NO. 3 ESS
SYSTEM VERIFICATION
ALARM GENERATION

CONTENTS

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1. GENERAL INFORMATION

1.1 Purpose

1.11 The purpose of this section is the verification of the No. 3 ESS Office Alarm System. Frame failures will be simulated via manual operation of frame power control keys, fuses and relays, and the resultant alarms will be verified.

1.12 Audible alarms, visual indicators and TTY printouts will be verified as will other system reactions to simulated fault conditions.

1.13 Specifically, this section tests the ability of individually powered circuits to activate associated scan points, for these scan points, to be properly interpreted via translations and for the system to generate proper and associated alarms to the operator.

1.2 Sequence

1.21 System Verification of Alarm Generation should follow the successful completion of Section 535 - System Verification, Trunk Circuits and Section 544 - System Verification, Automatic Line Insulation Test (ALIT). It should precede the running of Section 555 - System Verification, Error Recovery and Emergency Action Facilities.

1.22 Refer to Handbook 269, Section 1 for the overall System Verification test sequence.

1.3 Test Prerequisites

1.31 The required test prerequisites are indicated in paragraph 1.2 of this section.

1.32 Proper connection must have been made to all frames under test, and continuity and power verification must have been conducted on associated frames.

1.33 Normal power should be applied to system frames, the latest generic should be cycling and all system hardware normally on-line and available to support system functions.

1.4 References

1.41 The following documents may be useful as references during the verification of alarms:

Code (Cont.)	Title
SD/CD-1C900-01	3ACC
CPS-FC21	+3V Reference and Filter Circuit
SD/CD-1C902-01	Main Store Controller
CPS-FC21	+3 Reference and Filter Circuit
SD/CD-1C905-01	TTY Controller
CPS-FB152	+12V Reference Circuit
CPS-FB494	-18V to +24 Converter and Power Alarm Circuit
CPS-FC21	+3V Reference and Filter Circuit

NOTICE - NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT

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Code (Cont.)	Title
SD/CD-1C907-01	System Status Panel Controller
CPS-FB152	+12V Reference Circuit
CPS-FC21	+3V Reference and Filter Circuit
SD/CD-1C909-01	Maintenance Frame Power Circuit
CPS-FC210	Power Alarm and Control
SD/CD-1C911-01	Processor Frame Power Circuit
CPS-FC210	Power Alarm and Control
SD/CD-3H110-01	Power Alarm and Control
CPS-FB152	+12V Reference Circuit
CPS-FC21	+3V Reference and Filter Circuit
SD/CD-3H902-01	Control Frame
CPS-FB414	+3V Signal Battery
CPS-FB415	Alarm 0
CPS-FB416	Alarm 1
SD/CD-81999-01	KS-20493 L21 Redifier (1S1A)
SD/CD-82030-01	KS-20618 Regulator Circuit
SD/CD-82304-01	Plant Charge and Discharge Circuit
SD/CD-82303-01	Plant Control Circuit
SD/CD-82255-01	Ringing and Tone Plant
188A and 189A	+24V Volt Converter Power Unit
184B	±130 Volt Converter Power Unit
184A	+48B Volt Converter Power Unit
SD/CD-3H906-01	Office Alarm and Sounder Circuit
CPS-FB425	Office Alarm and Sounder Circuit
SD/CD-3H907-01	DC Power Distribution
SD/CD-3H908-01	AC Power Distribution
SD/CD-3H909-01	Grounding Circuit
SD/CD-3H912-01	PPD Assignment Rules
SD/CD-3H912-01	Scanner Assignment Rules
SD/CD-3H912-01	Peripheral Decoder Assignment Rules

2. RECORDS AND REQUIREMENTS

2.1 Records - This section's test records should be recorded on forms SD-97-1313 and SD-97-1315. Handbook 3, Section 6B may be referenced for detailed information on test record completion.

2.2 Requirements - This section's testing is intended to satisfy BSP 820-650-180; Performance Requirements, No. 3 ESS, General Equipment Requirements, Electronic Switching System.

3. TEST EQUIPMENT

3.1 Test Sets

3.11 The following test sets will be required in performing the assigned tests:

ITE-5632 Digital Multimeter

4. TEST PROCEDURE

4.1 General, the Alarm Generation test is conducted with some designated SYC ACTIVE and the alternate SYC in STANDBY (STBY). An examination of this section's test procedure tables will indicate this in the column titled "a. BASIC SYSTEM CONFIGURATION, b. AT LOCATION, and c. REMARKS". The designated SYC equipment configuration is then intended to remain the same for all subsequent table "steps," until some other SYC equipment configuration is designated. Note that the basic system configuration associated with a step is intended to define the basic system configuration at the start of the procedure. Where system configuration is irrelevant, this information is not given. The basic system configuration, after the procedures is conducted, may be different from the starting configuration in this column; and in some cases may be defined under system response. The "b AT LOCATION" column designates the equipment frames, bays, or units where the operator action is to be conducted. When there is no chance of misunderstanding where the operator action is to take place, this designation may not be defined.

