

OPERATION AND MAINTENANCE OPERATION

ALARMS INTERPRETATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
32	L64D	BATTERY 125 VDC GROUND	Insulation failure has resulted in a ground on the 125 VDC system.	- Immediate action should be taken to locate ground and to repair, because if a second ground occurs, this can result in severe damage to the wiring and to the battery. As soon as possible, shut down the unit and check the 125 VDC power. - Isolate ground and remove from system. - Check the DC motors and all circuits supplied with dc voltage. CAUTION : - During this repair, the generator and the starting engine breakers must be opened for safety.
33	L27DZ_ALM	BATTERY DC UNDERVOLTAGE	- Battery system voltage is low. - Battery charger is not functioning properly. - Excessive drain on the batteries. - Bad cells in battery.	- Check battery charger for proper operation, correct excessive drain on battery, check for bad cells. - Check battery charger fuses. NOTE : - The gas turbine should not be operated unless DC power is available to the emergency DC lube oil pump.
35	L43MAINT	MAINTENANCE _ FORCING MODE ENABLED	Auto calibrate, memory changing or logic forcing mode of operation has been selected.	When done with the operation, deselect the operation.
36	L5E_ALM	MANUAL TRIP _ LOCAL	The emergency stop pushbutton has been pressed.	Correct abnormality that caused the operator to push the emergency stop pushbutton.
37	L86MP	MASTER PROTECTIVE START_UP LOCKOUT	Within the turbine control panel the three microprocessor control sections R, S and T are in disagreement for the proper condition of the master protective logic "4X".	- Determine which controller is in disagreement with the other ones. - Check which conditions are not correct to authorize the start-up?
38	L12H	ELECTRICAL OVERSPEED TRIP _ HP	- The speed control system has not limited turbine speed within the trip limits. - The turbine trips during the electrical overspeed test.	Determine and repair before restarting (mechanical, electrical or fuel or speed control trouble).
39	L12HFD_C	CONTROL SPEED SIGNAL TROUBLE - HP	Signal from speed sensors is faulty.	Check speed sensors and wiring.

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40	L12H_P_ALM	PROTECTIVE MODULE OVERSPEED TRIP _HP	Protective module overspeed fault.	Check the module overspeed (power supply, short, link, cut).
41	L12HFD_P	PROTECTIVE SPEED SIGNAL TROUBLE - HP	Signal from speed sensors is faulty.	Check speed sensors and wiring.
42	L12H_ACC_ALM	PROTECTIVE MODULE ACCELERATION TRIP _HP	- The speed control system has not limited turbine speed with the trip limits (fault detected by P module). - The turbine trips during the electrical overspeed test.	Determine and repair before restarting (mechanical, electrical or fuel or speed control trouble).
43	L83HOST	OVERSPEED TEST MODE SELECTED _HP	Overspeed trip being checked.	See "Overspeed trip checks" module 10 of this chapter.
44	L12HBLT_ALM	OVERSPEED BOLT TRIP _HP	The trip circuit has been tripped by mechanical overspeed action.	- Search the cause of this problem : - Check electronical overspeed system. - Check proper operation and setting of overspeed bolt assembly. - Repair before starting and reset manually the mechanical overspeed limit switch on the overspeed bolt.
50	L83LOST	OVERSPEED TEST MODE SELECTED _LP	Overspeed trip being checked.	See "Overspeed trip checks" module 10 of this chapter.
53	L3A	TURBINE UNDERSPEED	The turbine has bogged down.	- Reduce the load that will be applied to the generator before closing again the generator breaker (network problems). - Check the proper operation of the 14 HS circuit logic.
54	L4CT_ALM	CUSTOMER TRIP	Customer trips input to the L4CT logic have caused an automatic trip of the unit.	Determine which of the customer trip devices caused the trip and correct.
55	L3CP_ALM	CUSTOMER START INHIBIT	Customer equipment inhibits the starting procedure.	Determine which of the customer equipment inhibits the start.
56	L48	TURBINE INCOMPLETE SEQUENCE	Failure of unit to reach complete sequence.	- Check equipment, which is the cause of the problem in the normal sequence: starting system power, torque converter, fuel control, acceleration loop. - Check if the AUTO order has been executed.
57	L62TT2_ALM	FAILURE TO START	The master protective logic signal "L4" has tripped the unit twice or if the unit is operating in remote, flame was not established after two tries at establishing flame.	Check all signals going making up the "L4" logic signal to determine which caused the problem or determine cause of lack of flame establishment.

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58	L30FD_ALM	FAILURE TO IGNITE	Failure to fire within the one minute period.	- Check that AC power is supplied to the ignition system. - Check the fuel supply. - Check if isolating valves on flame detectors are open. - Check the proper operation of spark plugs and flame detectors.
59	L28FD_ALM	FLAME DETECTOR TROUBLE	One of the detectors operating when no flame is present or flame detection before the firing sequence.	- Check for proper operation of the flame detection system. - Check that the flame detectors quartz windows are clean. - Repair or replace if necessary.
60	L28FDT	LOSS OF FLAME TRIP	Failure of flame detectors or loss of flame.	- Check for following: fuel being supplied to the combustors, flame in all chambers, damaged crossfire tubes, or combustors. - Check for proper control valve position and fuel pressure. - Check for proper operation of the flame detectors 28 FD.
61	L28FD_SD	CHAMBER FLAMED OUT DURING SHUTDOWN	Chamber flamed out during shutdown.	- Check the fuel supply and the fuel control. - Check the fuel nozzles.
62	L3COM_B_ALM	COMMON I/O COMMUNICATION LOSS	Common I/O communication loss.	- Check the power supply. - Replace faulty component.
63	L2SFT	START_UP FUEL FLOW EXCESSIVE TRIP	On the liquid fuel circuit : - Fuel leakage. - Fuel loop system fault. On the gas fuel circuit : - Purchaser gas supply low pressure. - Loss of the pressure between VSR and VGC. - Gas leakage. - Transmitters fault.	On the liquid fuel circuit : - Check for leakage. - Check tripping setting point. - Check fuel loop system operation. - Check the operation of the bypass versus the control signal. On the gas fuel circuit : - Check the purchaser gas supply. - Check the opening of the transmitters isolation valves. - Check the transmitters 96 FG_2A, 2B and 2C. - Check the LVDT setting value and the calibration of the valve VSR.
64	L60FSRG	FSR GAG NOT AT MAX LIMIT	Manual FSR control has not been reset to a position where it will not interfere with automatic FSR control.	Raise the manual FSR control to maximum.
66	L3TFLT	LOSS OF COMPRESSOR DISCHARGE PRESSURE BIAS	Bad signal from compressor pressure transmitter.	- Check the transmitters. - Check the associated connections for proper bias signal.
67	L30TFX	TURBINE AIR FILTER CONTROL TROUBLE	The air inlet filter control is faulty.	- Check the system of filter control. - Check the switch 30K in the air inlet of turbine.

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68	L63TF1H_ALM	TURBINE AIR INLET DIFF. PRESS. ALARM	- Inlet filter excessive pressure drop. - Filter is dirty.	- Check the pressure drop. - If the pressure is excessive, change the air filters. - If the pressure is correct, check the pressure switch 63 TF and its setting point. NOTE : - Refer to Manufacturer's recommendations for air filters maintenance in specific chapters.
71	L52QA_ALM	AUXILIARY LUBE OIL PUMP MOTOR RUNNING	The main lube oil pump is supplying insufficient lube oil pressure due to pump failure or leaks.	- Examine main lube pump. - Check pump output and main lube filters for leaks or plugging. - Check proper operation of pressure switch 63 QA.
72	L72QEZ_ALM	EMERGENCY LUBE PUMP MOTOR RUNNING	The main pump driven accessory gear and AC powered lube oil pump have not supplied sufficient lube oil pressure because of pump failure or leaks.	- Check for leaks and pump malfunction. - Check proper operation of pressure switches 63 QL, 63 QT_2A and 63 QT_2B.
73	L63QQ1H_ALM	MAIN LUBE OIL FILTER DIFF. PRESSURE HIGH	Clogged filter.	- Loss of fluid pressure and deterioration of fluid purity may result. - Change filter. - Check the pressure switch 63QQ_1.
74	L63QTX	LOW LUBE OIL PRESSURE TRIP	Lube oil pressure has fallen below the trip level.	- Check the proper operation of the pressure regulating valve VPR_2. - Check the proper operation of the lube oil pumps. - Check for leakage. - Check the pressure switches 63 QT_2A and _2B. - Determine cause and correct before restarting unit.
75	L63QAL_ALM	LUBE OIL PRESSURE LOW	Lube system leaks or pump or pressure switches trouble.	- Repair leaks or pump. - Check proper operation of pressure switch (63QA) and check the closing of the test valves.
76	L63QT_SENSR	LUBE OIL PRESSURE SWITCH TROUBLE	Bad signal from lube oil pressure switch.	Check pressure switches 63QT_2A, 2B and 63QA.
77	L71QH_ALM	LUBE OIL LEVEL HIGH	High lube oil tank level or some liquid is coming in the tank.	- Check proper operation of the tank level 71QH_1. Investigate cause of high level alarm and restore normal level. NOTE : - Stop the unit if there is some other fluid with the lube oil (water or liquid fuel). In this case, never restart the unit before repair.

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78	L71QL_ALM	LUBE OIL LEVEL LOW	Lube oil tank level low.	- Check proper operation of the level 71QL_1. Check lube oil system for possible leakage or for excessive consumption. - Repair and restore normal level with proper oil (see piping schematics for oil level reference and lube oil recommendations). NOTE : - In these units, an oil consumption is normal so, refilling is necessary periodically with proper oil.
79	L26QN_ALM	LUBE OIL TANK TEMP. LOW	Lube tank temperature below recommended limits (see piping schematic).	- Check for proper operation of the lube oil tank heaters. - Starting is inhibited if the header temperature is low. - Check for proper operation of the temperature switch 26QN_1.
80	L26QA_ALM	LUBE OIL HEADER TEMP. HIGH	Lube header temperature above recommended limits. (See piping schematic).	- Check for proper operation of the lube oil heat exchangers, cooling water fans (proper rotation) and temperature regulating valve VTR_1. - Check for proper operation of the temperature switch 26 QA_1.
81	L26QT_ALM	LUBE OIL HEADER TEMP. HIGH TRIP	Lube header temperature above recommended limits.	- Check for proper operation of the lube oil heat exchangers, cooling water fans (proper operation) and temperature regulating valve VTR_1. - Check the temperature switches 26 QT_1A and 26 QT_1B setting points.
83	L63HQ1L_ALM	HYDRAULIC SUPPLY PRESSURE LOW	Hydraulic supply pressure is low.	- Check hydraulic supply pressure filter and differential pressure gauge, regulating valve or, pump or proper operation of pressure switch 63 HQ_1. - Check the closing of the test valves. - Check the filter status. - Check for leakage.
84	L63HF1H_ALM	HYDR. FILTER DIFF. PRESSURE HIGH	The hydraulic oil filter is dirty.	- Check hydraulic pressure with the pressure gauge. - Changeover the hydraulic oil filter and replace it if necessary. - Check the pressure switch 63 HF. - Check the closing of test valve.
85	L86HD	HYDRAULIC PROTECTIVE TROUBLE	One second after the hydraulic oil trip is initiated either the fuel stop valve is not closed or the hydraulic trip pressure (63 HG _ 1,2,3) has not decreased sufficiently.	- Check the proper operation of the solenoid valve 20 FG_1. - Check the proper operation of the pressure switches 63 HG _ 1,2,3.

