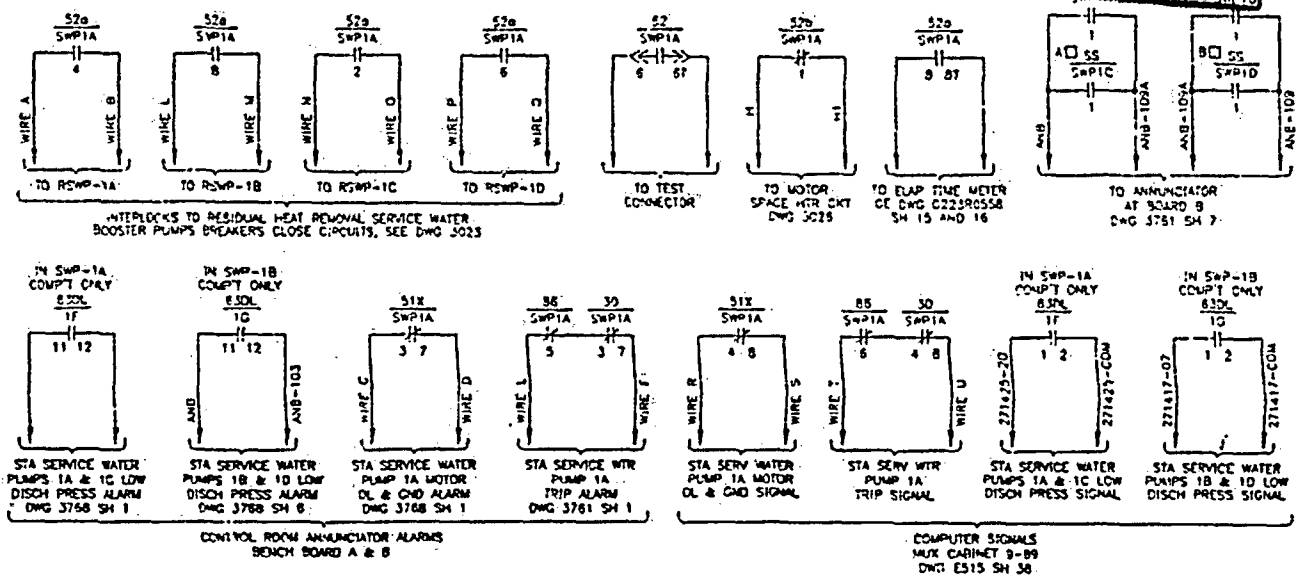
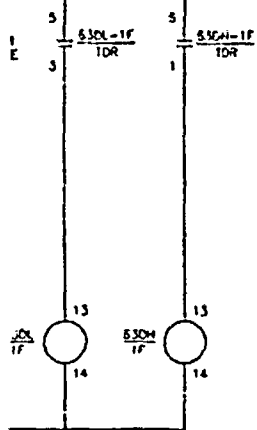


INFORMATION ONLY

SEP 16 2004

INFORMATION RESOURCE CENTER

2. FOR CONNECTIONS OF STATION SERVICE WATER PUMP CIRCUIT BREAKERS, ASSOCIATED CT'S, METERS, RELAYS, ETC., SEE TYPICAL 3 LINE DIAGRAM ON DWG 3021.
4. CONTACTS OF RELAYS 630L/1F AND 630H/1F ARE USED FOR CONTROL OF SWP-1A AND SWP-1C. CONTACTS OF RELAYS 630L/1G AND 630H/1G ARE USED FOR CONTROL OF SWP-1B AND SWP-1D.
5. FOR METERING, PROTECTIVE RELAYING AND SPARE 52, 630L, 630H CONTACTS, SEE CE DWG 3223R0558 SHEETS 13 & 18.
6. SEE DWG 3089 FOR BOARD B ALARM IF SELECTOR SWITCHES ARE NOT SET IN STANDBY MODE.
7. FOR CONTROL SWITCH DEVELOPMENT OF CS/SWP1A, CS/SWP1B, CS/SWP1C AND CS/SWP1D, SEE DWG 3020.