4.2 The tables in this section do not have to be conducted in any given order nor do the steps within a table have to be conducted in any given order. However, for testing convenience, it is suggested that the tables, and that the steps within each table, be conducted in the order in which they are listed.

4.3 The system must be observed to verify that it reacts in accordance with the designated "SYSTEM RESPONSE" recorded in the table. The tester should

be alert also to "incorrect system response" not otherwise referred to in the table. Output messages should be verified for correct identification of the equipment under test. It may be necessary, in some cases, to refer to the Scanner Assignment Rules to check that the output data correctly identifies the error. Alarm indications are monitored by Master Scanner scan points (ferrods). If either no system response (when designated) or an incorrect system response is received, first check the assignment and operations of the ferrod with the circuitry under test. When troubles are found, it may be helpful to run the associated tests on alternate equipment configurations as an aid in trouble isolation.

4.4 Generally, the system should be given sufficient time to react to tester-induced faults. Also, once a fault is inserted, it should be left in until the system has completely settled down and fully recovered from that fault. Example: if a step calls for the operation of some designated relay, the relay should be held operated in the designated state until after all required observations have been made. Any change in the system, after an induced fault and before recovery, could trigger unpredictable results.

4.5 Although not specifically indicated, the tester should ensure that the system is in the same condition after a step has been completed as it was before the step was started. Therefore, some effort may be required to ensure this condition between steps even though such actions may not be listed in the table testing procedure.

5. TABLE INDEX

ATTACHMENTS

Tables 1 to 10 on pages 5 to 30.

No arrows shown due to extensive changes.

Manager, ESS Installation & Field Engineering

Reason for Reissue:
Update.

TABLE 1 - ALARM GENERATION TEST

PROCESSOR FRAME POWER CIRCUIT, SD-1C911-01

STEP NUMBER	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	CC0 POWER key to OFF	a. SYC0 ACTIVE, SYC1 STANDBY b. 3ACC0 Control Panel	REPT ERR KEY xxxx REPT CU0PWR 22-11 0000 OFN or REPT CU1 PWR 24-5 0000 OFN	FORCED Lamp Lights	CC0 POWER Lamp remains lighted.		If no CU0 power indicator check USERID on ferrod: S/B 62 for CC0, 63 for CC1.
1.1	SW:SYC!	b. Maint. TTY	REPT SYC 1 ACT	SYC1 ACTIVE SYC0 Out Of Service Major Equip Loss			
1.2	Depress MANUAL	a. SYC1 ACTIVE SYC0 000 b. 3ACC0 Control Panel	REPT CU STAT MAN 0 REPT ERR MCH **RMV CU 0 2	MAJOR LED ALARM RELEASE	CC0 POWER Lamp Extinguished.	MAJOR	
1.3 1.31	CC0 POWER key to ON	b. 3ACC0 Control Panel	REPT CU0 PWR 2211 0000 NORM or REPT CU1 PWR 24-5 0000 NORM REPT CU STAT MAN	CC0 Out-of-Service LED lights.	CC0 POWER, STANDBY and MANUAL lamps lighted.		
1.4	Release MANUAL	b. 3ACC0 Control Panel					
1.4A	RST:CU!	b. MAINT. TTY	DGN CU COMPL ATP RST CU COMPL	CU0 STANDBY			
1.5	SW:SYC!	b. Maint. TTY	REPT SYC0 ACT	SYC0 ACTIVE SYC1 STANDBY			
2.	CC0 POWER key to OFF	a. SYC0 ACTIVE SYC1 STANDBY	REPT ERR KEY xxxx REPT CU0PWR 22-11 0000 OFN or REPT CU1PWR 24-5 0000 OFN	FORCED lamp lights.			

TABLE 1 - ALARM GENERATION TEST (Cont.)

PROCESSOR FRAME POWER CIRCUIT, SD-1C911-01

STEP NUMBER	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
2.1	Depress SELECT 1	b. SSP FORCE SYC ACTIVE					
2.2	Depress FORCE	b. SSP FORCE SYC ACTIVE	**RMV PPD 00 or **RMV SC 00 REPT CU STAT UAV 0 REPT ERR MCH	SYC1 ACTIVE SYC0 Unavailable		MAJOR	
2.3	Depress MANUAL	b. 3ACC0 Control Panel	**RMV CU 0 2		3ACC0 POWER lamp extinguished. MANUAL lighted.		
2.4	CC0 POWER key to ON	b. 3ACC0 Control Panel	REPT CU0PWR 22-11 0000 NORM or		3ACC0 POWER lamp lighted.		
2.41	ALARM RELEASE		REPT CU1PWR 24-5 0000 NORM				
2.5	Release MANUAL	b. 3ACC0 Control Panel	DGN CU 0 COMPL ATP		3ACC0 MANUAL lamp extinguished.		
2.5A	RST:CU! RST:PCF 00;UCL RST:PCF 01;UCL!						
2.6	Release SELECT 1	b. SSP FORCE SYC ACTIVE	REPT CU STAT AVL 0				
2.7	Depress SELECT 0	b. SSP FORCE SYC ACTIVE	**REPT SYC 0 ACT	SYC0 ACTIVE SYC1 UAV	NWC lighted PPD lighted SC lighted	MAJOR	
2.8	Depress FORCE						
2.9	Release SELECT 0	b. SSP FORCE SYC ACTIVE	REPT CU STAT AVL				

TABLE 1 - ALARM GENERATION TEST (Cont.)