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86	L52HQ_ALM	AUXILIARY HYDRAULIC OIL PUMP MOTOR RUNNING	Aux _ hydraulic pump is running after the signal 14HS.	- If hydraulic pressure is low, check the hydraulic supply circuit (filters, regulating valve, vent and purge, leaks or proper operation of the main hydraulic pump). - Check electrical circuit of the 88HQ drawer.
91	L3SMT	STARTING DEVICE TRIP.	Failure of cranking motor to start.	- Check the cranking motor cell, the breaker and the electrical motor. - Identify the faulty circuit and repair. CAUTION : - Take the safety recommendation for working on medium voltage.
98	L86CRTX	STARTING MOTOR PROTECTIVE LOCKOUT	STARTING MOTOR PROTECTIVE LOCKOUT	- Refer to specific chapter - Check the starting motor
104	L30CD	COOLDOWN TROUBLE	- Trouble during the cooldown sequence. - Supply fault. - Turning gear motor fault.	- Check the operation of the auxiliaries. - Check the different voltage supplies. - Check the turning gear system. - Check shut down function and sequences.
107	L4IGVT	INLET GUIDE VANE CONTROL TROUBLE TRIP	- Trip. - The I.G.V. position is not correct. - Adjustment of the hydraulic jack. - Problem of the setting values.	- Check the I.G.V. control system. - Check the proper operation and the setting values of the LVDT 96 TV_1 and 2. - Check the adjustment of the hydraulic jack. Refer to the control specifications.
108	L86GVA	INLET GUIDE VANE CONTROL TROUBLE _ ALARM	- The I.G.V. position is not correct. - Adjustment of the hydraulic jack. - Problem of the setting values.	- Check the I.G.V. position is not correct. - Check the proper operation and the setting values of the LVDT 96 TV_1 and _2. - Check the adjustment of the hydraulic jack. Refer to the Control specifications.
109	L3IGVFLT	INLET GUIDE VANE POSITION SERVO_TROUBLE	- Loss of feedback. - At start-up, the inlet guide vanes are not closed. - At normal speed, the inlet guide vanes are closed.	- Determine the cause and correct before restarting. - The master reset must be initiated before starting. - Check the proper operation of the solenoid valve 20 TV_1 and the control system of the jack. - Check the setting values of the LVDT 96 TV_1 and 2. Refer to the control specification. - Check logic circuit.

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110	L86TCI	COMPRESSOR INLET THERMOCOUPLES DISAGREE	• Bad thermocouple signal.	• Check thermocouples and wiring.
111	L86CB1	COMPRESSOR BLEED VALVE POSITION TROUBLE	• Compressor bleed valves have not operated properly. They are in the wrong position or required an excessive amount of time to move from one position to the other.	• Investigate problem. The problem should be corrected before restarting. The Master reset switch must be pressed before restarting. • Check proper operation of the solenoid valve 20 CB. • Check the control air supply of VA 2_1, 2_2, 2_3, 2_4 valves and the opening of the isolating valve. • Check the cleanliness of the air separator. • Check the limit switches 33 CB.
113	L3WCTIM_ALM	ON_LINE WATER WASH INHIBITED	• The "On_line" water wash is inhibited because the compressor inlet temperature is low.	• To continue the water wash sequence, select in the SPEEDTRONIC MARK V the "Inlet air heating" circuit.
114	L30TWW	WATER WASH INHIBIT _ WHEELSPACE TEMP. HIGH	• The washing procedure is inhibited because the wheelspace temperature is too high. • Thermocouples fault.	• Check the temperature and wait for an adequate wheelspace temperature. • Check the thermocouples.
115	L26CTH_ALM	CONTROL PANEL TEMPERATURE HIGH	• Air conditioners not maintaining proper temperature.	• Check air conditioners (proper operation, power supply). • Clean the air conditioner filters, if necessary. • Check the proper operation of the thermocouple 26 CT. • NOTE : • The control compartment doors must be closed.
116	L26BT1H_ALM	TURBINE COMPARTMENT TEMP. HIGH	• Compartment temperature excessive.	• Check cooling air fan for proper operation (88 BT_1). • Check for hot air leaks. • Check the temperature switch 26 BT_1. • Check the air inlet and outlet (dampers, filters). • NOTE : • An excessive turbine compartment temperature can trip the fire protection.
117	L63TK_ALM	EXHAUST FRAME COOLING AIR PRESSURE LOW	• Exhaust frame blower motor not operating. Air passages blocked.	• Check the operation of the motors 88 TK_1 and _2. Inspect cooling air flow passages. • Check the suction silencers. • Check the pressure switches 63 TK _1,2.

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120	L30TXA	EXHAUST TEMPERATURE HIGH	- The exhaust gas temperature is excessive. - Thermocouples fault. - Fuel control system fault. - Ventilation system fault.	- Check all thermocouples. Replace any bad thermocouples. - If problem is not thermocouples, isolate portion of control system causing problem. - Check the temperature control loop and the fuel control system.
121	L86TXT	EXHAUST OVERTEMPERATURE TRIP	- Trip. - The temperature control system has not limited exhaust temperature within the trip limits. - Temperature control system fault. - Fuel control system fault. - Ventilation system fault.	- Check the temperature control loop and the fuel control system. - Check the cooling and ventilation system.
122	L86TFB	EXHAUST THERMOCOUPLES OPEN TRIP	- Trip. - Excessive number thermocouples fault. - Position, connection, short-circuit, cut-off fault.	- Check and reconnect thermocouples. - Check the connection and the position. - Check for short-circuit and cut-off.
123	L30SPTA	EXHAUST THERMOCOUPLE TROUBLE	Faulty thermocouple.	- Check thermocouples and wiring. - Change if necessary.
124	L30SPA	COMBUSTION TROUBLE	Faulty thermocouples, gas path hardware or uneven distribution of fuel to the fuel nozzles.	- Analyse data for trends. At earliest shutdown, check thermocouples. - Perform borescope or combustion inspection. - Check flow divider, fuel pressures. - Check for plugged nozzles.
125	L30SPT	HIGH EXHAUST TEMP. SPREAD TRIP	Faulty thermocouples, gas path parts or uneven distribution of fuel to the fuel nozzles.	- Analyse data for trends. Perform borescope or combustion inspection. - Check flow divider, fuel pressures. - Check for plugged nozzles.
126	L39VD3_ALM	VIBRATION _ START INHIBIT	- Start inhibited. - Vibration protection system problem. - Too many sensors in trouble or disabled.	- Check vibration protection system. - Check the vibration sensors.
127	L39VTX_ALM	HIGH VIBRATION TRIP OR SHUTDOWN	- Normal shutdown or trip. - High vibration due to bowed rotor, mechanical imbalance, bearing failure, etc. - Sensors excessive number of a same group are faulty or disabled.	- Check for mechanical failures; observe vibration level on the next start-up. - Check the group of the fault sensors.

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128	L39VD1	VIBRATION SENSOR DISABLED	Signal from vibration sensors is faulty.	Check vibration sensors and wiring.
129	L39VF	VIBRATION TRANSDUCER FAULT	Vibration detector impedance is not within normal bounds or 3 or more gas turbine sensors are disabled or faulty.	- Check impedance of each vibration detector (open or short-circuit). - Check the vibration protection system. NOTE : - With the 3 or more sensors disabled or faulty, the start is inhibited.
130	L39VA	HIGH VIBRATION ALARM	HIGH VIBRATION ALARM	Refer to specific chapter
131	L39VDIFF	VIBRATION DIFFERENTIAL TROUBLE	Vibration protection system problem.	- Check vibration protection system. - Check the level of each sensor and determine the cause of the differential. - Check the logic.
132	L3GRVFLT	GAS RATIO VALVE POSITION SERVO TROUBLE	- Start inhibited + transfer to fuel if running on gas or transfer to gas inhibited. - The gas ratio valve feedback signal is abnormal. - Supply fault. - Sensors defected. - Valve and servo-valve fault.	- Check LVDT, 96 SR (setting value, wiring). - Check the calibration of the VSR. - Check the proper operation of the servo-valve 90 SR.
133	L3GCVFLT	GAS CONTROL VALVE SERVO TROUBLE	- Start inhibited + transfer to fuel if running on gas or transfer to gas inhibited. - The gas control valve feedback is abnormal. - Supply fault. - Sensors defected. - Valve and servo-valve fault.	- Check LVDT, 96 GC_1, 2 (setting value, wiring). - Check the calibration of the VGC. - Check the proper operation of the servo-valve 65 GC_1.
134	L3GFIVP	GAS FUEL INTERVALVE PRESSURE TROUBLE	- Start inhibited + transfer to fuel if running on gas or transfer to gas inhibited. - Pressure sensed between the gas control valve and the speed ratio valve is abnormal. - Transmitters fault. - Wiring, supply fault.	- Check the pressure transmitters 96 FG_2A, 2B and 2C (wiring, supply and mechanical status). - Check the gas fuel control.

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135	L63FGL_ALM	GAS FUEL PRESSURE LOW	Gas fuel pressure to turbine has been sensed as low.	Check cause of low supply pressure: check the gas fuel pressure supply, the strainer and the pressure switch 63 FG_3.
136	L3LFLT	LIQUID FUEL CONTROL FAULT	- Liquid fuel check system has detected an abnormal servo or LVDT position or signal. - HP oil fault. - Mechanical problem on the bypass.	- Check the fuel pressure before the nozzles. - Check for the fuel leakage. - Check the HP oil pressure and check for leakage. - Check if the bypass is not clamped. - Check the different devices (setting point, calibration). - Check the regulation system.
137	L33FL_ALM	LIQUID FUEL STOP VALVE FAILURE TO OPEN	- The liquid fuel stop valve has problems to open. - Trip oil fault.	- Check the proper operation of stop valve (VS_1). - Check the solenoid valve 20 FL_1 and the switch 33 FL_1. - Check the trip oil supply. - Check for leakage.
138	L63LF1H_ALM	LIQUID FUEL FILTER DIFF. PRESS. HIGH	The differential pressure too high at the fuel oil filter.	- Inspect fuel oil filters and correct condition. - Check proper operation of fuel oil filter differential pressure switch (operation and setting point) 63 LF_1. - Change or repair if necessary. - Check the closing of the test valve.
141	L63ADL_ALM	ATOMIZING AIR DIFF. PRESSURE LOW	Atomizing air compressor not providing adequate pressure.	- Check atomizing air system. - Check on running gear if the shaft driver atomizing air compressor is running: if coupling broken replace the atomizing air compressor before starting up the limit. - If atomizing air compressor is correct, check compressor during operation (vibration) and the circuit (help with the pressure indicators). - Check the pressure switches 63AD and their setting point.
142	L26AAH_ALM	ATOMIZING AIR TEMP. HIGH	Temperature high at the atomizing air compressor input.	- Check water supply to the atomizing air precooler, isolating valve position flow restrictions. - Check proper operation of thermostatic valve VTR_2 and temperature switch 26AA_1.
143	L86S	AUTO SYNCHRONIZING LOCKOUT	Auto synchronizing self-checking system has detected a synchronizing equipment abnormality.	- Investigate synchronization system to determine exact cause of problem. - Refer to the Manufacturer's documents about the synchronizing system.

