

DIESEL GENERATOR 1

GENERATOR 460V BUS BKR. TRIP	GENERATOR DIFF	ENGINE OVERSPEED	MCC 1B SWGR TRIPPED	JACKET WTR HIGH TEMP H/HH	LUBE OIL TEMP H/HH	TURBO OIL PRESS L/L	ENGINE FUEL LOW PRESS	ENGINE FUEL FILTER HIGH ΔP	HIGH CRANKCASE PRESS
LOCKOUT RELAY IN TRIP POS	GENERATOR UNDER FREQUENCY	ENGINE TRIPPED	MOTOR FEEDER TRIPPED	JACKET WTR LOW TEMP	MAIN BEARING TEMP HIGH	LUBE OIL PRESS L/L	DAY TANK LEVEL LOW-LOW	DAY TANK LEVEL HIGH-HIGH	CRANKCASE OPEN DOOR
OVERCURRENT W/VOLTAGE RESTRAINT	LOSS OF FIELD EXCITATION	STATOR GROUND	DC BUS 1 LOW VOLT	JACKET WTR LOW LEVEL	LUBE OIL FILTER HIGH ΔP	LUBE OIL TANK LOW LEVEL	G74A, G74B TRANS LINE LOW PRESS	FUEL PUMP/ OVERSPEED DRIVE FAIL	C13A START AIR LOW PRESS
NEGATIVE PHASE SEQUENCE	DIRECTION POWER	STATOR WINDING HIGH TEMP	BATT CHGR FAILURE A/B	460V SWGR DC CONTR LOW VOLT OR ACB OUT OF OPER POSITION	LUBE OIL LOW TEMP	LUBE OIL STANDBY PUMP ON	G74A, G74B STRAINER HIGH ΔP	DC FUEL OIL OVERLOAD	C13B START AIR LOW PRESS
SPACE HTR TROUBLE	GENERATOR OVER EXCITATION	VOLTAGE BALANCE	DC BUS 1 GROUND	INSTR AIR RECEIVERS LOW PRESS	MISSILE RESISTANT DOOR OPEN		BATTERY ROOM HYDROGEN LEVEL HIGH	STOR TANK LOW LEVEL	ENGINE VIBRATION
EXCITER SEMI-CONDUCTOR FAILURE	GENERATOR OVER VOLTAGE	SWGR 3 UNDERVOLT	DC BUS 1 AND/OR L/V	UNIT IN MAINT	FIRE PROT SYSTEM ACTIVATED	ALARM CONTACTS GROUNDED	PANEL REAR DOORS OPEN		BARRING DEVICE ENGAGED

