse MG-6 (DC)	Operating Mode : Non-operate, normally open
Required Settings: 80 ms operation time	

Capacity GERS Level: 10.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 15.75

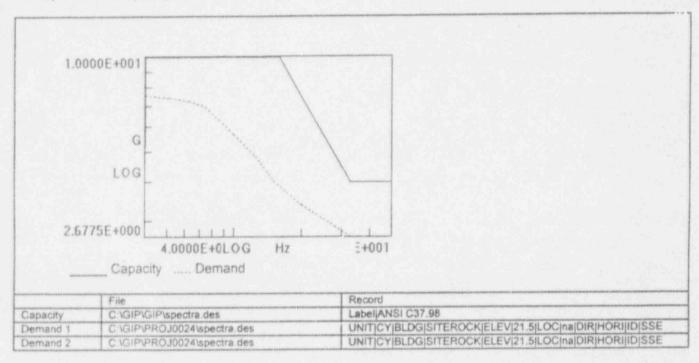
Cabinet ID : BUS 8 (Rev. 0)	Cabinet Class: 3	- Medium Voltage Switchgear
Cabinet Description : 4160V EMER	RGENCY BUS 8	The second second
Building : DG	Floor El. : 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

Yes

# Cabinet Frequency

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. 2.25\*SSE \* AMP FACTOR

Elevation Above Grade

Elevation of cabinet below about 40' from grade

Yes

Cabinet Frequency

Yes

Cabinet fundamental frequency greater than 8 Hz

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. M. Don Burdie

Date: 12/16/93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 86 (A)-BKR 8- 1 (Rev. 0)	Make: W MG-6	Drawing : 3:	2001 SH 5MA
System : ELEC		Subsytem/C	Component:
Description : Ser. #	MAN STATE OF THE PARTY OF THE P		

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

Is relay not a low ruggedness relay?

LRR

## Relay Capacity Level

SubClass : Lockout
Operating Mode: Non-operate, normally open
_

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 15.75

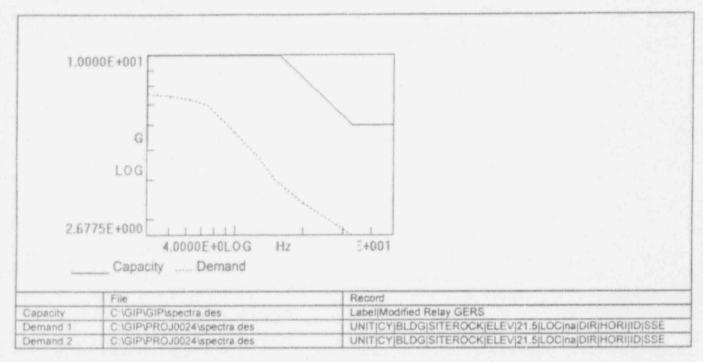
Cabinet ID : BUS 8 (Rev. 0)	Cabinet Class: 3 -	Medium Voltage Switchgear
Cabinet Description : 4160V E	MERGENCY BUS 8	
Building : DG	Floor El. : 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

Yes

# Cabinet Frequency

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. 2.25\*SSE \* AMP FACTOR

Elevation Above Grade

Elevation of cabinet below about 40' from grade Cabinet Frequency Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 87X/8T2- RELAY 27Y/1-8 (Rev. 0)	Make W WL	Drawing : 3	32001 SH 5F
System : ELEC		Subsytem/	Component:
Description: 300P	762G01		
Location : A DIESE	L		
Evaluated by:	C 00		Date: 12/16/93
	c.m. Dan	andel	12.16.93

CAB\_ID BUS 9

BUILDING DG **ELEVATION** 21.50

LOCATION B DIESEL

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
52X-BKR 9-1					BKR CAP
62/P18-1A-P-18-1A	AGA 7000	7022PC	NO	NO	OK
87X-BKR 9-1	GE HEA	12HEA61C238X2	NO	NO	ОК
87X-EG-2B	GE - HEA	12HEA61C238X2	NO	NO	ОК
87-A-BKR 9-1	W CA	290B892A09	NO	NO	ОК
87-B-BKR 9-1	W CA	290B892A09	NO	NO	ОК
87-C-BKR 9-1	W CA	290B892A09	NO	NO	ОК
87A/9T3-RELAY 27Y/1-9	W CA	Ser. # 290B892A09	NO	NO	ОК
87A/9T3-RELAY 27Y2/1-9	W CA	Ser. # 290B892A09	NO	NO	ОК
87B/9T3-RELAY 27Y/1-9	W CA	Ser. # 290B892A09	NO	NO	ОК
87B/9T3-RELAY 27Y2/1-9	W CA	Ser. # 290B892A09	NO	NO	ок
87C/9T3-RELAY 27Y/1-9	W CA	Ser. # 290B892A09	NO	NO	OK

CAB\_ID BUS 9

BUILDING DG **ELEVATION** 21.50 LOCATION B DIESEL

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
87C/9T3-RELAY 27Y2/1-9	W CA	Ser. # 290B892A09	NO	NO	ОК
50/51-BKR 49110	W CO-8	1456C05R21	NO	NO	ОК
50/51-A-BKR 9-1	W CO-8	1875276A	NO	NO	ОК
50/51-B-BKR 9-1	W CO-8	1875276A	NO	NO	ОК
50/51-BKR 4960	W CO-8	1875276A	NO	NO	ОК
50/51-C-BKR 9-1	W CO-8	1875276A	NO	NO	ОК
50/51-P-18-1A	W COM-5	289B456A19	NO	NO	BAD ACTOR
32/CRN-1-BKR 9-1	W CRN-1	290B038A09	NO	NO	NO GERS
86 (B)-BKR 9-1	W MG-6	Ser. # 289B360A16	NO	NO	ОК
86 (B)-EG-2B	W MG-6	Ser. # 289B360A16	NO	NO	ОК
86-P-18-1A	W MG-6	Ser. # 289B360A16	NO	NO	ОК
87X/9T3-RELAY 27Y/1-9	W WL		NO	NO	ОК

CAB\_ID BUS 9

BUILDING DG

ELEVATION 21.50

LOCATION B DIESEL

CONTACT ID MA	KE N	MODEL	CONT_COND	ENERGIZE	REMARK
87X/9T3-RELAY 27Y2/1-9 W	WL		NO	NO	ОК

CAB\_ID CB/8DB1

BUILDING SB ELEVATION 59.50

LOCATION CONTROL AUX

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
32E8-2-RELAY 27Y/1-8	AGA E7000	E7012PD	NC	YES	RLY_FUNC_REVIEW
52E8-2-RELAY 27Y2/1-8	AGA E7000	E7012PD	NC	YES	ОК
27Y/1-8 (Note 9)-BKR 8-1	GE - HEA	12HEA61C239	NO	NO	RLY_FUNC_REVIEW
27Y/1-8 (Note 9)-RELAY 9	GE - HEA	12HEA61C239	NO	NO	ОК
59/8-RELAY 27Y/1-8	GE - NGV	12NGV15A21	NO	YES	NO GERS
59/8-RELAY 27Y2/1-8	GE - NGV	12NGV15A21	NO	YES	NO GERS
27B/1-8-RELAY 27Y/1-8	W CV-7		NC	YES	OK
27B/1-8-RELAY 27Y2/1-8	W CV-7		NC	YES	ОК
27C/1-8-RELAY 27Y/1-8	W CV-7		NC	NO	ОК
27C/1-8-RELAY 27Y2/1-8	W CV-7		NC	NO	OK
27A/1-8-RELAY 27Y/1-8	W CV-7	1875524A	NC	YES	RLY_FUNC_REVIEW
27A/1-8-RELAY 27Y2/1-8	W CV-7	1875524A	NC	YES	ОК

CAB\_ID CB/8DB1

BUILDING SB ELEVATION 59.50

LOCATION CONTROL AUX

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27X/1-8-RELAY 27Y/1-8	W MG-6		NO	NO	RLY_FUNC_REVIEW
27X/1-8-RELAY 27Y2/1-8	W MG-6		NO	NO	ОК
27Y1/1-8 (Note 9)-P-18-1	W MG-6	Ser. # 289B360A20	NO	NO	ОК
59A/1-8-BKR 8-1	W SV		NO	YES	BAD ACTOR
59B/1-8-BKR 8-1	W SV		NO	YES	BAD ACTOR

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 62E8-2- Make: AGASTAT E7000 Drawing: 32001 SH 5FA (Rev. 0) System: ELEC Subsytem/Component: Description: E7012PD Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class: Auxiliary Relay	SubClass : Pneumatic Timing Relays
Relay Model : Agastat E7012, 7012, 2412	Operating Mode : Operate, normally closed
Required Settings :	

Capacity GERS Level: 12.50

### Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1 (Rev. 0)	Cabinet Class : 20 Cabinets	0 - Instrumentation and Control Panels and
Cabinet Description : AUX CO	NTROL PANEL (EG-2 \)	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

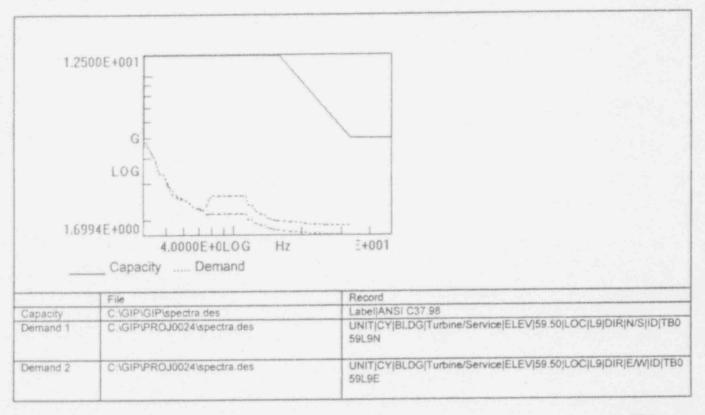
ts cabinet seismically adequate?

Yes

### Cabinet Frequency

RELA	Y FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3
ID: 62E8-2- RELAY 27Y/1-8 (Rev. 0)	Make: AGASTAT E7000	Drawing: 32001 SH 5FA	
System: ELEC		Subsytem/Component :	
Description: E701			
Location : CONTR	OL AUX		

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. m. Ab Bude

Date: 12/16/93

RELA'	Y FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 62E8-2- RELAY 27Y/1-8 (Rev. 0)	Make: AGASTAT E7000		32001 SH 5FA
System : ELEC		Subsytem/Component :	
Description : E701			
Location : CONTR	OL AUX		

# RELAY FUNCTIONALITY REVIEW REPORT ID: 27Y/1-8 (Note 9)-BKR 8-1 (Rev. 0) System: ELEC Subsytem/Component: Description: 12HEA61C239 Location: CONTROL AUX

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRB

### Relay Capacity Level

SubClass: Lockrut
Operating Mode: Non-operate, normally open

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs F. . . nd Demand Amplication Factor

Cabinet Type High Amplification arge, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1 (Rev. 0)	Cabinet Class : 20 Cabinets	0 - Instrumentation and Control Panels and
Cabinet Description : AUX CONT	ROL PANEL (EG-2A)	TE DE LO L CONTROL ALIX
Building SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

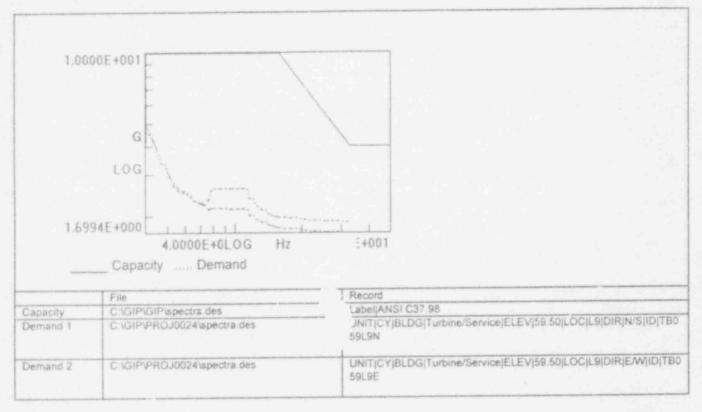
Is cabinet seismically adequate?

Yes

### Cabinet Frequency

### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3 Drawing: 32001 SH 5M Make : GE - HEA ID: 27Y/1-8 (Note 9)-BKR 8-1 (Rev. Subsytem/Component System : ELEC Description: 12HEA61C239 Location CONTROL AUX

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. M. Don Dendre 12/16/93

12.14.93

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
(D: 27Y/1-8 (Note 9)-BKR 8-1 (Rev.	Make : GE - HEA	Drawing :	32001 SH 5M	
System : ELEC Subs		Subsytem	/Component:	
Description : 12HEA	and the state of t			
Location: CONTRO	LAUX			

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3 ID: 27A/1-8RELAY 27Y/1-8 (Rev. 0) System: ELEC Description: 1875524A Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

is relay not a low ruggedness relay?

LRB

# Relay Capacity Level

Class : Protective Relay	SubClass : Induction Disk - Westinghouse Class 1E
Relay Model : CV-2, -4, -6, -7, -8; Style	Operating Mode : Operate, normally closed
1454C77 , 1482B97	
Required Settings:	

Capacity GERS Level: 14.20

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1 (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : AUX CO	NTROL PANEL (EG-2A)	
Building : SB	Floor El. : 59.5	Room, Row/Col : CONTROL AUX

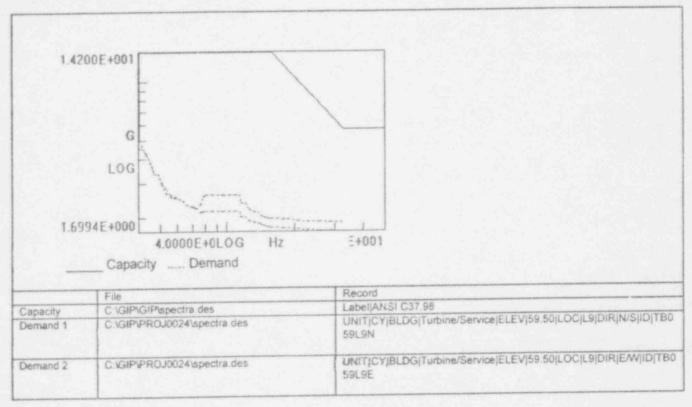
Is cabinet seismically adequate?

Yes

### **Cabinet Frequency**

# RELAY FUNCTIONALITY REVIEW REPORT ID: 27A/1-8- Make: W CV-7 Drawing: 32001 SH 5F RELAY 27Y/1-8 (Rev. 0) System: ELEC Subsytem/Component: Description: 1875524A Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. M. Blow Davids

Date:

12/16/93

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class : Auxiliary Relay	SubClass : Hinged Armature Multi-contact
Relay Model: Westinghouse MG-6 (DC)	Operating Mode: Non-operate, normally open
Required Settings: 80 ms operation time	

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

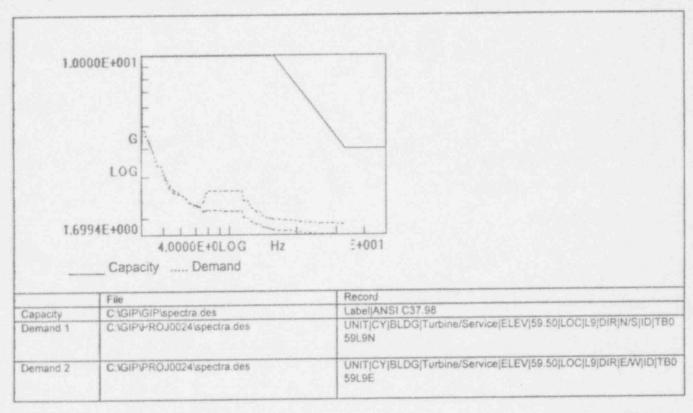
Cabinet ID : CB/8DB1 (Rev. 0)	Cabinet Class : 20 Cabinets	0 - Instrumentation and Control Panels and
Cabinet Description : AUX CON	TROL PANEL (EG-2A)	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

Is cabinet seismically adequate?