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144	L27BN_ALM	BUS UNDERVOLTAGE _ NO AUTO SYNCH.	Bus synchronizing potential not available.	- Check bus PT fuses and wiring. Do not use auto synchronizing or manual synchronizing until problem is resolved. - Check relay 27B_1,2.
145	L3Z	FAILURE TO SYNCHRONIZE	Unit did not synchronize and close generator breaker within the normal expected time.	- Investigate synchronization system to determine exact cause of problem. - Check the stability of the turbine speed control.
149	L86TGT_ALM	GENERATOR DIFFERENTIAL TRIP	Electrical trouble with emergency shutdown. Relay 86G indicates a generator differential.	The unit should not be operated until the cause of the problem has been determined and corrected.
150	L52G_ALM	GENERATOR BREAKER TRIPPED	Generator breaker has been tripped by an automatic protective device or manually.	- Determine device that tripped the breaker. - The problem should be corrected before recoupling. NOTE : - For a new coupling, one must give a new start order for proper operation of synchronizing sequence.
152	L71WG_ALM	LIQUID DETECTED IN GENERATOR	A leak of the water cooling system, or a leak of oil, is detected.	- Check the level of water cooling. - Check the water cooling system. - Check the bottom of the generator package to define the leaks if there is any leak. - Check the indicator switch 71 WG.
170	L33PLS_ALM	SECONDARY LIQUID FUEL LOW PURGE FAULT	Valve is not close on liquid fuel purge when no purge is requested	Control liquid fuel purge valve position (hi flow valve)
171	L33PLP_ALM	PRIMARY LIQUID FUEL LOW PURGE FAULT	No detection of opening on liquid fuel purge system when purge is requested	Control liquid fuel purge valve position (hi flow valve)
172	L30PLP_ALM	PRIMARY LIQUID FUEL PURGE PRESSURE LOW_ALARM	The primary liquid fuel purge pressure is too low.	- Check the transmitter 96PLP-1. - Check the valve 20PL-1.
173	L30WSA1	WHEELSPACE TEMP. DIFFERENTIAL HIGH	- Excessive differential between wheelspace thermocouples. - Defect thermocouples. - Thermocouples position fault. - Combustion fault.	- Check thermocouples for shorts, grounds or opens. Replace failures. If condition persists investigate for seal failure. - Check the thermocouples position. - Check the combustion and regulation system.
174	L30WSA2	WHEELSPACE TEMPERATURE HIGH	- High wheelspace temperature. - Ventilation system fault. - Thermocouples fault.	- Check thermocouples, investigate for seal failure. - Check the ventilation system. - Check the proper operation of the thermocouples.

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178	L27MC1N_ALM	MCC UNDERVOLTAGE	Motor control center undervoltage.	- Check that power is supplied to the motor control center. - Check 380 V on the bus bars. - Check breaker: transformer supply 16 KVA and the transformer. - Check relay 27 MC.
179	L49X_ALM	AUXILIARY MOTOR OVERLOAD	One of the auxiliary motors is overloaded.	- Check auxiliary motors to determine which motor is overloaded and the cause of the overloading. - On the defective motor, check the overload relay, the fuses (or the CB), the motor with the cables. - Check the set point of the overload relay. - Check the fuses FU.1, 2 on the motor overload circuit.
180	L27QEL_ALM	DC MOTOR UNDERVOLTAGE (LUBE OIL)	- DC power not supplied to emergency DC pump. 125 VDC supply fault. - Pump fault - Breaker opens.	- Check power to DC lube pump (MCC breaker on). Check the fuses and the relay 27 QE. - Check the proper operation of pump motor. - Check the mechanical status of the pump. NOTE : - The gas turbine should not be operated unless DC power is available to the emergency DC lube pump.
182	L27BLN_ALM	BATTERY CHARGER AC UNDERVOLTAGE - ALARM	- Battery charger AC undervoltage. - Charger faulty.	- Check battery charger AC breaker. - Check voltage magnitude. - Check the proper operation of the battery charger.
183	L86PGVL_ALM	GAS TRANSFER PURGE VALVE FAILURE TO OPEN	The gas transfer purge valve VA 13_3 and VA 13_4 failed to open.	- Check the proper operation of : _ purge valves : VA 13_3 and VA 13_4 _ solenoid valves : 20 PG_3 and 20 PG_4 _ limit switches : 33 PG_6 and 33 PG_8.
190	L63CAL_ALM	AIR PRESSURE LOW	- The GT air filter is dirty - Auto cleaning system fault - Pressure switch trouble	- Check the state of the filter - Check the auto cleaning system - Check the proper operation of the pressure switch
192	L30FPGSD_ALM	GAS PRES VALUE UNDER GCV2 MEASURE	Gas fuel pressure transmitters disagree	Check gas fuel pressure transmitters
194	L33PL1_SENSR	PRIMAER ABBLASE ENDSCHALTER FEHLER	No detection of opening on liquid fuel purge system when purge is requested	Control liquid fuel purge valve position (hi flow valve)
195	L33PL2_SENSR	SEKUNDAER ABBLASE ENDSCHALTER FEHLER	Valve is not close on liquid fuel purge when no purge is requested	Control liquid fuel purge valve position (hi flow valve)

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196	L30FC_ALM	SECONDARY GCV NOT FOLLOWING REF TRIP	SECONDARY GCV NOT FOLLOWING REF TRIP	Refer to specific chapter
197	L71WL1L_ALM	COOLING WATER LOW LEVEL	Cooling water tank level low.	- The alarm will actuate when the cooling water tank level drops below a minimum level (see piping schematics). Repair leaks, and add properly treated water. - Check for proper operation of level indicator 71WL. NOTE : - If there is some water in the lube oil tank, one must stop the unit.
198	L27MC2N_ALM	MCC 230 VAC UNDERVOLTAGE	Motor control center undervoltage	- Check that power is supplied to the motor control center. - Check 380 V on the bus bars. - Check breaker : transformer supply 16 KVA and the transformer. - Check relay 27 MC.
202	L63FLZ_ALM	LIQUID FUEL PRESSURE LOW	- Inlet liquid fuel pressure is low. - Pressure switch 63 FL_2 trouble (see control specifications for the setting value). - Strainer, filter, pumps fault. - Leakage.	- Check the fuel forwarding skid (pumps, motors, filters). - Check the pressure switch 63 FL_2 (operation and setting). - Check the strainer filter at the turbine inlet. - Check for leakage.
204	L94PGT	GAS FUEL NOZ. PURGE SYSTEM TROUBLE TRIP	Interval pressure between VA 13_1 and VA 13_2 is high during start-up: the unit trips.	- Check the proper operation and position of the purge valve VA 13_2. - Check the status of the solenoid valves 20 PG_1 and 20 PG_2. - Check the pressure switch 63 PG_1 (operation and setting point).
205	L63PGFT	GAS FUEL NOZ. PURGE SYSTEM PRESSURE HIGH	The two purge valves VA 13_1 and VA 13_2 are seen closed and high pressure has been detected by the pressure switch 63 PG_1.	- Check the position of the purge valves VA 13_1 and VA 13_2. - Check the limit switches 33 PG_1 and 33 PG_3 (proper operation). - Check the pressure switch 63 PG_1.
206	L33PGFT	GAS FUEL NOZ. PURGE VALVE FAIL TO CLOSE	The purge VA 13_1 and VA 13_2 failed to close.	- Check the proper operation of the purge valves VA 13_1 and VA 13_2. - Check the status of the solenoid valves 20 PG_1 and 20 PG_2. - Check the proper operation of the limit switches 33 PG_1 and 33 PG_3.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
207	L33PGO_ALM	GAS FUEL NOZ. PURGE VALVE FAIL TO OPEN	The purge valves VA 13_1 and VA 13_2 failed to open.	- Check the proper operation of the purge valves VA 13_1 and VA 13_2. - Check the status of the solenoid valves 20 PG_1 and 20 PG_2. - Check the proper operation of the limit switches 33 PG_2 and 33 PG_4.
209	R5E_ALM	MANUAL TRIP _ REMOTE	The emergency stop pushbutton has been pressed.	Correct abnormality that caused the operator to push the emergency stop pushbutton.
210	L90TKL	EXHAUST FRAME COOLING SYS TRBL_UNLOAD	The exhaust frame cooling system is in trouble.	- Check the frame cooling system (motors, power supply, exhaust frame, pipes). - Check the proper operation of the pressure switches 63 TK_1 and _2 and their setting point.
214	L12HF	CONTROL SPEED SIGNAL LOSS _ HP	- Control speed signal loss and the unit trips. - Power supply fault, ground, short-circuit open. - Speed magnetic pickups fault.	- Check speed system. - Check supply, connections. - Check the logic circuit. - Check speed magnetic pickups.
216	L32DWF	GENERATOR WATTS TRANSDUCER FAILURE	The generator watts transducer is faulty.	Check the proper operation of the transducer 96 GW.
217	L32DW_ALM	GENERATOR BREAKER TRIP_REVERSE POWER	- Turbine fault. - Fuel feeding system fault.	- Turbine checking. - Fuel feeding system checking (skid fuel).
218	L63PL1H_ALM	LIQUID PURGE AA Y STRAINER DIFF PRESSURE	Differential pressure high	Check 4-20mA 96AF-1
223	L86GSVA	GAS SPLITTER VALVE CONTROL TROUBLE	Control system of the gas splitter valve is faulty.	- Check the proper operation of the servo-valve 65 GS_1 and the other elements of the splitter valve. - Check the hydraulic supply (pressure, leakage). - Check connections and interface. - Check the LVDT of the splitter valve: 96 GS_1 and 96 GS_2.
224	L86GSVT	GAS SPLITTER VALVE TROUBLE _ TRIP	- The unit trips. - Control system of the gas splitter valve is faulty.	- Check the proper operation of the servo-valve 65 GS_1 and the other elements of the splitter valve. - Check the hydraulic supply (pressure, leakage). - Check connections and interface. - Check the LVDT of the splitter valve: 96 GS_1 and 96 GS_2.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
225	L3GSVFLT	GAS SPLITTER VALVE POSITION TROUBLE	Gas splitter valve position is faulty.	- Check the proper operation of the servo-valve 65 GS_1. - Check the hydraulic supply (pressure, leakage). - Check connections and interface. - Check the LVDT of the splitter valve: 96 GS_1 and 96 GS_2.
226	L86GTVA	GAS TRANSFER VALVE CONTROL TROUBLE	Control system of the gas transfer valve is faulty.	- Check the proper operation of the servo-valve 65 GD_1. - Check the transfer valve VGD_1 and its LVDT 96 GD_1 and 96 GD_2. - Check the hydraulic supply (pressure, leakage). - Check connections and interface.
227	L86GTVT	GAS TRANSFER VALVE CONTROL TROUBLE _ TRIP	- The unit trips. - Control system of the gas transfer valve is faulty.	- Check the proper operation of the servo-valve 65 GD_1. - Check the transfer valve VGD_1 and its LVDT 96 GD_1 and 96 GD_2. - Check the hydraulic supply (pressure, leakage). - Check connections and interface.
228	L3GTVFLT	GAS TRANSFER VALVE POSITION TROUBLE	Gas transfer valve position is faulty.	- Check the proper operation of the servo-valve 65 GD_1. - Check the transfer valve VGD_1 and its LVDT 96 GD_1 and 96 GD_2. - Check the hydraulic supply (pressure, leakage). - Check connections and interface.
229	L3GCVSFLT	SECONDARY GAS CONTROL VLV SERVO TROUBLE	- Start inhibited + transfer to fuel if running on gas or transfer to gas inhibited. - The gas control valve feedback is abnormal. - Supply fault. - Sensors defected. - Valve and servo-valve fault.	- Check LVDT, 96GC_3, 4 (setting value, wiring). - Check the calibration of the VGC-2. - Check the proper operation of the servo-valve 65 GC_2.
241	L12H_FLTALM	LOSS OF PROTECTIVE HP SPEED INPUTS	Card TCEA fault	Check the card TCEA in the module P
242	L3MP_ALM	MASTER PROTECTIVE START CHECK ETR FAULT	TCEA cards fault	Check in the module P the proper operation of TCEA cards
243	L3SFLT_ALM	START-UP SHUTDOWN <C> COMM FAILURE-TRIP	Loss of communication ionet network	Check the ionet network in the speedtronic mk5