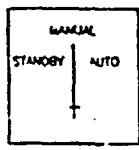


1 SWP-1B
VENTS ONLY
IE #4

LOCKOUT RELAY	52a CONTACT-FOR RSWP INTERLOCKS			
	RSWP-1A	RSWP-1B	RSWP-1C	RSWP-1D
A 66/SWP1A	4	8	2	6
C 66/SWP1C	2	6	4	8
B 66/SWP1B	8	4	6	2
D 66/SWP1D	6	2	8	4

SELECTOR SWITCH SWP1A DEVELOPMENT □ A

CONTACTS		POSITIONS		
		AUTO	MAN	STD BY
1	2			X
2	1	X		
3	4			X
4	3	X		



MAINTAINED CONTACT
X - DENOTES CONTACT CLOSED
CE TYPE 50M OR EQUAL WITH
PISTOL GRIP HANDLE

ESCUTCHEON
FRONT VIEW

NOTE:
1. FOR GENERAL NOTES SEE DWG 3017.

T	U
1425-08	271475-COM
1425-12	
1425-09	
1425-15	

FOR PREVIOUS REVISIONS, SEE SUPERSEDED CARDS.

REVISIONS BY N.P.P.D.				
NO.	REVISIONS	DT/CD	APP.	DATE
1	W/REVID 6206280 (DCN 02-0271)	DLT/PGA	KC	4/9/02
2	W/REVID 2021-05522 (02-0213)	DLT/PGA	KE	11/1/04

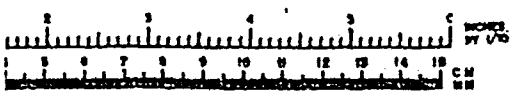
* THIS DRAWING GENERATED BY NPPD

**COOPER NUCLEAR STATION
4160V SWITCHGEAR
ELEMENTARY DIAGRAMS**

DESIGNED	DATE	DRAWN	DATE	BURNS & ROE*	REVISION	JOB NO.
GROUP	2/5/93		C.A.			
CHECKED		DATE		3022 SH 6		
APPROVED		DATE				
FILED		DATE		N29		