Yes

### Cabinet Frequency

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

C. M. Abr. Navale 12.16-93

RELA	Y FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27X/1-8- RELAY 27Y/1-8 (Rev. 0)	Make: W MG-6	Drawing:	32001 SH 5F
System : ELEC		Subsytem	/Component:
Description :			
Location : CONTR	OL AUX		

CAB\_ID CB/8DB1A

BUILDING SB ELEVATION 59.50

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
32B/1-8-RELAY 27Y/1-8	AGA E7000	E7022PC003	NC	YES	RLY_FUNC_REVIEW
52B/1-8-RELAY 27Y2/1-8	AGA E7000	E7022PC003	NC	YES	ОК
62C/1-8-RELAY 27Y/1-8	AGA E7000	E7024PC001	NC	YES	RLY_FUNC_REVIEW
62C/1-8-RELAY 27Y2/1-8	AGA E7000	E7024PC001	NC	YES	ОК
27K/1-8-RELAY 27Y/1-8	DEVAR	18-114	NO	YES	NO GERS
27K/1-8-RELAY 27Y2/1-8	DEVAR	18-114	NO	YES	NO GERS
27L/1-8-RELAY 27Y/1-8	DEVAR	18-114	NO	YES	NO GERS
27L/1-8-RELAY 27Y2/1-8	DEVAR	18-114	NO	YES	NO GERS
27M/1-8-RELAY 27Y/1-8	DEVAR	18-114	NO	YES	NO GERS
27M/1-8-RELAY 27Y2/1-8	DEVAR	18-114	NO	YES	NO GERS
27R/1-8-RELAY 27Y/1-8	DEVAR	18-114	NO	YES	NO GERS
27R/1-8-RELAY 27Y2/1-8	DEVAR	18-114	NO	YES	NO GERS

CAB\_ID

CB/8DB1A

BUILDING SB ELEVATION 59.50

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27S/1-8-RELAY 27Y/1-8	DEVAR	18-114	NO	YES	NO GERS
27S/1-8-RELAY 27Y2/1-8	DEVAR	18-114	NO	YES	NO GERS
27T/1-8-RELAY 27Y/1-8	LEVAR	18-114	NO	YES	NO GERS
27T/1-8-RELAY 27Y2/1-8	CEVAR	18-114	NO	YES	NO GERS
86/1-8-RELAY 27Y/1-8	GE-HEA	12HEA61A223	NO	NO	RLY_FUNC_REVIEW
86/1-8-RELAY 27Y2/1-8	GE - HEA	12HEA61A223	NO	NO	ОК
27AX/1-8-RELAY 27Y/1-8	GE - HFA	12HFA151A2H	NO	NO	RLY_FUNC_REVIEW
27AX/1-8-RELAY 27Y2/1-8	GE - HFA	12HFA151A2H	NO	NO	ОК
27BX/1-8-RELAY 27Y/1-8	GE - HFA	12HFA151A2H	NO	NO	ОК
27BX/1-8-RELAY 27Y2/1-8	GE - HFA	12HFA151A2H	NO	NO	ОК
27CX/1-8-RELAY 27Y/1-8	GE - HFA	12HFA151A2H	NO	NO	ОК
27CX/1-8-RELAY 27Y2/1-8	GE - HFA	12HFA151A2H	NO	NO	ОК

CAB\_ID CB/8DB1A

BUILDING SB ELEVATION 59.50

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
94LS/1-8 (Note 13)-BKR 5	GE - HFA	12HFA151A2H	NO	NO	ОК
94LS/1-8 (Note 13)-BKR 5	GE - HFA	12HFA151A2H	NO	NC	ОК
94LS/1-8 (Note 13)-P-13-	GE - HFA	12HFA151A2H	NO	NO	ОК
94LS/1-8 (Note 13)-P-18-	GE HFA	12HFA151A2H	NO	NO	OK
94LS/1-8 (Note 13)-P-37-	GE - HFA	12HFA151A2H	NO	NO	ОК
94LS/1-8(Note 13)-P-37-1	GE - HFA	12HFA151A2H	, NO	NO	ОК
4/EG2A-BKR 8-1	W WL		NO	NO	RLY_FUNC_REVIEW
4/EG2A-EG-2A	W WL		NO	NO	ОК

RELAY	FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3
ID: 62B/1-8- RELAY 27Y/1-8 (Rev. 0)	Make: AGASTAT F7000	Drawing :	32001 SH 5FA
System : ELEC		Subsytem	VComponent:
Description : E7022	PC003	and the second of the second o	
Location : CONTRO	LAUX		

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

-

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1A (Rev. I	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : AUX CO	NTROL PANEL (EG-2A)	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

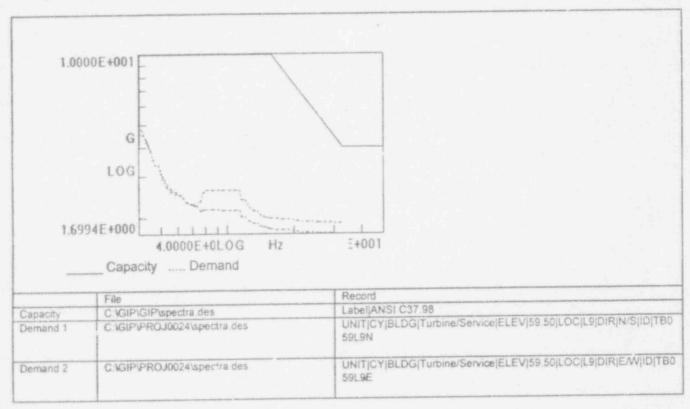
Is cabinet seismically adequate?

No

# **Cabinet Frequency**

### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3 Drawing: 32001 SH 5FA Make: AGASTAT E7000 ID: 62B/1-8-RELAY 27Y/1-8 (Rev. 0) System: ELEC Subsytem/Component Description: E7022PC003 Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

# IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

Currently the cabinet which the relay reside is an outlier, this will not cause an adverse effect to the integrity of the relay since its capacity is very high. The resolution of the outlier is being track with the cabinet.

Evaluated by:

Date: 12/14/93

RELA	FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 62B/1-8- RELAY 27Y/1-8 (Rev. 0)	Make: AGASTAT E7000		001 SH 5FA
System : ELEC		Subsytem/C	omponent:
Description : E702	2PC003		
Location : CONTR	OL AUX		

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 62C/1-8- Make: AGASTAT E7000 Drawing: 32001 SH 5FA RELAY 27Y/1-8 (Rev. 0) System: ELEC Subsytem/Component: Description: E7024PC001 Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class : Auxiliary Relay	SubClass : Pneumatic Timing Relays
Relay Model: Agastat E7024, 7024, 2424	Operating Mode : Operate, normally closed
Required Settings:	

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1A (Rev	. 0) Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : AUX C	ONTROL PANEL (EG-2A)	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

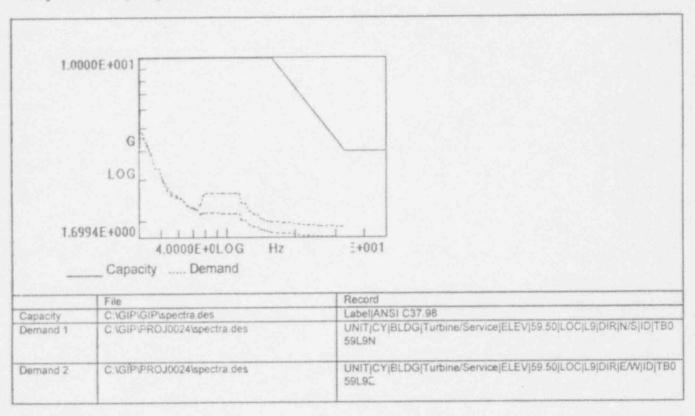
Is cabinet seismically adequate?

No

### Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT ID: 62C/1-8- Make: AGASTAT E7000 Drawing: 32001 SH 5FA RELAY 27Y/1-8 (Rev. 0) System: ELEC Subsytem/Component: Description: E7024PC001 Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

Currently the cabinet which the relay reside is an outlier, this will not cause an adverse effect to the integrity of the relay since its capacity is very high. The resolution of the outlier is being track with the cabinet.

Evaluated by:	Ci. CO Da	ate:	12/16/93	erretore to
	C. M. Don Tower		12.16.93	

RELA)	Y FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 62C/1-8- Make: AGASTAT E7000 RELAY 27Y/1-8 (Rev. 0)		Drawing : 32	2001 SH 5FA
System : ELEC		Subsytem/C	Component:
Description : E702	4PC001		
Location : CONTR	OL AUX		

# RELAY FUNCTIONALITY REVIEW REPORT ID: 86/1-8-RELAY | Make: GE - HEA | Drawing: 32001 SH 5F | 27Y/1-8 (Rev. 0) | System: ELEC | Subsystem/Component: | Description: 12HEA61A223 | Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class : Auxiliary Relay	SubClass : Lockout
Relay Model : GE HEA61A,-B,-C (AC/DC)	Operating Mode : Non-operate, normally open
Required Settings:	

Capacity GERS Level: 10.00

### Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1A (Rev	. 0) Cabinet Class : 20 Cabinets	Cabinet Class: 20 - Instrumentation and Control Panels and Cabinets			
Cabinet Description : AUX C	ONTROL PANEL (EG-2A)				
Building : SB	Floor El. : 59.5	Room, Row/Col : CONTROL AUX			

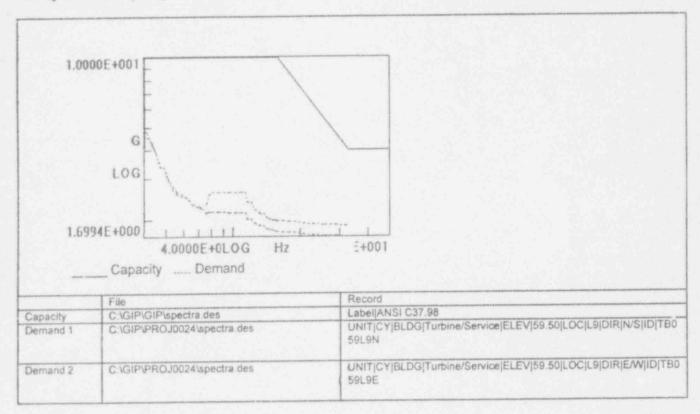
Is cabinet seismically adequate?

No

### Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3 ID: 86/1-8-RELAY | Make: GE - HEA | Drawing: 32001 SH 5F 27Y/1-8 (Rev. 0) System: ELEC | Subsystem/Component: Description: 12HEA61A223 Location: CONTROL AUX

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

# IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

Currently the cabinet which the relay reside is an outlier, this will not cause an adverse effect to the integrity of the relay since its capacity is very high. The resolution of the outlier is being track with the cabinet.

Evaluated by:		000	Date:	12/16/93
	c. m.	Don Thursday	CHI MAD THE MAD THE STREET, MA	12-16-91

RELAY FUNCTIONALITY R	EVIEW REPORT	GIF Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 86/1-8-RELAY   Make: GE - HEA 27Y/1-8 (Rev. 0)	Drawing : 32	2001 SH 5F
System : ELEC	Subsytem/C	omponent:
Description: 12HEA61A223		
Location : CONTROL AUX		

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3 ID: 27AX/1-8- Make: GE - HFA RELAY 27Y/1-8 (Rev. 0) System: ELEC Description: 12HFA151A2H Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

## Low Ruggedness

Is relay not a low ruggedness relay?

LRR

## Relay Capacity Level

Class : Auxiliary Relay	SubClass: Hinged Armature Multi-contact			
Relay Model: GE HFA151 (AC) (1E)	Operating Mode: Non-operate, normally open			
Required Settings: 30 ms operation time				

Capacity GERS Level: 7.50

### Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1A (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : AUX CON	TROL PANEL (EG-2A)	
Building : SB	Floor El. : 59.5	Room, Row/Col: CONTROL AUX

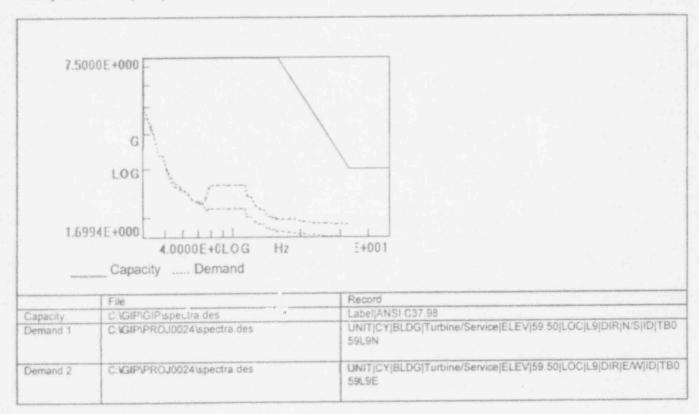
Is cabinet seismically adequate?

No

### Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT ID: 27AX/1-8- Make: GE - HFA RELAY 27Y/1-8 (Rev. 0) System: ELEC Description: 12HFA151A2H Location: CONTROL AUX

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

Currently the cabinet which the relay reside is an outlier, this will not cause an adverse effect to the integrity of the relay since its capacity is very high. The resolution of the outlier is being track with the cabinet.

Evaluated by:

Date: 12/16/93

RELA	Y FUNCTIONAL'TY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 27AX/1-8- RELAY 27Y/1-8 (Rev. 0)	Make : GE - HFA	Drawing :	32001 SH 5F
System : ELEC	and the same that the same that the same to the same to the same that the same to the same	Subsytem	VComponent:
Description: 12HF	A151A2H		
Location : CONTR	OL AUX		

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass: Lockout		
Relay Model : Westinghouse WL (DC)	Operating Mode: Non-operate, normally open		
Required Settings	and the same of th		

Capacity GERS Level: 10.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/8DB1A (Rev.	O) Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : AUX CO	NTROL PANEL (EG-2A)	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

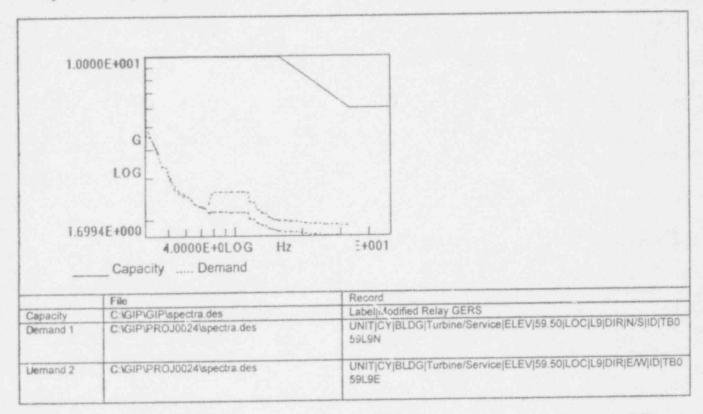
Is cabinet seismically adequate?

No

# Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT ID: 4/EG2A-BKR | Make: W WL | Drawing: 31099 SH 3 8-1 (Rev. 0) | System: ELEC | Subsytem/Component: Description: Location: CONTROL AUX

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

Currently the cabinet which the relay reside is an outlier, this will not cause an adverse effect to the integrity of the relay since its capacity is very high. The resolution of the outlier is being track with the cabinet.

Evaluated by:

C. M. Dan Janone

ate: j

12.16.93

RELAY FUNCTIONALITY REVIEW REPORT

ID: 4/EG2A-BKR | Make: W WL | Drawing: 31099 SH 3

8-1 (Rev. 0) | Subsytem/Component:

Description: | Subsytem/Component | Drawing: Control Aux

CAB ID CB/9DB1

BUILDING SB ELEVATION 59.50 LOCATION CONTROL AUX

REMARK CONT COND ENERGIZE MODEL MAKE CONTACTIO YES OK NC E7012PD AGA E7000 62E9-2-RELAY 27Y/1-9 OK YES NC E7012PD 62E9-2-RELAY 27Y2/1-9 AGA E7000 NO GERS YES NO 12NGV15A21 GE - NGV 59-9-RELAY 27Y/1-9 YES NO GERS NO 12NGV15A21 GE - NGV 59-9-RELAY 27Y2/1-9 OK NC YES W CV-7 27A/1-9-RELAY 27Y/1-9 YES OK NC W CV-7 27A/1-9-RELAY 27Y2/1-9 OK NC YES 27B/1-9-RELAY 27Y/1-9 W CV-7 OK YES NC 278/1-9-RELAY 27Y2/1-9 W CV-7 OK NC YES 27C/1-9-RELAY 27Y/1-9 W CV-7 YES OK NC W CV-7 27C/1-9-RELAY 27Y2/1-9 OK NO NO W MG-6 27X/1-9-RELAY 27Y/1-9 OK NO NO W MG-6 27X/1-9-RELAY 27Y2/1-9

> PAGE 1 DATE: 12/13/93

CAB\_ID CB/9DB1

BUILDING S8 ELEVATION 59.50

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27Y1/1-9 (Note 11)-P-18-	W MG-6	Ser. # 289B360A20	NO	NO	ОК
59A/1-9-BKR 9-1	W SV		NO	YES	BAD ACTOR
59B/1-9-BKR 9-1	W SV		NO	YES	BAD ACTOR

CAB\_ID CB/9DB1A

BUILDING SB **ELEVATION** 59.50

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
62B/1-9-RELAY 27Y/1-9	AGA E7000	E7022PC003	NC	YES	ок
62B/1-9-RELAY 27Y2/1-9	AGA E7000	E7022PC003	NC	YES	ОК
62C/1-9-RELAY 27Y/1-9	AGA E7000	024PC001	NC	YES	OK
62C/1-9-RELAY 27Y2/1-9	AGA E7000	E7024PC001	NC	YES	OK
94LS-1/1-9-P-13-1C	AGASTAT	EGPD003	NO	NO	RLY_FUNC_REVIEW
27K/1-9-RELAY 27Y/1-9	DEVAR	18-114	NO	YES	NO GERS
27K/1-9-RELAY 27Y2/1-9	DEVAR	18-114	NO	YES	NO GERS
27L/1-9-RELAY 27Y/1-9	DEVAR	18-114	NO	YES	NO GERS
27L/1-9-RELAY 27Y2/1-9	DEVAR	18-114	NO	YES	NO GERS
27M/1-9-RELAY 27Y/1-9	DEVAR	18-114	NO	YES	NO GERS
27M/1-9-RELAY 27Y2/1-9	DEVAR	18-114	NO	YES	NO GERS
27R/1-9-RELAY 27Y/1-9	DEVAR	18-114	NO	YES	NO GERS

CAB\_ID CB/9DB1A

BUILDING SB

ELEVATION 59.50

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
27R/1-9-RELAY 27Y2/1-9	DEVAR	18-114	NO	YES	NO GERS
27S/1-9-RELAY 27Y/1-9	DEVAR	18-114	NO	YES	NO GERS
27S/1-9-RELAY 27Y2/1-9	DEVAR	18-114	NO	YES	NO GERS
27T/1-9-RELAY 27Y/1-9	DEVAR	18-114	NO	YES	NO GERS
27T/1-9-RELAY 27Y2/1-9	DEVAR	18-114	NO	YES	NO GERS
8E'1-9-RELAY 27Y/1-9	GE - HEA	12HEA61A223	NO	NO	ОК
86/1-9-RELAY 27Y2/1-9	GE - HEA	12HEA61A223	NO	NO	ОК
27Y/1-9 (Note 11)-BKR 9-	GE - HEA	12HEA61C239	NO	NO	OK
27Y/1-9 (Ncte 11)-RELAY	GE - HEA	12HEA61C239	NO	NO	ОК
27AX/1-9-RELAY 27Y/1-9	GE - HFA	12HFA151A2H	NO	NO	ОК
27AX/1-9-RELAY 27Y2/1-9	GE - HFA	12HFA151A2H	NO	NO	ОК
27BX/1-9-RELAY 27Y/1-9	GE - HFA	12HFA151A2H	NO	NO	ОК

CAB\_ID CB/9DB1A

BUILDING SB ELEVATION 59.50

MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	NO	NO	ОК
GE - HFA	12HFA151A2H	.10	NO	ОК
W WL		NO	NO	ОК
W WL		NO	NO	ОК
	GE - HFA WWL	GE - HFA       12HFA151A2H         W WL       WWL	GE - HFA         12HFA151A2H         NO           W WL         NO         NO	GE - HFA         12HFA151A2H         NO         NO           W WL         NO         NO         NO

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 94LS-1/1-9-P- | Make: AGASTAT | Drawing: 32001 SH 6XB 13-1C (Rev. 0) System: ELEC | Subsytem/Component: Description: EGPD003 Location: CONTROL AUX

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class: Auxiliary Relay	SubClass : Socket Type	
	Operating Mode: Non-operate, normally open	
Required Settings:		

Capacity GERS Level: 3.30

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/9DB1A (Rev.	0) Cabinet Class : 20 Cabinets	) - Instrumentation and Control Panels and
Cabinet Description : AUX CO	NTROL PANEL (EG-2B)	
Building : SB	Floor El.: 59.5	Room, Row/Col : CONTROL AUX

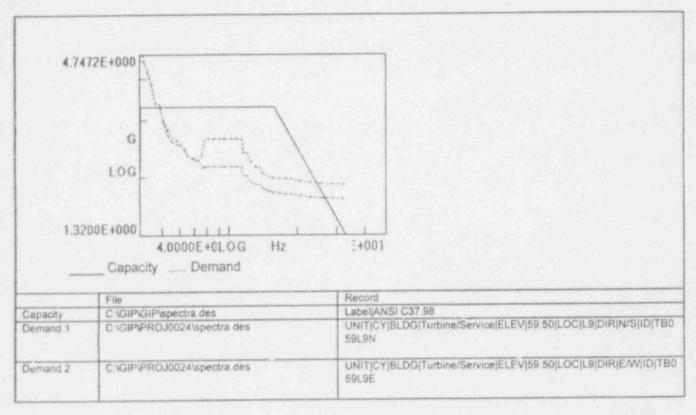
ts cabinet seismically adequate?

