Solar Maintenance - Overview

1	Name	Horațiu
2	Address	
3	System size (kW)	
4	Is battery storage installed on-site	Yes
5	Is a Voltage optimiser installed on-site	Yes
6	Authorised Person	Andrew Lloyd
7	Start date & time	10/04/2025 at 08:00
8	Roof access available	Yes
9	Cleaning performed	Yes
10	RAMs completed	Yes
11	Fireman's Switch	Yes
12	Weather	Sunny
13	Ambient temp	Cool

System Components:

	Component	P / F / N/A	Failed on
1	Inverters / AC Distribution	Fail	Cable condition, connection tightness
2	Mains Connection	Pass	
3	PV Generator (DC Side)	N/A	
4	Electrical Testing	Pass	
5	Performance Checks	Pass	
6	Visual inspection	Pass	
7	System Safety Risks	Pass	
8	Battery Systems	Pass	
9	Voltage Optimiser	Pass	

System summary notes:

Inspection Limitations:

No.	Limitations	Tick to confirm
1	Could not assess roof	
2	Could only access roof visually (e.g. from cherrypicker or drone)	
3	Structural integrity not assessed	
4	No thermography performed	
5	No electrical testing carried out	
6	Could not isolate system	
7	No comms / logging check done	

Follow-up required	Yes

Follow-up details:

Solar Maintenance - System Components

1. Inverters / AC Distribution

Inverter info:

Number of Inverters	1
Inverter info	Complete
Inverter make	
Inverter Model	
Inverter serial number	
Size of inverter (kW)	
No. of strings on inverter	
Inverter status (e.g. "Enter inverter display status or error code")	

Tasks:

No.	Task	Pass / Fail / N/A
1	Inverters operating in "normal" mode	Pass
2	No signs of overheat, noise, vibration	Pass
3	Warning / hazard signs functional	Pass
4	Door locks, humidity, internal condition checked	Pass
5	Dust filters checked, replaced if needed	Pass
6	Heat exchangers cleaned	Pass
7	Labels readable and correctly placed	Pass
8	Grounding system visually inspected	Pass
9	Fuses / breakers / disconnections condition	Pass
10	Fan functionality and noise assessed	Pass
11	Cable condition, connection tightness	**Fail**
12	Supply voltage within spec	Pass
13	Surge protection working (if applicable)	N/A
14	Ground insulation protection (if applicable)	N/A
15	Comms cabling, HUBs, loggers working	N/A
16	Maintenance aligns with inverter O&M manual	Pass

Fail: Cable condition, connection tightness

Category: 1

Is the system safe to generate?
No, I have disconnected the inverter. Smell of burn upon removing the inverter boot. Burnt connection found, most likely due to connection used (bad lug).

What remedial work was done?
DC isolators open, inverter removed from the system.

What needs to happen next?
Recommend that AC isolator and H07 flex is installed.

Media upload of Fail:

Inverter notes:

Could not fully complete tests as the burnt connection was found early into the maintenance. Recommend that AC isolator and H07 flex is installed. Will complete the tests upon re-visit.

2. Mains Connection

Tasks:

No.	Task	Pass / Fail / N/A
1	Warning / hazard signs present and legible	Pass
2	Labels correct and visible	Pass
3	Entrance barriers assessed (if applicable)	Pass
4	Mains connection tightness / no burns	Pass
5	Breaker operates mechanically	Pass
6	Protection device rating correct	Pass

Mains Connection notes:

3. PV Generator (DC Side)

Modules soiling / shading:

Media upload:

Tasks:

No.	Task	Pass / Fail / N/A
1	PV frame screw joints (5% sample)	Pass
2	Frame construction stability (5% sample)	Pass
3	Module fixing to frame (5% sample)	Pass
4	DC connectors test (5% sample)	Pass
5	Solar cable condition / fixings (5% sample)	Pass
6	Grounding connections cleaned & checked	Pass
7	Modules mechanically intact, no discolouration	Pass
8	Thermography of modules / connections (5%)	Pass
9	Further 5% test if fault detected	Pass

String Tests:

Polarity Check: Yes

String		1	2	3	4	5	6	7	8
String Test	**V_{oc}(V)**								
	I_{sc}(A)								
	Irradiance								
Array Test insulation	**Test Voltage (V)**								
	Pos – Earth (MΩ)								
	NEG – Earth (MΩ)								

PV Generator (DC Side) notes:

4. Electrical Testing

Tasks:

No.	Task	Pass / Fail / N/A
1	Voc within acceptable range	Pass
2	Isc measured safely	Pass
3	Insulation resistance within limit	Pass
4	Earth continuity tested	Pass
5	Inverter functional test	Pass
6	RCD trip tested (if installed)	Pass

Electrical Testing notes:

5. Performance Checks

Tasks:

No.	Task	Yes / No
1	Generation meter reading logged	Yes

No.	Task	kWh
2	Export Value (kWh)	12345

No.	Task	Yes / No
3	Output vs expected (adjusted)	Yes
4	Inverter logs reviewed	Yes

No.	Task	Pass / Fail / N/A
5	Monitor and comms working	Yes

Performance checking notes:

6. Visual Inspection

Tasks:

No.	Task	Pass / Fail / N/A
1	PV modules visually sound (no damage, soiling)	Pass
2	Mounting system secure, corrosion-free	Pass
3	Cables intact, fixed, UV-resistant	Pass
4	Signage & labels present, legible	Pass

No.	Task	Yes / No
5	Signs of birds nesting, droppings or wildlife interference (may impact performance or safety)?	Yes

Photos:

No.	Task	Yes / No
6	Debris, leaves or obstruction under panels (may impact performance or safety)?	Yes

Photos:

Visual Inspection notes:

7. System Safety Risks

Tasks:

No.	Task	Pass / Fail / N/A
1	Are MC4 connectors secure, matched and undamaged? (5% sample)	Pass
2	Are DC cables elevated and free from mechanical abrasion?	Pass
3	Any signs of electrical arcing, scorching or melted insulation?	Pass

No.	Task	Yes / No
5	Were thermal images taken for this system?	Yes

Photos:

No.	Task	Yes / No / N/A
1	Any hotspots identified (e.g. connectors, junction boxes)?	Yes
2	Cleaning method checked – no signs of damage from high pressure washing or aggressive brushing?	Yes

System Safety notes:

8. Battery Storage

Battery info:

Battery Info	Complete
Number of Batteries	1
Battery info	
Battery make	
Battery Model	
Battery serial number	
Size of Battery (kW)	
Battery status (e.g. “Enter battery display status or error code”)	

Tasks:

No.	Task	Pass / Fail / N/A
1	Battery location safe and compliant (e.g. ventilated, non-combustible surface)?	Pass
2	Signs of overheating, restricted airflow, or obstruction?	Pass

Battery Storage notes:

9. Voltage Optimiser (VO)

Voltage Optimiser info:

VO Info	Complete
Number of VO's	1
VO info	
VO make	
VO Model	
VO serial number	
Size of VO (kW)	
VO status (e.g. “Enter VO display status or error code”)	

Tasks:

No.	Task	Pass / Fail / N/A
1	VO location safe and compliant (e.g. ventilated, non- combustible surface)?	Pass
2	Signs of overheating, restricted airflow, or obstruction?	Pass

Voltage Optimiser notes:
