Enquiry Number # [redacted]

SUI SOUTHERN GAS COMPANY LIMITED

SOLAR POWER SYSTEM - MAINTENANCE CHECKLIST

LOCATION:		DATE:		NO. OF INVERTERS:	
VISIT TYPE:	☐ PREVENTIVE ☐ CORRECTIVE	TIME:		NO. OF ARRAYS:	
CAPACITY (kW):	No. of panels :	Wattage :		Capacity (kW) = No. of panels x wattage =	

1. SOLAR STRUCTURE & PANELS

Nuts/bolts & Z/T clamps tightened	☐ Yes	☐ No
Structure condition (rusting)	☐ Ok	☐ Rusted
Foundation stability (cracks)	☐ Ok	☐ Cracked
Panels – scratches / damage	☐ Ok	☐ Damaged
Panel / string connectors tight	☐ Ok	☐ Loose
Shading check on panels	☐ Clear	☐ Shadow
Panels cleaned of dust	☐ Yes	☐ No
Earthing / grounding Less than 5 ohm	Value :	ohm

2. AC & DC DISTRIBUTION BOX

AC Output Breaker	☐ ON	☐ OFF
Smart Load Breaker	☐ ON	☐ OFF
WAPDA / Gen. input breaker	☐ ON	☐ OFF
PV Array-1 (PV1) Breaker	☐ ON	☐ OFF
PV Array-2 (PV2) Breaker	☐ ON	☐ OFF
PV Array-3 (PV3) Breaker	☐ ON	☐ OFF
PV Array-4 (PV4) Breaker	☐ ON	☐ OFF
Battery Bank Breaker	☐ ON	☐ OFF
AC SPD (surge protection)	☐ Green	☐ Red
DC SPD (surge protection)	☐ Green	☐ Red
Loose wiring found in DB's	☐ Yes	☐ No

3. PV PARAMETER

	ARRAY 1	ARRAY 2	ARRAY 3	ARRAY 4
Voltage (V)				
Current (A)				
Power (W)				
Total PV Power (kW)				
Total Load (kW)				
AC Output Voltage (V)				
Battery Bank Voltage (V)				

4. BMS AND GENERATOR PARAMETERS

Battery Bank Capacity (Ah)		
Battery Charging/Discharging Current (A)		
Battery Bank SOC (%)		
Average Cell Temperature (°C)		
Generator Charging Current (A)		
Generator Operating Hours After Solar System Shutdown (Per Day)	HRS	
BMS communication status	☐ Normal	☐ Fault
Cell balancing status	☐ Normal	☐ Abnormal
Charging mode	☐ Float	☐ Equalize

5. BATTERY – CELL READINGS

BMS Lithium ion Batteries

Batt.	Voltage (V)	Battery SOC %
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

6. GENERAL HOUSEKEEPING

Battery terminals – corrosion	☐ Ok	☐ Corroded
Inter-battery connection strips	☐ Ok	☐ Loose
Battery physical condition	☐ Normal	☐ Abnormal
Cleaning performed	☐ Panels	☐ Bank/Rack
Inverter Cleaning	☐ Yes	☐ No
Weather during visit	☐ Sunny	☐ Cloudy
AC Split	Working or not :	
Any Inverter error	Error Code :	

7. OVERALL SYSTEM STATUS

Overall system condition	☐ Satisfactory	☐ Attention

Note: Don't tamper or change with the Lithium Battery DIP Switches Sequence and Inverter original config. settings

REMARKS / OBSERVATIONS / SPARE PARTS USED (IF ANY):

NEXT MAINTENANCE DUE:	SITOR NAME & SIGNATURE:	DATE:
APPROVED BY:	SIGN AND STAMP:	DATE:

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SUI SOUTHERN GAS COMPANY LIMITED

BUILDING MANAGEMENT SYSTEM HEAD OFFICE BUILDING

Date: _____ DAILY LOG SHEET Day: _____

DESCRIPTION OF WORKS	MORNING DUTY	EVENING DUTY	NIGHT DUTY

PLEASE TICK WHAT YOU HAVE CHECKED/OBSERVED.