No

### **Cabinet Frequency**

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3
ID: 94LS-1/1-9-P- 13-1C (Rev. 0)	Make : AGASTAT	Drawing: 320	01 SH 6XB
System : ELEC		Subsytem/Cor	mponent;
Description : EGPD	003		
Location CONTRO	LAUX		

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

## IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

The non-enveloping region (up to 5 Hz) on the Capacity vs. Demand plot is not a concern because at a frequency this low the relay will not experience high spectral acceleration causing relay chatter. (At 5 Hz the amplification factor is much lower than 7)

Similarly, the non-enveloping region (beyond 22 Hz) on the Capacity vs. Demand plot is not a concern because the realistic ZPA of the demand curve is approximately 1.5 X peak of spectral acceleration of Conservative Floor Response; 1.5 X 0.374g (N/S dir of Main Control Room El. 59.5) = 0.561g which is considerably less than relay ZPA of 1.32g.

CB/9DB1A is shown to have a fundermental frequency in the range of 10 - 12 Hz.

RELAY	FUNCTIONALITY REVIEW	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 94LS-1/1-9-P- 13-1C (Rev. 0)	Make : AGASTAT	Drawing: 3200	01 SH 6XB
System : ELEC		Subsytem/Con	nponent:
Description : EGPD Location : CONTRO	CALLED AN ARCHITECTURE AND ARCHITECTURE OF THE PARTY OF T		

Currently the cabinet which the relay reside is an outlier, this will not change the results of this screening evaluation. However, the resolution of the outlier is being tracked with the cabinet.

Evaluated by: Date: 12/17/93

C. M. Darware 12.17-95

Connecticut Yankee A-46 Essential Relays Relay functional Review List CAB\_ID CB/B

BUILDING SB ELEVATION 59.50 LOCATION MCB

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
33X/568-PR-SOV-568	W	AR440A			RLY_FUNC_REVIEW
53X/570-PR-SOV-570	W	AR440A			ОК
53X/570-PR-SOV-570	W	AR440A			ОК
4A (Note 1)-CH-MOV-292B	W WL		NO	NO	RLY_FUNC_REVIEW
4A (Note 1)-CH-MOV-292C	W WL		NO	NO	OK
4A (Note 1)-RELAY 27Y/1-	W WL		NO	NO	ОК
4A (Note 1)-RELAY 27Y2/1	W WL		NO	NO	ОК
4A (Note 1)-RELAY 27Y2/1	W WL		NO	NO	ОК
4A (Note 1)-RELAY 4AX	W WL		NO	NO	ОК
4A (Note 1)-RELAY 4AX1	W WL		NO	NO	ОК
4A (Note 1)-RELAY HCP/A	W WL		NO	NO	ОК
4B (Note 5)-CH-MOV-292B	W WL		NO	NO	OK

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID CB/B

BUILDING SB ELEVATION 59.50 LOCATION MCB

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
4B (Note 5)-CH-MOV-292C	W WL		NO	NO	ок	
4B (Note 5)-RELAY 27Y/1-	W WL		NO	NO	ОК	
4B (Note 5)-RELAY 27Y2/1	W WL		NO	NO	ОК	
4B (Note 5)-RELAY 27Y2/1	W WL		NO	NO	ОК	
4B (Note 5)-RELAY 4BX	W WL		NO	NO	ОК	
4B (Note 5)-RELAY 4BX1	W WL		NO	NO	ОК	
4B (Note 5)-RELAY HCP/B	W WL		NO	NO	ОК	

# RELAY FUNCTIONALITY REVIEW REPORT ID: 63X/568-PR- Make: W Sheet 1 of 3 Sov-568 (Rev. 0) System: ELEC Subsytem/Component: Description: AR440A Location: MCB

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LBB

# Relay Capacity Level

Class: Auxiliary Relay	SubClass : Industrial Type 1 (600 V)		
Relay Model : Westinghouse AR	Operating Mode : Non-operate, normally closed		
Required Settings :			

Capacity GERS Level: 7.50

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Medium Amplification (control panels)

Demand Amplification Factor: 4.5

Cabinet ID : CB/B (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : MAIN CO	ONTROL BOARD SECTION B	1105
Building : SB	Floor El.: 59.5	Room, Row/Col : MCB

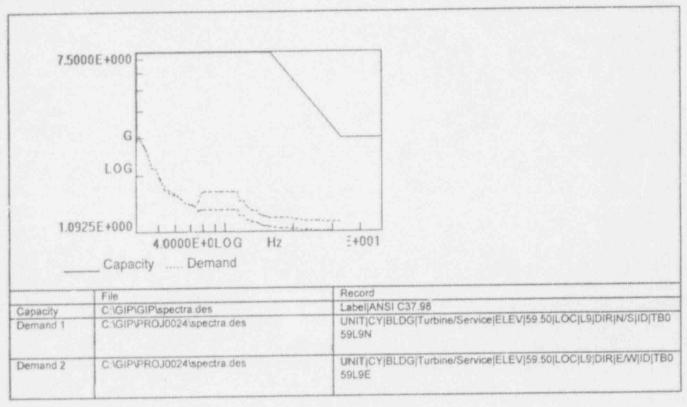
Is cabinet seismically adequate?

Yes

### Cabinet Frequency

### GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 2 of 3 Drawing: 32112 SH 70 Make: W ID: 63X/568-PR SOV-568 (Rev. Subsytem/Componer... System: ELEC Description: AR440A Location: MCB

## Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Operating mode and contact condition is unknown, used lowest GERS.

Evaluated by:

C. M. Dan Januare 12/16/93

RELAY	FUNCTIONALITY RE	VIEW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 cf. 3
ID: 63X/568-PR- SOV-568 (Rev. 0)	Make : W	Drawing : 3	32112 SH 70
System : ELEC Subsy			Component:
Description : AR440 Location : MCB	A		

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 4A (Note 1)CH-MOV-292B (Rev. 0) System: ELEC Description: Location: MCB

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class: Auxiliary Relay	SubClass : Lockout		
Relay Model: Westinghouse WL (DC)	Operating Mode: Non-operate, normally open		
Required Settings :			

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/B (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : MAIN CON	TROL BOARD SECTION B	
Building : SB	Floor El.: 59.5	Room, Row/Col : MCB

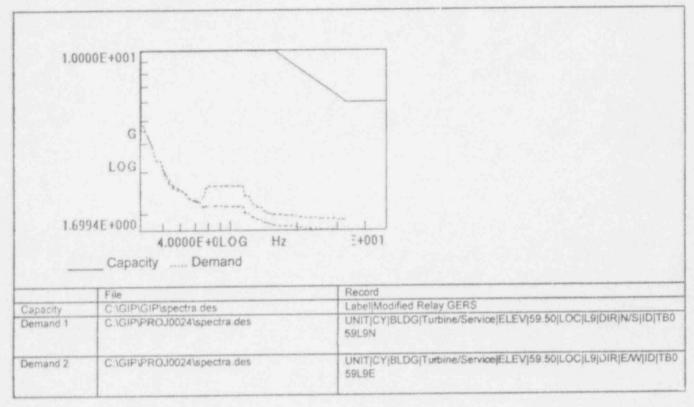
Is cabinet seismically adequate?

Yes

### **Cabinet Frequency**

# RELAY FUNCTIONALITY REVIEW REPORT ID: 4A (Note 1)CH-MOV-292B (Rev. 0) System: ELEC Description: Location: MCB

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c.m. Da Pardie

Date:

12/16/93

RELAY	FUNCTIONALITY REVIS	EW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: 4A (Note 1)- Make: W WL CH-MOV-292B (Rev. 0)		Drawing :	32112 SH 29A	
System : ELEC		Subsytem/Component :		
Description :				
Location : MCB				

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID CB/C

BUILDING SB ELEVATION 59.50 LOCATION MCB

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
63Y/PCV 568-PR-MOV-567	W	AR440A	NO	NO	RLY_FUNC_REVIEW
63Y/PCV 570-PR-MOV-569	W	AR440A	NO	NO	ОК
63Y/PCV 570-PR-SOV-570	W	AR440A	NO	NO	ОК

RELAY	FUNCTIONALITY REV	VIEW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3	
ID: 63Y/PCV 568- PR-MOV-567 (Rev. 0)	Make : W		32112 SH 28S	
System ELEC Subsy			Subsytem/Component :	
Description : AR440	A			
Location : MCB				

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Industrial Type 1 (600 V)
Relay Model: Westinghouse AR	Operating Mode : Non-operate, normally closed
Required Settings :	

Capacity GERS Level: 7.50

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/C (Rev. 0)	Cabinet Class : 20 Cabinets	) - Instrumentation and Control Panels and
Cabinet Description : MAIN CON	TROL BOARD SECTION C	
Building : SB	Floor El.: 59.5	Room, Row/Col : MCB

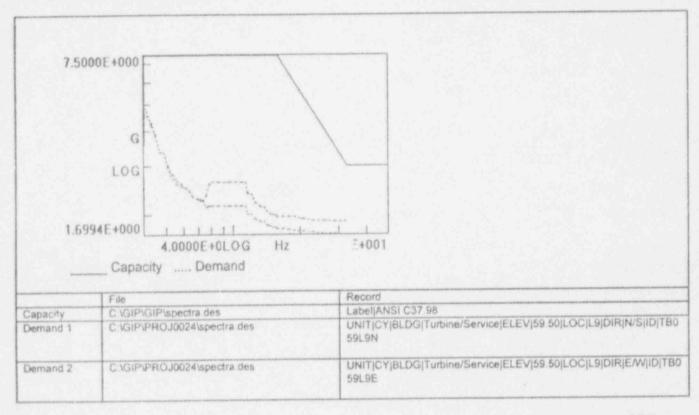
is cabinet seismically adequate?

Yes

## Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 2 of 3 ID: 63Y/PCV 568- Make: W PR-MOV-567 (Rev. 0) System: ELEC Description: AR440A Location: MCB

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c. m. Day Burdie

Date: 12/16/93

RELAY	FUNCTIONALITY REV	VIEW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 63Y/PCV 568- PR-MOV-567 (Rev. 0)	Make : W		32112 SH 28S
System : ELEC Subsyter		/Component :	
Description : AR440	A	AND AND ASSESSMENT OF THE PARTY	
Location : MCB			

Connecticut Yankee A-46 Essential Relays Relay functional Review List CAB\_ID CB/F

BUILDING SB ELEVATION 59.50 LOCATION MCB

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
4AX1 (Note 3)-RELAY 27Y/	GE - HFA	12HFA151A2H	NO	NO	RLY_FUNC_REVIEW
4AX1 (Note 3)-RELAY 27Y2	GE - HFA	12HFA151A2H	NO	NO	ОК
4AX1 (Note 3)-RELAY 94LS	GE - HFA	12HFA151A2H	NO	NO	ОК
4AX1 (Note 3)-RELAY 94LS	GE - HFA	12HFA151A2H	NO	NO	ок
43AX-RELAY HCP/A	W	ARD440S	NC	NO	RLY_FUNC_REVIEW
43AY-RELAY HCP/A	W	ARD440S	NO	NO	RLY_FUNC_REVIEW
43BX-RELAY HCP/B	W	ARD440S	NC	NO	ОК
43BY-RELAY HCP/B	W	ARD440S	NO	NO	ОК
4BX1 (Note 7)-RELAY 27Y/	W MG-6	289B360A20	NO	NO	RLY_FUNC_REVIEW
4BX1 (Note 7)-RELAY 27Y2	W MG-6	289B360A20	NO	NO	ОК
4BX1 (Note 7)-RELAY 94LS	W MG-6	289B360A20	. NO	NO	OK
4BX1 (Note 7)-RELAY 94LS	W MG-6	289B360A20	NO	NO	ОК

Connecticut Yankee A-46 Essential Relays Relay functional Review List CAB\_ID CB/F

BUILDING SB ELEVATION 59.50 LOCATION MCB

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
HCP/A (Note 4)-RELAY 4A	W WL	Ser. # 780A542G01	NO	NO	RLY_FUNC_REVIEW
HCP/B (Note 8)-RELAY 48	W WL	Ser. # 785A839G01	NO	NO	ОК

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: 4AX1 (Note 3)- Make: GE - HFA RELAY 27Y/1-9 (Rev. 0) System: ELEC Description: 12HFA151A2H Location: MCB

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class : Auxiliary Relay	Subclass: Hinged Armature Multi-contact		
Relay Model: GE HFA151 (AC) (1E)	Operating Mode: Non-operate, normally open		
Required Settings: 30 ms operation time	and provide the second		

Capacity GERS Level: 7.50

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/F (Rev. 0)	Cabinet Class : 20 Cabinets	) - Instrumentation and Control Panels and
Cabinet Description : MAIN CON	TROL BOARD SECTION F	
Building : SB	Floor El : 59.5	Room, Row/Col : MCB

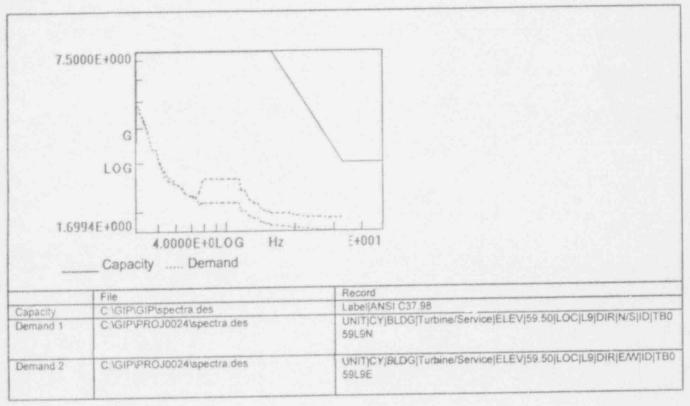
Is cabinet seismically adequate?

Yes

### Cabinet Frequency

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3	
ID: 4AX1 (Note 3)- RELAY 27Y/1-9 (Rev. 0)	Make : GE - HFA	Drawing : 31	2001 SH 5GA	
System : ELEC		Subsytem/C	Subsytem/Component :	
Description : 12HFA	151A2H			
Location - MCB				

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

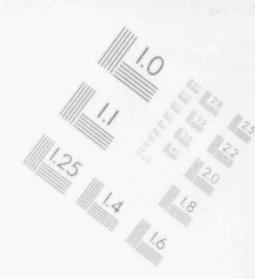
COMMENTS

Evaluated by:

c.m. Don Dunde

Date:

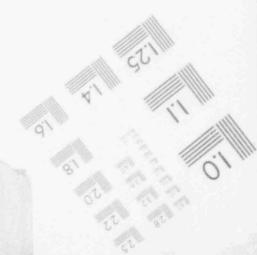
12/16/93

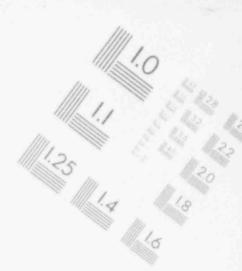








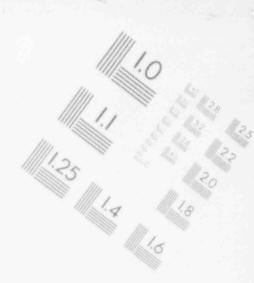








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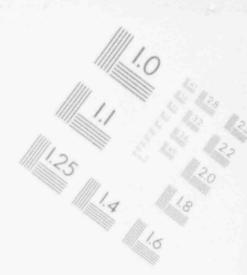










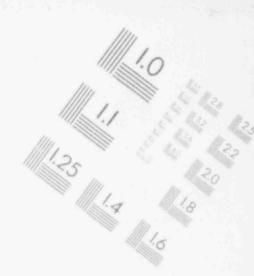






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RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3
ID: 4AX1 (Note 3)- RELAY 27Y/1-9 (Rev. 0)	Make : GE - HFA	Drawing : 32001 SH 5GA	
System : ELEC Subs		Subsytem	/Component:
Description: 12HFA	151A2H		
Location : MCB			

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3 ID: 43AX-RELAY | Make: W | Drawing: 32001 SH 11BA HCP/A (Rev. 0) System: ELEC | Subsytem/Component: Description: ARD440S Location: MCB

## SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class : Industrial Type 1 (600 V)
rating Mode: Non-operate, normally closed

Capacity GERS Level: 4.50

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/F (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : MAIN CC	NTROL BOARD SECTION F	
Building : SB	Floor El. : 59.5	Room, Row/Col : MCB

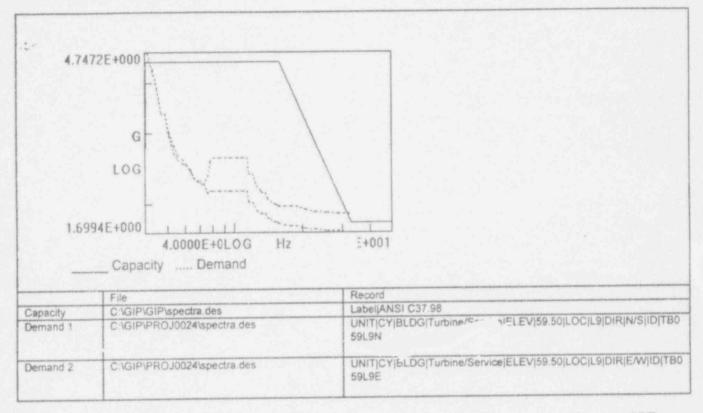
Is cabinet seismically adequate?