AS BUILT
454003905

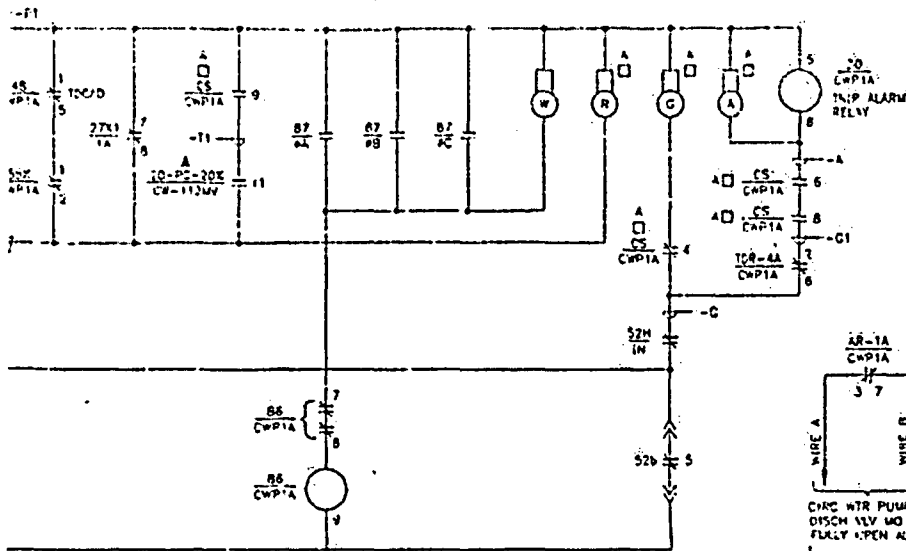
CADD DRAWING
DO NOT REVISE MANUALLY



2-12

30

R1-5443

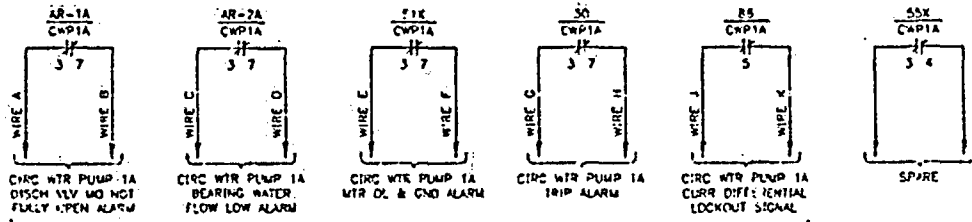


- NOTES:
- ELEMENTARY IS SHOWN FOR CIRCULATING WATER PUMP BREAKER CWP1A. BREAKERS CWP1B, CWP1C AND CWP1D SHALL BE SIMILAR EXCEPT AS SHOWN IN TABLE AND AS OTHERWISE INDICATED.
 - ALL DEVICES SHALL BE LOCATED IN SAGR 1A FOR CWP1A, CWP1B AND SAGR 1B FOR CWP1C & CWP1D UNLESS OTHERWISE INDICATED.
 - FOR CONNECTION OF CIRCULATING WATER PUMP CIRCUIT BREAKERS, ASSOCIATED CTS, METERS, RELAYS, ETC. SEE TYPICAL 3 LINE DIAGRAM ON DWG 3025.
 - REMOVED.
 - FOR SPARE S2 CONTACTS SEE GE DWG 02230558 SH 6.

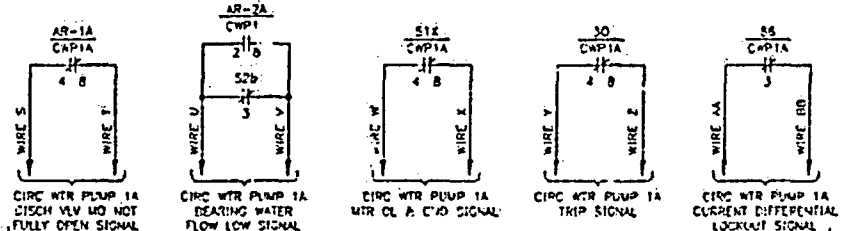
EXPIRES ON

SEP 11 2004

NON-CONTROL



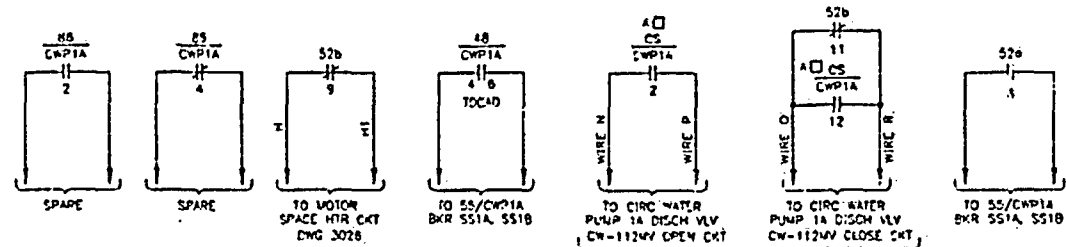
CONTROL ROOM ANNUNCIATOR ALARMS
BENCH BOARD A
DWG 3753 SH 2



COMPUTER SIGNALS
MUX CABINET 9-59
DWG 6515 SH 26 & 37

SS SW S-B	DISCHARGE VALVE	ECP INTERLOCKS	OUT OF SYNCH PROTECT RELAY	SLIP GUARD RELAY
	CW-112MV		48/CWP1A	55/CWP1A
	CW-112MV		48/CWP1B	54/CWP1D
	CW-114MV		48/CWP1C	55/CWP1C
	CW-115MV		48/CWP1D	55/CWP1D