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
244	L4DLNT_ALM	DRY LOW NOX_ SYSTEM TROUBLE TRIP	DLN system fault, trip is required.	Check DLN system trips and all other annunciated alarms.
245	L94GSDW_ALM	COMBUSTION PROTECTION SHUTDOWN LOCKOUT	DLN system fault: shutdown	Check DLN system trips and all other annunciated alarms.
246	L83RBO_ALM	REMOTE BREAKER OPENING DETECTED	Remote breaker opening detected	
247	L4_FB_ALM	TCEA 4 RELAY CIRCUIT FDBK (EXTRNL TRIP)	External trip	Determine and check the equipment which is the cause of trip
248	L63CS2CH_ALM	COMPRESSOR INLET DIFF PRESS HIGH ALARM	- Inlet filter dirty. - Pressure switch fault.	- Check the filter status. Change it, if necessary. - Check the differential pressure switch 63 CS_2 (operation and setting point). NOTE : - Refer to specific chapters for Air filter maintenance.
249	L30PLS_ALM	SECONDARY LIQUID FUEL PURGE PRESSURE LOW_ALARM	The secondary liquid fuel purge pressure is too low.	- Check the transmitter 96PLS-1. - Check the valve 20PL-2.
250	FSGRH_ALM	GAS P2 TOO LOW- TRANSFER TO LIQUID FUEL	Gas P2 too low transfer to liquid fuel	Refer to specific chapter
251	FSGRHH_ALM	SRV VLV OPEN AT 95 % - TRANSFER TO LIQUID FU	Gas P2 too low transfer to liquid fuel	
252	L86PLP_ALM	PRIMARY LIQUID FUEL LOW PURGE FAULT	- The primary liquid fuel is low. - Purge fault.	- Check the opening of the isolating valve. - Check the solenoid valve 20PL-1. - Check the valve VA19-1.
253	L86PLS_ALM	SECONDARY LIQUID FUEL LOW PURGE FAULT	- The secondary liquid fuel is low. - Purge fault.	- Check the opening of the isolating valve. - Check the solenoid valve 20PL-2. - Check the valve VA19-2.
254	L86PT_ALM	LIQUID FUEL/WATER INJ PURGE FAULT-TRIP	The liquid fuel or water injection purge is faulty.	Check the purge system.
255	LFTG_ALM	GAS FUEL TEMPERATURE TC TROUBLE	Thermocouples fault.	Check the thermocouples FT_GI_1, 2 and 3 (connection, wiring and operation).

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
256	L3BHF3_ALM	IBH FAULT - COMP LIMIT REF FAILED OPEN	- Bleed heat system fault. - Inlet heating control valve fault. - Air supply fault.	- Check the valve position. - Check operation of bleed heat control valve. - Check air supply to bleed heat control valve.
258	LSYN_ISO_ALM	CAN NOT SYNC IN ISOC MODE	Synchronization in isochronus mode is unabled.	Check the synchronization system.
259	L3GLTSUTC_AL	START UP GAS LEAK TEST COMPLETE	Start up gas leak test complete	
260	L3GLTSDTC_AL	SHUT DOWN GAS LEAK TEST COMPLETE	Shut down gas leak test complete.	
261	L62WWY_ALM	VENT AFTER AN OFF LINE WASHING INTERRUPTED	VENT AFTER AN OFF LINE WASHING INTERRUPTED	Refer to specific chapter
262	L3TNRERRRX	DWATT TOO LOW TO SUPPORT TNR_TNR LOWER	Dwatt too low to support tnr_tnr lower	
263	LDWATT_ALM	MEGAWATT TRANSDUCER SIGNAL TROUBLE	Power transmitter fault	- Check the power transmitter and change it if its fault - Check the electrical circuit
264	L63AF1H_ALM	ATOM. AIR FILTER DIFF. PRESS. HIGH	The atomizing air filter is dirty.	- Clean or change the air filter if necessary. - Check the pressure switch 63 AF.
265	L94ADL	ATOMIZING AIR DIFF. PRESS. LOW SHUTDOWN	- Atomizing air compressor not provided adequate pressure. - Automatic shutdown of the turbine.	- Check the atomizing air system and the closure of the vent valve at the outlet of the main atomizing air compressor. - Check on the turbine gear if the shaft driver atomizing air compressor is running: if coupling broken replace the atomizing air compressor before starting up the unit. - If the atomizing air compressor is correct, check the compressor during operation (vibration) and the circuit (help with the pressure indicators). - Check the pressure switches 63 AD_1A, _1B and _1C and their setting point.
266	L63ADL_SENSR	ATOMIZING AIR DIFF. PRESS. SWITCH TROUBLE	Differential pressure switch on the atomizing air compressor is in trouble.	Check the pressure switches 63AD (operation and setting point).
267	L30DPFLT	HUMIDITY SENSOR FAULT	Humidity sensor fault	Change Humidity sensor

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
268	L26CRXH_ALM	STARTING MOTOR TEMP. HIGH ALARM	• Overtemperature on the cranking motor.	• Search and determine the cause of this overtemperature. • Check the status of the temperature switch (proper operation and setting point).
269	L33TH4C_ALM	INLET HEATING BLOWDOWN VALVE NOT CLOSED	• the inlet heat solenoid valve is not closed. • Limit switch fault.	• Check the limit switch 33 TH-4. • Check the proper operation of the solenoid valve 90Th-4.
270	L96FGL_ALM	GAS FUEL SUPPLY PRESSURE LOW	• Gas fuel pressure to turbine has been sensed as low. • Purchaser gas supply fault. • Leakage. • Wiring, supply fault. • Transmitter fault.	• Check the cause of low supply pressure. • Check the purchaser gas supply. • Check for leakage. • Check the transmitters 96 FG_1. • Check the opening of the shut_off valve.
271	L96FGH_ALM	GAS FUEL PRESSURE HIGH	• Gas fuel pressure high. • Pressure switch fault.	• Check the gas fuel system. • Check the pressure switch 63 FG.
272	L27X_ALM	GENERATOR PROTECTION UNDERVOLTAGE	• The protection panel is not supplied.	• Check the supply 125 VDC (breaker, fuses). • NOTE : • No permissive will modify the position of the generator breaker, 52G (opening or closing) when this alarm will occur.
274	L51QV1_ALM	OIL MIST ELIMINATOR FAN #1 TROUBLE	• The oil mist separator fan motor 1 is in trouble.	• Check the relay 51 QV1. • Check the motor 88 QV1 (proper operation).
275	L26VG1H_ALM	LOAD COMPARTMENT HIGH TEMP. ALARM	• The temperature in the load compartment is high.	• Check the ventilation system of the load compartment (motor 88 VG, ventilators, dampers position). • Check the temperature sensor AT-LC-1.
277	L30BT_ALM	TURBINE COMPT. AIR FAN CHANGE OVER _ ALARM	• Air fan changeover. • Turbine compartment air fan fault.	• Check the air fan system (power supply, motors, fans, relay, electrical circuit...).
278	L86BTX_ALM	LOSS OF TURBINE COMPARTMENT COOLING FAN	• The turbine compartment ventilation is faulty.	• Check the ventilation system of this compartment (power supply, motors, fans, electrical circuit...). • Check the position of vent flap. • Check the proper operation of the limit switch 33BT
279	L33BT_ALM	TURBINE COMPARTMENT VENT. FLAP CLOSED	• Flap closed in the turbine compartment. • Limit switch fault.	• Check the position of flap. • Determine the cause of the flap closing. • Check the limit switch 33 BT.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
280	L30WC_ALM	WATER COOLING PUMP CHANGE OVER	• Motor fault • Power supply fault • Pump fault	• Check the mechanical status of the motor and the pump • Check what the circuit is correctly positioned • Check the supply of the motor drawer and the motor • Check the fuses, breaker and the connection of the motor
281	L86WC_ALM	WATER COOLING SYSTEM FAULT NOT AVAILABLE	• The water cooling system is in trouble and it is automatically deenergized.	• Check the water cooling system.
282	L30LOT_ALM	GENERATOR BEARING DRAIN METAL TEMP. HIGH TRIP	• Bearing fault. • Lube oil fault. • Lube oil cooling system fault. • Leakage.	• Check bearing and lube oil system. • Check thermocouples (connection, short-circuit, cut off, position). • Check lube oil cooling system. • Check the correct lube oil circulation. • Check for leakage. • Check the closing of the test valves.
283	L30BTT_ALM	GENERATOR BEARING METAL TEMP. HIGH TRIP	• The temperature of the generator bearing metal is high.	• Check the lube oil collector temperature. • Research the thermocouple, which initiated this alarm. • Check their indication.
284	L86FPG2IH_A	PRE-IGNITION P2 HIGH	• PRE-IGNITION P2 HIGH	• Refer to specific chapter
285	L86FG_ALM	SEC. GAS NOZZLE PURGE VALVE FAIL TO CLOSE	• The purge valves VA 13_1 and VA 13_2 failed to close.	• Check the proper operation of the purge valves VA 13_1 and VA 13_2. • Check the status of the solenoid valves 20 PG_1 and 20 PG_2. • Check the proper operation of the limit switches 33 PG_1 and 33 PG_3.
286	L30BW_ALM	WASHING SKID FAULT	• The washing skid is faulty.	• Check the washing skid.
287	L86FPG2HT_A	POST-IGNITION P2 HIGH TRIP	• POST-IGNITION P2 HIGH	• Refer to specific chapter
288	L63FLX1_ALM	LIQUID FUEL PRESSURE LOW_TRIP	• Inlet liquid fuel pressure is low. • Pressure switch 63 FL_2 trouble (see control specifications for the setting value). • Strainer, filter, pumps fault. • Leakage.	• Check the fuel forwarding skid (pumps, motors, filters). • Check the pressure switch 63 FL_2 (operation and setting). • Check the strainer filter at the turbine inlet. • Check for leakage.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
289	L30HQ1_ALM	AUX HYDRAULIC OIL PUMP MOTOR TROUBLE	• Auxiliary hydraulic oil pump motor trouble.	• If hydraulic pressure is low, check the hydraulic supply circuit (filters, regulating valve, vent and purge, leaks or proper operation of the main hydraulic pump). • Check electrical circuit of the 88HQ drawer.
290	L49HQ1_ALM	AUX HYD SUPPLY PUMP#1 OVERLOAD	• NA	• NA
291	L86FPG2LT_A	POST-IGNITION P2 LOW TRIP	• POST-IGNITION P2 LOW	• Refer to specific chapter
292	L60TRF_ALM	REGULATION IN FSR TEMPERATURE CONTROL	• The regulation is in FSR temperature control.	• Check the regulation system CPD.
293	L94BT_ALM	LOSS OF TURBINE COPPT COOLING FAN	• GT on liquid shutdown no 88BT and temperature high	• Check the position of damper # 1 • Determine the cause of the damper closing. • Check the limit switch 33 BT_1A.
294	L94BTF_ALM	GT ON GAS FAST SHUTDOWN NO 88BT	• GT on gas fast shutdown no 88BT	• Refer to specific chapter.
295	L51VG1_ALM	LOAD COMPT. VENT. FAN MOTOR #1 TROUBLE	• The cooling fan motor #1 of the load compartment is faulty.	• Check the relay 51 VG-1. • Check the mechanical state of the fan. • Check the power supply of the fan motor.
296	L51VG2_ALM	LOAD COMPT. VENT. FAN MOTOR #2 TROUBLE	• The cooling fan motor #2 of the load compartment is faulty.	• Check the relay 51 VG-2. • Check the mechanical state of the fan. • Check the power supply of the fan motor.
298	L30FPG2L_ALM	GAS FUEL INTERVALVE PRESSURE (P2) LOW	• The high line intervalve ventilation is faulty. • Emergency motor fault • Power supply fault	• Check gas compartment ventilation. • Check motors. • Check mechanical status of fans. • Check pressure switches.
299	L3GRVA_ALM	STOP/SPEED RATIO VLV NOT TRACKING ALARM	• STOP/SPEED RATIO VLV NOT TRACKING	• Refer to specific chapter
300	L3GRVT_ALM	STOP/SPEED RATIO VLV NOT TRACKING TRIP	• STOP/SPEED RATIO VLV NOT TRACKING TRIP	• Refer to specific chapter
301	L33CPG_ALM	FIRE EXCITER FLAP CLOSED	• Fire exciter flap closed	• Refer to specific chapter