Yes

### Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 2 of 3 ID: 43AX-RELAY | Make: W | Drawing: 32001 SH 11BA HCP/A (Rev. 0) System: ELEC | Subsytem/Component: Description: ARD440S Location: MCB

## Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

## IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

The non-enveloping region (up to 5 Hz) on the Capacity vs. Demand plot is not a concern because at a frequency this low the relay will not experience high spectral acceleration causing relay chatter. (At 5 Hz the amplification factor is much lower than 7)

The MCB frequency is greater than 8 Hz and the ARD relays were mounted on a relatively stiff subpanel attached directly to the main framing members of section F of the MCB.

RELAY	FUNCTIONAL	TY REVIEW REPORT	GIP Rev 2, Co Status: Yes Sheet 3 of 3	prrected, 2/14/92
ID: 43AX-RELAY Make: W Drawing: 320 HCP/A (Rev. 0)		ng: 32001 SH 11BA	The second secon	
System : ELEC		Subsy	Subsytem/Component:	
Description: ARD4	40S			
Location : MCB				
Evaluated by:		000	Date:	12/16/93
	c.m.K	Van Vandel		12.16.93

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3 ID: 43AY-RELAY | Make: W | Drawing: 32001 SH 113A HCP/A (Rev. 0) System: ELEC | Subsytem/Component: Description: ARD440S Location: MCB

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

### Relay Capacity Level

Class : Auxiliary Relay	SubClass : Industrial Type 1 (600 V)	
Relay Model : Westinghouse ARD	Operating Mode : Non-operate, normally open	
Required Settings:		

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/F (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : MAIN CO	NTROL BOARD SECTION F	
Building : SB	Floor El.: 59.5	Room, Row/Col : MCB

Is cabinet seismically adequate?

Yes

### Cabinet Frequency

# RELAY FUNCTIONALITY REVIEW REPORT

GIP Rev 2, Corrected, 2/14/92

Status: Yes Sheet 2 of 3

ID: 43AY-RELAY

Make: W

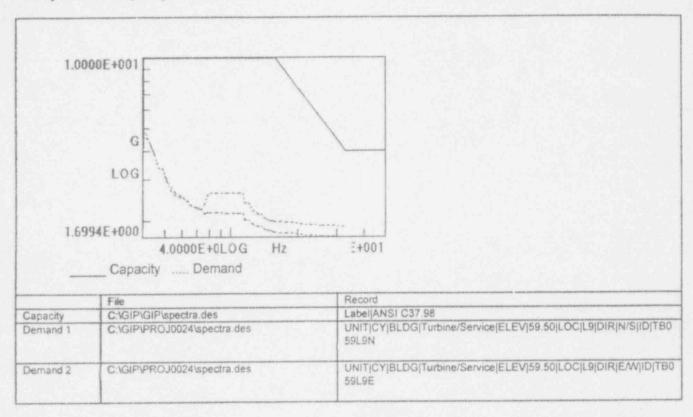
Drawing: 32001 SH 11BA

HCP/A (Rev. 0) System: ELEC

Subsytem/Component:

Description: ARD440S Location : MCB

### Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

c. m. Don Burder

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

Date:

RELAY	FUNCTIONALITY REV	/IEW REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: 43AY-RELAY HCP/A (Rev. 0)	Make : W	Drawing : 3	2001 SH 11BA	
System: ELEC		Subsytem/0	Subsytem/Component:	
Description: ARD4	40S			
Location : MCB				

RELAY FUNCTIONALITY REVIEW REPORT		GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 1 of 3	
ID: 4BX1 (Note 7)- RELAY 27Y/1-9 (R 0)	Make: W MG-6	Drawing :	32001 SH 5GA
System : ELEC Subsytem		Subsytem	n/Component:
Description: 289B3	60A20		
Location : MCB			

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Hinged Armature Multi-contact
Relay Model : Westinghouse MG-6 (DC)	Operating Mode : Non-operate, normally open
Required Settings: 80 ms operation time	

Capacity GERS Level: 10.00

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : CB/F (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : MAIN CO	NTROL BOARD SECTION F	
Building : SB	Floor El. : 59.5	Room, Row/Col : MCB

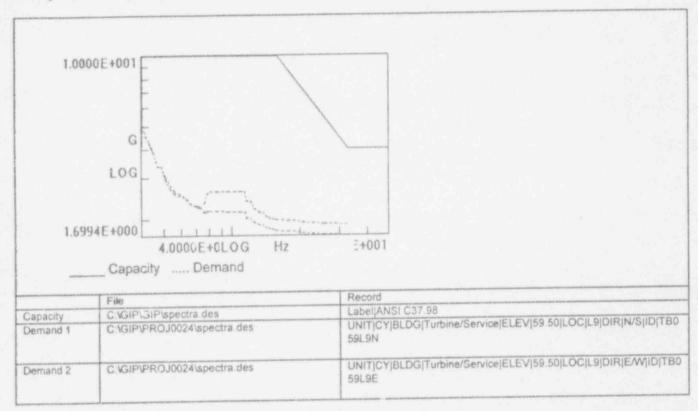
Is cabinet seismically adequate?

Yes

# **Cabinet Frequency**

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3	
ID: 4BX1 (Note 7)- Make: W MG-6 RELAY 27Y/1-9 (Rev. 0)		Drawing:	32001 SH 5GA	
System : ELEC S		Subsytem	Subsytem/Component :	
Description : 289B36	30A20			
Location : MCB				

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

c. m. Don Berne

Date: /

12.16-93

RELAY FUNCTIONALITY REVIEW REPORT

ID: 4BX1 (Note 7)- Make: W MG-6
RELAY 27Y/1-9
Rev. 0)

System: ELEC
Description: 289B360A20
Location: MCB

GIP Rev 2, Corrected, 2/14/92
Status: Yes
Sheet 3 of 3

Drawing: 32001 SH 5GA

Subsytem/Component:

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID : HCP/A (Note | Make : W WL | Drawing : 32112 SH 32A 4)-RELAY 4A (Rev. 0) System : ELEC | Subsytem/Component : Description : Ser. # 780A542G01 Location : MCB

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

### Low Ruggedness

Is relay not a low ruggedness relay?

LRR

## Relay Capacity Level

SubClass : Lockout
Operating Mode: Non-operate, normally open

Capacity GERS Level: 10.00

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Medium Amplification (control panels)

Demand Amplification Factor: 4.5

Cabinet ID : CB/F (Rev. 0)	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : MAIN CO	NTROL BOARD SECTION F	
Building: SB	Floor El. : 59.5	Room, Row/Col : MCB

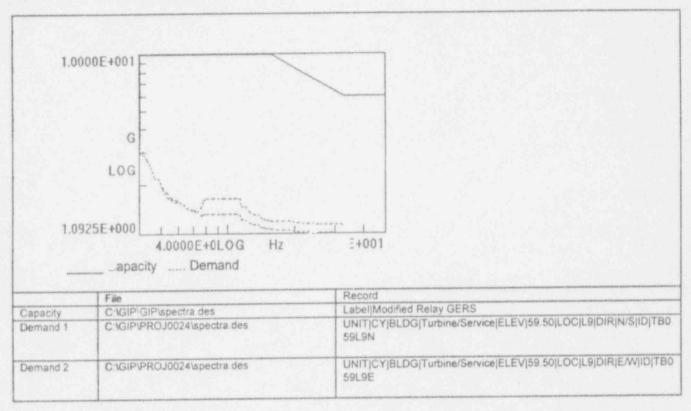
Is cabinet seismically adequate?

Yes

### Cabinet Frequency

RELAY	FUNCTIONALITY REVIE	W REPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3	
ID : HCP/A (Note 4)-RELAY 4A (Rev. 0)	Make : W WL	Drawing :	32112 SH 32A	
System: ELEC S		Subsytem	Subsytem/Component:	
Description : Ser. #	780A542G01	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE		
Location : MCB				

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

GERS BASIS: LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

COMMENTS

Evaluated by:

Da Da

Date:

12.16.93

RELAY FUNCTIONALITY REVIEW REPORT

GIP Rev 2, Corrected, 2/14/92
Status: Yes
Sheet 3 of 3

ID : HCP/A (Note | Make ; W WL | Drawing : 32112 SH 32A

4)-RELAY 4A
(Rev. 0)

System : ELEC | Subsytem/Component :

Description : Ser. # 780A542G01

Location : MCB

,85365

CAB\_ID ECP-2A

MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
	Overspeed Trip			UNKNOWN
AGASTAT EGPD00	EGPD002	NO	NO	RLY_FUNC_REVIEW
AGASTAT EGPD00	EGPD002			ОК
SQD 8411520 aow23	PRESSURE SWITCH	NC		NO GERS
SQD 8411520 aow23	PRESSURE SWITCH			NO GERS
	AGASTAT EGPD00  AGASTAT EGPD00  SQD 8411520 aow23		Overspeed Trip  AGASTAT EGPD00 EGPD002 NO  AGASTAT EGPD00 EGPD002  SQD 8411520 aow23 PRESSURE SWITCH NC	Overspeed Trip  AGASTAT EGPD00 EGPD002 NO NO  AGASTAT EGPD00 EGPD002  SQD 8411520 aow23 PRESSURE SWITCH NC

# RELAY FUNCTIONALITY REVIEW REPORT ID: NFLD-BKR 8- | Make: AGASTAT | EGPD002 | Drawing: 32001 SH 5MA, 31099 SH 2, 3 1 (Rev. 0) | System: ELEC | Subsytem/Component: Description: EGPD002 | Location: A DIESEL

SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

SubClass : Socket Type	NAME AND ADDRESS OF THE OWNER, WHEN
Operating Mode : Non-operate, normally open	
	THE RESERVE THE PROPERTY OF TH

Capacity GERS Level: 3.30

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: Medium Amplification (control panels)

Demand Amplification Factor: 4.5

Cabinet ID : ECP-2A (Rev. 0)	Cabinets	- Instrumentation and Control Panels and
Cabinet Description : ENGIN	E CONTROL PANEL	
Building : DG	Floor El. : 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

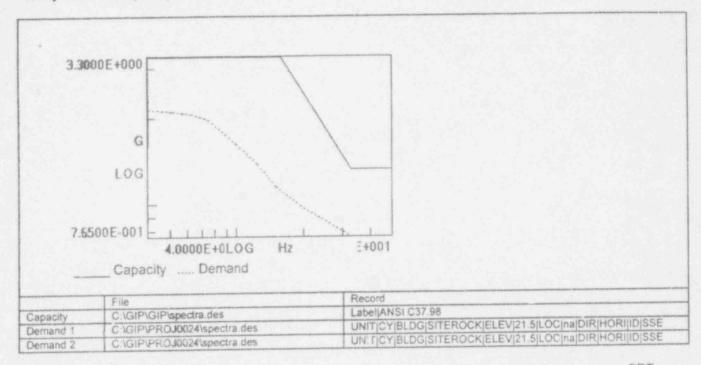
Yes

# Cabinet Frequency

Cabinet fundamental frequency greater than 8 Hz

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3 ID: NFLD-BKR 8- Make: AGASTAT EGPD002 Drawing: 32001 SH 5MA, 31099 SH 2, 3 1 (Kev. 0) System: ELEC Subsytem/Component: Description: EGPD002 Location: A DIESEL

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRI

# GERS BASIS : LEVEL 2: GERS/TRS V. SSE \* AMP FACTOR (NOTE 1)

# Elevation Above Grade

Elevation of cabinet below about 40' from grade Cabinet Frequency Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

# IS RELAY SEISMICALLY ADEQUATE?

Yes

#### COMMENTS

NOTE 1: For GERS Basis Level 2 screening, the 2.25 factor was taken out since the cabinet is located in the Diesel Building which is a one story structure founded on compacted back-fill (Grade); therefore the ground SSE is considered to be a conservative design spectra (The excessively conservative floor spectra was not used).

RELAY	FUNCTIONALITY REVIEW RE		GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3		
1 (Rev. 0)			01 SH 5MA, 31099 SH 2, 3		
System : ELEC Subsytem/C			omponent:		
Description : EGPD	002				
Location : A DIESE	L .	NAMES OF THE PROPERTY OF THE P			
Evaluated by:	1.00	2	Date: /2/16/93		
	C. M. Dan Du	well	12.16.93		

CAB\_ID ECP-2B

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
OT-BKR 9-1		Overspeed Trip			UNKNOWN
NFLD-BKR 9-1	AGASTAT EGPD00	EGPD002	МО	NO	ОК
NFLDA (B)-BKR 9-1	AGASTAT EGPD00	EGPD002			ОК
STLO2 (B)-BKR 9-1	GM-EMD 8253244	SQD EQ1933G2			NO GERS
MB1-EG-2B	SQD 8411520 aow23	PRESSURE SWITCH	NC	THE STATE OF	NO GERS
MB3-EG-2B	SQD 8411520 aow23	PRESSURE SWITCH			NO GERS

CAB\_ID EG-2A

-2A BU

BUILDING DG

ELEVATION 21.50

LOCATION A DIESEL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
HS-EG-2A		GOV HIGH SPEED LIMIT SW	NC		UNKNOWN

CAB\_ID EG-2B

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
HS-EG-2B		GOV HIGH SPEED LIMIT SW	NC		UNKNOWN

CAB\_ID EGP-2A

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
ECR-EG-2A	AGASTAT 2400	2412PGE			RLY_FUNC_REVIEW
NFLDA (A)-EG-2A	AGASTAT EGPD00	EGPD002	NO	NO	RLY_FUNC_REVIEW
52V (A)-BKR 8-1	GM-EMD 8253244	SQD EQ1933G2			NO GERS
52V (A)-EG-2A	GM-EMD 8253244	SQD EQ1933G2			NO GERS
STLO1 (A)-BKR 8-1	GM-EMD 8253244	SQD EQ1933G2			NO GERS
STLO1 (A)-EG-2A	GM-EMD 8253244	SQD EQ1933G2			NO GERS
STLO2 (A)-BKR 8-1	GM-EMD 8253244	SQD EQ1933G2			NO GERS
STLO2 (A)-EG-2A	GM-EMD 8253244	SQD EQ1933G2			NO GERS
40T-BKR 8-1	GM-EMD 8253246	SQD 1933G2			NO GERS
PFD1-EG-2A	GM-EMD 8253246	SQD 1933G2			NO GERS
PFD2-EG-2A	GM-EMD 8253246	SQD 1933G2			NO GERS
SFD1 (A)-EG-2A	GM-EMD 8253246	SQD 1933G2			NO GERS

CAB\_ID EGP-2A

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
SFD2 (A)-EG-2A	GM-EMD 8253246	SQD 1933G2			NO GERS	
MSR1 (A)-EG-2A	GM-EMD 8263337	SQD 7001 PO453			NO GERS	
MSR2 (A)-EG-2A	GM-EMD 8263337	SQD 7001 PO453			NO GERS	
VSR1 (A)-BKR 8-1	GM-EMD 8263337	SQD 7001 PO453			NO GERS	
VSR2 (A)-BKR 8-1	GM-EMD 8263337	SQD 7001 PO453			NO GERS	I
ZSR1 (A)-EG-2A	GM-EMD 8263337	SQD 7001 PO453			NO GERS	
ZSR2 (A)-EG-2A	GM-EMD 8263337	SQD 7001 PO453			NO GERS	-
ESR1 (A)-BKR 8-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS	_
ESR1 (A)-EG-2A	GM-EMD 8269705	SQD 7001 PO453			NO GERS	
ESR2 (A)-BKR 8-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS	
ESR2 (A)-EG-2A	GM-EMD 8269705	SQD 7001 PO453			NO GERS	
ESTR (A)-BKR 8-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS	

CAB\_ID EGP-2A

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
ESTR (A)-EG-2A	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR1 (A)-BKR 8-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR1 (A)-EG-2A	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR2 (A)-BKR 8-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR2 (A)-EG-2A	GM-EMD 8269705	SQD 7001 PO453			NO GERS
OTR (A)-BKR 8-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS
OTR (A)-EG-2A	GM-EMD 8269705	SQD 7001 PO453			NO GERS
STR1 (A)-EG-2A	GM-EMD 8299025	SQD 7001 PO453			NO GERS
STR2 (A)-EG-2A	GM-EMD 829902	5 SQD 7001 PO453			NO GERS
FPR-EG-2A	GM-EMD 829902	5 VAPOR CORP			NO GERS
ECRA-EG-2A	GM-EMD 831748	7 SQD 8501 FSD022-55			NO GERS
ESTD (A)-EG-2A	GM-EMD 836535	2 AGASTAT 2422 PGE	NO	NO	RLY_FUNC_REVIEW

CAB\_ID EGP-2A

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
GS-EG-2A	GM-EMD 8370794	VAPOR CORP			NO GERS
SSP1 (A)-BKR 8-1	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
SSP1 (A)-EG-2A	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
SSP2 (A)-BKR 8-1	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
SSP2 (A)-EG-2A	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
40V-BKR 8-1	GM-EMD 8411911	West AV 160087GH			NO GERS
FFCO (A)-BKR 8-1	GM-EMD 8412411	West SV 292B402A0	NC	NO	BAD ACTOR
FFCO (A)-EG-2A	GM-EMD 8412411	West SV 292B402A0	NC	NO	BAD ACTOR
PFDA1 (A)-EG-2A	GM-EMD 8418210	SQD 1933G2			NO GERS
PFDA2 (A)-EG-2A	GM-EMD 8418210	SQD 1933G2			NO GERS
FFC (A)-BKR 8-1	SQD Class 8504 Type EQ19	Field Flashing	NO	YES	NO GERS
FFC (A)-EG-2A	SQD Class 8504 Type EQ19	Field Flashing	NO	YES	NO GERS

CAB\_ID EGP-2A

BUILDING DG ELEVATION 21.50

LOCATION A DIESEL

CONTACT ID MAKE MODEL CONT\_COND ENERGIZE REMARK

41-BKR 8-1 WEST Series C NP28095E NO GERS

#### 

# SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

Low Ruggedness

Is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class: Auxiliary Relay	SubClass : Pneumatic Timing Relays
Relay Model : Agastat E7012, 7012, 2412	Operating Mode : Operate, normally open
Required Settings:	

Capacity GERS Level: 12.50

Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : EGP-2A (Rev. 0	Cabinet Class : 20 Cabinets	- Instrumentation and Control Panels and
Cabinet Description : EXCIT.	ATION CONTROL PANEL	
Building : DG	Floor El.: 21.5	Room, Row/Col : A DIESEL

Is cabinet seismically adequate?