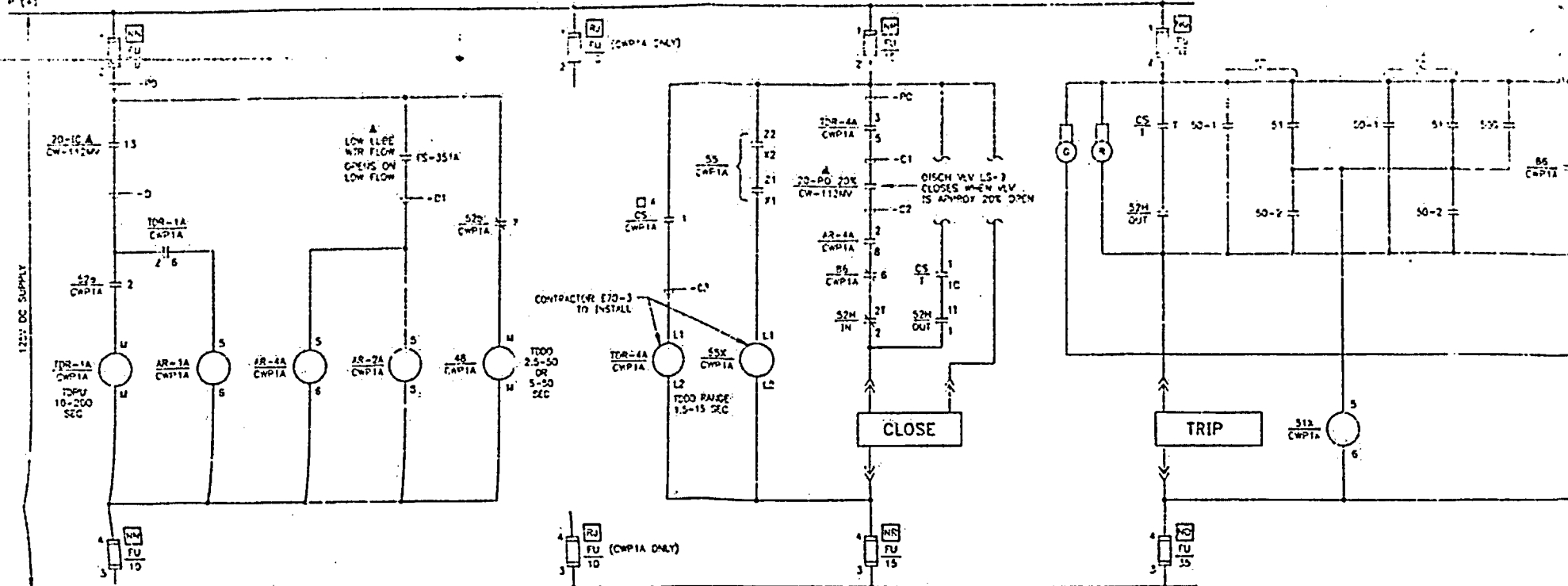
AA	RB
271423-01	271423-COM
271424-02	271424-COM
271424-07	271424-CCM
271424-12	271424-COM



DISCHARGE VALVE INTERLOCKS
DWG 3034

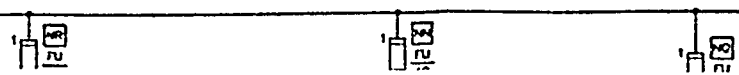
- CIRCULATING WATER PUMP BKRS CWP-1A, CWP-1B, CWP-1C AND CWP-1D
- STATION SERVICE WTR PUMP BKRS SWP-1A, SWP-1B, SWP-1C AND SWP-1D