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
302	L86N_ALM	ELECTRICAL TROUBLE NORMAL SHUTDOWN	Electrical trouble on the generator with normal shutdown for the unit.	- Determine the electrical trouble with the matrix in the protection panel. NOTE : - The unit should not be operated until the cause of the problem has been determined and corrected. - Refer to specific chapters for more information about generator.
303	L30FQRG1PF_A	G1 MANIFOLD PRESSURE XMITTER TROUBLE	G1 manifold pressure xmitter trouble	Check G1 manifold pressure xmitter
304	L30FQRG2PF_A	G2 MANIFOLD PRESSURE XMITTER TROUBLE	G2 manifold pressure xmitter trouble	Check G2 manifold pressure xmitter
305	L30FQRG3PF_A	G3 MANIFOLD PRESSURE XMITTER TROUBLE	G3 manifold pressure xmitter trouble	Check G3 manifold pressure xmitter
306	L26GL_ALM	INLET GAS TEMPERATURE LOW	The inlet gas temperature is low.	- Check the proper operation of the temperature switch 26 GL. - Check the gas skid.
307	L33FS1O_ALM	SHUT-OFF VALVE FSV451 NOT OPEN	SHUT-OFF VALVE NOT OPEN	Refer to specific chapter
308	L86CBT_ALM	COMPRESSOR BLEED VALVE POSITION TROUBLE TRIP	Compressor bleed valves have not operated properly. They are in the wrong position or required an excessive amount of time to move from one position to the other.	- Investigate problem. The problem should be corrected before restarting. The master reset switch must be pressed before restarting. - Check proper operation of the solenoid valve 20 CB_1. - Check the control air supply of VA 2_1, VA 2_2, VA 2_3 and VA 2_4 and the opening of the isolating valve. - Check the cleanliness of the air separator. - Check the limit switches 33 CB.
309	L28FSD_ALM	SECONDARY FLAME DETECTOR TROUBLE	One of the secondary flame detector operating when no flame is present or flame detection before the firing sequence.	- Check the proper operation of the flame detector system. - Check the detectors 28 FD_XS. - Repair or replace if necessary.
310	L30FX1_ALM	FAILURE TO FLAMEOUT PRIMARY ZONE _ ALARM	“Transfer” order is given and the flame in the primary zone does not flame out at the temporisation end.	- Check the firing system (injector, spark plug). - Check the control system of DL NOx firing temperature comparators. - Check the proper operation of the flame detectors.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
311	L94FX1	FAILURE TO LEAVE SEC. TRANSFER _ TRIP	• “Transfer” order is given and the flame in the primary zone does not flame out at the temporisation end: so the unit trips.	• Check the firing system (injector, spark plug). • Check the control system of DL NOx firing temperature comparators. • Check the proper operation of the flame detectors.
312	L83LLEXT_ALM	EXT. LEAN LEAN MODE HIGH EMISSIONS	• The flame temperature is higher than the allowed one during extended working in lean lean mode: the level of emission Nox is high.	• Restore the sequence in “Premix” mode.
313	L30FX2_ALM	FAILURE TO REIGNITE PRIMARY ZONE _ ALARM	• A “normal reignition” order is given and the flame in the primary zone is not present when the temporisation finishes.	• Check the firing system (injector, spark plug). • Check the control system of DL NOx firing temperature comparators. • Check the proper operation of the flame detectors.
314	L94FX2_ALM	FAILURE TO REIGNITE PRIMARY ZONE _ TRIP	• A “normal reignition” order is given and the flame in the primary zone is not present when the temporisation finishes: so the unit trips.	• Check the firing system (injector, spark plug). • Check the control system of DL NOx firing temperature comparators. • Check the proper operation of the flame detectors.
315	L30FX3_ALM	FAIL. TO REIGNITE PRIM. IN SEC. L.R. _ ALARM	• Reignition in the primary zone failed after “lean lean” mode return due to drop of load.	• Activate the spark plugs.
316	L94FX3	FAIL. TO REIGNITE PRIM. IN SEC. L.R. _ TRIP	• Reignition in the primary zone failed after “lean lean” mode return due to drop of load and the unit trips.	• Check the firing system (injector, spark plug).
318	L30FXP1_ALM	FAILURE TO LEAVE PREMIX XFER GO TO L_L	• “Transfer” order is given and the flame in the primary zone does not flame out at the temporisation end : so the unit trips.	• Check the firing system (injector, spark plug). • Check the control system of DL NOx firing temperature comparators. • Check the proper operation of the flame detectors.
319	L94FX4	FAILURE TO LEAVE PREMIX XFER - TRIP	• “Transfer” order is given and the flame in the primary zone does not flame out at the temporisation end : so the unit trips.	• Check the firing system (injector, spark plug). • Check the control system of DL NOx firing temperature comparators. • Check the proper operation of the flame detectors.
320	L30FXML_ALM	DLN PREMIX MODELESS GO TO SEC LOAD REC	• Premix mode selected but not valid	• 1st stade • Select manually the extended lean-lean mode. • 2nd stade • Check the transfer in premix mode works correctly.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
321	L83LLBM	EXTENDED LEAN-LEAN BASE MODE SELECTED	Extended lean-lean base mode selected	Refer to specific chapter
326	L33FK1C_ALM	OIL SPLITTER VALVE FAILURE TO OPEN	The oil splitter valve failed to open at the lean lean mode.	- Check the proper operation of the electrovalve 20 FK_1 and its limit switch 33 FK. - Check the hydraulic supply. - Check the proper operation of the isolation valve VH9_2.
327	L33FK1O_ALM	OIL SPLITTER VALVE FAILURE TO CLOSE	The oil splitter valve failed to close at the lean lean mode.	- Check the proper operation of the electrovalve 20 FK_1 and its limit switch 33 FK. - Check the hydraulic supply. - Check the proper operation of the isolation valve VH9_2.
329	L45FTX1A_ALM	GT COMPARTMENT FIRE PRE_ALARM	- Fire detector fault - Fire loop fault - Fire is detected	- Check the proper operation of the detector and of the fire loop - Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
330	L45FTX1B_ALM	GT COMPARTMENT CONFIRMED FIRE	Fire is detected.	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
331	L45FTX1C_ALM	AUX COMPARTMENT FIRE PRE_ALARM	• Fire detector fault • Fire loop fault • Fire is detected	• Check the proper operation of the detector and of the fire loop • Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
332	L45FTX1D_ALM	AUX COMPARTMENT CONFIRMED FIRE	Fire is detected.	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
333	L45FTX2A_ALM	LOAD SHAFT COMPARTMENT FIRE PRE_ALARM	• Fire detector fault • Fire loop fault • Fire is detected	• Check the proper operation of the detector and of the fire loop • Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.
334	L30BSA_ALM	BEARING SEAL AIR VALVE TROUBLE	• Bearing seal air valve fault. • Limit switch fault.	• Check the proper operation of the valve and its limit switch 33 BQ_1.
335	L52TG_ALM	TURNING GEAR MOTOR TROUBLE	• The turning gear motor is not running during the turning gear sequence.	• Check the turning gear motor drawer 88 TG (fuses, breaker, relay, power supply). • Check the AC supply power.
336	L94TC_ALM	TORQUE CONVERTOR DRAIN VALVE TROUBLE ALARM	• The torque converter drain valve is not actuated in the same time as the solenoid valve (20 TU_1).	• Check the proper operation of drain valve and solenoid valve. • Check the limit switch 33 TC_1.
337	L52QB_ALM	JACKING MOTOR TROUBLE	• Breaker opened by operator or tripped by jacking motor trouble.	• Determine the reason of this trouble (overload, fuses fault, defected motor, mechanical problem, of supply etc.). • Correct cause of problem and close breaker.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
338	L63QB1L_ALM	BEARING LIFT PUMP DISCHARGE PRESS LOW	• Lift pump fault • Motor fault • Pressure switch fault	• Check the proper operation of the bearing lift pump • check the motor supply(fuses, breaker, connection) • check for leakage • check the proper operation of the pressure switch 63QB (operation and setting point)
339	L48CR_ALM	TURBINE SHAFT FAILURE TO BREAK AWAY	• The time delay is finished and the turbine shaft does not breakaway. • Starting means fault.	• Check the operation of the auxiliaries. • Check the starting means. • Check the supplies.
340	L3TMFLT1_ALM	TORQUE CONVERTER GV TROUBLE	• The torque converter guide vane position transducer is damaged or disconnected.	• Check the transducer. • Verify the adjustment. • Do not restart the unit before it is done.
344	L3AFDEP_ALM	EXHAUST PRESSURE TRANSDUCER TROUBLE	• The exhaust pressure transducer is faulty.	• Check the proper operation of the transducer.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
345	L45FTX3A_ALM	GENERATOR FIRE PRE_ALARM	• Fire detector fault • Fire loop fault • Fire is detected	• Check the proper operation of the detector and of the fire loop • Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
346	L45FTX2B_ALM	LOAD SHAFT COMPARTMENT CONFIRMED FIRE	Fire is detected.	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.
347	L3GCVA_ALM	GAS CONTROL VLV NOT FOLLOWING - ALARM	- Start inhibited + transfer to fuel if running on gas or transfer to gas inhibited. - The gas control valve feedback is abnormal. - Supply fault. - Sensors defected. - Valve and servo-valve fault.	- Check LVDT, 96 GC_1, 2 (setting value, wiring). - Check the calibration of the VGC. - Check the proper operation of the servo-valve 65 GC_1.
348	L86GCVT_ALM	GAS CONTROL VLV NOT FOLLOWING - TRIP	- Start inhibited + transfer to fuel if running on gas or transfer to gas inhibited. - The gas control valve feedback is abnormal. - Supply fault. - Sensors defected. - Valve and servo-valve fault.	- Check LVDT, 96 GC_1, 2 (setting value, wiring). - Check the calibration of the VGC. - Check the proper operation of the servo-valve 65 GC_1.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
349	L30LOA	BEARING DRAIN TEMPERATURE HIGH	• Bearing fault. • Lube oil fault. • Lube oil cooling system fault. • Leakage.	• Check bearings and lube oil system. • Check thermocouples (connection, short-circuit, cut off, position). • Check lube oil cooling. • Check the correct circulation of the lube oil. • Check for leakage. • Check the closing of the test valves.
350	L30BTA	BEARING METAL TEMPERATURE HIGH	• Bearing metal temperature high.	• Check lube oil system. • Check cooling water system. • Check bearings. • Check thermocouples.
351	L30LTA	LOAD TUNNEL TEMPERATURE HIGH	• Automatic shutdown. • Ventilation system fault. • Thermocouple fault.	• Check the proper operation of ventilation system. • Check the operation of the ventilators (rotation). • Check the operation of the motors 88 TK1 and 2. • Check the thermocouple TT_IB_1 (connection, short-circuit, cut off, position). • Check the sealing and the cleanliness of the pipes.
352	L30FQRG3ER_A	FGCV #3 VALVE CV REFERENCE OUT OF LIMITS	• Bad constant value	• Check constants
353	L3APFLT_ALM	AMBIENT PRESSURE MEASUREMENT FAULT	• AFPAT sensor fault	• Change AFPAT sensor
354	L3CPRI_ALM	INLET PRESSURE MEASUREMENT FAULT	• AFPCS sensor fault	• Change sensor
355	LCPRERR_ALM	COMP OP LIMIT PROTECTION MAX CTRL ERROR	• Inlet heating control valve fault. • Compressor discharge pressure transmitters fault.	• Check operation of bleed heat control valve. • Check the compressor discharge pressure transmitters.
356	LFSRCPR_ALM	COMP LIMIT FSR BACKUP CONTROL ACTIVE	• Regulation system fault.	• Check the regulation system. • Check operation of bleed heat control valve.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
358	L45FTX3D_ALM	GEN DRIVE END BEARING CONFIRMED FIRE	Fire is detected.	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
359	L45FTX3C_ALM	GEN DRIVE END BEARING FIRE PRE _ALARM	• Fire detector fault • Fire loop fault • Fire is detected	• Check the proper operation of the detector and of the fire loop • Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
360	L45FTX3B_ALM	GENERATOR CONFIRMED FIRE	Fire is detected.	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.
363	L52BTY_ALM	PACKAGE VENT. NOT COMPLETED	The package ventilation motors are not running.	- Check the MCC drawers. - Check the motor 88_BT and the position of its breaker 52 BTY. - Determine the problem. Repair and restart the fan ventilation.
364	L30GEXT_ALM	EXITATOR TEMP RTD FAULT	The exitator level is out the defined window RTD fault	- Check the RTD and change it if it is out of order - Check the electrical circuit
365	L49EX_ALM	AIR EXITATOR TEMP HIGH	Temperature measured at the exitation is out the defined window RTD fault	- Check the electrical circuit - Change the RTD
366	L30FPDAR_ALM	AUTO RESTART PRIMARY ZONE	DLN primary zone auto refiring	Refer to specific chapter