WINDOW NO	INPUT FUNCTION	ELEM. DIAG.	INITIATING DEVICE	LOCATION	ALARM LEVEL
1	460V BUS BREAKER TRIPPED	5149800	186-2	A1C	X
2	GENERATOR DIFFERENTIAL (EMERG TRIP)	5149800	186-51	A1C	X
3	ENGINE OVERSPEED (EMERG TRIP)	5149800	PS-11	A1C	X
4	MCC 1B SWGR TRIPPED	5149800	52-1129	B04	X
5	HIGH JACKET WATER TEMP-OUT	5149800	R-18, R-20	C4B	X
6	HIGH JACKET WATER TEMP-IN	5149800	R-16, R-17	C4B	X
7	HIGH LUBE OIL TEMP-IN	5149800	PS-13	C4B	X
8	LOW LUBE OIL TEMP-OUT (TEST TRIP)	5149800	PS-14	C4B	X
9	LOW TURBO LUBE OIL PRESSURE- RIGHT FRONT	5149800	PS-20	C4B	X
10	LOW TURBO LUBE OIL PRESSURE- LEFT FRONT	5149800	PS-21	C4B	X
11	LOW TURBO LUBE OIL PRESSURE- LEFT REAR	5149800	PS-22	C4B	X
12	LOW TURBO LUBE OIL PRESSURE- RIGHT REAR	5149800	PS-23	C4B	X
13	LOW-LOW TURBO LUBE OIL PRESSURE- FRONT (TEST TRIP)	5149800	PS-19	C4B	X
14	LOW-LOW TURBO LUBE OIL PRESSURE- REAR (TEST TRIP)	5149800	PS-20	C4B	X
15	ENGINE FUEL LOW PRESSURE	5149800	PS-21	C4B	X
16	HIGH ΔP ACROSS ENGINE FUEL FILTER	5149800	PS-22	C4B	X
17	HIGH CRANKCASE PRESSURE (TEST TRIP)	5149800	PS-27	C4B	X
18	LOCKOUT RELAY IN TRIPPED POSITION	5151358	186-106	A1C	X
19	GENERATOR UNDER FREQUENCY	5149800	186-106	A1C	X
20	ENGINE TRIPPED	5149800	PS-19	C4B	X
21	MOTOR FEEDER TRIPPED	5149800	R-19	C4B	X
22	LOW JACKET WATER TEMP-IN	5149800	R-21	C4B	X
23	LOW JACKET WATER TEMP-OUT	5149800	R-19	C4B	X
24	MAIN BEARING HIGH TEMP (TEST TRIP)	5149800	PS-15	C4B	X
25	LOW ENGINE LUBE OIL PRESSURE	5149800	PS-25	C4B	X
26	DAY TANK LOW-LOW FUEL LEVEL	5149800	PS-24	C4B	X
27	DAY TANK HIGH-HIGH FUEL LEVEL	5149800	PS-24	C4B	X
28	CRANKCASE EXPLOSION RELEASE DOOR OPEN (TEST TRIP)	5149800	LS-3	C4B	X
29	OVERCURRENT WITH VOLTAGE RESTRAINT (TEST TRIP)	5149800	MS-2-11	G15	X
30	LOSS OF FIELD EXCITATION (TEST TRIP)	5149800	186-106	A1C	X
31	GENERATOR STATOR GROUNDED	5149800	186-106	A1C	X
32	DC BUS 1 LOW VOLTAGE	5149800	186-106	A1C	X
33	LOW JACKET WATER LEVEL	5149800	PS-37	C4B	X
34	LUBE OIL FILTER HIGH ΔP	5149800	PS-17	C4B	X
35	LUBE TANK LOW OIL LEVEL	5149800	LS-4	C4B	X
36	FUEL TRANSFER PUMP TRANSFER LINE PRESSURE LOW (G74A)	5149800	PS-3	C4B	X
37	FUEL TRANSFER PUMP TRANSFER LINE PRESSURE LOW (G74B)	5149800	PS-3	C4B	X
38	FUEL PUMP OVERSPEED DRIVE FAILURE	5149800	PS-31	C4B	X
39	STARTING AIR RECEIVER C13A LOW PRESSURE TO SOLENOID 1A1	5149800	PS-3	C4B	X
40	STARTING AIR RECEIVER C13B LOW PRESSURE TO SOLENOID 1A2	5149800	PS-4	C4B	X
41	NEGATIVE PHASE SEQUENCE (TEST TRIP)	5149800	186-106	A1C	X
42	DIRECTIONAL POWER (TEST TRIP)	5149800	186-106	A1C	X
43	HIGH GENERATOR STATOR WINDING TEMP	5149800	186-106	A1C	X
44	BATTERY CHARGER FAILURE A/B	5151358	186-106	A1C	X
45	460V SWGR DC CONTROL LOW VOLTAGE OR ACB OUT OF OPERATE POSITION	5149800	186-106	A1C	X
46	LUBE OIL LOW TEMPERATURE	5149800	R-23	C4B	X
47	LUBE OIL STANDBY PUMP ON	5149800	186-106	A1C	X
48	TRANSFER FUEL LINE STRAINER HIGH ΔP (G74A, G74B)	5151359	PS-15	C4B	X
49	DC FUEL OIL STANDBY PUMP OVERLOAD	5151359	PS-15	C4B	X
50	STARTING AIR RECEIVER C13B LOW PRESSURE TO SOLENOID 1B1	5149800	PS-6	C4B	X
51	STARTING AIR RECEIVER C13B LOW PRESSURE TO SOLENOID 1B2	5149800	PS-5	C4B	X
52	GENERATOR SPACE HEATER TROUBLE	5151359	PS-5	C4B	X
53	GENERATOR OVER EXCITATION	5151359	PS-5	C4B	X
54	VOLTAGE BALANCE	5151359	PS-5	C4B	X
55	DC BUS 1 GROUND	5151359	PS-5	C4B	X
56	INSTRUMENT AIR RECEIVERS LOW PRESSURE	5151359	PS-5	C4B	X
57	MISSILE RESISTANT DOOR OPEN	5151359	PS-5	C4B	X
58	SPARE	5151359	PS-5	C4B	X
59	BATTERY ROOM HYDROGEN LEVEL HIGH	5151359	PS-5	C4B	X
60	STORAGE TANK LOW FUEL LEVEL	5151359	PS-5	C4B	X
61	HIGH ENGINE VIBRATION (TEST TRIP)	5149800	PS-10	C4B	X
62	EXCITER SEMI-CONDUCTOR FAILURE	5151359	PS-5	C4B	X
63	GENERATOR OVERVOLTAGE (TEST TRIP)	5151359	PS-5	C4B	X
64	460V SWGR 125V DC UNDERVOLTAGE	5151359	PS-5	C4B	X
65	DC BUS 1 DC ACB TRIP AND/OR LOW VOLTAGE	5151359	PS-5	C4B	X
66	UNIT IN MAINTENANCE	5151359	PS-5	C4B	X
67	FIRE PROTECTION SYSTEM ACTIVATED	5151359	PS-5	C4B	X
68	ALARM CONTACTS GROUNDED	5151359	PS-5	C4B	X
69	PANEL REAR DOORS OPEN	5151359	PS-5	C4B	X
70	SPARE (LOGIC USED FOR D/G #2)	5151359	PS-5	C4B	X
71	BARRING DEVICE ENGAGED	5151359	PS-5	C4B	X