PROCESSOR FRAME POWER CIRCUIT, SD-1C911-01

STEP NUMBER	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	SYSTEM RESPONSE CONTROL COMPLEX TTY OUTPUT	SSP	OTHER	AUDIBLE ALARM	OTHER
2.91	RST:PCF 01;UCL!	b. Maint. TTY	REPT CU STAT AVL				
2.92	RST:PCF 00;UCL! Alarm Release						
3.	Depress LAMP and POWER TEST	b. SSP			SSP lamps lighted. Maint. Fr. LEDs lighted.		
3.1	Depress PROC 0 LAMP & POWER TEST	b. PROC Bay 0			LEDs on Bay 0 lighted except RESET ckts.		
3.2	Depress PROC 1 LAMP & POWER TEST	b. PROC Bay 1			LEDs on Bay 1 lighted except RESET ckts.		
4.	Depress LAMP and POWER TEST key	b. CONT-0 Frame : CONT-N Frame			LED on each power converter lighted.		
5.	Release Relay MJ0 & BLOCK Release	b. PROC Bay 0	**RCOVRY CU INIT 1 1 1404 **RMV CU 0 1 **REPT CU0 PWR 22-9 0000 OFN or **REPT CU1 OFN 24-3 0000 OFN		a. PWR RESET Lamp lighted b. PROC PWR removed	CRITICAL	
5.1	Remove block on MJ0 Relay	b. PROC Bay 0	REPT CU0 PWR 22-9 0000 NORM or REPT CU1 PWR 24-3 0000 NORM		a. PWR RESET lamp extinguished		
5.2	RST:CU!		DGN CU0COMPL ATP UPD OMAS COMPL RST CU COMPL				

TABLE 1 - ALARM GENERATION TEST (Cont.)

PROCESSOR FRAME POWER CIRCUIT, SD-1C911-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
6.	Release Relay MN	b. PROC Bay 0	*REPT CU0 PWR 22-10 0000 OFN or *REPT CU1 PWR 24-4 0000 OFN		a. PWR RESET Lamp lighted	MINOR	
7.	Release Relay NPA	b. PROC Bay 0	*REPT CU0 PWR 22-10 0000 NORM or REPT CU1 PWR 24-4 0000 NORM			MINOR	
8.	Repeat 5-7	b. PROC Bay 1					

TABLE 2 - ALARM GENERATION TEST

MAINTENANCE FRAME POWER CIRCUIT, SD-1C909-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	Depress & hold ALT BUS key	a. SYC0 ACTIVE SYC1 STANDBY POWER BUS A ON LINE b. SSP	REPT ERR SSP	ALT BUS and FORCED lamps lighted while key is depressed			
1.1	Release ALT BUS key	b. SSP	REPT ERR SSP	ALT BUS and FORCED lamps extinguished			
2.	Release Relay MN	b. Maintenance Frame	*REPT MISCA 20 3 0000 OFN	MINOR and MINOR POWER lamps lighted	PWR RESET lighted	MINOR	
2.1	Allow MN to go normal		REPT MISCA 20 3 0000 NORM				
3.	Release & hold Relay MJ0	b. Maintenance Frame	**REPT MISCA 19 2 0000 OFN REPT ERR SSP	All lamps except LAMP and POWER TEST lighted Circuit power		MAJOR	
3.1	Allow MJ0 to return to normal (operated) position	b. Maintenance Frame	REPT MISCA 19 2 0000 NORM				
4.	Release & hold Relay MJ1	b. Maintenance Frame	**REPT MISCA 19 2 0000 OFN	MAJOR, FUSE ALARM lamps lighted; SYSTEM NORMAL lamp extinguished	PWR RESET lighted	MAJOR	
4.1	Allow MJ1 to return to normal (operated) position	b. Maintenance Frame	REPT MISCA 19 2 0000 NORM	FUSE lamp extinguished			
5.	Release & hold Relay MJ2	b. Maintenance Frame	**REPT MISCA 19 1 0000 OFN	Same as PN 4		MAJOR	

TABLE 2 - ALARM GENERATION TEST (Cont.)