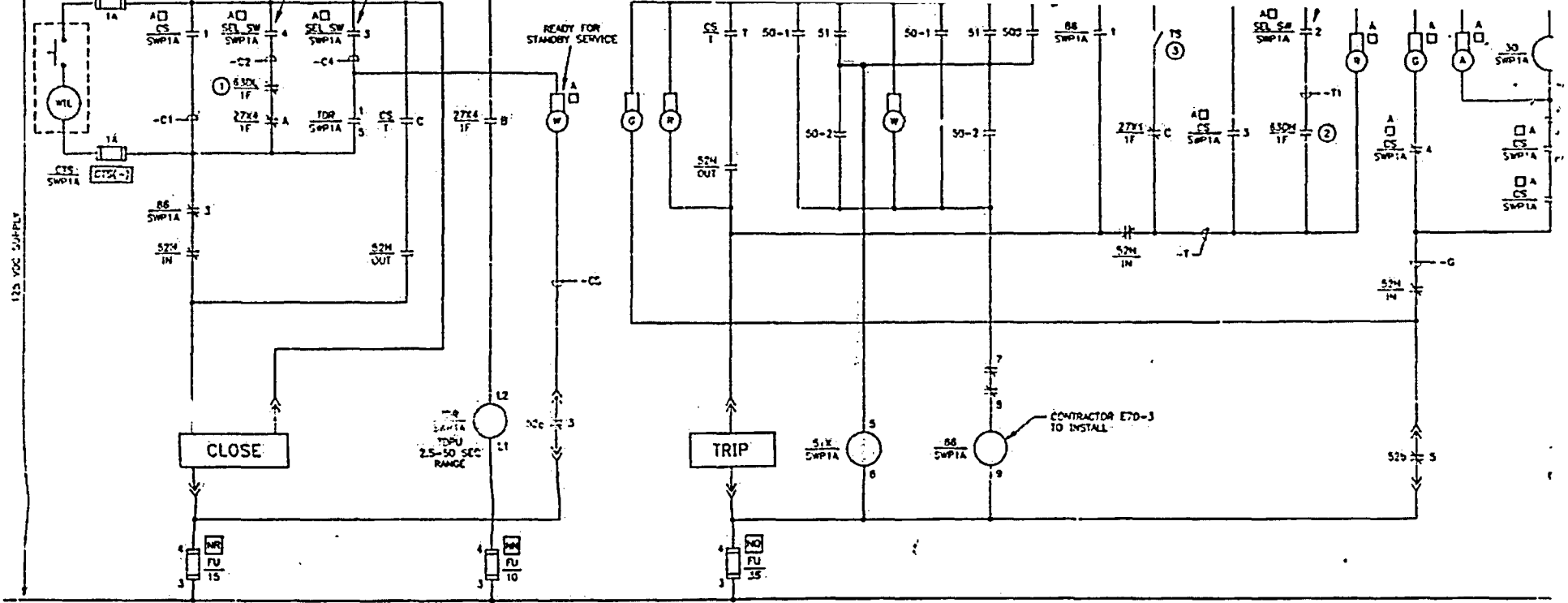
- NOTES:
- ELEMENTARY IS SHOWN FOR STATION SERVICE WATER PUMP BREAKER SWP1A. BREAKERS SWP1B, SWP1C AND SWP1D SHALL BE SIMILAR EXCEPT AS SHOWN IN TABLE AND AS OTHERWISE INDICATED.