WINDOW NO	INPUT FUNCTION	ELEM. DIAG.	INITIATING DEVICE	LOCATION	ALARM LEVEL
5149800	ELEM. DIAG. D/G 2 ANN. SYSTEM	5149800	186-106	A1C	X
5149800	ELEM. DIAG. D/G 2 ANN. SYSTEM	5149800	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X
5151359	ELEM. DIAG. D/G 2 ANN. SYSTEM	5151359	186-106	A1C	X

DIESEL GENERATOR 2

GENERATOR 460V BUS BKR. TRIP	GENERATOR DIFF	ENGINE OVERSPEED	MCC 2B SWGR TRIPPED	JACKET WTR HIGH TEMP H/HH	LUBE OIL TEMP H/HH	TURBO OIL PRESS L/L	ENGINE FUEL LOW PRESS	ENGINE FUEL FILTER HIGH ΔP	HIGH CRANKCASE PRESS
LOCKOUT RELAY IN TRIP POS	GENERATOR UNDER FREQUENCY	ENGINE TRIPPED	MOTOR FEEDER TRIPPED	JACKET WTR LOW TEMP	MAIN BEARING TEMP HIGH	LUBE OIL PRESS L/L	DAY TANK LEVEL LOW-LOW	DAY TANK LEVEL HIGH-HIGH	CRANKCASE OPEN DOOR
OVERCURRENT W/VOLTAGE RESTRAINT	LOSS OF FIELD EXCITATION	STATOR GROUND	DC BUS 2 LOW VOLT	JACKET WTR LOW LEVEL	LUBE OIL FILTER HIGH ΔP	LUBE OIL TANK LOW LEVEL	G75A, G75B TRANS LINE LOW PRESS	FUEL PUMP/ OVERSPEED DRIVE FAIL	C14A START AIR LOW PRESS
NEGATIVE PHASE SEQUENCE	DIRECTION POWER	STATOR WINDING HIGH TEMP	BATT CHGR FAILURE C/D	460V SWGR DC CONTR LOW VOLT OR ACB OUT OF OPER POSITION	LUBE OIL LOW TEMP	LUBE OIL STANDBY PUMP ON	G75A, G75B STRAINER HIGH ΔP	DC FUEL OIL OVERLOAD	C14B START AIR LOW PRESS
SPACE HTR TROUBLE	GENERATOR OVER EXCITATION	VOLTAGE BALANCE	DC BUS 2 GROUND	INSTR AIR RECEIVERS LOW PRESS	MISSILE RESISTANT DOOR OPEN		BATTERY ROOM HYDROGEN LEVEL HIGH	STOR TANK LOW LEVEL	ENGINE VIBRATION
EXCITER SEMI-CONDUCTOR FAILURE	GENERATOR OVER VOLTAGE	SWGR 3 UNDERVOLT	DC BUS 2 AND/OR L/V	UNIT IN MAINT	FIRE PROT SYSTEM ACTIVATED	ALARM CONTACTS GROUNDED	PANEL REAR DOORS OPEN		BARRING DEVICE ENGAGED