MAINTENANCE FRAME POWER CIRCUIT, SD-1C909-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
5.1	Allow MJ2 to return to normal (operated) position	b. Maintenance Frame	REPT MISCA 19 1 0000 NORM	Same as PN 4.1			
6.	Release & hold Relay MJ3	b. Maintenance Frame	**REPT MISCA 19 0 0000 OFN	Same as PN 4		MAJOR	
6.1	Allow MJ3 to return to normal (operated) position	b. Maintenance Frame	REPT MISCA 19 0 0000 NORM	Same as PN 4.1			
7.	Release & hold Relay NPA	b. Maintenance Frame	*REPT MISCA 20 3 0000 OFN	MINOR and MINOR PWR lamps lighted			
7.1	Allow NPA to return to normal (operated) position	b. Maintenance Frame	REPT MISCA 20 3 0000 NORM				
8.	Release CIRCUIT POWER key	b. Maintenance Frame	REPT ERR SSP REPT MISC 19-3 OFN	Same as Step 3			
8.1	Operate circuit power key		REPT MISCA 19 3				

TABLE 3 - ALARM GENERATION TEST

TEST FRAME, SD-3H901-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	 OTHER	AUDIBLE ALARM	OTHER
1.	Release & hold Relay FA	b. TEST Frame	*REPT MISCA 20 12 0000 OFN	MINOR, FUSE lamps lighted.	ALARM RELEASE	MINOR	
1.1	Allow Relay FA to return to normal (operated) position	b. TEST Frame	REPT MISCA 20 12 0000 NORM	FUSE lamp extinguished			

TABLE 4 - ALARM GENERATION TEST

CONTROL FRAME CIRCUIT, AD-3H902-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	Release Relay 24 ST0	b. CONT FR 0	RMV PWR PCF 00	MAJOR, ALARM RELEASE, MAJOR EQPT LOSS, NWC, SC, PPD lighted		MAJOR	PERIPH CONT00 REQ OOS PWR OFF lamps lighted
1.2	Depress ALARM RELEASE	b. SSP		ALARM RELEASE, MAJOR lamps extinguished			
2.	Operate PERIPH CONTROL 00 to ON	b. CONT FR 0	RST PWR PCF00 COMPL				PWR OFF lamp extinguished
3.	RST:PCF 00; UCL!	Maint. TTY	RST SC 00 COMPL RST NWC 00 COMPL RST PPD 00 COMPL	MAJOR EQPT LOSS NWC, SC, PPD lamps extinguished			OOS Lamp extinguished
4.	Release Relay 24 ST1	b. CONT FR 0	RMV PWR PCF 01	MAJOR, ALARM RELEASE, MAJOR EQPT LOSS, NWC, SC, PPD lighted		MAJOR	PERIPH CONT01 REQ OOS PWR OFF lamps lighted
4.1	Depress ALARM RELEASE	b. SSP		ALARM RELEASE, MAJOR lamps extinguished			
5.	Operate PERIPH CONTROL 01 to ON	b. CONT FR 0	RST PWR PCF 01 COMPL				PWR OFF lamp extinguished

TABLE 4 - ALARM GENERATION TEST (Cont.)

CONTROL FRAME CIRCUIT, AD-3H902-01

PROCEDURE NUMBER	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	SYSTEM RESPONSE TTY OUTPUT	CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
6.	RST:PCF 01;UCL	b. Maint. TTY	RST SC 01 COMPL RST NWC 01 COMPL RST PPD 01 COMPL	MAJOR EQPT LOSS, NWC, SC, PPD lamps extinguished			OOS lamp extinguished
7.	Repeat PNs 1-6 for CONT FR 1 if equipped						
8.	FA FUSE ALM Insert blown fuse	b. CONT FR.	*REPT MISCA 20 12 0000 OFN	Minor fuse		MINOR	
9.	Remove blown fuse	b. CONT FR	REPT MISCA 20 12 0000 NORM				
10.	Replace proper fuse						

TABLE 5 - ALARM GENERATION TEST

NETWORK FRAME CIRCUIT, SD-3H901-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	Depress CONVA key	b. NW Frame under test	**REPT MISCA 25 II 0000 OFN	MAJOR, MAJOR POWER, ALARM RELEASE lamps lighted		MAJOR	CONV A lamp lighted
1.1	Depress ALARM RELEASE	b. SSP		MAJOR, ALARM RELEASE lamps extinguished		OFF	
2.	Operate Relay FAA	b. NW Frame under test	*REPT MISCA 20 13 0000 OFN	MINOR, FUSE lamps lighted MAJOR POWER remains lighted		MINOR	FA lamp lighted
2.1	Release Relay FAA	b. NW Frame under test	REPT MISCA 20 13 0000 NORM	FUSE lamps extinguished MAJOR POWER remains lighted.		OFF	FA lamp extinguished
2.2	Depress Alarm Release	b. SSP		Alarm released & minor lamps extinguished.			
3.	Operate Relay FAB	b. NW Frame under test	*REPT MISCA 20 12 0000 OFN	MINOR, FUSE lamps lighted. MAJOR POWER remains lighted		MINOR OFF	FA lamp lighted
3.1	Release Relay FAB	b. NW Frame under test	REPT MISCA 20 12 0000 NORM	FUSE lamps extinguished MAJOR POWER remains lighted.			FA lamp extinguished
3.2	Depress Alarm Release			Alarm released & minor lamps extinguished.			
4.	Release CONV A key	b. NW Frame under test	REPT MISCA 25 11 0000 NORM	MAJOR POWER lamp extinguished			CONV A extinguished

TABLE 5 - ALARM GENERATION TEST (Cont.)