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
367	L33CDMN_ALM	AT MIN TNR-REVERSE POWER NOT DETECTED	• Transducer fault • System of detection fault	• Check the proper operation of the generator watts transducer and open the manually breaker if necessary • Check the logic of command
368	L83WW_ALM	WASHING ON-LINE PROHIB.INLET TEMP.LOW	• The on-line water wash is inhibited because the temperature is low.	• The on-line water wash will be possible as soon as the temperature will be in the limit spread.
369	L83WWON_ALM	24H DELAY NECESSARY SINCE THE LAST WW	• 24 hours necessary since the last water wash.	• Wait the period of 24H to start again on-line washing.
374	L45HT123_ALM	GAS DETECTION TURBINE COMPT - 1ST STEP	• The gas detection system in the turbine comp is faulty.	• Check for leakage in the turbine compartment. • Check the gas detection system.
375	L45HT456_ALM	GAS DETECTION VENTILATION DUCT - 1ST STEP	• GAS DETECTION VENTILATION	• Refer to specific chapter

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
377	L45HT1_T_ALM	TURB COMP METHANE GAS LVL 1 HH TRIP	A leak of gas is detected.	- Never open gas turbine package or DLN2 package (if used) - Ask people around the zones where you have an alarm to go away immediately. - When the turbine is stopped use portable gas detectors and leak detection liquids to find what caused the alarm. - Reset the alarm after you have found its origin and fixed the problem. WARNING : - If gas is detected, emergency procedures should be immediately instituted to protect personnel and equipment Minimum Emergency Procedures - If the presence of gas is detected, the following emergency steps should be taken immediately. These steps are the minimum considered necessary and should be added to as local conditions dictate. If necessary, additional recommendations for emergency procedures can be applied. 1.Clear the compartments of the turbine and the surrounding area of all occupants. 2.Shutdown or trip the turbine (if it is running) in accordance with the security instructions of the field. 3.Ventilate the compartments and the area surrounding the turbine by opening all exterior doors and compartment panels. 4.Use every practical means to eliminate sources of ignition. Prevent smoking, striking of matches, operating electrical switches, etc. If possible, cut off electrical power at a remote source to eliminate operation of automatic electrical devices in the hazard area. 5.Shut off the fuel supply to the turbine. 6.Investigate other structures in the immediate area to ascertain the presence of gas. 7.Determine the source of the leak and make the necessary corrections. 8.Never restart the unit before repair. For more information about the gas detection system, refer to Gas turbine equipment publications chapters.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
378	L45HT2_T_ALM	TURB COMP METHANE GAS LVL 2 HH TRIP	A leak of gas is detected.	- Never open gas turbine package or DLN2 package (if used) - Ask people around the zones where you have an alarm to go away immediately. - When the turbine is stopped use portable gas detectors and leak detection liquids to find what caused the alarm. - Reset the alarm after you have found its origin and fixed the problem. WARNING : - If gas is detected, emergency procedures should be immediately instituted to protect personnel and equipment Minimum Emergency Procedures - If the presence of gas is detected, the following emergency steps should be taken immediately. These steps are the minimum considered necessary and should be added to as local conditions dictate. If necessary, additional recommendations for emergency procedures can be applied. 1.Clear the compartments of the turbine and the surrounding area of all occupants. 2.Shutdown or trip the turbine (if it is running) in accordance with the security instructions of the field. 3.Ventilate the compartments and the area surrounding the turbine by opening all exterior doors and compartment panels. 4.Use every practical means to eliminate sources of ignition. Prevent smoking, striking of matches, operating electrical switches, etc. If possible, cut off electrical power at a remote source to eliminate operation of automatic electrical devices in the hazard area. 5.Shut off the fuel supply to the turbine. 6.Investigate other structures in the immediate area to ascertain the presence of gas. 7.Determine the source of the leak and make the necessary corrections. 8.Never restart the unit before repair. For more information about the gas detection system, refer to Gas turbine equipment publications chapters.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
379	L45HA_T_ALM	GAS FUEL MODULE GAS LEVEL VERY HIGH TRIP	A leak of gas is detected in the GT enclosure.	- Never open gas turbine package or DLN2 package (if used) - Ask people around the zones where you have an alarm to go away immediately. - When the turbine is stopped use portable gas detectors and leak detection liquids to find what caused the alarm. - Reset the alarm after you have found its origin and fixed the problem. WARNING : - If gas is detected, emergency procedures should be immediately instituted to protect personnel and equipment Minimum Emergency Procedures - If the presence of gas is detected, the following emergency steps should be taken immediately. These steps are the minimum considered necessary and should be added to as local conditions dictate. If necessary, additional recommendations for emergency procedures can be applied. 1.Clear the compartments of the turbine and the surrounding area of all occupants. 2.Shutdown or trip the turbine (if it is running) in accordance with the security instructions of the field. 3.Ventilate the compartments and the area surrounding the turbine by opening all exterior doors and compartment panels. 4.Use every practical means to eliminate sources of ignition. Prevent smoking, striking of matches, operating electrical switches, etc. If possible, cut off electrical power at a remote source to eliminate operation of automatic electrical devices in the hazard area. 5.Shut off the fuel supply to the turbine. 6.Investigate other structures in the immediate area to ascertain the presence of gas. 7.Determine the source of the leak and make the necessary corrections. 8.Never restart the unit before repair. For more information about the gas detection system, refer to Gas turbine equipment publications chapters.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
380	L45FTX3F_ALM	GEN NO DRIVE END BEARING CONFIRMED FIRE	Fire is detected.	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
381	L45FTX3E_ALM	GEN NO DRIVE END BEARING FIRE PRE _ALARM	• Fire detector fault • Fire loop fault • Fire is detected	• Check the proper operation of the detector and of the fire loop • Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartments after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.
382	L51QEOFF_ALM	EMERGENCY LUBE OIL NOT RUNNING	• The emergency lube oil pump is not running.	• Check the supply of the pump 88 QE.
383	L33CL1_ALM	CO ₂ DISCHARGE INHIBITED ZONE 1	• The CO₂ fire protection is out of service in zone 1.	• This protection must be enable during the turbine operation.
384	L33CL2_ALM	CO ₂ DISCHARGE INHIBITED ZONE 2	• The CO₂ fire protection is out of service in zone 2.	• This protection must be enable during the turbine operation.
385	L33CL4_ALM	CO ₂ DISCHARGE INHIBITED ZONE #4	• The CO₂ fire protection is out of service.	• This protection must be enable during the turbine operation.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
389	L30CC_ALM	FIRE PROTECTION SYSTEM TROUBLE	Fire protection system problem.	- Check the power supply of fire protection system. - Check fire detectors and the electrical circuit. This trouble must be corrected as soon as possible. NOTE : - Before this search, the fire protection must be inhibited. Do not forget to put again in service as soon as the maintenance is finished. - Refer to specific chapters for more information about the fire protection.
390	L94FB3_ALM	ZONE #3 CO2 RELEASE (PSH)	CO2 RELEASE ZONE 3	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
391	L94FB3M_ALM	ZONE #3 MANUAL CO2 RELEASE INITIATED	MANUAL CO2 RELEASE ZONE 3	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
392	L94FB3A_ALM	ZONE #3 AUTOMATIC CO2 RELEASE INITIATED	AUTOMATIC CO2 RELEASE ZONE 3	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
393	L94FB2_ALM	ZONE #2 CO2 RELEASE (PSH)	• CO2 RELEASE ZONE 2	• Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.
394	L63AAL_ALM	ATOMIZING AIR PRESSURE LOW	• Atomizing air compressor not providing adequate pressure.	• Check atomizing air system. • Check on running gear if the shaft driver atomizing air compressor is running: if coupling broken replace the atomizing air compressor before starting up the limit. • If atomizing air compressor is correct, check compressor during operation (vibration) and the circuit (help with the pressure indicators). • Check the pressure switches 63AD and their setting point.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
395	L63AALL_ALM	ATOMIZING AIR PRESSURE VERY LOW	Atomizing air compressor not providing adequate pressure.	- Check atomizing air system. - Check on running gear if the shaft driver atomizing air compressor is running: if coupling broken replace the atomizing air compressor before starting up the limit. - If atomizing air compressor is correct, check compressor during operation (vibration) and the circuit (help with the pressure indicators). - Check the pressure switches 63AD and their setting point.
399	L33FS1C_ALM	SHUT OFF VALVE FSV451 NOT CLOSED	SHUT OFF VALVE NOT CLOSED	Refer to specific chapter
402	L86EF12_ALM	LOSS OF BUILDING EXHAUST DUCT FAN #1 & #2	- Exhaust duct cooling fan fault - Motor fault - Power supply fault	- Check the mechanical status of the motor and the fan(88EF) - Check the motor supply (fuses, breaker, connection) - Check the cleanliness of the circuit
403	L30EF12_ALM	BUILDING EXHAUST FAN #1 or #2 FAULT	- Exhaust duct cooling fan fault - Motor fault - Power supply fault	- Check the mechanical status of the motor and the fan(88EF) - Check the motor supply (fuses, breaker, connection) - Check the cleanliness of the circuit
404	L33EF12_ALM	BUILDING EXHAUST FLAP DAMPER NOT CLOSED	- Damper not closed - Limit switch fault	- Check the position of the exhaust plenum flap damper - Check the logic of command of exhaust fan motor - Determine the cause of the flap opening - Check the proper operation of the limit switch
408	L86GLTA_ALM	SMOKE DET IN PEECC (BATTERY COMPT)	SMOKE DET IN PEECC (BATTERY COMPT)	Refer to specific chapter
409	L96FGDIFF_A	FIRE PROTECTION RELEASED IN ZONE #3	FIRE PROTECTION RELEASED IN ZONE #3	Refer to specific chapter
410	L86GLTB_ALM	SMOKE DET IN PEECC (MANUAL PULL)	SMOKE DET IN PEECC (MANUAL PULL)	Refer to specific chapter
412	L94GEX_ALM	EXCITER TEMPERATURE VERY HIGH SHUTDOWN	The exciter temperature is very high.	Refer to specific chapter.
413	L26VG1L_ALM	LOAD COMPARTMENT TEMPERATURE LOW	The temperature in the load compartment is low.	- Check the ventilation system of the load compartment (motor 88 VG, ventilators, dampers position). - Check the temperature sensor AT-LC-1.
414	L26GCA2_ALM	GENERATOR COLD AIR HIGH HIGH TEMP	Generator cold air temp high	Refer to specific chapter.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
415	L26GHA2_ALM	GENERATOR HOT AIR HIGH HIGH TEMP	Generator hot air temp high	Refer to specific chapter.
417	L86GST_ALM	GEN STATOR WINDING CENTER TEMP FAULT	GEN STATOR WINDING CENTER TEMP FAULT	Refer to specific chapter
418	L30GCA_ALM	GENERATOR COLD AIR TEMP RTD FAULT	Cold air temperature RTD fault	Check RTD and associated connections for proper signal and replace faulty RTD.
419	L30GHA_ALM	GENERATOR HOT AIR TEMP RTD FAULT	Hot air temperature RTD fault	Check RTD and associated connections for proper signal and replace faulty RTD.
420	L30GST_ALM	GENERATOR STATOR TEMPERATURE RTD FAULT	Stator temperature RTD fault	Check RTD and associated connections for proper signal and replace faulty RTD.
421	L26GCA1_ALM	GENERATOR COLD AIR HIGH TEMP ALARM	Stator temperature RTD fault	Check RTD and associated connections for proper signal and replace faulty RTD.
422	L26GHA1_ALM	GENERATOR HOT AIR _HIGH TEMP ALARM	The temperature of the generator hot air is high.	- Check the generator cooling system. - Check cooling water supply - Check ventilation system - Check dampers position - Check that the valves are correctly positioned - Refer to specific chapter.
423	L49G1_ALM	GENERATOR OVER_HEATING	- Generator overload. - Generator ventilation fault.	- Generator load lower. - Generator ventilation circuit checking.
424	L94GHT_ALM	GEN TEMP VERY HIGH OR FAULT_SHUTDOWN	- Shutdown - Generator fault - Generator ventilation fault.	- Check the proper operation of the generator - Check the generator cooling system. - Check cooling water supply and the exchanger - Check ventilation system - Check dampers position - Check that the valves are correctly positioned