WINDOW NO	INPUT FUNCTION	ELEM. DIAG.	INITIATING DEVICE	LOCATION	ALARM LEVEL
1	460V BUS BREAKER TRIPPED	5149800	186-2	A1C	X
2	GENERATOR DIFFERENTIAL (EMERG TRIP)	5149800	186-51	A1C	X
3	ENGINE OVERSPEED (EMERG TRIP)	5149800	PS-11	A1C	X
4	MCC 2B SWGR TRIPPED	5149800	52-1129	B04	X
5	HIGH JACKET WATER TEMP-OUT	5149800	R-18, R-20	C4B	X
6	HIGH JACKET WATER TEMP-IN	5149800	R-16, R-17	C4B	X
7	HIGH LUBE OIL TEMP-IN	5149800	PS-13	C4B	X
8	LOW LUBE OIL TEMP-OUT (TEST TRIP)	5149800	PS-14	C4B	X
9	LOW TURBO LUBE OIL PRESSURE- RIGHT FRONT	5149800	PS-20	C4B	X
10	LOW TURBO LUBE OIL PRESSURE- LEFT FRONT	5149800	PS-21	C4B	X
11	LOW TURBO LUBE OIL PRESSURE- LEFT REAR	5149800	PS-22	C4B	X
12	LOW TURBO LUBE OIL PRESSURE- RIGHT REAR	5149800	PS-23	C4B	X
13	LOW-LOW TURBO LUBE OIL PRESSURE- FRONT (TEST TRIP)	5149800	PS-19	C4B	X
14	LOW-LOW TURBO LUBE OIL PRESSURE- REAR (TEST TRIP)	5149800	PS-20	C4B	X
15	ENGINE FUEL LOW PRESSURE	5149800	PS-21	C4B	X
16	HIGH ΔP ACROSS ENGINE FUEL FILTER	5149800	PS-22	C4B	X
17	HIGH CRANKCASE PRESSURE (TEST TRIP)	5149800	PS-27	C4B	X
18	LOCKOUT RELAY IN TRIPPED POSITION	5151359	186-106	A1C	X
19	GENERATOR UNDER FREQUENCY	5149800	186-106	A1C	X
20	ENGINE TRIPPED	5149800	PS-19	C4B	X
21	MOTOR FEEDER TRIPPED	5149800	R-19	C4B	X
22	LOW JACKET WATER TEMP-IN	5149800	R-21	C4B	X
23	LOW JACKET WATER TEMP-OUT	5149800	R-19	C4B	X
24	MAIN BEARING HIGH TEMP (TEST TRIP)	5149800	PS-15	C4B	X
25	LOW ENGINE LUBE OIL PRESSURE	5149800	PS-25	C4B	X
26	DAY TANK LOW-LOW FUEL LEVEL	5149800	PS-24	C4B	X
27	DAY TANK HIGH-HIGH FUEL LEVEL	5149800	PS-24	C4B	X
28	CRANKCASE EXPLOSION RELEASE DOOR OPEN (TEST TRIP)	5149800	LS-3	C4B	X
29	OVERCURRENT WITH VOLTAGE RESTRAINT (TEST TRIP)	5149800	MS-2-11	G15	X
30	LOSS OF FIELD EXCITATION (TEST TRIP)	5149800	186-106	A1C	X
31	GENERATOR STATOR GROUNDED	5149800	186-106	A1C	X
32	DC BUS 2 LOW VOLTAGE	5149800	186-106	A1C	X
33	LOW JACKET WATER LEVEL	5149800	PS-37	C4B	X
34	LUBE OIL FILTER HIGH ΔP	5149800	PS-17	C4B	X
35	LUBE TANK LOW OIL LEVEL	5149800	LS-4	C4B	X
36	FUEL TRANSFER PUMP TRANSFER LINE PRESSURE LOW (G75A)	5149800	PS-3	C4B	X
37	FUEL TRANSFER PUMP TRANSFER LINE PRESSURE LOW (G75B)	5149800	PS-3	C4B	X
38	FUEL PUMP OVERSPEED DRIVE FAILURE	5149800	PS-31	C4B	X
39	STARTING AIR RECEIVER C14A LOW PRESSURE TO SOLENOID 2A1	5149800	PS-3	C4B	X
40	STARTING AIR RECEIVER C14B LOW PRESSURE TO SOLENOID 2A2	5149800	PS-4	C4B	X
41	NEGATIVE PHASE SEQUENCE (TEST TRIP)	5149800	186-106	A1C	X
42	DIRECTIONAL POWER (TEST TRIP)	5149800	186-106	A1C	X
43	HIGH GENERATOR STATOR WINDING TEMP	5149800	186-106	A1C	X
44	BATTERY CHARGER FAILURE C/D	5151359	186-106	A1C	X
45	460V SWGR DC CONTROL LOW VOLTAGE OR ACB OUT OF OPERATE POSITION	5149800	186-106	A1C	X
46	LUBE OIL LOW TEMPERATURE	5149800	R-23	C4B	X
47	LUBE OIL STANDBY PUMP ON	5149800	186-106	A1C	X
48	TRANSFER FUEL LINE STRAINER HIGH ΔP (G75A, G75B)	5151359	PS-15	C4B	X
49	DC FUEL OIL STANDBY PUMP OVERLOAD	5151359	PS-15	C4B	X
50	STARTING AIR RECEIVER C14B LOW PRESSURE TO SOLENOID 2B1	5149800	PS-6	C4B	X
51	STARTING AIR RECEIVER C14B LOW PRESSURE TO SOLENOID 2B2	5149800	PS-5	C4B	X
52	GENERATOR SPACE HEATER TROUBLE	5151359	PS-5	C4B	X
53	GENERATOR OVER EXCITATION	5151359	PS-5	C4B	X
54	VOLTAGE BALANCE	5151359	PS-5	C4B	X
55	DC BUS 2 GROUND	5151359	PS-5	C4B	X
56	INSTRUMENT AIR RECEIVERS LOW PRESSURE	5151359	PS-5	C4B	X
57	MISSILE RESISTANT DOOR OPEN	5151359	PS-5	C4B	X
58	SPARE	5151359	PS-5	C4B	X
59	BATTERY ROOM HYDROGEN LEVEL HIGH	5151359	PS-5	C4B	X
60	STORAGE TANK LOW FUEL LEVEL	5151359	PS-5	C4B	X
61	HIGH ENGINE VIBRATION (TEST TRIP)	5149800	PS-10	C4B	X
62	EXCITER SEMI-CONDUCTOR FAILURE	5151359	PS-5	C4B	X
63	GENERATOR OVERVOLTAGE (TEST TRIP)	5151359	PS-5	C4B	X
64	460V SWGR 125V DC UNDERVOLTAGE	5151359	PS-5	C4B	X
65	DC BUS 2 DC ACB TRIP AND/OR LOW VOLTAGE	5151359	PS-5	C4B	X
66	UNIT IN MAINTENANCE	5151359	PS-5	C4B	X
67	FIRE PROTECTION SYSTEM ACTIVATED	5151359	PS-5	C4B	X
68	ALARM CONTACTS GROUNDED	5151359	PS-5	C4B	X
69	PANEL REAR DOORS OPEN	5151359	PS-5	C4B	X
70	BATTERY ROOM TEMP. BELOW 60°F (D/G BLDG)	5151359	PS-5	C4B	X
71	BARRING DEVICE ENGAGED	5151359	PS-5	C4B	X