NETWORK FRAME CIRCUIT, SD-3H901-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
5.	Depress CONV B key	b. NW Frame under test	**REPT MISCA 25 11 0000 OFN	MAJOR, MAJOR POWER, ALARM RELEASE lamps lighted		MAJOR	CONV A extinguished
5.1	Depress ALARM RELEASE	b. SSP		MAJOR, ALARM RELEASE lamps extinguished		OFF	
6.	Operate Relay FAA	b. NW Frame under test	*REPT MISCA 20 13 0000 OFN	MINOR, FUSE lamps lighted MAJOR POWER remains lighted		MINOR	FA lamp lighted
6.1	Release Relay FAA	b. NW Frame under test	REPT MISCA 20 13 0000 NORM	MINOR, FUSE lamps extinguished MAJOR POWER remains lighted		OFF	FA lamp extinguished
6.2	Depress Alarm Release			Alarm & minor lamps extinguished.			
7.	Operate Relay FAB	b. NW Frame under test	*REPT MISCA 20 12 0000 OFN	MINOR, FUSE lamps lighted MAJOR POWER remains lighted		MINOR	FA lamp lighted
7.1	Release Relay FAB	b. NW Frame under test	REPT MISCA 20 12 0000 NORM	MINOR, FUSE lamps extinguished MAJOR POWER remains lighted.		OFF	FA lamp extinguished
7.2	Depress Alarm Release	b. SSP		Alarm & Minor lamps extinguished.			

TABLE 5 - ALARM GENERATION TEST (Cont.)

NETWORK FRAME CIRCUIT, SD-3H901-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
8.	Release CONV B key	b. NW Frame under test	REPT MISCA 25 11 0000 NORM	MAJOR POWER lamp extinguished			CONV B lamp extinguished
9.	Repeat Steps 1-8 for each NW frame equipped						

TABLE 6 - ALARM GENERATION TEST

MISCELLANEOUS POWER CIRCUIT, SD-3H902-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
	CAUTION: UNLOAD TAPE CARTRIDGES FROM CARTRIDGE TAPE TRANSPORT BEFORE PROCEEDING. PROCEDURES COULD CAUSE BAD DATA TO BE WRITTEN.						
1.	Operate 184B POWER UNIT 0 to OFF	a. SYC0 ACTIVE SYC1 STANDBY b. MISC POWER FRAME c. SUPPLY 0, ±130V power converter	REPT PWR C 25 10 xxxx OFN				ALM lamp on. 184B lighted
2.	Operate 184B POWER UNIT 0 to ON	b. MISC POWER Frame	REPT PWR C 25 10 xxxx NORM				ALM lamp on. 184B extinguished
3.	Operate Relay ±130 FA (0)	b. MISC POWER Frame	*REPT PWR C 24 12 xxxx OFN	MINOR, FUSE ALARM RELEASE lamps lighted		MINOR	
3.1	Depress ALARM RELEASE	b. SSP		MINOR, ALARM RELEASE lamps extinguished			
3.2	Release Relay ±130 FA (0)	b. MISC POWER Frame	REPT PWR C 24 12 xxxx NORM	FUSE lamp extinguished			
4.	Operate 184B POWER UNIT 1 to OFF	b. MISC POWER Frame c. SUPPLY 1, ±130V POWER converter	REPT PWR C 25 10 xxxx OFN				ALM lamp on. 184B lighted

TABLE 6 - ALARM GENERATION TEST (Cont.)

MISCELLANEOUS POWER CIRCUIT, SD-3H902-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
5.	Operate 184B POWER UNIT 1 to ON	b. MISC POWER Frame	REPT PWR C 25 10 xxxx NORM				ALM lamp on. 184B extinguished.
6.	Operate Relay ±130 FA (1)	b. MISC POWER Frame	*REPT PWR C 24 12 xxxx OFN	MINOR, FUSE, ALARM RELEASE lamps lighted		MINOR	
6.1	Depress ALARM RELEASE	b. SSP		MINOR, ALARM RELEASE lamps extinguished			
6.2	Release Relay ±130 FA (1)	b. MISC POWER Frame	REPT PWR C 24 12 xxxx NORM	FUSE lamp extinguished			
7.	Operate 184A POWER UNIT 0 to OFF	b. MISC POWER Frame c. SUPPLY 0, ±48V POWER	REPT PWR D 27 10 xxxx OFN **RMV RT 0 xxxx REPT RT 1 ACT	MAJOR, ALARM RELEASE, MAJOR EQPT LOSS, RT lamps lighted		MAJOR	ALM lamp on. 184A, R&T 0 OOS lamp lighted
8.	Operate 184A POWER UNIT 0 to ON	b. MISC POWER Frame	REPT PWR D 27 10 xxxx NORM				ALM lamp on. 184A extinguished.
9.	Operate Relay +48 FA (0)	b. MISC POWER Frame	**REPT PWR D 27 9 0000 OFN	MAJOR, FUSE, ALARM RELEASE lamps lighted		MAJOR	
9.1	Depress ALARM RELEASE	b. SSP		MAJOR, ALARM RELEASE lamps extinguished			
9.2	Release Relay +48 FA (0)	b. MISC POWER Frame	REPT PWR D 27 9 xxx NORM	FUSE LAMP extinguished			
10.	RST:RT 0;UCL!	b. Maint. TTY	RST RT 0 COMPL	MAJOR EQPT LOSS RT lamps extinguiished			R&T 0 OOS lamp extinguished