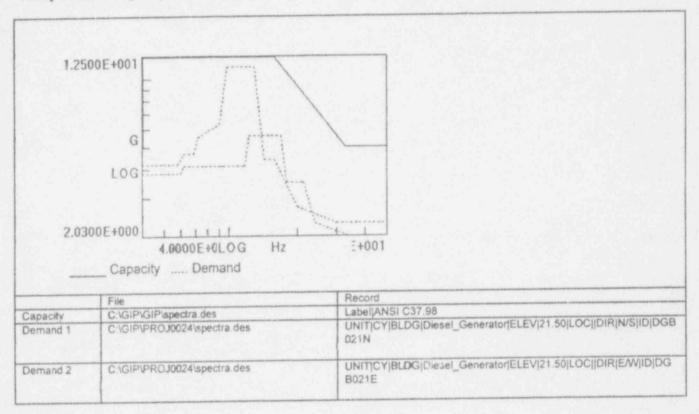
Yes

# Cabinet Frequency

Cabinet fundamental frequency greater than 8 Hz

# RELAY FUNCTIONALITY REVIEW REPORT ID : ECR-EG-2A | Make : AGASTAT 2400 | Drawing : 31099 SH 3 (Rev. 0) | System : ELEC | Subsystem/Component : Description : 2412PGE | Location : A DIESEL

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS : LEVEL 2: GERS/TRS V. CONSERVATIVE FRS \* AMP FACTOR

IS RELAY SEISMICALLY ADEQUATE?

Yes

# COMMENTS

Operating mode and contact condition is unknown, used lowest GERS.

Evaluated by:

m. Alou Budul

Date: 12/16/93

12.16.93

RELAY FUNCTIONALITY REVIEW REPORT

GIP Rev 2, Corrected, 2/14/92
Status: Yes
Sheet 3 of 3

ID: ECR-EG-2A Make: AGASTAT 2400 Drawing: 31099 SH 3

(Rev. 0)

System: ELEC
Description: 2412PGE
Location: A DIESEL

# GIP Rev 2, Corrected, 2/14/92 Status: Yes RELAY FUNCTIONALITY REVIEW REPORT Sheet 1 of 3 ID : ESTD (A)-EG- | Make : GM-EMD 8365352 Drawing: 31099 SH 3 2A (Rev. 0) Subsytem/Component System: ELEC Description: AGASTAT 2422 PGE Location : A DIESEL SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION Low Ruggedness LRR is relay not a low ruggedness relay? Relay Capacity Level SubClass: Pneumatic Timing Relays Class: Auxiliary Relay Operating Mode: Non-operate, normally open Relay Model: Agastat E7022, 7022, 2422 Required Settings Capacity GERS Level: 6.00 Cabinet Seismic Capacity vs Demand Demand Amplication Factor Cabinet Type: High Amplification (large, flexible panels) Demand Amplification Factor:

Cabinet ID : EGP-2A (Rev. 0)	Cabinet Class : 20 Cabinets	Cabinet Class: 20 - Instrumentation and Control Panels and Cabinets				
Cabinet Description : EXCITAT	TION CONTROL PANEL					
Building : DG	Floor El. : 21.5	Room, Row/Col : A DIESEL				

Is cabinet seismically adequate?

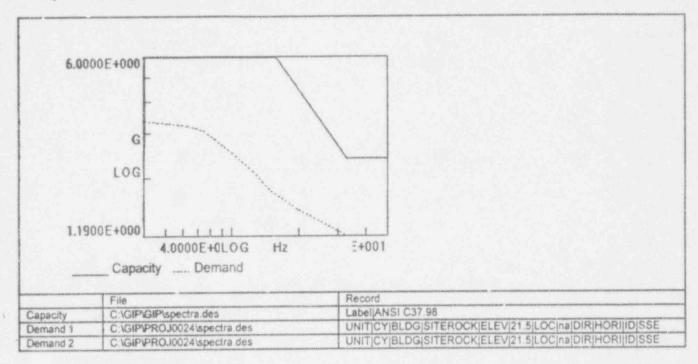
Yes

# Cabinet Frequency

Cabinet fundamental frequency greater than 8 Hz

# RELAY FUNCTIONALITY REVIEW REPORT GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 2 of 3 ID: ESTD (A)-EG- Make: GM-EMD 8365352 Drawing: 31099 SH 3 2A (Rev. 0) System: ELEC Description: AGASTAT 2422 PGE Location: A DIESEL

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. SSE " AMP FACTOR (NOTE 1)

Elevation Above Grade

Elevation of cabinet below about 40' from grade Cabinet Frequency Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

# IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

NOTE 1: For GERS Basis Level 2 screening, the 2.25 factor was taken out since the cabinet is located in the Diesel Building which is a one story structure founded on compacted back-fill (Grade); therefore the ground SSE is considered to be a conservative design spectra (The excessively conservative floor spectra was not used). In addition, the relay is mounted on the back panel with stiffener tacked on the backside and its location will not experience high amplification such as on the door panel.

EGP-2A is braced at top and is shown to have a fundermental frequency of greater than 8 Hz

RELAY	FUNCTIONALITY REVIEW R	EPORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID : ESTD (A)-EG- 2A (Rev. 0)	Make: GM-EMD 8365352	Drawing: 31099 SH 3		
System : ELEC		Subsytem/Co	mponent:	
Description : AGAS Location : A DIESE				

Evaluated by: 5. 00 Date: 12/17/93

C. M. Dore Rende 12/17/93

# RELAY FUNCTIONALITY REVIEW REPORT Status: Yes Sheet 1 of 3 ID: NFLDA (A)- Make: AGASTAT EGPD002 Drawing: 31099 SH 3 EG-2A (Rev. 0) System: ELEC Subsytem/Component: Description: EGPD002 Location: A DIESEL SCREENING BASIS: RELAY GERS OR SPECIFIC QUALIFICATION

# Low Ruggedness

is relay not a low ruggedness relay?

LRR

# Relay Capacity Level

Class : Auxiliary Relay	SubClass : Socket Type
Relay Model : Agastat GP	Operating Mode : Non-operate, normally open
Required Settings :	

Capacity GERS Level: 3.30

# Cabinet Seismic Capacity vs Demand Demand Amplication Factor

Cabinet Type: High Amplification (large, flexible panels)

Demand Amplification Factor: 7

Cabinet ID : EGP-2A (Rev. 0)	Cabinet Class : 2 Cabinets	) - Instrumentation and Control Panels and
Cabinet Description : EXCITA	TION CONTROL PANEL	
Building : DG	Floor El. : 21.5	Room, Row/Col : A DIESEL

is cabinet seismically adequate?

Yes

# Cabinet Frequency

Cabinet fundamental frequency greater than 8 Hz

# PELAY FUNCTIONALITY REVIEW REPORT

GIP Rev 2, Corrected, 2/14/92

Status: Yes Sheet 2 of 3

ID: NFLDA (A)-

Make: AGASTAT EGPD002

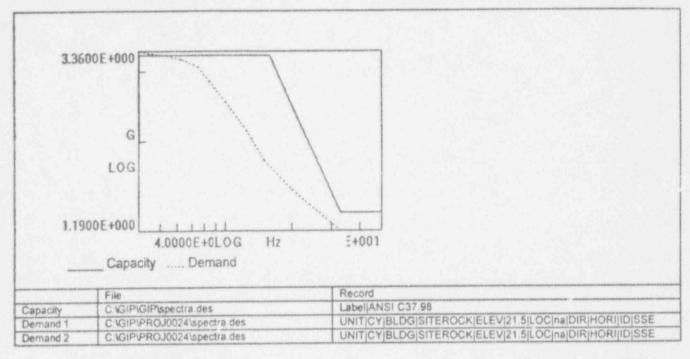
Drawing: 31099 SH 3

EG-2A (Rev. 0) System: ELEC

Subsytem/Component:

Description: EGPD002 Location: A DIESEL

# Relay Seismic Capacity vs Demand



Does relay capacity exceed demand?

SRT

GERS BASIS: LEVEL 2: GERS/TRS V. SSE \* AMP FACTOR (NOTE 1)

Elevation Above Grade

Cabinet Frequency

Elevation of cabinet below about 40' from grade

Yes

Cabinet fundamental frequency greater than 8 Hz

Yes

IS RELAY SEISMICALLY ADEQUATE?

Yes

### COMMENTS

NOTE 1: For GERS Basis Level 2 screening, the 2.25 factor was taken out since the cabinet is located in the Diesel Building which is a one story structure founded on compacted back-fill (Grade); therefore the ground SSE is considered to be a conservative design spectra (The excessively conservative floor spectra was not used). In addition, the relay is mounted on the back panel with stiffener tacked on the backside and its location will not experience high amplification such as on the door panel.

EGP-2A is braced at top and is shown to have a fundermental frequency of greater than 8 Hz.

RELA	Y FUNCTIONALITY REVIEW RE	PORT	GIP Rev 2, Corrected, 2/14/92 Status: Yes Sheet 3 of 3	
ID: NFLDA (A)- EG-2A (Rev. 0)	Make: AGASTAT EGPD002	Drawing : 31099 SH 3		
System : ELEC		Subsytem/Cor	mponent :	
Description : EGP		elast A. M. Ayarman and a trade and a series and		

The non-enveloping region (up to 5 Hz) on the Capacity vs. Demand plot is not a concern because at frequency this low the relay will not experience high spectral acceleration causing relay chatter. (At 5 Hz the amplification factor is much lower than 7)

Evaluated by:

Date:

12/16/93

12-16-93

CAB\_ID EGP-2B

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
ECR-EG-2B	AGASTAT 2400	2412PGE			ОК	
NFLDA (B)-EG-2B	AGASTAT EGPD00	EGPD002	NO	NO	ок	
52V (B)-BKR 9-1	GM-EMD 8253244	SQD EQ1933G2			NO GERS	
52V (B)-EG-2B	GM-EMD 8253244	SQD EQ1933G2			NO GERS	
STLO1 (B)-BKR 9-1	GM-EMD 8253244	SQD EQ1933G2			NO GERS	
STLO1 (B)-EG-2B	GM-EMD 8253244	SQD EQ1933G2			NO GERS	
STLO2 (B)-EG-2B	GM-EMD 8253244	SQD EQ1933G2			NO GERS	
40T-BKR 9-1	GM-EMD 8253248	SQD 1933G2			NO GERS	
PFD1-EG-28	GM-EMD 8253246	SQD 1933G2			NO GERS	
PFD2-EG-2B	GM-EMD 8253246	SQD 1933G2			NO GERS	
SFD1 (B)-EG-2B	GM-EMD 8253246	SQD 1933G2			NO GERS	
SFD2 (B)-EG-2B	GM-EMD 8253246	SQD 1933G2			NO GERS	

CAB\_ID EGP-2B

MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
GM-EMD 8263337	SQD 7001 PO453			NO GERS
GM-EMD 8263337	SQD 7001 PO453			NO GERS
GM-EMD 8263337	SQD 7001 PO453			NO GERS
GM-EMD 8263337	SQD 7001 PO453			NO GERS
GM-EMD 8263337	SQD 7001 PO453			NO GERS
GM-EMD 8263337	SQD 7001 PO453			NO GERS
GM-EMD 8269705	SQD 7001 PO453			NO GERS
GM-EMD 8269705	SQD 7001 PO453			NO GERS
GM-EMD 8269705	SQD 7001 PO453			NO GERS
GM-EMD 8269705	SQD 7001 PO453			NO GERS
GM-EMD 8269705	SQD 7001 PO453			NO GERS
GM-EMD 8269705	SQD 7001 PO453			NO GERS
	GM-EMD 8263337  GM-EMD 8263337  GM-EMD 8263337  GM-EMD 8263337  GM-EMD 8263337  GM-EMD 8263337  GM-EMD 8269705  GM-EMD 8269705  GM-EMD 8269705  GM-EMD 8269705	GM-EMD       8263337       SQD 7001 PO453         GM-EMD       8269705       SQD 7001 PO453         GM-EMD       8269705       SQD 7001 PO453         GM-EMD       8269705       SQD 7001 PO453	GM-EMD 8263337 SQD 7001 PO453  GM-EMD 8269705 SQD 7001 PO453	GM-EMD       8263337       SQD 7001 PO453         GM-EMD       8269705       SQD 7001 PO453

CAB\_ID EGP-2B

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
FSR1 (B)-BKR 9-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR1 (B)-EG-2B	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR2 (B)-BKR 9-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS
FSR2 (B)-EG-2B	GM-EMD 8269705	SQD 7001 PO453			NO GERS
OTR (B)-BKR 9-1	GM-EMD 8269705	SQD 7001 PO453			NO GERS
OTR (B)-EG-2B	GM-EMD 8269705	SQD 7001 PO453			NO GERS
STR1 (B)-EG-2D	GM-EMD 8299025	SQD 7001 PO453			NO GERS
STR2 (B)-EG-2B	GM-EMD 8299025	SQD 7001 PO453			NO GERS
FPR-EG-2B	GM-EMD 8299025	VAPOR CORP			NO GERS
ECRA-EG-2B	GM-EMD 8317487	SQD 8501 FSD022-55			NO GERS
ESTD (B)-EG-2B	GM-EMD 8365352	AGASTAT 2422 PGE	NO	NO	ОК
GS-EG-2B	GM-EMD 8370794	VAPOR CORP			NO GERS

CAB\_ID EGP-2B

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
SSP1 (B)-BKR 9-1	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
SSP1 (B)-EG-2B	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
SSP2 (B)-BKR 9-1	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
SSP2 (B)-EG-2B	GM-EMD 8409614	BARBER COLEMAN 6884			NO GERS
40V-BKR 9-1	GM-EMD 8411911	West AV 160087GH			NO GERS
FFCO (B)-BKR 9-1	GM-EMD 8412411	West SV 292B402A0	NC	NO	BAD ACTOR
FFCO (B)-EG-2B	GM-EMD 8412411	West SV 292B402A0	NC	NO	BAD ACTOR
PFDA1 (8)-EG-28	GM-EMD 8418210	SQD 1933G2			NO GERS
PFDA2 (B)-EG-2B	GM-EMD 8418210	SQD 1933G2			NO GERS
FFC (B)-BKR 9-1	SQD Class 8504 Type EQ19	Field Flashing	NO	YES	NO GERS
FFC (B)-EG-2B	SQD Class 8504 Type EQ19	Field Flashing	, NO	YES	NO GERS
41-BKR 9-1	WEST Series C	NP28095E			NO GERS
				-	

CAB\_ID LOCAL

BUILDING SB **ELEVATION** 21.50 LOCATION LOCAL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
42/O-PR-MOV-596	W	Unknown			BKR CAP	
42/O-PR-MOV-597	W	Unknown			BKR CAP	

CAB\_ID

MCC5-5

BUILDING SB ELEVATION 41.50 LOCATION A SWGR

CONT\_COND REMARK MODEL ENERGIZE CONTACTID MAKE BKR CAP 42-P-149-1B BKR CAP 42/C-SI-MOV-24 BKR CAP 42/O-DH-MOV-310 BKR CAP 42/O-DH-MOV-507 BKR CAP 42/O-DH-MOV-521 BKR CAP 42/O-DH-MOV-534 BKR CAP 42/O-DH-MOV-544 BKR CAP 42/O-DH-MOV-562 W A200M1CAC BKR CAP 42-P-149-1A 42/C-BA-MOV-32 W A211K1JA BKR CAP BKR CAP 42/C-BA-MOV-386 W A211K1JA BKR CAP A211K1JA W 42/C-CH-MOV-298

CAB\_ID

MCC5-5

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
42/C-RC-MOV-501	W	A211K1JA			BKR CAP
42/C-RC-MOV-512	W	A211K1JA			BKR CAP
42/C-RC-MOV-513	W	A211K1JA			BKR CAP
42/C-RC-MOV-524	W	A211K1JA			BKR CAP
42/C-RC-MOV-537	W	A211K1JA			BKR CAP
42/C-RC-MOV-538	W	A211K1JA			BKR CAP
42/C-RC-MOV-546	W	A211K1JA			BKR CAP
42/C-SW-MOV-3	W	A211K1JA			BKR CAP
42/C-SW-MOV-4	W	A211K1JA			BKR CAP
42/C-SW-MOV-5	W	A211K1JA			BKR CAP
42/C-SW-MOV-6	W	A211K1JA			BKR CAP
42/O-BA-MOV-349	W	A211K1JA			BKR CAP