4160V BREAKER					TRIP & ARM RELAY	OL & GND ALARM RELAY	CONTROL SWITCH TAG	BUS UNDERVOLT		CONTROL CKT WIRE TAG PREFIX #	CONTROL RELAYS					PR					
TAG #	LOCATION		POWER SOURCE					RELAY	CONTR		RELAY	CONTR	"ON" DELAY (TDPU)		"OFF" DELAY (TDOO)		AUXILIARY RELAYS			LOW LIQZ W/F FLOW	
	BUS	UNIT	PANEL	CKT #									"ON" DELAY (TDPU)	"OFF" DELAY (TDOO)	AR-1A/CWP1A		AR-2A/CWP1A	AR-3A/CWP1A	AR-4A/CWP1A		AR-5A/CWP1A
CWP-1A	1A	3	AA1	5	30/CWP1A	51X/CWP1A	CS/CWP1A	27X1/1A	7-8	CWP1A	TDR-1A/CWP1A	TDR-4A/CWP1A	AR-1A/CWP1A	AR-2A/CWP1A	AR-3A/CWP1A	AR-4A/CWP1A	55X/CWP1A	FS-351A			
CWP-1B	1A	6	AA1	5	30/CWP1B	51X/CWP1B	CS/CWP1B	27X1/1A	5-6	CWP1B	TDR-1B/CWP1B	TDR-4B/CWP1B	AR-1B/CWP1B	AR-2B/CWP1B	AR-3B/CWP1B	AR-4B/CWP1B	55X/CWP1B	FS-351B			
CWP-1C	1B	6	BB1	16	30/CWP1C	51X/CWP1C	CS/CWP1C	27X1/1B	7-8	CWP1C	TDR-1C/CWP1C	TDR-4C/CWP1C	AR-1C/CWP1C	AR-2C/CWP1C	AR-3C/CWP1C	AR-4C/CWP1C	55X/CWP1C	FS-351C			
CWP-1D	1D	5	BB1	16	30/CWP1D	51X/CWP1D	CS/CWP1D	27X1/1B	5-6	CWP1D	TDR-1D/CWP1D	TDR-4D/CWP1D	AR-1D/CWP1D	AR-2D/CWP1D	AR-3D/CWP1D	AR-4D/CWP1D	55X/CWP1D	FS-351D			

4160V BREAKER TAG	ANNUNCIATOR & COMPUTER WIRE TAGS																						
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	
CWP1A	A900-6	A900-4	A900-6	A900-5	A900-6	A900-2	A900-6	A900-1	A900-6	A900-3				CW112WV-3	CW112WV-2	CW112WV-6	CW112WV-7	271423-21	271423-COM	271423-22	271423-COM	271423-19	271423-COM
CWP1B	A901-6	A901-4	A901-6	A901-5	A901-6	A901-2	A901-6	A901-1	A901-6	A901-3				CW113WV-3	CW113WV-2	CW113WV-6	CW113WV-7	271424-03	271424-COM	271424-04	271424-COM	271424-01	271424-COM
CWP1C	A902-6	A902-4	A902-6	A902-5	A902-6	A902-2	A902-6	A902-1	A902-6	A902-3				CW114WV-3	CW114WV-2	CW114WV-6	CW114WV-7	271424-08	271424-COM	271424-09	271424-COM	271424-10	271424-COM
CWP1D	A903-6	A903-4	A903-6	A903-5	A903-6	A903-2	A903-6	A903-1	A903-6	A903-3				CW115WV-3	CW115WV-2	CW115WV-6	CW115WV-7	271424-11	271424-COM	271424-12	271424-COM	271424-11	271424-COM





BUS	UNIT	DWG ID	FUSE IDENTIFIER	AMP	TERM PTS
1G	2	NR	NR-SWP1B (P)	15	1 & 2
1G	2	NR	NR-SWP1B (N)	15	3 & 4
1G	2	NO	NO-SWP1B (P)	35	1 & 2
1G	2	NO	NO-SWP1B (N)	35	3 & 4
1G	2	NM	NM-SWP1B (P)	10	1 & 2
1G	2	NM	NM-SWP1B (N)	10	3 & 4
1G	2	CTS(+)	CTS-SWP1B (P)	1	N/A
1G	2	CTS(-)	CTS-SWP1B (N)	1	N/A

BUS	UNIT	DWG ID	FUSE IDENTIFIER	AMP	TERM PTS
1F	2	CTS(+)	CTS-SWP1A (P)	1	N/A
1F	2	CTS(-)	CTS-SWP1A (N)	1	N/A
1F	2	NR	NR-SWP1A (P)	15	1 & 2
1F	2	NR	NR-SWP1A (N)	15	3 & 4
1F	2	NO	NO-SWP1A (P)	35	1 & 2
1F	2	NO	NO-SWP1A (N)	35	3 & 4
1F	2	NM	NM-SWP1A (P)	10	1 & 2
1F	2	NM	NM-SWP1A (N)	10	3 & 4