TABLE 6 - ALARM GENERATION TEST (Cont.)

MISCELLANEOUS POWER CIRCUIT, SD-3H902-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
11.	Operate 184A POWER UNIT 1 to OFF	b. MISC POWER Frame c. SUPPLY 1, +48V POWER converter	REPT PWR D 27 10 xxxx OFN REPT RT 0 ACT **RMV RT 1 xxxx	MAJOR, ALARM		MAJOR	ALM lamp on. 184A, R&T 1 OOS lighted
12.	Operate 184A POWER UNIT 1 to ON	b. MISC POWER Frame	REPT PWR 0 27 10 xxxx NORM				ALM lamp on. 184A extinguished
13.	Operate Relay +48 FA (1)	b. MISC POWER Frame	**REPT PWR D 27 9 xxxx OFN	MAJOR, FUSE, ALARM RELEASE lamps light		MAJOR	
13.1	Depress ALARM RELEASE	b. SSP		MAJOR, ALARM RELEASE lamps extinguished			
13.2	Release Relay +48 FA (1)	b. MISC POWER Frame	REPT PWR D 27 9 xxxx NORM				
14.	RST:RT 1;UCL!	b. Maint. TTY	RST RT 1 COMPL	MAJOR EQPT LOSS, RT lamps extinguished			R&T 1 OOS lamp extinguished
15.	Operate 188A POWER UNIT No. 1 to OFF CKT 0, BUS A	b. MISC POWER Frame c. SUPPLY 0, +24V POWER converter UNIT A	REPT PWR A xxxx M OFF	Takes up to 1 min. sometimes			ALM lamp on. 188A lighted
16.	Operate 188A POWER UNIT A (0) to ON CKT 0, BUS A	b. MISC POWER Frame	**REPT PWR A xxxx FAIL REPT PWR A xxxx M OFF	MAJOR lamp lighted		MAJOR	
16.1	Operate 188A POWER UNIT A (0) ALM RESET CKT 0, BUS A Alarm Release	b. MISC POWER Frame	REPT PWR A xxxx NORM	MAJOR lamp extinguished			ALM lamp on. 188A extinguished

TABLE 6 - ALARM GENERATION TEST (Cont.)

MISCELLANEOUS POWER CIRCUIT, SD-3H902-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
17.	Operate 188A POWER UNIT B (0) to OFF CKT 0 BUS B	b. MISC POWER Frame c. SUPPLY 0, +24V POWER Converter UNIT B	REPT PWR A xxxx M OFF				ALM lamp on. 188A lighted
18.	Operate 188A POWER UNIT B (0) to ON CKT 0 BUS B	b. MISC POWER Frame	**REPT PWR A xxxx FAIL REPT PWR A xxxx M OFF	MAJOR		MAJOR	
18.1	Operate 188A POWER UNIT B (0) ALM RESET CKT 0 BUS B ALARM RELEASE	b. MISC POWER Frame	REPT PWR A xxxx NORM	MAJOR lamp extinguished			ALM lamp on. 188A extinguished.
19.	Operate 188A POWER UNIT A (1) to OFF CKT 1 BUS A	b. MISC POWER Frame c. SUPPLY 1, +24V POWER converter UNIT A	REPT PWR A xxxx M OFF				ALM lamp on. 188A lighted
20.	Operate 188A POWER UNIT A (1) to ON CKT 1 BUS A	b. MISC POWER Frame	** REPT PWR A xxxx FAIL REPT PWR A xxxx M OFF	MAJOR lamp lighted		MAJOR	
20.1	Operate 188A POWER UNIT A (1) ALM RESET CKT 1 BUS A ALARM RELEASE	b. MISC POWER Frame	REPT PWR A xxxx NORM	MAJOR lamp extinguished			ALM lamp on. 188A extinguished
21.	Operate 188A POWER UNIT B (1) to OFF CKT 1 BUS B	b. MISC POWER Frame c. SUPPLY 1, +24V POWER converter UNIT B	REPT PWR A xxxx M OFF				ALM lamp on. 188A lighted

TABLE 6 - ALARM GENERATION TEST (Cont.)