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
435	L94FB2M_ALM	ZONE #2 MANUAL CO2 RELEASE INITIATED	MANUALCO2 RELEASE ZONE 2	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
436	L94FB2A_ALM	ZONE #2 AUTOMATIC CO2 RELEASE INITIATED	AUTOMATIC CO2 RELEASE ZONE 2	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
437	L94FB1_ALM	CO2 RELEASE ZONE #1 #2 #3	• CO2 EMISSION ZONE 1,2,3	• Refer to fire protection panel to determinate the fire zone. • The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). • Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. • NOTE : • Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. • WARNING : • Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
438	L94FB1M_ALM	ZONE #1 MANUAL CO2 RELEASE INITIATED	MANUAL CO2 RELEASE ZONE 1	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
439	L94FB1A_ALM	ZONE #1 AUTOMATIC CO2 RELEASE INITIATED	AUTOMATIC CO2 RELEASE ZONE 1	- Refer to fire protection panel to determinate the fire zone. - The unit should not be operated until the cause has been determined and corrected and the fire protection has been re-established in its normal condition (refilling of CO₂ bottles, circuit reset...). - Check for the causes of this trip; hot air or fuel or oil leaks, or short-circuit. NOTE : - Restarting after an operation of the CO₂ system requires that the CO₂ system be reset, including all doors and dampers, and the CO₂ release mechanism. WARNING : - Carbon Dioxide, in a concentration sufficient to extinguish fire, creates an atmosphere that will not support life. It is extremely hazardous to enter the compartment after the CO₂ system has been discharged. Anyone rendered unconscious by CO₂ should be rescued as quickly as possible and revived immediately with artificial respiration. The extent and type of safeguards and personnel warning that may be necessary must be designed to meet the particular requirements of each situation. It is recommended that personnel be adequately trained as to the proper action to take in case of such an emergency.
453	R5E_TGALM	TURBINE EMERGENCY TRIP PUSHBUTTON	TURBINE EMERGENCY TRIP PUSHBUTTON	Refer to specific chapter
454	L4CT1_ALM	TURBINE EMERGENCY TRIP PUSHBUTTON	TURBINE EMERGENCY TRIP PUSHBUTTON	Refer to specific chapter
464	L30FQRG1ER_A	FGCV #1 VALVE CV REFERENCE OUT OF LIMITS	Bad constant value	Check constants
467	L52AR_ALM	MCC POWER SUPPLY N BREAKER POS ALARM	The normal MCC power supply breaker is not in position.	Check the contacts of the MCC.
468	L52AS_ALM	MCC POWER SUPPLY S BREAKER POS ALARM	The emergency MCC power supply breaker is not in position.	Check the contacts of the MCC.
469	L60GC1FSH_A	GAS CONTROL VALVE TO MUCH OPENED	- VGC openend more than 25 % - LVDT calibrating fault	

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
471	L83FQG2NC_AL	FGCV #2 RUNNING NON-CRITICAL MODE	FGCV #2 running non-critical mode	
472	L30FQRG2ER_A	FGCV #2 VALVE CV REFERENCE OUT OF LIMITS	Bad constant value	Check constants
473	L3GCVSA_ALM	SECONDARY GCV NOT FOLLOWING REFERENCE	GCV2 feedback disagree with control signal	- Check GCV2 - Check LVDT
474	L86GCVST_ALM	SECONDARY GAS CONTROL VALVE NOT FOLLOWING REF TRIP	GCV2 feedback disagree with control signal	- Check GCV2 - Check LVDT
475	L83FQG1NC_AL	FGCV #1 RUNNING NON-CRITICAL MODE	FGCV #1 running non-critical mode	
476	L3GCV3FLT_A	GCV3 SERVO TROUBLE	GCV3 servo trouble	- Check GCV3 - Check LVDT 96GC-5
478	L3GCVTA_ALM	GCV3 NOT FOLLOWING REFERENCE	GCV3 feedback disagree with control signal	- Check GCV3 - Check LVDT 96GC-5
479	L86GCVTT_ALM	GCV3 NOT FOLLOWING REFERENCE TRIP	- GCV3 feedback disagree with control signal - Trip	- Check GCV3 - Check LVDT 96GC-5
480	L83FQG3NC_AL	FGCV #3 RUNNING NON-CRITICAL MODE	FGCV #3 running non-critical mode	
481	L28FPD_ALM	PRIMARY FLAME DETECTOR ALARM	PRIMARY FLAME DETECTOR	Refer to specific chapter
482	L72QE_ALM	EMERGENCY LUBE OIL PUMP MOTOR ELECTRICAL FAULT	Electrical fault on the emergency lube oil pump motor	Check the emergency lube oil pump and motor.
483	L51QE_ALM	EMERGENCY LUBE OIL OVERLOAD	The emergency lube oil pump is faulty.	- Check the time overcurrent relay 51 QE. - Check the mechanical status of the pump. - Check supply of the motor pump.
484	L63QA2L_ALM	LUBE OIL PRESSURE ALARM BEARING	Lube system leaks or pump or transmitter trouble.	- Repair leaks or pump. - Check proper operation of the transmitter (96QA_2) and the pressure switch 63 QA-2. - Check the closing of the test valves.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
485	L3LTOT_ALM	LUBE OIL TANK TEMPERATURE FAULT	- Start inhibited. - Lube oil heaters fault (23 QT_1 to 6). - Lube oil pump in trouble (88QA_2). - Loss of AC.	- Check the lube oil heaters (23 QT to 6). - Check the lube oil circuit. - Check the AC supply (415 VAC).
486	L30LTTH_ALM	LUBE OIL THERMOCOUPLE FAULT	Thermocouple fault	Check the proper operation of thermocouples LTTH1 to 3.
487	LTTH1A_ALM	LUBE OIL THERMOCOUPLE #1 FAULT	Thermocouple fault.	Check the proper operation of thermocouple LT_TH-1A.
488	LTTH2A_ALM	LUBE OIL THERMOCOUPLE #2 FAULT	Thermocouple fault.	Check the proper operation of thermocouple LT_TH-2A.
489	LTTH3A_ALM	LUBE OIL THERMOCOUPLE #3 FAULT	Thermocouple fault.	Check the proper operation of thermocouple LT_TH-3A.
490	L63QQ8H_ALM	TRIP OIL FILTER DIFF. PRESSURE HIGH	The lube oil filter is dirty.	- Check the lube oil filter. - Check the pressure switch 63QQ_8.
491	LTBRGH_ALM	LUBE OIL TEMP BRG DELTA TEMP HIGH	- The delta temperature between turbine bearings is too high - Turbine bearings fault - Lube oil fault - Leakage	- Check the lube oil feed and drain piping - Check turbine bearings and lube oil system - Check thermocouples - Check for leakage - Check the correct circulation of the lube oil.
492	LTBRGHH_ALM	LUBE OIL TEMP BRG DELTA TEMP HH	- The delta temperature between turbine bearings is very high - Turbine bearings fault - Lube oil fault - Leakage	- Check the lube oil feed and drain piping - Check turbine bearings and lube oil system - Check thermocouples - Check for leakage - Check the correct circulation of the lube oil.
493	LTGBRGH_ALM	LUBE OIL TEMP GEN BRG DELTA TEMP HIGH	- The delta temperature between generator bearings is too high - Generator bearings fault - Lube oil fault - Leakage	- Check the lube oil feed and drain piping - Check generator bearings and lube oil system - Check thermocouples - Check for leakage - Check the correct circulation of the lube oil.