BUS	UNIT	DWG ID	FUSE IDENTIFIER	AMP	TERM PTS
1G	3	NO	NO-SWP1D (P)	35	1 & 2
1G	3	NO	NO-SWP1D (N)	35	3 & 4
1G	3	CTS(+)	CTS-SWP1D (P)	1	N/A
1G	3	CTS(-)	CTS-SWP1D (N)	1	N/A
1G	3	NM	NM-SWP1D (P)	10	1 & 2
1G	3	NM	NM-SWP1D (N)	10	3 & 4
1G	3	NR	NR-SWP1D (P)	15	1 & 2
1G	3	NR	NR-SWP1D (N)	15	3 & 4

BUS	UNIT	DWG ID	FUSE IDENTIFIER	AMP	TERM PTS
1F	3	CTS(+)	CTS-SWP1C (P)	1	N/A
1F	3	CTS(-)	CTS-SWP1C (N)	1	N/A
1F	3	NM	NM-SWP1C (P)	10	1 & 2
1F	3	NM	NM-SWP1C (N)	10	3 & 4
1F	3	NR	NR-SWP1C (P)	15	1 & 2
1F	3	NR	NR-SWP1C (N)	15	3 & 4
1F	3	NO	NO-SWP1C (P)	35	1 & 2
1F	3	NO	NO-SWP1C (N)	35	3 & 4

TAG	4160V BREAKER LOCATION		POWER SOURCE		TRIP ALARM RELAY	OL & CND ALARM RELAY	CONTROL SWITCH TAG	CONTROL CKT WIRE TAG PREFIX	BUS UNDERVOLTAGE		SELECTOR SWITCH TAG	VOLTAGE RESTORATION		DISCHARGE HOR PRESS SWITCH A	HIGH DISCH PRESSURE AUX RELAY	LOW DISCH PRESSURE AUX RELAY	CONTROL BOARD	63 DL INTERLOCK		
	BUS	UNIT	PANEL	CKT #					RELAY	C CONT CKT		RELAY	A C/INT CKT					B CONT CKT	DEV	CONT C
SWP-1A	1F	2	A43	6	30/SWP1A	51X/SWP1A	CS/SWP1A	SWP1A-	27X1/1F	9-10	SEL SW/SWP1A	27X4/1F	7-8	11-12	PS-345A	63D/1F	63D/1F	□ A	1F	5-8
SWP-1C	1F	3	A43	8	30/SWP1C	51X/SWP1C	CS/SWP1C	SWP1C-	27X1/1F	7-8	SEL SW/SWP1C	27X4/1F	5-6	9-10		63D/1F *	63D/1F *	□ A	1F	3-4
SWP-1B	1G	2	B43	6	30/SWP1B	51X/SWP1B	CS/SWP1B	SWP1B-	27X1/1G	9-10	SEL SW/SWP1B	27X4/1G	7-8	11-12	PS-345B	63D/1G	63D/1G	□ B	1G	5-8
SWP-1D	1G	3	B43	8	30/SWP1D	51X/SWP1D	CS/SWP1D	SWP1D-	27X1/1G	7-8	SEL SW/SWP1D	27X4/1G	5-6	9-10		63D/1G *	63D/1G *	□ B	1G	3-4

* DENOTES CONTACT ONLY

NO REVISIONS

4160V BREAKER TAG	WIRE TAGS																
	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	
SWP-1A	RSWP1A-C1	RSWP1A-C2	ANA-A	ANA-119	ANA-A	ANA-114						RSWP1B-C1	RSWP1B-C2	RSWP1C-C1	RSWP1C-C2	RSWP1D-C1	RSW
SWP-1C			ANA-B	ANA-120	ANA-B	ANA-115											
SWP-1B			ANB-A	ANB-96	ANB-A	ANB-97											
SWP-1D			ANB-B	ANB-97	ANB-B	ANB-92											

APR 3, 2003