MISCELLANEOUS POWER CIRCUIT, SD-3H902-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
22.	Operate 188A POWER UNIT B (1) to ON CKT 1 BUS B	b. MISC POWER Frame	**REPT PWR A xxxx FAIL REPT PWR A xxxx M OFF	MAJOR lamp lighted		MAJOR	
22.1	Operate 188A POWER UNIT B (1) ALM RESET CKT 1 BUS B ALARM RELEASE	b. MISC POWER Frame	REPT PWR A xxxx NORM	MAJOR lamp extinguished			ALM lamp on. 188A extinguished
23.	Reload Tape Cartridges		RST:TAPE 0;UCL! RST:TAPE 1,UCL!				

TABLE 7 - ALARM GENERATION TEST

RINGING AND TONE PLANT, SD-82255-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	Operate Relay FA 1	a. SYC0 ACTIVE, SYC1 STANDBY b. MISC POWER Frame	**RMV PWR RT 1 **RMV RT 1 0003	RT, MAJOR, MAJOR EQPT LOSS, ALARM RELEASE lamps lighted		MAJOR	OOS-1, PWR OFF-1 lamps lighted
1.1	Depress ALARM RELEASE	b. SSP		MAJOR, ALARM RELEASE lamps extinguished		OFF	
1.2	Release Relay FA 1	b. MISC POWER Frame	RST PWR RT 1 COMPL				PWR OFF-1 lamp extinguished
2.	Operate Relay FA 0	b. MISC POWER Frame c. Automatic Transfer to RT 1	RMV PWR RT 0 REPT RT 1 ACT **RMV RT 0 0003 **REPT MULT *C RTT TRBL	CRITICAL MAJOR EQPT LOSS, ALARM RELEASE lamps lighted		CRITICAL	OOS-0, PWR OFF-0 Lamps lighted
2.1	Depress ALARM RELEASE	b. SSP		CRITICAL, ALARM RELEASE lamps extinguished		OFF	
2.2	Release Relay FA 0	b. MISC POWER Frame	RST PWR RT 0 COMPL				PWR OFF-0 lamp extinguished
3.	Operate Relay FA 2	b. MISC POWER Frame	**REPT RT 18 4 0000 OFN	MAJOR, FUSE MAJOR EQPT LOSS, ALARM RELEASE lamps lighted		MAJOR	
3.1	Depress ALARM RELEASE	b. SSP		MAJOR, ALARM RELEASE lamps extinguished			
3.2	Release Relay FA2	b. MISC POWER Frame	REPT RT 18 4 0000 NORM	FUSE lamp extinguished			
4.	RST:RT 0;UCL!	b. Maint. TTY	RST RT 0 COMPL REPT RT 0 ACT				
5.	RST:RT 1;UCL!	b. Maint. TTY	RST RT 0 COMPL REPT RT 1 STBY	MAJOR EQPT LOSS, RT lamps extinguished			

TABLE 8 - ALARM GENERATION TEST

MISCELLANEOUS FRAME CIRCUIT, SD-3H903-01

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	Operate Relay FA	a. MISC Frame under test	*REPT MISCA 20 12 0000 OFN	MINOR, FUSE ALARM RELEASE lamps lighted		MINOR	FA lamp on. MISC Frame lighted
1.1	Release Relay FA	b. MISC Frame under test	REPT MISCA 20 12 0000 NORM	FUSE lamp extinguished			FA lamp on. MISC Frame extinguished
1.2	Depress ALARM RELEASE	b. SSP		MINOR, ALARM RELEASE lamps extinguished			
2.	Repeat Steps 1-1.2 on each MISC Frame installed						

TABLE 9 - ALARM GENERATION TEST

151A POWER PLANT

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	SYSTEM RESPONSE TTY OUTPUT	CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
1.	Depress POWER ON- POWER OFF switch	b. Rectifier under test	16-0, 1,2,3 17-0		TTY OUTPUT indicates rectifier scan points on MS		POWER ON lamp extinguished. POWER OFF lamp lighted.
2.	Manually trip EXTERNAL CHARGE CKT BKR/RECT associated with rectifier under test	b. Charge CIRCUIT BREAKER panel					POWER OFF lamp fades out
3.	Remove RB( ) fuse associated with rectifier under test	b. PLANT CONTROL panel					LOCAL SNS lamp lighted
4.	Replace RB( ) fuse associated with rectifier under test	b. PLANT CONTROL panel					LOCAL SNS lamp extinguished
5.	Reset EXTERNAL CHARGE CKT BKR/RECT associated with rectifier under test	b. Charge CIRCUIT BREAKER panel					
6.	Depress POWER ON- POWER OFF switch	b. Rectifier under test					POWER ON lamp lighted. POWER OFF lamp extinguished

TABLE 9 - ALARM GENERATION TEST (Cont.)