01	Fire Hydrant System	Morning	Evening	Night
a	Line Pressure	PSI	PSI	PSI
b	On KESC	Yes/No	Yes/No	Yes/No
c	On Generator	Yes/No	Yes/No	Yes/No
d	Any Leakage from Gate Valves	Yes/No	Yes/No	Yes/No
	Note:-Please mention reason of any failure in remarks area			
02	Fire Alarm System	Morning	Evening	Night
a	Main Fire Alarm Control Panel	OK/NOT	OK/NOT	OK/NOT
b	Repeater Control Panel	OK/NOT	OK/NOT	OK/NOT
c	Any Trbl Ack (Please Mention Loc & Sensors no in remarks area			
d	Any Malfunction of System	Yes/No	Yes/No	Yes/No
03	Water Management System Storage Tanks	Morning	Evening	Night
a	Level of UG Tank No-1 to 4 (all tanks are parallel)	___ft ___	___ft ___	___ft ___
b	Level of OH Tank No-1 to 3 (all tanks are parallel)	___ft ___	___ft ___	___ft ___
c	Over Head Tank (Marketing & CRD)	11:00 AM (Full or Not)	5:00 PM (Full or Not)	7:00 AM (Full or Not)
04	Fire Hydrant Diesel Engine Set	STBD BY/NOT	STBD BY/NOT	STBD BY/NOT
a	Diesel Tank Level	%	%	%
b	Lube Oil Level	LOW/NORMAL/HIGH	LOW/NORMAL/HIGH	LOW/NORMAL/HIGH
c	Radiator Water Level	OK/NOT OK	OK/NOT OK	OK/NOT OK
d	Battery Charging Position	OK/NOT OK	OK/NOT OK	OK/NOT OK
05	KESC Power	STBD BY/NOT	STBD BY/NOT	STBD BY/NOT
06	Drinking Water Filtration Plant	ON / OFF	ON / OFF	ON / OFF
07	REMARKS:-			

08	NAME	TIME-IN	OUT-TIME	SIGNATURE

Supervisor (BMS)

DCE (E)

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SUI SOUTHERN GAS COMPANY LIMITED
SERVICES DEPARTMENT - ELECTRICAL SECTION
DAILY LOG SHEET GUASCOR GAS ENGINE GENERATOR 500 kW AT HO.

DATE : _____

DAY : _____

Time	Power		Current			Voltage			Freq.	RPM	Engine Parameters										Batter DC Voltage	Air Temp.
			Max : 900 Amps			Nominal Value : 400 Volts			Nominal Value: 50	Nominal Value: 1500	Lube Oil		Main circuit water temp. In/out	Main circuit water pressure	Intake manifold temp.	Exhaust RB Temp.	Exhaust LB Temp.	Auxiliary circuit water temp.	Auxiliary circuit water pressure			
											Oil Temp.	Oil Pressure		Max : 2 Bar					Max : 2 Bar		Nominal Value : 24 V	
	kW	P.F.	AMP.R	AMP.Y	AMP.B	RB	YB	RY	HZ	RPM	°C	BAR	°C	BAR	°C	°C	°C	°C	BAR		Volts	°C
0800																						
0900																						
1000																						
1100																						
1200																						
1300																						
1400																						
1500																						
1600																						
1700																						
1800																						
1900																						
2000																						

NOTE : _____

GUASCOR	PRESENT READING	PREVIOUS	DIFFERENCE
RUNNING HOURS			
kWH			

OPERATOR

SR. ENGINEER (ELECT.)

CHIEF ENGINEER (ELECT.)