NOTES

1. ALL WINDOW LETTERING SHALL BE THE SAME SIZE
2. WINDOW LETTERING SIZE SHALL BE 1/4" & WINDOW #101
3. THERE SHALL BE NO MORE THAN 3 LINES PER WINDOW
4. EACH LINE MAY HAVE UP TO 11 CHARACTERS
5. BEZEL SHALL BE COLOR OF PANEL
6. LENSES & LIGHTS SHALL BE WHITE
7. INSTRUMENT NUMBER FOR EACH WINDOW IS THE WINDOW NUMBER PRECEDED BY 'UA-18' (FOR G.G. 1) AND 'UA-28' (FOR D.G. 2)
8. A WINDOWS 5, 6, 7, 15, 17, 28, 30, 40 ARE REFLASH WINDOWS. 15 NOTED IN REFLASH COLUMN
9. WINDOWS 5, 6, 7, 17 HAVE TWO LEVELS OF ALARM CONDITION INPUTS (H/HH OR L/L) AND WILL FLASH ON HIGH (OR LOW) AND REFLASH ON HIGH-HIGH (OR LOW-LOW) THEREFORE ALL HIGH (OR LOW) INPUTS TO ONE OF THESE WINDOWS ARE TO BE IN SERIES AND LIKE WISE, THE HIGH-HIGH (OR LOW-LOW) ARE TO BE IN ANOTHER SERIES
10. USE OF 'DYMO' MARKING TAPE FOR WINDOW NOS. (1 THRU 60) IS ACCEPTABLE
11. WINDOW ENGRAVING TERMS, WORDS MAY BE SPILLED OUT OR ABBREVIATED, REGARDING TO SPACE AVAILABLE. ENGRAVINGS AS SHOWN MAY BE ON TWO OR THREE LINES.

SONGS 1

SAFETY RELATED

11540 34 13

Location: SAN ONOFRE NUCLEAR GEN. STATION 1

ANNUNCIATOR ENGRAVING

LOCAL CONTROL PANEL

Southern California Edison Company

5149269-0

SCED

Southern California Edison Company

8103260308

DOCKET
NUMBER

ACCESSION
NUMBER

DRAWING NUMBER

SHEET REV.