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
494	LTGBRGHH_AL M	LUBE OIL TEMP GEN BRG DELTA TEMP H-H	- The delta temperature between generator bearings is very high - Generator bearings fault - Lube oil fault - Leakage	- Check the lube oil feed and drain piping - Check generator bearings and lube oil system - Check thermocouples - Check for leakage - Check the correct circulation of the lube oil.
495	L3GFIVPL_ALM	FGCV P2 LIGHTOFF PRESSURE TOO LOW	- SRV valve closed - Vent valves opened - SSOV closed - Gas feeding fault	- Open SRV valve - Check vent valves : HV404, HV405, HV406 - Open SSOV valve - Check gas feeding
496	L26WH_FLT	WATER COOLING SENSOR FAULT	WATER COOLING SENSOR FAULT	Refer to specific chapter
497	L3GFIVPH_ALM	FGCV P2 LIGHTOFF PRESSURE TOO EXCESSIVE	- VGC-1 & VGC-2 & VGC-3 closed - SRV valve regulating fault - Supply pressure too high	- Check VGC-1 & VGC-2 & VGC-3 - Check SRV - Check supply pressure
498	L96FGLL_ALM	GAS FUEL SUPPLY PRESSURE LOW LOW	- Gas fuel pressure to turbine has been sensed as low. - Purchaser gas supply fault. - Leakage. - Wiring, supply fault. - Transmitter fault.	- Check the cause of low supply pressure. - Check the purchaser gas supply. - Check for leakage. - Check the transmitters 96 FG_1. - Check the opening of the shut_off valve.
499	L4GFIVPT_ALM	FGCV P2 PRESSURE TOO LOW TRIP	- SRV not enough open - Problem gas supply	- Check SRV - Check gas supply
500	L26AATIL_ALM	ATOMIZING AIR TEMPERATURE LOW	ATOMIZING AIR TEMPERATURE LOW	Refer to specific chapter
502	L45HF1_ALM	GENERATOR COLLECTOR INLET HIGH TEMP	GENERATOR COLLECTOR INLET HIGH TEMP	Refer to specific chapter
503	L45HF2_ALM	TURB.COMPT GAS DETEC.SYSTEM IN TROUBLE	The gas detector monitor is faulty.	Check the gas detector monitor (power supply, breaker connection).
504	L45HF3_ALM	GENERATOR COLLECTOR OUTLET HIGH TEMP	GENERATOR COLLECTOR OUTLET HIGH TEMP	Refer to specific chapter
506	L30WC_FLT	COOLING WATER SYSTEM TROUBLE	Generator cooling alarm	Refer to specific chapter

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
507	L26WC1H_ALM	TURBINE COOLING WATER TEMP HIGH	• Cooling water system fault • Pipes, radiators are dirty • Cooling fan motor fault • Leakage	• Check what the circuit is correctly positioned • Check the proper operation of the fin fan radiators • Check for leakage • Check the temperature switch 26WC_1
508	L52WC1_ALM	WATER PUMP 1 BREAKER OPEN	• Water pump 1 breaker open	• Close water pump 1 breaker
509	L52WC2_ALM	WATER PUMP 2 BREAKER OPEN	• Water pump 2 breaker open	• Close water pump 2 breaker
510	L30PUR_ALM	PURGE SYSTEM DIFF PRESS TOO HIGH	• Purge system fault	• Check the purge system
517	L28FDT_ALM	KEINE FLAMME - TRIP	• Failure of flame detectors or loss of flame.	• Check for following: fuel being supplied to the combustors, flame in all chambers, damaged crossfire tubes, or combustors. • Check for proper control valve position and fuel pressure. • Check for proper operation of the flame detectors 28 FD.
518	L30AAPRL_ALM	ATOMIZING AIR PRESSURE LOW	• Pressure low for atomizing air	• Check atomizing system
520	LPLP_ALM	LIQ FUEL PRIM MANIFOLD PUR DIF PRES LOW	• Liq fuel primary manifold purge differential pressure low	• Check the proper operation of: • Purge valves: VA 19-1 • Solenoid valve: 20 PL 1 • Transmitter: 96PLP
521	LPLS_ALM	LIQ FUEL 2ND MANIF. PURGE DIF PRES LOW	• Liq fuel secondary manifold purge differential pressure low	• Check the proper operation of: • Purge valves: VA 19-2 • Solenoid valve: 20 PL 2 • Transmitter: 96PLS
524	L30VG_ALM	LOAD COMPT COOLING FAN CHANGE OVER	• The load compartment ventilation is faulty.	• Check the ventilation system of this compartment (power supply, motor, fans, electrical circuit...). • Check the pressure switch. • Check the position of vent flap.
525	L86VGX_ALM	LOSS OF LOAD GEAR COMPT COOLING FAN	• Air fan fault • Motor fault • Power supply fault	• Check the load compartment cooling ventilation system • Check the supply of motors 88VG • Check fuses, breakers and protections • Check the mechanical status of the fans and the motors

OPERATION AND MAINTENANCE OPERATION

DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
526	L33VG_ALM	LOAD COOLING AIR FLAT DAMPER NOT CLOSED	- Damper not closed - Limit switch fault	- Check the position of the damper - Determine the cause of the flap opening - Check the limit switch 33VG
527	LDWCAL_ALM	GAS FUEL SUPPLY PRESSURE LOW	GAS FUEL SUPPLY PRESSURE LOW	Refer to specific chapter
528	LDWCALIB_ALM	MINIMUM ALLOWED ERROR	DWATT is not in correct value	Check 4-20mA 96GW
529	L3DWBCOKZ_AL	BOTH HYDRAULIC PUMPS LOCKED OUT	BOTH HYDRAULIC PUMPS LOCKED OUT	Refer to specific chapter
530	LDB_FAIL_ALM	EINHEIT NICHT BEREIT FUER TOTNETZ BETRIEB	Einheit nicht bereit fuer totnetz betrieb	Refer to specific chapter
531	LDBMD_ON_AL M	EINHEIT BEREIT FUER TOTNETZ BETRIEB	Einheit bereit fuer totnetz betrieb	Refer to specific chapter
532	LDB_ABRT_ALM	EINHEIT ABRUCH TOTNETZ BETRIEB	Einheit abbruch totnetz betrieb	Refer to specific chapter
533	LDBMD_OF_AL M	EINHEIT TOTNETZ VERSCHLUSS ERFOLGREICH	Einheit totnetz verschluss erfolgreich	Refer to specific chapter
534	L20VG1X_ALM	GAS FUEL VENT VALVE TROUBLE	The position of the vent valve is incompatible with the one of the limit switch	Check the proper operation of the vent valve 20 VG-1 and the limit switches 33GV1
535	L63LF3H_ALM	FUEL FILTER DIFF. PRESSURE HIGH	The filter of the fuel skid is dirty.	- Check the filter and changeover, if necessary. - Check the differential pressure switch 63 LF_3.
536	L30DBEXX_ALM	EXCITER FAIL- ABORTING DB CLOSURE	Exciter fail- aborting db closure	Refer to specific volume
537	L63FD2H_ALM	FUEL FORWARDING PRESS. HIGH ALARM	The pressure on the fuel forwarding skid is high.	- Check the forwarding skid. - Check the pressure switch 63 FD_2.
538	L63GQ1H_ALM	GAS FUEL INLET FILTER DIFF PRESS HIGH	- Gas fuel inlet filter differential pressure high. - Filter clogged.	- Check the status of the inlet filter FG-1. - Check the proper operation of the pressure switch 63 GQ-1.
545	L30DWREF_ALM	LOSS OF REMOTE PRESEL LOAD SETPOINT	Loss of remote preselection load setpoint.	Preselected load is automatically deselected

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
547	L63CSH_ALM	INLET PLENUM DIFF PRESSURE HIGH TRIP	Inlet filter excessive pressure drop.	- If the pressure is excessive, change the air filters. - If the pressure is correct, check the proper operation and the setting point of the pressure switches 63 CS. NOTE : - Refer to Manufacturer's recommendations for air filters maintenance in specific chapters.
548	L63CSH_SENSR	TURBINE COMPRESSOR INLET PRESS. SW. TROUBLE	The pressure switches of the air inlet compressor are in trouble.	- Check the state of the pressure switches 63 CS_1 and _2 (proper operation and setting point). - Check their logic circuit.
550	L3Z_ALM	FAILURE TO SYNCHRONIZE	Unit did not synchronize and close generator breaker within the normal expected time.	- Investigate synchronization system to determine exact cause of problem. - Check the stability of the turbine speed control.
552	L27BZ_ALM	BUS UNDERVOLTAGE RELAY	BUS UNDERVOLTAGE RELAY	Refer to specific chapter
553	L63WCX_ALM	COOLING WATER PUMP TROUBLE	The cooling water pump is in trouble.	- Check the mechanical state of the pump. - Check the power supply of the pump drawer. - Check the pressure switch.
556	L86FS_ALM	LIQ FUEL FALSE START-USE RESET DISPLAY	LIQ FUEL FALSE START-USE RESET DISPLAY	Refer to specific chapter
557	L30AAT_ALM	ATOMIZING AIR TEMPERATURE FAULT	- Atomizing air temperature fault. - Thermocouples fault.	Check the thermocouples AAT-1A and 2A. (wiring, connection, etc...).
559	L86WW_ALM	OFF LINE COMP WW - USE RESET DISPLAY	OFF LINE COMP WW - USE RESET DISPLAY	Refer to specific chapter
561	L45HA123_ALM	GAS FUEL MOD GAS LEVEL HIGH	GAS FUEL MOD GAS LEVEL HIGH	Refer to specific chapter
563	L94BLN1_ALM	BATTERY CHARGER #1 TROUBLE-NORMAL SHUTDOWN DELAYED	Battery charger	- Check the battery charger - Check the voltage magnitude. - Refer to specific chapters for more information about the battery charger.
564	L94BLN2_ALM	BATTERY CHARGER #1 TROUBLE-NORMAL SHUTDOWN	Battery charger	- Check the battery charger - Check the voltage magnitude. - Refer to specific chapters for more information about the battery charger.

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DROP	SIGNAL NAME	ALARM TEXT	POSSIBLES CAUSES	ACTIONS TO BE TAKEN
566	L63PG2H_ALM	GAS TRANSFER PURGE SYS. PRESS. HIGH	The two purge valves VA 13_3 and VA 13_4 are seen closed and the pressure switch detects high pressure.	- Check the position of the purge valves VA 13_3 and VA 13_4. - Check the proper operation of the limit switches 33 PG_5 and 33 PG_7. - Check the pressure switches 63 PG_2 (operation and setting point).
567	L86PGTLO_ALM	GAS XFER PURGE VALVE FAILURE TO CLOSE	Gas xfer purge valve failure to close	
568	L39VSGH_ALM	GEN RADIAL SHAFT DISPLACEMENT ALERT	GEN RADIAL SHAFT DISPLACEMENT ALERT	- Refer to specific chapter - Check the gen radial
569	L39VSGHH_ALM	GEN RADIAL SHAFT DISPLACEMENT DANGER	GEN RADIAL SHAFT DISPLACEMENT DANGER	- Refer to specific chapter - Check the gen radial
570	L39VSTH_ALM	GT RADIAL SHAFT DISPLACEMENT ALERT	GT RADIAL SHAFT DISPLACEMENT ALERT	- Refer to specific chapter - Check the gen radial
571	L39VSTHH_ALM	GT RADIAL SHAFT DISPLACEMENT DANGER	GT RADIAL SHAFT DISPLACEMENT DANGER	- Refer to specific chapter - Check the gen radial
572	L96VSTH_ALM	GT AXIAL SHAFT DISPLACEMENT ALERT	GT AXIAL SHAFT DISPLACEMENT ALERT	- Refer to specific chapter - Check the GT axial
573	L96VSTHH_ALM	GT AXIAL SHAFT DISPLACEMENT DANGER	GT AXIAL SHAFT DISPLACEMENT DANGER	Refer to specific chapter
574	L30BN_ALM	BENTLEY NEVADA SYSTEM FAULT	Bentley Nevada system fault	Check Bentley Nevada system
575	L30PGTOF_ALM	GAS XFER PURGE VALVE FAILURE TO OPEN	The gas transfer purge valves VA 13 failed to open	- Check the proper operation of: ⇒ purge valves: VA 13 ⇒ solenoid valves: 20 PG ⇒ limit switches: 33 PG_6 and 33 PG_8