CAB\_ID

MCC5-5

CONTACT ID	MAKE	WODEL	CONT_COND	ENERGIZE	REMARK
42/O-BA-MOV-386	W	A211K1JA			BKR CAP
42/O-CH-MOV-292B	W	A211K1JA			BKR CAP
42/O-CH-MOV-292C	W	A211K1JA			BKR CAP
42/O-CH-MOV-298	W	A211K1JA			BKR CAP
42/O-FH-MOV-344	W	A211K1JA			BKR CAP
42/O-FH-MOV-508	W	A211K1JA			BKR CAP
42/O-LD-MOV-200	W	A211K1JA			BKR CAP
42/O-PR-MOV-567	W	A211K1JA			BKR CAP
42/O-PR-MOV-569	W	A211K1JA			BKR CAP
42/O-SW-MOV-5	W	A211K1JA			BKR CAP
42/O-SW-MOV-5	W	A211K1JA			BKR CAP
42/C-FW-MOV-11	W	A250M1CAC			BKR CAP

CAB\_ID MCC5-5

C5-5

CONTACTID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
42/C-FW-MOV-12	W	A250M1CAC			BKR CAP	
42/C-FW-MOV-13	W	A250M1CAC			BKR CAP	
42/C-FW-MOV-14	W	A250M1CAC		HERLEN	BKR CAP	
42/O-FW-MOV-11	W	A250M1CAC			BKR CAP	
42/O-FW-MOV-12	W	A250M1CAC			BKR CAP	
42/O-FW-MOV-13	W	A250M1CAC			BKR CAP	
42/O-FW-MOV-14	W	A250M1CAC			BKR CAP	
42/C-CH-MOV-257	W	A251K1CA			BKR CAP	
42/C-RC-MOV-526	W	A251K1CA			BKR CAP	
42/O-CH-MOV-257	W	A251K1CA			BKR CAP	
49-CH-MOV-257	W	AA13A			BKR CAP	
49-BA-MOV-32	W	AA13A J			BKR CAP	

CAB\_ID MCC5-5

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
49-BA-MOV-386	W	AA13A J			BKR CAP	
49-CH-MOV-298	W	AA13A J			BKR CAP	
49-FW-MOV-11	W	AA13A J			BKR CAP	
49-FW-MOV-12	W	AA13A J			BKR CAP	
49-FW-MOV-13	W	AA13A J			BKR CAP	
49-FW-MOV-14	W	AA13A J			BKR CAP	
49-LD-MOV-200	W	AA13A J			BKR CAP	
49-SW-MOV-5	W	AA13A J			BKR CAP	
49-SW-MOV-6	W	AA13A J			BKR CAP	
49-P-149-1A	W	AN13A			BKR CAP	
49-P-149-1B	W	AN13A			BKR CAP	

CAB\_ID MCC7-6

BUILDING CV **ELEVATION** 21.50 LOCATION CABL VAUT

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
42/C-FW-MOV-180					BKR CAP
42/C-FW-MOV-35					BKR CAP
42/O-FW-MOV-35					BKR CAP
49-FW-MOV-35					BKR CAP

CAB\_ID MCC8-6

BUILDING AB **ELEVATION** 21.50 LOCATION PAB 1FLMD

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
42-P-29-1A					BKR CAP	
42-P-29-1B					BKR CAP	
49-P-29-1A	W	AN33A			BKR CAP	
49-P-29-1B	W	AN33A			BKR CAP	

CAB\_ID MCC9-4

BUILDING WD **ELEVATION 21.50** LOCATION HALL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
42-P-118-1A					BKR CAP	
49-P-118-1A	W	AN43A			BKR CAP	
45-F-110-17						

CAB\_ID MCC10-5

BUILDING WD **ELEVATION** 21.50 LOCATION HALL

CONTACT ID	MAKE	MODEL	CONT_COND	ENERGIZE	REMARK	
42-P-118-1B					BKR CAP	
49-P-118-1B	W	AN43A			BKR CAP	

CAB\_ID MCC12-11

MAKE	MODEL	CONT_COND	ENERGIZE	REMARK
				BKR CAP
CT-HM C300	C300CN3			BKR CAP
W	A211K1JA			BKR CAP
W	A211K1JA			BKR CAP
W	A251K1CA			BKR CAP
W	A251K1CA			BKR CAP
W	AA13A J			BKR CAP
	CT-HM C300 W W W	CT-HM C300 C300CN3  W A211K1JA  W A211K1JA  W A251K1CA  W A251K1CA	CT-HM C300 C300CN3  W A211K1JA  W A251K1CA  W A251K1CA	CT-HM C300 C300CN3  W A211K1JA  W A251K1CA  W A251K1CA

Connecticut Yankee A-46 Essential Relays Relay functional Review List

CAB\_ID

MCC13-4

BUILDING SB **ELEVATION** 41.50 LOCATION A SWGR

MAKE MODEL CONT\_COND ENERGIZE REMARK CONTACT ID BKR CAP 42/O-SW-MOV-837B

# ATTACHMENT G

CONNECTICUT YANKEE - LIST AND DESCRIPTION OF UNRESOLVED RELAY OUTLIERS

(14 Pages)

## Relay Evaluation Report for Connecticut Yankee Attachment G - List and Description of Unresolved Relay Outliers

#### Table of Contents:

Title	Total No. of pages
CY Outlier Relays Summary List	4
Outlier Seismic Verification Sheet (OSVS) - Bad Actors	2
Outlier Seismic Verification Sheet (OSVS) - Relays w/o GERS	5
Outlier Seismic Verification Sheet (OSVS) - Unknown Make	2
TOTAL>>	13

40.	CONTACT_ID	WAKE	DRAWING	DESC	CAB_ID	BLDG	ELEV	LOCATION	DUP_RLY	REASON FOR OUTLIER	REQUIRED
-	BAD ACTORS										
*	50/51-F-18-1B	W COM-5	32112 SH 88	2898486A19	803 \$	DQ	21.50	A DIESEL		Bad Actor	A-46
2	50/81-P-18-1A	W/ COM-5	32112 SH 8A	2898458A19	808 \$	og	21.80	8 DIESEL		Bed Actor	A-45
3	59A/1-8-BKR 8-1	w sv	32001 SH 5M		C8/8081	SB	59 50	CONTROL AUX		Bad Actor	A-46
4	598/1-8-BKR 8-1	w sv	32001 SH 5M		CB/8DB1	SB	59 50	CONTROL AUX		Bad Actor	A-45
6	59A/1-8-BKR 9-1	w sv	32001 SH 5N		CB/9081	SB	59 50	CONTROL AUX		Bad Actor	A-46
	59B/1-9-BKR 9-1	w sv	32001 SH 5N		C8/9081	SB	59 50	CONTROL AUX		Bad Actor	A-46
7	FFCO (A) BKR 8-1	GM-EMD 8412411	31099 SH 3	West SV 2828402A0	EGP-2A	DG	21.50	A DIESEL	Y	Bad Actor	A-46
8	FFCO (A)-EG-2A	GM-EMD 8412411	31099 5H 3	West SV 2928402A0	EGP-2A	DG	21 50	A DIESEL	Y	Bad Actor	A-45
	FFCO (B)-BKR 9-1	GM-EMD 8412411	31099 SH 3	West SV 2928402A0	EGP-28	DG	21.50	8 DIESEL	Y	Bad Actor	A-45
10	FFCO (B)-EG-2B	GM-EMD 8412411	31099 SH 3	West SV 2928402A0	EGP-2B	DG	21.50	B DIESEL	Y	Bad Actor	A-46
	No GERS AVAILABLE										
1	32/CRN-1-BKR 8-1	W CRN-1	32001 SH 5MA	2909038A09	805 a	DG	21 50	A DIESEL		No GERS	A-46
2	32/CRN-1-8KR 9-1	W CRH-1	32001 SH 5MA	2909G38A09	805 9	DG	21.50	A DIESEL		No GERS	A-46
3	59/8-RELAY 27Y/1-8	GE - NGY	32001 SH 5F	12NQV15A21	CB/8DB1	58	59.50	CONTROL AUX	Y	No GERS	A-46
4	59/8-RELAY 27Y2/1-8	GE - NGV	32001 SH 5F	12NGV15A21	CB/8DB1	SB	59 50	CONTROL AUX	Y	No GERS	A-46
8	27K/1-8-RELAY 27Y/1-8	DEVAR	32001 SN 5FB	18-114	CB/8DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-45
	27K/1-8-RELAY 27Y3/1-8	DEVAR	32001 SH 5FB	18-114	CB/6DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
7	27L/1-8-RELAY 27Y/1-8	DEVAR	32001 SH 5FB	18-114	CB/8DB1A	38	59.50	CONTROL AUX	Y	No GERS	A-46
8	27L/1-8-RELAY 27Y2/1-8	DEVAR	32001 SH 5FB	18-114	CB/8DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
	27M/1-8-RELAY 27Y/1-8	DEVAR	32001 SH 5FB	18-114	CB/8DB1A	58	59.50	CONTROL AUX	Y	No GERS	A-46
10	27M/1-8-RELAY 27Y2/1-8	DEVAR	32001 SH 5FB	18-114	CB/8DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
11		DEVAR	32001 SH 5FB	18-114	CB/8DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
12		DEVAR	32001 SH 5FB	18-114	CB/8081A	sa	59.50	CONTROL AUX	Y	No GERS	A-46
13		DEVAR	32001 \$H 5FB	18-114	CB/8DB1A	58	59.50	CONTROL AUX	Υ	No GERS	A-46
14		DEVAR	32001 9H 5FB	18-114	CB/8DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-45
18	277/1-8-RELAY 27Y/1-8	DEVAR	32001 8H 5FB	18-114	CB/8DB1A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
16	27TH-8-RELAY 27Y2H-8	DEVAR	32001 SH 5FB	18-114	CB/8D81A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
17		GE - NGV	32001 SH 5G	12NGV15A21	CB/9081	58	59.50	CONTROL AUX	Y	No GERS	A-46
18		GE - NGV	32001 SH 5G	12NGV15A21	C9/9081	58	59.50	CONTROL AUX	Y	No GERS	A-46
19		DEVAR	32001 SH 5GB	18-114	CB/9081A	SB	59 50	CONTROL AUX	Y	No GERS	A-46
20	27K/1-9-RELAY 27Y2/1-9	DEVAR	32001 SH 5G8	18-114	C8/9081A	58	59.50	CONTROL AUX	Y	No GERS	A-46
21	271/1-9-RELAY 27Y/1-9	DEVAR	32001 SH 5GB	18-114	CB/9D81A	sa	59.50	CONTROL AUX	Y	No GERS	A-46
22		DEVAR	32001 SH 5GB	18-114	CB/9081A	SB	59 50	CONTROL AUX	Y	No GERS	A-46
23	27M/1-8-RELAY 27Y/1-8	DEVAR	32001 SH 5GB	18-114	C8/9081A	SB	59.50	CONTROL AUX	Y	No GERS	A-46
24		DEVAR	32001 SH 5G8	18-114	CB/9081A	58	59.50	CONTROL AUX	Y	No GERS	A-46
26		DEVAR	32001 SH 5G8	18-114	CB/9DB1A	58	59.50	CONTROL AUX	Y	No GERS	A-46
28		DEVAR	32001 SH 5GB	18-114	CB/9DB1A	58	59.50	CONTROL AUX	Y	No GERS	A-4u
27		DEVAR	32001 SH 5GB	18-114	CB/9DB1A	SB	50 50	CONTROL AUX	Y	No GERS	A-46

CY A-45 OL HO. CONTACT. 28 275/18-RELAY 2772/18	A-46 OUTLIER RI	CY A-46 OUTLIER RELAY CONTACTS  CONTACT 10 MAKE 18-RELAY 27721-6  OEVAR	DRAWING 32001 SH 5GB	OUT RLY.XLS
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MO.	CONTACT_ID	MAKE	DRAWING	DESC	CAB_ID	BLDG	ELEV LOCATION	DUP REY	REASON FOR GUTLIER	RECUIRED
28	275/1-8-RELAY 27Y2/1-8	DEVAR	32001 SH 5GB	18-114	CBMOB1A	80 S2	SO SO CONTROL AUX	>	No GERS	A-46
25	27174-9-RELAY 27Y/1-8	DEVAR	32001 SH 5GB	18-114	CB/BDB1A	5.8	59 50 CONTROL AUX		No GERS	A-45
8	27711-8-株型に成す 2772/4-8	DEVAR	32001 SH 5G8	18.154	CB/8DB1A	88	59 50 CONTROL AUX		No GERS	A.46
33	WC1-EG-2A	300 8411520 ACW23	31099 SH 3	PRESCHIRE SWITCH	ECP-2A	0.0	21 50 A DIESEL		No GERS	A.465
32	MB3-EG-2A	SQD 8411526 ACW23	31099 SH 3	PRESSURE SWITCH	ECP-2A	00	21 SO A DIESEL		No GERS	A-48
33	STL32 (8)-8KR 8-1	GM-EMO 6253244	3+096 SH 3	SOD EQ1933G2	ECP-28	DG	21 50 B DIESEL	*	No GERS	A-48
34	MB 1-EG-28	\$QD \$411526 ACW23	31099 SH 3	PRESSURE SWITCH	ECP-28	00	21 50 8 DIESEL		No GERS	A-46 .
38	MB 3-EG-28	SQD 8411520 AOW23	31098 SH 3	PRESGURE WASTON	ECP-28	90	21 SO B DIESEL		No GERS	A-46
36	52V (A)-BKR 8-1	GM-EMD 8753244	31099 SH 3	SQD EQ1933G2	EGP-2A	90	21 SO A DIESEL	*	No GERS	A-46
37	82V (A)-EG-2A	OM-EMD 8253744	31099 SH 3	SQD EQ1933G2	EGP-2A	90	21 SO A DIESEL	>	No GERS	A-48
38	STLO1 (A)-BKR 8-1	GM-EMD 8253244	31099 SH 3	SQD EQ1833G2	EGP-2A	500	21 50 A DIESEL	*	No GERS	A-46
39	STLO1 (A)-EG-ZA	GM-EMD 8253244	31099 SH 3	SOD EQ1933G2	EGP-2A	DG	21 50 A DIESEL	>	No GERS	A-46
40	STL02 (A)-BKR 8-1	GM-EMD 8253244	31099 SH 3	SQD EQ1933G2	EGP-28	90	21 SO A DIESEL	>	No GERS	A-46
4.4	STL02 (A)-EG-2A	GM-EMD 8253244	31099 SH 3	SQD EQ1933G2	EGP-2A	8	21.50 A DIESEL	>	No GERS	A.46
42	MSR1 (A)-EG-2A	GM-EMD 8283337	31099 SH 3	SQD 7001 PO453	EGP-2A	90	21 50 A DIESEL	>-	No GERS	A-46
43	MSR2 (A)-EG-2A	GM-EMD 8283337	31099 SH 3	SOD 7901 PO483	EGP-2A	90	21 SO A DIESEL	*	No GERS	A-45
4	VSR1 (A)-BKR 8-1	GM-EMD 8283337	32001 SH 5M, 31099 SH 2	SQD 7601 PO453	EGP-2A	90	21 50 A DIESEL	>	No GERS	A-46
4.5	VSR2 (A)-BKR 8-1	GM-EMD 8283337	32001 SH SM, 31099 SH 2	SOD 7001 PO453	EGP-3A	90	21.50 A DIESEL	>	No GERS	A-46
97	ZSR1 (A) EG-2A	GM-EMD 8283337	31099 SH 3	SQD 7001 PO453	EGP-2A	90	21 SQ A DIESEL		No GERS	A-46
4.7	ZSR2 (A)-EG-2A	GM-EMD 5253337	31099 SH 3	3QD 7961 PO453	EGP-2A	90	21 SO A DIESEL		No GERS	A-45
45.85	ESR1 (A)-BKR 8-1	GM-EMD 8289705	31099 SH 3	3GG 7001 PO453	EGP-2A	90	21 SO A DIESEL	٨	No GERS	A-46
6.9	ESRY (A) EG. ZA	GM-EMD 8289705	31099 SH 3	SQD 7001 POX53	EGP-2A	50	21 SO A DIESEL	>	No GERS	A-46
80	ESR2 (A)-BKR 8-1	GM-EMD #269705	31099 SH 3	SOD 7881 PO453	EGP-2A	90	21 SO A DIESEL	>	No GERS	A-46
3.1	ESR2 (A)-EG-2A	GM-EMD 8289705	31009 SH 3	3QD 7861 PO453	EGP-3A	00	21 50 A DIESEL	<u>&gt;</u>	No GERS	A-48
62	ESTR (A)-BKR 8-1	GM EMD 8269705	32001 SH 5MA, 31099 SH 3	SOD 7001 PO453	EGP-1A	90	21 50 A DIESEL	>	No GERS	A-46
83	ESTR (A)-EG-2A	GM-EMD 8268705	31099 SH 3	SQD 7001 PO453	EGP-2A	DC	21 SO A DIESEL	>	No GERS	A-46
2	FSR1 (A)-BKR 8-1	GM-EMD 8289705	32001 SH SM 31099 SH 2, 3	3QD 7001 PO453	EGP-2A	90	21 SO A DIESEL	>	No GERS	A-46
100	FSR1 (A)-EG-2A	GM-EMD \$269705	31099 SH 3	800 7001 PO453	EGP-1A	500	21 50 A DIESEL	>	No GERS	A-46
60 102	FSR2 (A)-BKR 8-1	GM-EMD 8249705	32001 SH SM 31099 SH 2, 3	8QD 7901 PO453	EGP-2A	90	21 50 A DIESEL	^	No GERS	2.46
15	FSR2 (A)-EG-2A	GM-END 8289705	31099 SH 3	\$QD 7001 PO453	EGP-1A	90	21 50 A DIESEL	>	No GERS	1-46
85	OTR (A)-3KR 8-1	GM-END 8269705	32001 SH SMA, 31099 SH 2, 3	8Q0 7001 PO453	EGP-2A	90	21 SO A DIESEL	>	No GERS	A-46
6.8	OTR (A)-EG-JA	GM-EMD 8269706	31099 SH 3	SQD 7001 PO453	EGP-1A	90	21 50 A DIESEL	>	No GERS	A-46
60	FPR-EG-2A	GM-EMD 8299025	31098 SH 3	VAPOR CORP	EGP-2A	900	31 SO A DIESEL		No GERS	A-45
	STR1 (A)-EG-2A	GM-EMD 8299025	31099 SH 3	SQD 7001 PO453	EGP-2A	90	21 50 A DIESEL		No GERS	A-46
62	STR2 (A)-EG-2A	GM-EMD 8299025	31099 SH 3	SQD 7001 PO453	EGP-1A	90	21 50 A DIESEL		No GERS	A-45
83	ECRA-EG-3A	GM-EMD B317487	31089 SH 3	SQD 8501 FSD022-85	EGP-2A	500	21.50 A DIESEL		No GERS	A-46
3	SGS-EG-2A	GM EMD 8370784	31099 SH 3	VAPOR CORP	EGP-2A	200	21 50 A DIESEL		No GERS	A-46
85	SSP1 (A)-BKR 8-1	GM-END 8409814	31099 SH 3	BARBER COLEMAN 6884	EGP-2A	90	21 SO A DIESEL	>	Ne GERS	A-45
88	SSP1 (A) EG-2A	GM-EMD 8409814	31099 SH 3	BARBER COLEMAN 8884	EGP-2A	90	21 50 A DIESEL	*	No GERS	A-46