151A POWER PLANT

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	SYSTEM RESPONSE TTY OUTPUT	CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
7.	Repeat Steps 1-6 for remaining rectifiers		SKIP 8 THRU 10 IF NORTH ELECTRIC RECTIFIER IS FURNISHED REMOVING CBS FUSE DOES NOT STOP RECTIFIERS FROM SHUTTING DOWN				
8.	Momentarily operate HV Test Switch S1 to the TST position.	b. PLANT CONTROL Unit, HV Shutdown					No response
9.	Momentarily operate HV Test Switch S2 to the TST position. REMOVE CBS FUSE!	b. PLANT CONTROL Unit, HV Shutdown					No response
10.	Momentarily operate both HV Test Switches S1 and S2 to the TST position. Replace CBS Fuse.	b. PLANT CONTROL Unit, HV Shutdown	**REPT PWR B 17 1 0000	MAJOR POWER		MAJOR	HLV on PLANT CONTROL Unit lighted.
11.	Rotate LV adj. Pot. fully CCW NOTE: This pot is a 10 turn pot with no mechanical stop. Rotate CCW until a slight click is felt.	b. PLANT CONTROL Unit, LV CAL/ ADJ Panel					
12.	Set PLANT VOLTMETER SELECTOR & SWITCH to LV ADJ & TST	b. PLANT CONTROL Unit					

TABLE 9 - ALARM GENERATION TEST (Cont.)

151A POWER PLANT

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
13.	Set ITE-5632 DMM to 100V DC Range and connect across VM CAL (+) and (-) Test Jacks	b. PLANT CONTROL Unit					
14.	Set LV CAL switch to CAL	b. PLANT CONT ROL Unit, LV CAL/ADJ Panel					
14.1	Set LU ADJ & TST SW to LU ADJ & TST						
15.	Slowly rotate LV ADJ pot CW until DMM indicates 50.0 volts	b. PLANT CONTROL Unit, LV CAL/ ADJ Panel	**REPT PWR B 18 0 0000 OFN	MAJOR POWER lamp lighted		MAJOR	HLV lamp lighted on PLANT CONTROL Unit
15.1	Alarm Release						
16.	Continue rotating LV ADJ pot CW until DMM indicates 47.0 volts	b. PLANT CONTROL Unit, LV CAL/ ADJ Panel	**REPT PWR B 17 2 0000 OFN	MAJOR POWER lamps lighted		MAJOR	HLV lamp remains lighted
16.1	Alarm Release						
17.	Rotate LV ADJ pot fully CCW	b. PLANT CONTROl Unit, LV CAL/ ADJ Panel	**REPT PWR B 18 0 NORM **REPT PWR B 17 2 NORM				HLV lamp extinguished

TABLE 9 - ALARM GENERATION TEST (Cont.)

151A POWER PLANT

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	TTY OUTPUT	SYSTEM RESPONSE CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER
18.	Set LV CAL switch to BAT, PLANT VOLT-METER SELECTOR switch to BATTERY and remove DMM	b. PLANT CONTROL Unit					
19.	RB Fuse ALM Place blown fuse in RB( )		*REPT PWR B 18 1 0000 OFN	MINOR FUSE	Rect Fail light lights	MINOR	
19.1	Alarm Release		REPT PWR B 18 1 NORM				
19.2	Remove blown fuse						
20.	Distribution Fuse ALM		**REPT PWR B 26-8 0000 OFN	MAJOR FUSE	Discharge Fuse light lights	MAJOR	
20.1	Alarm Release						
20.2	Remove blown fuse		REPT PWR B 26-8 NORM				

TABLE 10 - ALARM GENERATION TEST

MISCELLANEOUS ALARMS

STEP	OPERATOR ACTION	a. BASIC SYSTEM CONFIGURATION b. AT LOCATION c. REMARKS	SYSTEM RESPONSE TTY OUTPUT	CONTROL COMPLEX SSP	OTHER	AUDIBLE ALARM	OTHER

Each miscellaneous alarm scan point assignment must be tested. The Scanner Assignment Rules, SD-3H1912-01, and Office Records should be referenced to obtain assignment information. Some alarms will be originated by saturating and some by unsaturating ferrods. After the necessary information is determined, the alarms shall be tested by making the necessary state change. In each case, the alarm should be generated by utilizing the installed sensor, if possible. That is, a smoke detector should be tested by blowing smoke into it, a pressure loss sensor should be tested by removing pressure, etc., rather than by shorting contacts or applying voltage to them. The system response shall be verified for appropriate TTY Output messages, Visual and Audible Alarms.

A C I N V E R T E R

Operate Test Switch		**REPT MISC a 25 12 0000 OFN		MAJOR	MAJOR
Alarm Release				MAJOR PWR LAMP OUT	
Operate output switch to OFF		**REPT MISC a 26 12 0000 OFN		MAJOR	MAJOR
Alarm Release				MAJOR PWR LAMP OUT	
Operate output SW to ON and wait about 45 seconds.		REPT MISCA 25-12 0000 NORM		MAJOR PWR LAMP OUT	

Reason for Reissue:
Major update.

Manager, ESS Installation & Field Engineering

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No arrows shown due to extensive changes.