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ENGINATOR NO. _____

SSGC

SUI SOUTHERN GAS COMPANY
SERVICES DEPARTMENT
LOG SHEET 440 KW WAUKESHA GAS ENGINE GENERATOR – HEAD OFFICE

DATE: _____

DAY: _____

TIME	Load	VOLTAGE			FREQ.	POWER FACTOR	CURRENT			RPM	VACUM		LUBE OIL		WATER TEMP	CYLINDER TEMPERATURE MAX: 630°F														WINDING TEMPERATURE MAX 40.5°C + AMB TEMP		
													PRES	TEMP																	
	Max. 440 KW	440 VOLT			50 Hz	0.8	MAX: 794 AMPS			1000	IN HG.		MIN: 35 PSI MAX: 80 PSI	ALARM 89°C	ALARM 91°C S/DOWN 94°C	LEFT BANK						COM	RIGHT BANK						COM			
	KW	AB	BC	CA	Hz	PF	A	B	C	RPM	IN	HG	PSI	°C	°C	1	2	3	4	5	6	7	8	9	10	11	12	13	14	1	2	3
700																															
800																															
1000																															
1200																															
1400																															
1600																															
1800																															
2000																															
2200																															

Remarks: _____

GENERATORS	RUNNING HOURS			KWH			LUBE OIL CONSUMPTION			BA
	PREVIOUS	PRESENT	DIFF	PREVIOUS	PRESENT	DIFF	PREV	PRES	TOTAL	VOL
WAUKESHA-1										
WAUKESHA-2										

GEN. OPERATOR:

MORNING SHIFT _____

EVENING SHIFT _____

INCHARGE POWER HOUSE _____

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SSGC

SUI SOUTHERN GAS COMPANY LIMITED
SERVICES DEPARTMENT - ELECTRICAL SECTION
DAILY LOG SHEET CATERPILLAR GAS ENGINE GENERATOR 160kW/200kVA AT KORANGI OFFICE

DATE : _____

DAY : _____

Time (24 Hour)	Power Meter				AC Meter						Engine Meter				
					Current			Voltage			Freq.	Revolutions per Minute	Lube Oil Pressure	Water temp.	Battery DC Voltage
	kW	kVA	P.F.	Hz	AMP.R	AMP.Y	AMP.B	RB	YB	RY	HZ	RPM	PSI	F	Volts
0900															
1100															
1300															
11500															
1700															
1900															
2100															
2200															

NOTE : _____

CATERPILLAR RUNNING HOURS & OIL CONSUMPTION	RUNNING HOURS (kWH)			DAILY OIL CONSUMPTION (Litres)
	PRESENT READING	PREVIOUS READING	DIFFERENCE	

OPERATOR

ENGR(ELECT,)

CE(ELECT.)

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DAILY LOG SHEET

DIRECT FIRES VAPOR ABSORPTION CHILLER - 430 TR 02 Nos. SSGC HEAD OFFICE

Day:

Equipments	TIME (Hrs)	PRESSURE						TEMPERATURE						VACUUM	LEVELS				
		7	9	11	12	3	6	8	10	13	1	2	4			5			
		CONDENCER Inlet/outlet WATER PRSER 100-120 (psi)		CHILLED Inlet/outlet WATER PRSER 60-80 (psi)		HP GEN. Max: 650-710 (mmHg)	Inlet Gas (mBar)	CONDENCE Inlet/outlet WATER Temp: 28-32 (°C)		CHILLED WATER Set Temp.7°C		HP GEN. Max: 150(°C)	EXHAUST Max:200°C	760 mm Hg	ABSORBER	GENERATOR	EVAPORATER	C.T FANS IN OPERATION	Main Gas Pressure
		IN	OUT	IN	OUT			IN	OUT	IN	OUT								
Chiller Nos.	Chiller # 1 Start Time :																		
	Start														O	O	O		
	08:00														O	O	O		
	10:00														O	O	O		
	12:00														O	O	O		
	14:00														O	O	O		
	16:00														O	O	O		
	18:00														O	O	O		
	20:00														O	O	O		
	Chiller # 1 Total uptime :	Downtime Records If any from:_____ To:_____ Total BD Hours: _____																	
	Chiller # 2 Start Time :																		
	Start														O	O	O		
	08:00														O	O	O		
	10:00														O	O	O		
	12:00														O	O	O		
	14:00														O	O	O		
	16:00														O	O	O		
	18:00														O	O	O		
	20:00														O	O	O		
	Chiller # 2 Total uptime :	Downtime Records If any from:_____ To:_____ Total BD Hours: _____																	

Remarks:

HVAC Suppervisor

Incharge DCE(E)

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