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CY A-48 OUTLIER RELAY CONTACTS

-	Contract Con	the state of the s		Section of the Control of the Contro		-	L		J.	
0 N	CONTACT 10	報名次更	DRAWING	DESC	CAB ID	BLDG	ELEY LOCATION	DUP RLY		REQUIRED
67	95P2 (A)-BKR 8-1	GW-END 8409814	31089 SH 3	BARBER COLEMAN 6584	EGF-2A	00	21 SO A DIESEL		Ne GERS	A-46
88	SSP2 (A)-EG-2A	GM-EMD 8409614	31099 SH 3	BARBER CCLEMAN 5884	EGP.1A	00	21 50 A DIESEL	,	Ne GERS	A-46
:	240V-8KR 8-1	GM-END satisti	31099 SH 2	Wast &V 180087GH	EGP-2A	50	21 50 A DIESEL		No GERS	A-46
70	PFDA1 (A) EG-2A	GM-EWD 8418210	31099 SH 3	3c0 (#13G2	EGP-2A	00	21 50 A DIESEL	>	No GERS	A.40
L	PFDA2 (A) EG-2A	GM-EMD 8418210	31099 SH 3	500 181362	EGP-2A	90	21 SO A DIESEL	>	No GERS	A.45
7.7	40T-BKR 8-1	GM-EWD 8253248	31099 5H 2	\$QD 1813G2	EGP-2A	DG	21 50 A DIESEL		No GERS	A-46
t	PFD1-EG-2A	GM-EMD 8253248	31099 SH 3	3GD 1913G2	EGP-2A	00	21 50 A DIESEL		No GERS	A-46
7.4	PF02-EG-2A	GM-EMD 8283248	31099 SH 3	500 193362	EGP-2A	90	21 50 A DIESEL		No GERS	A-45
10.00	SFD1 (A)-EG-2A	GM-EMD 8253248	31069 SH 3	300 #8353	EGP-2A	90	21 SU A DIESEL		No GERS	A-45
78	SFD2 (A)-EG-2A	GM-EMD 8253248	31099 SH 3	\$QD 1813G2	EGP-2A	90	21 50 A DIESEL		No GERS	A-46
+	december 1	8QD Cless 8504 Type EQ1965- G13	31090 SH 4	Fleid Plashing	EGP-2A	96	21 SO A DIESEL	>	No GERS	A-46
18	division in	SQD Class 8504 Type EQ1988-	31096 SH 3	Fletd Flashing	EGP-2A	Dig	21 50 A DIESEL	>	No GERS	A.46
78	depaide	WEST Sarles C FDBB14K	32001 SH SM	MP25095E	EGP-2A	90	21 50 A DIESEL		No GERS	A-46
80	52V (B)-8KR 9-1	GM-EWD 8253244	31099 SH 3	\$00 E01933G2	EG#-28	00	21 50 B DIESEL	>	No GERS	A-46
-	52V (9)-EG-28	GM-EMD 8253244	31098 3H 3	SQD EQ1923G2	ECP-26	90	21 50 8 DIESEL	>	No GERS	A-46
82	STLO1 (B)-BKR 8-1	GM-EMD 8253244	31098 SH 3	300 EQ193562	EGP-28	90	21 SO 8 DIESEL	>	No GERS	A-45
22	docestry	GM-EMD 8253244	31096 SH 3	SDD EQ1833G2	EGP-2B	DG	21 50 B D E SEL	>	No GERS	A.46
2	STLOZ (B)-EG-28	GM-EMD 8253244	31099 SH 3	\$QD EQ1933G2	EGP-28	90	21 50 8 DIESEL	>	No GERS	A-45
40	WSR1 (8)-EG-28	GW-EMD 8283337	31099 SH 3	SQD 7001 PO453	EGP-28	DG	21 50 8 DIESEL	>	No GERS	A-46
2	MSR2(B)-EG-28	GM-EMD 8283337	31089 SH 3	SGD 7901 PO453	EGP-28	90	21 SO B DIESEL	>-	No GERS	A-45
87	VSR1 (B)-BKR 8-1	GM-END 8283337	32001 SH SN	3QD 7001 PO453	EGP-28	90	21 SO B DIESEL	>	No GERS	A-46
88	VSR2 (B)-BKR 8-1	GM-EMD 8283337	32001 SH 5N	SQD 7001 PO453	EGP-2B	90	21 SO B DIESEL	>	No GERS	A-45
63	ZSR1 (B)-EG-28	GM-EMD 8283337	31099 SH 3	SQC 7861 PO453	EGP-28	90	21 SO B DIESEL		No GERS	A-48
8	ZSR2 (8)-EG-38	GM-EMD 8283337	31096 SH 3	SQC 7901 PO453	EGP-28	80	21 50 B DIESEL		No GERS	A-45
5	ESR! (B)-BAR 8-1	GM-EWD 8289705	31099 SH 3	500 7001 PO453	EGP-2B	DG	21 SO B DIESEL	>	No GERS	A-46
9.2	ESR1 (8)-EG-28	GM-EMD 8289705	31099 SH 3	SQD 7001 PO453	EGP-28	90	21 50 B DIESEL	>	No GERS	A.46
60	ESR2 (B)-BKR 8-1	GM-EMD 8289708	31099 SH 3	SQD 7901 PO483	EGP-28	90	21 SO 8 DIESEL	>	No GERS	A-46
76	ESR2 (B)-EG-28	GM-EMD 8289708	31009 SH 3	SQD 7861 PO483	EGP-28	90	21 SO 8 DIESEL	>	No GERS	A-46
86	ESTR (B)-SKR \$-1	GM-EMD 8288705	32001 SH SN	8GD 7961 PO483	EGP-28	90	21 SO 8 DIESEL	>	No GERS	34.46
8	ESTR (B)-EG-28	GM-EMD 8288708	31099 SH 3	\$GD 7961 #0453	EGP-28	90	21 50 8 DIF SEL	٨.	No GERS	A-45
97	FSR1 (B)-BKR 8-1	GM-EMD 8268708	32001 SH 5N	SQD 7961 PO483	EGP-2B	50	21 50 B DIESEL	>	No GERS	A-46
98	FSR1 (B)-EG-28	GM-EMD 8268706	310 <b>69</b> SH 3	\$QD 7001 PO453	EGP-28	50	21 SO 8 DIESEL	>	No GERS	A-46
8	FSR2 (B)-BKR 9-1	GM-EMD 8289798	32001 SH SM	\$100 7901 PO453	EGP-28	90	21 50 8 DIE SEL	٨	No GERS	A-46
100	FSR2 (B)-EG-28	G46-EMD 8269705	31099 SH 3	3QD 7001 PO453	EGP-28	90	21 50 8 DIESEL	>	No GERS	A-45
101	OTR (B)-BKR \$-1	GM-EMD 8268708	32801 SH SN	SQD 7901 PO453	EGP-2B	90	21 50 8 DIESEL	>	No GERS	A-46
192	2 JOTR (B)-EG-2B	GM-EMD 8269705	31099 SH 3	SQD 7901 PO453	EGP-28	90	21 50 8 DIESEL	>	No GERS	3.46
103	3 FPR-EG-28	GM-EMD 8799028	31099 SH 3	VAPOR CORP	EGP-28	90	21 50 B DIESEL		No GERS	A-46
104	4 STR1 (B)-EG-28	GW-EMD 8299025	31099 SH 3	SCD 1401 PO453	EGP-28	90	21 50 B DIESEL		No GERS	A-46
105	5 STR2 (B)-EG-2B	GM-EMD 8299025	31096 SH 3	SQD 7901 PO453	EGP-28	DG	21 SO B DIE SEL		No GEPS	A.46
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NO.	CONTACT ID	MAKE	DRAWING	DESC	CAB_ID	BLDG	ELEV	LOCATION	DUP_RLY	REASON FOR OUTLIER	REQUIRE
106	ECRA-EG-28	GM-EMD 8317487	31099 SH 3	SQD 8501 FSD022-55	EGP-28	03	21.50 B	DIESEL		No GERS	A-45
107	GS-EG-28	GM-EMD 8370794	31099 SH 3	VAPOR CORP	EGP-28	DG	21.50 8	DIESEL		No GERS	A-46
108	5SP1 (8)-EKR 6-1	GM-EMD 8409614	31099 SH 3	BARBER COLEMAN 6884	EGP-28	DG	21.50 8	DIESEL	Y	No GERS	A-46
109	5SP1 (8)-EG-28	GM-EMO 8409814	31099 SH 3	BARRER COLEMAN 5884	EGP-28	DG	21 50 8	DIESEL	Y	No GERS	A-45
110	35P2 (B)-BXR 9-1	GM-EMD 8409814	31099 SH 3	BARBER COLEMAN 5884	EGP-28	DG	21.50 B	DIESEL	Y	No GERS	A-48
111	55P2 (B)-EG-2B	GM-EMD 8409614	31099 SH 3	BARBER COLEMAN 8884	EGP-28	DG	21.50 8	DESEL	Y	No GERS	A-46
112	40V-BKR 9-1	GM-EMD 8411911	31099 SH 2	West AV 180037GH	SGF-18	pg	21 50 8	DIESEL		No GERS	A-46
113	PFDA1 (8)-EG-28	GM-EMD 8418210	31099 SH 3	8QD 1933G2	EGP-28	DG	21 50 8	DIESEL	Υ	No GERS	A-46
114	PFDA2 (8)-EG-28	GM-EMD 8418210	31099 SH 3	300 193332	EGP-28	DG	21.50 8	DIESEL	Y	No GERS	A-45
115	40T-8KR \$-1	GM-EMD 8283248	31099 SH 2	SQD 1923G2	EGP-2B	DG	21.50 8	DIESEL		No GERS	A-46
118	PF01-EG-2B	GM-EMD 8253248	31099 SH 3	3QD 1933G2	EGP-2B	DG	21.50 8	DIESEL		No GERS	A-48
117	PFD2-EG-28	GM-EMD 8253248	31099 SH 3	3QD 1833G2	EGP-28	DG	21.50 8	DIESEL		No GERS	A-46
118	SFD1 (8)-EG-28	GM-EMD 828324	31099 SH 3	5QD 1933G2	EGP-28	DG	21 50 8	DIESEL		No GERS	A-46
119	SFD2 (8)-EG-28	GM-EMD 8253248	31099 SH 3	SQD 1933G2	EGP-28	DG		DIESEL		No GERS	A-46
120	FFC (B)-BKR 9-1	SQD Class 8504 Type EQ1965- G13	31099 SH 4	Field Flashing	EGP-28	DG	21.50 8		Y	No GERS	A-46
121	FFC (8)-EG-28	SQD Class 8504 Type EQ1986- G13	31099 SH 3	Field Flashing	EGP-2B	DG	21.50(8		Y	No GERS	A-45
122	41-DKR 9-1	WEST Series C FDBS14K	32001 SH 5N	NP28065E	EGP-28	DG	21.50 8			No GERS	A-46
	UNKNOWN MAKE & MODEL						1.00	D.C. D.C.		In ochs	N-10
1	27/X2-11-SW-MOV-3		32001 SH 6KB	Lindervoltage Aux	BUS 11	SB	41 50 8	SWGR	Y	Unknown Model	A-46
2	27/X2-11-5W-MOV-4		32001 SH 6KB	Undervoitage Aux	805 11	SB	41 50 B	SWGR	Y	Unknown Model	A-46
3	27/X3-11-SW-MOV-3		32001 SH 6KA	Undervoltage Aux	BUS 11	SB	41 50 8	SWGR	Y	Unknown Model	A-46
4	27/x3-11-SW-MOV-4		32001 SH 6KA	Undervoltage Aux	BUS 11	SB	41 50 8		Y	Unknown Kodel	A-46
5	27X1/11-P-37-10		32001 SH 6EC	Undervoltage Aux	BUS 11	sa	41 50 B		¥	Unknown Model	A-46
	ОТ-ВКЯ 8-1		32001 SH 5M 31099 SH 2	Overspeed Trip	ECP-2A	DG	21.50 A			Unknown Model	A-46
7	OT-8KR \$-1		32001 SH 5NA	Overspeed Trip	ECP-28	DG	21.50 8			Unknown Model	A-46
8	H3-EG-2A		31099 SH 3	GOV HIGH SPEED LIMIT SWITCH	EG-2A	DG	21.50 A			Unknown Model	A-46
9	H5-EC-28		31099 SH 3	GOV HIGH SPEED LIMIT SWITCH	EG-28	IDG	21 50 8			Unknown Model	A-46

OUTLIER SEISMIC VER	IFICATION SHEET (OSVS)	GIP Rev 2, Corrected 2/14/92 Sheet 1 of 2
ID: 50/51-P-18-1B (Rev. 0)	Class : RELAY	
Description: 289B456A19		
Building: DG	Floor El.: 21.50	Room, Row/Col : A DIESEL

#### 1. OUTLIER ISSUE DEFINITION - Essential Relays

a. Identify all the screening guidelines which are not met. (Check more than one if several guidelines could not be satisfied.)

Capacity vs. Demand	
Mounting, Type, Location	X
Other	

 Describe all the reasons for the cattlier (i.e., if all the listed outlier issues were resolved, then the signatories would consider this item of equipment to be verified for seismic adequacy).

THE RESIDENCE OF THE PROPERTY	CONTRACTOR SERVICE AND ADDRESS OF THE PARTY	ANADOMERS OF STREET
CONTRACTOR OF THE PROPERTY OF		
Bad Actor		
BOU ALLVI	AND RESIDENCE OF THE PARTY OF T	AND RESIDENCE OF STREET

#### 2. PROPOSED METHOD OF OUTLIER RESOLUTION (Optional)

a. Define I proposed method(s) for resolving outlier.

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Recommend rent ting relays or perform system review to evaluate acceptability of operator action to recover for the impact of relay chatter.
```

 Provide information needed to implement proposed method(s) for resolving outlier (e.g., estimate of fundamental frequency).

NUSCO to initiate OPS review and if replacement is recommended, then include relays into ISAP Program. See attached listing for additional Bad Actor relay contacts.

#### 3. COMMENTS

This OSVS is also applicable to all relay contacts listed below.

CONTACT_ID	MAKE	DESC	CAB_ID
BADACTORS	AND THE PARTY OF T	es discribilità de la Marchina del Transmission del Company del Company del Company de C	AND ADDRESS OF THE PARTY OF THE
50/51-P-18-18	W COM-5	289B456A19	BUS 8
S0/51-P-18-1A	W COM-5	289B456A19	BUS 9
59A/1-8-BKR 5-1	w sv		CB/8D51
598/1-8-8KR 8-1	w sv		CB/8DB1
59A/1-9-BKR 9-1	w sv		CB/9DB1
59B/1-9-BKR 9-1	w sv		CB/9DB1
FFCO (A)-BKR 8-1	GM-EMD 8412411	West SV 292B402A0	EGP-2A
FFCO (A)-EG-2A	GM-EMD 8412411	West SV 292B402A0	EGP-2A
FFCO (8)-BKR 9-1	GM-EMD 8412411	West SV 292B402A0	EGP-2B
FFCO (B)-EG-2B	GM-EMD 8412411	West SV 292B402A0	EGP-2B

OUTLIER SEISMIC VERIFI	CATION SHEET (OSVS)	GIP Rev 2, Corrected 2/14/92 Sheet 2 of 2
ID: 50/51-P-18-1B (Rev. 0)	Class : RELAY	
Description: 289B456A19	The second section of the second section is a second section of the second section of the second section of the second section is a second section of the second section of the second section of the second section s	
Building : DG	Floor El. : 21.50	Room, Row/Col : A DIESEL

#### 4. CERTIFICATION:

The information on this OSVS is, to the best of our knowledge and belief, correct and accurate, and resolution of the outlier issues listed on the previous page will satisfy the requirments for this item of equipment to be verified for seismic adequacy:

Approved by: C. M. Par Vandre Date: 12/16/93

OUTLIER SEISMIC VERIF	ICATION SHEET (OSVS)	GIP Rev 2, Corrected 2/14/92 Sheet 1 of 5
ID: 32/CRN-1-BKR 8-1 (Rev. 0)	Class : RELAY	
Description: 290B038A09		
Building : DG	Floor El. : 21.50	Room, Row/Col : A DIESEL

#### 1. OUTLIER ISSUE DEFINITION - Essential Relays

 a. Identify all the screening guidelines which are not met. (Check more than one if several guidelines could not be satisfied.)

Capacity vs. Demand	
Mounting, Type, Location	X
Other	THE REAL PROPERTY OF THE PERSON OF THE PERSO

b. Describe all the reasons for the outlier (i.e., if all the listed outlier issues were resolved, then the signatories would consider this item of equipment to be verified for seismic adequacy).

No GERS or TRS available for this type relay.

### 2. PROPOSED METHOD OF OUTLIER RESOLUTION (Optional)

a. Defined proposed method(s) for resolving outlier.

Persue seismic capacity through testing or vendor data.

 Provide information needed to implement proposed method(s) for resolving outlier (e.g., estimate of fundamental frequency).

See types of relays and model numbers on attached listing

#### 3. COMMENTS

This OSVS is also applicable to all relay contacts listed below.

CONTACT_ID	MAKE	DESC	CAB_ID
No GERS AVAILABLE	CONTRACTOR OF THE PARTY OF THE	NOTICE THE RESIDENCE OF THE PROPERTY OF THE PR	and that seek about the colory one source to a sub-order or sub-order or the order of the colors of
32/CRN-1-BKR 8-1	W CRN-1	2903038A09	BUS 8
32/CRN-1-BKR 9-1	W CRN-1	290B038A09	BUS 9
59/8-RELAY 27Y/1-8	GE - NGV	12NGV15A21	CB/8DB1
59/8-RELAY 27Y2/1-8	GF NGV	12NGV15A21	CB/8DB1
27K/1-8-RELAY 27Y/1-8	DEVAR	18-114	CB/8DB1A
27K/1-8-RELAY 27Y2/1-8	DEVAR	18-114	CB/8DB1A
27L/1-8-RELAY 27Y/1-8	DEVAR	18-114	CB/8DB1A
27L/1-8-RELAY 27Y2/1-8	DEVAR	18-114	CB/8DB1A
27M/1-8-RELAY 27Y/1-8	DEVAR	18-114	CB/BDB1A
27M/1-8-RELAY 27Y2/1-8	DEVAR	18-114	CB/8DB1A
27R/1-8-RELAY 27Y/1-8	DEVAR	18-114	CB/8DB1A
27Fu1-8-RELAY 27Y2/1-8	DEVAR	18-114	CB/8DB1A
Wille La Limbert La William Los			

**OUTLIER SEISMIC VERIFICATION SHEET (OSVS)** GIP Rev 2. Corrected 2/14/92 Sheet 2 of 5 ID: 32/CRN-1-BKR 8-1 (Rev. 0) Class: RELAY Description: 290B038A09 Floor El.: 21.50 Room, Row/Col: A DIESEL Building: DG 275/1-8-RELAY 27Y/1-8 DEVAR 18-114 CB/8DB1A 275/1-8-RELAY 27Y2/1-8 DEVAR 18-114 CB/8DB1A 27T/1-8-RELAY 27Y/1-8 DEVAR 18-114 CB/8DB1A 27T/1-8-RELAY 27Y2/1-8 DEVAR 18-114 CB/8DB1A 59-9-RELAY 27YM-9 GE - NGV 12NGV15A21 CB/9DB1 59-9-RELAY 27Y2/1-9 GE - NGV 12NGV15A21 CB/9DB1 27KH-9-RELAY 27Y/1-9 DEVAR 18-114 CB/9DB1A CB/9DB1A 27KM-9-RELAY 27Y2/1-9 DEVAR 18-114 27L/1-9-RELAY 27Y/1-9 DEVAR 18-114 CB/9DB1A CB/9DB1A 27LH-9-RELAY 27Y2H-9 DEVAR 18-114 CB/9DB1A 27M/1-9-RELAY 27Y/1-9 DEVAR 18-114 27M/1-9-RELAY 27Y2/1-9 DEVAR 18-114 CB/9DB1A CB/9DB1A 27R/1-9-RELAY 27Y/1-9 DEVAR 18-114 CB/9DB1A 18-114 27R/1-9-RELAY 27Y2/1-9 DEVAR 275/1-9-RELAY 27Y/1-9 DEVAR 18-114 CB/9DB1A CB/9DB1A 27S/1-9-RELAY 27Y2/1-9 DEVAR 18-114 27T/1-9-RELAY 27Y/1-9 DEVAR 18-114 CB/9DB1A 27T/1-9-RELAY 27Y2/1-9 DEVAR 18-114 CB/9DB1A MR1-FG-2A SOD 8411520 ADW23 PRESSURE SWITCH ECP-2A PRESSURE SWITCH ECP-2A SQD 8411520 AOW23 MB3-EG-2A GM-EMD 0253244 SQD EQ1933G2 ECP-2B STLO2 (B)-BKR 9-1 SOD 8411520 ADW23 PRESSURE SWITCH ECP-2B MB 1-EG-2B SQD 8411520 AOW23 PRESSURE SWITCH MB 3-EG-2B ECP-2B 52V (A)-BKR 8-1 GM-EMD 8253244 SQD EQ1933G2 EGP-2A 52V (A)-EG-2A GM-EMD 8253244 SQD EQ1933G2 EGP-2A GM-EMD 8253244 SQD EQ1933G2 EGP-2A STL01 (A)-BKR 8-1 SQD EQ1933G2 STLO1 (A)-EG-2A GM-EMD 8253244 EGP-2A SQD EQ1933G2 EGP-2A STLO2 (A)-BKR 8-1 GM-EMD 8253244 GM-EMD 8253244 SQD EQ1933G2 EGP-2A STLO2 (A)-EG-2A SQD 7001 PO453 MSR1 (A)-EG-2A GM-EMD 8263337 EGP-2A GM-EMD 8263337 SQD 7001 PO453 EGP-2A MSR2 (A)-EG-2A GM-EMD 8263337 SQD 7001 PO453 EGP-2A VSR1 (A)-BKR 8-1 VSR2 (A)-BKR 8-1 GM-EMD 8263337 SQD 7001 PO453 EGP-2A ZSR1 (A)-EG-2A GM-EMD 8263337 SQD 7001 PO453 EGP-2A ZSR2 (A)-EG-2A GM-EMD 8263337 SQD 7001 PO453 EGP-2A

SQD 7001 PO453

EGP-2A

GM-EMD 8269705

ESR1 (A)-BKR 8-1

GIP Rev 2. Corrected 2/14/92 **OUTLIER SEISMIC VERIFICATION SHEET (OSVS)** Sheet 3 of 5 Class: RELAY ID: 32/CRN-1-BKR 8-1 (Rev. 0) Description: 290B038A09 Room, Row/Col: A DIESEL Floor El.: 21.50 Building: DG EGP-2A SQD 7001 PO453 GM-EMD 8269705 ESR1 (A)-EG-2A EGP-2A SQD 7001 PO453 GM-EMD 8269705 ESR2 (A)-BKR 8-1 EGP-2A SQD 7001 PO453 GM-EMD 8269705 ESR2 (A)-EG-2A SQD 7001 PO453 EGP-2A GM-EMD 8289705 ESTR (A)-BKR 8-1 EGP-2A GM-EMD 8269705 SQD 7001 PO453 ESTR (A)-EG-2A EGP-2A GM-EMD 8269705 SQD 7001 PO453 FSR1 (A)-BKR 8-1 EGP-2A SQD 7001 PO453 GM-EMD 8269705 FSR1 (A)-EG-2A SQD 7001 PO453 EGP-2A GM-EMD 8269705 FSR2 (A)-BKR 8-1 EGP-2A GM-EMD 8269705 SQD 7001 PO453 FSR2 (A)-EG-2A SQD 7001 PO453 EGP-2A GM-EMD 8269705 OTR (A)-BKR 8-1 EGP-2A GM-EMD 8269705 SQD 7001 PO453 OTR (A)-EG-ZA VAPOR CORP EGP-2A GM-EMD 8299025 FPR-EG-2A EGP-2A SQD 7001 PO453 GM-EMD 8299025 STR1 (A)-EG-2A EGP-2A SQD 7001 PG453 GM-EMD 8299025 STR2 (A)-EG-2A SQD 8501 FSD022-55 EGP-2A GM-EMD 8317487 ECRA-EG-2A EGP-2A GM-EMD 8370794 VAPOR CORP GS-EG-2A BARBER COLEMAN 6884 EGP-2A GM-EMD 8409614 SSP1 (A)-BKR 8-1 BARBER COLEMAN 6884 EGP-2A GM-EMD 8409614 \$\$P1 (A)-EG-2A EGP-2A GM-EMD 8409614 BARBER COLEMAN 5884 SSP2 (A)-BKR 8-1 BARBER COLEMAN 6884 EGP-2A SSP2 (A)-EG-ZA GM-EMD 8409614 EGP-2A GM-EMD 8411911 West AV 160087GH 40V-BKR 8-1 EGP-2A SQD 1933G2 PFDA1 (A)-EG-2A GM-EMD 8418210 EGP-2A SQD 1933G2 GM-EMD 8418210 PFDA2 (A)-EG-2A EGP-2A GM-EMD 8253246 SQD 1933G2 40T-BKR 8-1 SQD 1933G2 EGP-2A GM-EMD 8253246 PFD1-EG-2A EGP-2A SQD 1933G2 GM-EMD 8253246 PFD2-EG-2A SQD 1933G2 EGP-2A GM-EMD 8253246 SFD1 (A)-EG-2A EGP-2A SQD 1933G2 GM-EMD 8253246 SFD2 (A)-EG-2A Field Flashing EGP-2A SQD Class 8504 Type FFC (A)-BKR 8-1 EQ1965-G13 EGP-2A Field Flashing SQD Class 8504 Type FFC (A)-EG-2A EQ1965-G13 EGP-2A WEST Series C NP28095E 41-BKR 8-1 FDBB14K SQD EQ1933G2 EGP-2B GM-EMD 8253244 52V (B)-BKR 9-1 SQD EQ1933G2 EGP-2B GM-EMD 8253244 52V (B)-EG-2B EGP-2B GM-EMD 8253244 SQD EQ1933G2 STLO1 (B)-BKR 9-1

SQD EQ1933G2

SQD EQ1933G2

EGP-2B

EGP-2B

GM-EMD 8253244

GM-EMD 8253244

\$TL01 (B)-EG-2B

STLO2 (B)-EG-2B

GIP Rev 2. Corrected 2/14/92 **OUTLIER SEISMIC VERIFICATION SHEET (OSVS)** Sheet 4 of 5 Class: RELAY ID: 32/CRN-1-BKR 8-1 (Rev. 0) Description: 290B038A09 Room, Row/Col: A DIESEL Floor El.: 21.50 Building: DG EGP-2B GM-EMD 8263337 SQD 7001 PO453 MSR1 (B)-EG-2B GM-EMD 8263337 SQD 7001 PO453 EGP-2B MSR2 (B)-EG-2B EGP-2B GM-EMD 8263337 SQD 7001 PO453 VSR1 (B)-BKR 9-1 EGP-2B SQD 7001 PO453 GM-EMD 8263337 VSR2 (B)-BKR 9-1 GM-EMD 8263337 SQD 7001 PO453 EGP-2B ZSR1 (B)-EG-2B SQD 7001 PO453 EGP-2B ZSR2 (B)-EG-2B GM-EMD 8263337 EGP-2B SQD 7001 PO453 GM-EMD 8269705 ESR1 (B)-BKR 9-1 SQD 7001 PO453 EGP-2B GM-EMD 8269705 ESR1 (B)-EG-2B EGP-2B SQD 7001 PO453 GM-EMD 8269705 ESR2 (B)-BKR 9-1 EGP-2B GM-EMD 8269705 SQD 7001 PO453 ESR2 (B)-EG-2B SQD 7001 PO453 EGP-2B GM-EMD 8269705 ESTR (B)-BKR 9-1 SQD 7001 PO453 EGP-2B GM-EMD 8269705 ESTR (B)-EG-2B EGP-2B SQD 7001 PO453 GM-EMD 8269705 FSR1 (B)-BKR 9-1 EGP-2B SQD 7001 PO453 GM-EMD 8269705 FSR1 (B)-EG-2B EGP-2B GM-EMD 8269705 SQD 7001 PO453 FSR2 (B)-BKR 9-1 SQD 7001 PO453 EGP-2B GM-EMD 8269705 FSR2 (B)-EG-2B SQD 7001 PO453 EGP-2B GM-EMD 8269705 OTR (B)-BKR 9-1 EGP-2B GM-EMD 8269705 SQD 7001 PO453 OTR (B)-EG-2B EGP-2B VAPOR CORP GM-EMD 8299025 FPR-EG-2B SQD 7001 PO453 EGP-28 GM-EMD 8299025 STR1 (B)-EG-2B EGP-2B GM-EMD 8299025 SQD 7001 PO453 STR2 (B)-EG-2B SQD 8501 FSD022-55 EGP-2B GM-EMD 8317487 ECRA-EG-2B VAPOR CORP EGP-2B GM-EMD 8370794 GS-EG-2B BARBER COLEMAN 6884 GM-EMD 8409614 EGP-2B SSP1 (B)-BKR 9-1 BARBER COLEMAN 6884 EGP-2B GM-EMD 8409614 \$\$P1 (B)-EG-2B BARBER COLEMAN 6884 EGP-2B GM-EMD 8409614 SSP2 (B)-BKR 9-1 EGP-2B GM-EMD 8409614 BATBER COLEMAN 6884 SSP2 (B)-EG-2B West AV 160087GH EGP-2B GM-EMD 8411911 40V-BKR 9-1 SQD 1933G2 EGP-ZB PFDA1 (B)-EG-2B GM-EMD 8418210 EGP-28 SQD 1933G2 GM-EMD 8418210 PFDA2 (B)-EG-2B EGP-2B SQD 1933G2 GM-EMD 8253246 40T-BKR 9-1

SQD 1933G2

SQD 1933G2

SQD 1933G2

SQD 1933G2

Field Flashing

GM-EMD 8253246

GM-EMD 8253246

GM-EMD 8253246

GM-EMD 8253246

EQ1965-G13

SQD Class 8504 Type

PFD1-EG-2B

PFD2-EG-2B

SFD1 (B)-EG-2B

SFD2 (B)-EG-2B

FFC (B)-BKR 9-1

EGP-2B

EGP-2B

EGP-2B

EGP-2B

EGP-2B

OUTLIER SEISMIC VERIFICATION SHEET (OSVS)		GIP Rev 2, Corrected 2/14/92 Sheet 5 of 5	
ID: 32/CRN-1-BKR	8-1 (Rev. 0)	Class : RELAY	And the second s
Description: 290B0	38A09		
Building : DG	Floor	El.: 21.50	Room, Row/Col : A DIESEL
FFC (B)-EG-2B	SQD Class 8504 Type EQ1965-G13	Field Flashing	EGP-28
41-BKR 9-1	WEST Series C FDB814K	NP28095E	EGP-2B

#### 4. CERTIFICATION:

The information on this OSVS is, to the best of our knowledge and belief, correct and accurate, and resolution of the outlier issues listed on the previous page will satisfy the requirments for this item of equipment to be verified for seismic adequacy:

Approved by:

C.M. Davedre Date: 12/16/93
12,16.93

OUTLIER SEISMIC VERIFICA	TION SHEET (OSVS)	GIP Rev 2, Corrected 2/14/92 Sheet 1 of 2
ID: 27/X2-11-SW-MOV-3 (Rev. 0)	Class : RELAY	
Description :		
Building: SB	Floor El.: 41.50	Room, Row/Col : B SWGR

#### 1. OUTLIER ISSUE DEFINITION - Essential Relays

a. Identify all the screening guidelines which are not met. (Check more than one if several guidelines could not be satisfied.)

Capacity vs. Demand	
Mounting, Type, Location	
Other	X

Describe all the reasons for the outlier (i.e., if all the listed outlier issues were resolved, then the signatories would consider this item of equipment to be verified for seismic adequacy).

Unknown make and model, unable to locate relay during walkdown.

#### 2. PROPOSED METHOD OF OUTLIER RESOLUTION (Optional)

Defined proposed method(s) for resolving outlier.

NUSCO Elec Dept to determine make and model.

 Provide information needed to implement proposed method(s) for resolving outlier (e.g., estimate of fundamental frequency).

For relay contact IDs, see attached listing.

#### 3. COMMENTS

This OSVS is also applicable to all relay contacts listed below.

CONTACT_ID	MAKE	DESC	CAB_ID
UNKNOWN MAKE &	MODEL		
Z7/X2-11-SW-MOV-3		Undervoltage Aux	BUS 11
27/X2-11-SW-MOV-4		Undervoltage Aux	BUS 11
27/X3-11-SW-MOV-3		Undervoltage Aux	BUS 11
27/X3-11-SW-MOV-4		Undervoltage Aux	BUS 11
27X1/11-P-37-1D		Undervoltage Aux	BUS 11
OT-BKR 8-1		Overspeed Trip	ECP-2A
OT-BKR 9-1		Overspeed Trip	ECP-2B
HS-EG-2A		GOV HIGH SPEED LIMIT	EG-2A
HS-EG-28		SWITCH GOV HIGH SPEED LIMIT SWITCH	EG-2B

#### 4. CERTIFICATION:

OUTLIER SEISMIC VERIF	CATION SHEET (OSVS)	GIP Rev 2, Corrected 2/14/92 Sheet 2 of 2
ID: 27/X2-11-SW-MOV-3 (Rev. 0)	Class : RELAY	
Description:		
Building : SB	Floor El.: 41.50	Room, Row/Col : B SWGR

The information on this OSVS is, to the best of our knowledge and belief, correct and accurate, and resolution of the outlier issues listed on the previous page will satisfy the requirments for this item of equipment to be verified for seismic adequacy:

Approved by:

Date:

12/16/93